

ANNUAL REPORT

2013-2014



STUDENTS AMENITY CENTRE

**Cochin University of
Science and Technology**

Annual Report 2013 - 2014



**Cochin University of Science and Technology
Kochi - 682 022, Kerala, India**



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Cochin University of Science and Technology

Kochi - 682 022, Kerala



Annual Report 2013 - 2014



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THE YEAR IN RETROSPECT

This report presented as required under Section 37 (i) of Chapter VI of the Cochin University of Science and Technology Act, 1986 covers the activities of the University during the period from April 1, 2013 to March 31, 2014.

The year under report witnessed steady progress in the effort of various University Departments / Schools / Institutions towards higher levels of excellence in teaching and research and in organising a series of academic activities.

**PART - I****AIMS AND OBJECTIVES**

The University of Cochin came into being on July 10, 1971 by an ordinance which was replaced by the Cochin University Act 1971. The University of Cochin was reorganised and converted into a full-fledged University of Science and Technology by the Cochin University of Science and Technology Act, 1986 for the promotion of graduate and post graduate studies and advanced research in Applied Sciences, Technology, Industry, Commerce, Management and Social Science.

The University has the following objectives

- i. to prosecute and promote research in Applied Sciences, Technology, Industry, Commerce, Management and Social Science for the advancement of knowledge and for the betterment of society.
- ii. to provide facilities & offer opportunities for graduate & post-graduate education in Applied Science, Technology, Industry, Commerce, Management and Social Science by Instruction, Training, Research, Development and Extension by such other means as the University may deem fit.
- iii. to devise and implement programmes of education in Applied Sciences, Technology Industry, Commerce, Management and Social Science that are relevant to the changing needs of society in terms of breadth of diversity and depth of specialization.
- iv. to serve as a centre for fostering co-operation and exchanging of ideas between the academic and research community on the one hand and industry on the other.
- v. to organise exchange programme with other institutions of repute in India and abroad with a view to keeping abreast of the latest developments in relevant areas of teaching and research.

The University's basic philosophy and goals find eloquent expression in its coat of arms emblazoning the motto *Tejasvi navadhitamastu*. In essence it means "May learning illumine us both (the teacher and the taught)". The rising sun together with the coconut palm represents the birth of a new centre of learning in the land of Kerala. The book represents learning, the factory, its application and the transmission tower its centre of learning, that of fostering study and research in Applied Science, Technology, Industry, Commerce, Management and Social Science and the transference of such knowledge for the betterment of humanity.



UNIVERSITY AUTHORITIES

VICE CHANCELLOR
Dr. Ramachandran Thekkedath

PRO-VICE CHANCELLOR
Prof. Dr. K. Poulose Jacob

REGISTRAR (Professor In-charge)
Prof. Dr. K. Sajan

FINANCE OFFICER
Sri. Sebastian Ouseph



MEMBERS OF THE SYNDICATE

Ex-Officio Members

- 1 **The Vice Chancellor**
- 2 **The Pro-Vice Chancellor**
- 3 **The Director of Technical Education**, Directorate of Technical Education, Padmavilasam Road, Thiruvananthapuram
- 4 **The Secretary to Government**, Higher Education Department, Government Secretariat, Thiruvananthapuram-695001
- 5 **The Secretary to Government**, Finance Department, Government Secretariat, Thiruvananthapuram-695001
- 6 **The Executive Vice-President**, Kerala State Council for Science, Technology and Environment, Sasthra Bhavan, Pattom P.O., Thiruvananthapuram-695004

Members of the Senate

7. **Dr. A. V. George**, Head of the Dept. of Geology and Environmental Sciences, Christ College, Irinjalakuda. (upto 17/01/2013)
8. **Sri. S. Harikumar**, Associate Professor and Head of the Department of Malayalam, S.D. College, Alappuzha., (Director, Kerala State Institute of Childrens Literature, Sanskrit College Campus, Palayam - 33)
9. **Dr. Zakkariya K. A.**, Associate Professor, School of Management Studies, CUSAT, Cochin-22.
10. **Sri. I. K. Jayadev**, Associate Professor, Department of Islamic History, Maharajas College, Ernakulam.
11. **Dr. A. Mohamuda Beegum**, Associate Professor of English, Maharajas College, Ernakulam.
12. **Dr. K. Sajan**, Professor, Dept. of Marine Geology and Geophysics, CUSAT, Cochin- 16.

Members of Legislative Assembly

13. **Sri. K. M. Shaji**, MLA.
14. **Sri. Hibi Eden**, MLA.

Kerala Higher Education Council Nominee

15. **Sri. Lopus Mathew**, Associate Professor, St. George's College, Aruvithura, Kottayam-682 122

IT Expert

16. **Dr. A. Mujeeb**, Joint Director, LBS Centre for Science and Technology, Nandavanam, Palayam, Thiruvananthapuram - 695 033



Industry and Commerce expert

17. **Sri. Sunny P. Jose**, Alappat Palathinkal, TC 11/1415-1, Cliff House Road, Nandancode, Kowdiar Post., Thiruvananthapuram - 695 003.

Deans of Faculties

18. **Dr. K. Poullose Jacob**, Dean, Faculty of Technology, CUSAT, Kochi-22 (from 14.05.2013)
19. **Dr. K. Vasudevan**, Dean, Faculty of Technology, CUSAT, Kochi-22 (upto 10.05.2013)
20. **Dr. K. Mohankumar**, Dean, Faculty of Environmental Studies, CUSAT, Kochi-22
21. **Dr. Philip Kurian**, Dean, Faculty of Engineering, CUSAT, Kochi-22 (upto 10.05.2013)
22. **Dr. G. Madhu**, Dean, Faculty of Engineering, CUSAT, Kochi-22 (from 14.05.2013)

Student Representative

- 24 **Sri. Tony Raphy**, B.Tech Electrical & Electronics Engineering SOE, CUSAT Cochin - 22.

MEMBERS OF THE SENATE

1. **The Chancellor**
2. **The Pro-Chancellor**
3. **The Vice Chancellor**
4. **The Pro-Vice Chancellor**
5. **Members of the Syndicate who are not members of the Senate**
6. **The Mayor**, Cochin Corporation
7. **The Chairman**, State Advisory Board of Education, Thiruvananthapuram
8. **Sri. K. V. Thomas**, Member of Parliament, Karuppassery House, 20/191, Kochappally Road, Thoppumpady, Kochi - 682005
9. **Prof. Lopus Mathew**, Executive Committee Member, Kerala State Higher Education Council, Associate Professor & Head, Dept. of Physics, St. George's College, Aruvithura P.O., Pin-686 122
10. **Sri. Sunny P. Jose**, Alapat Silks, Karimpanal Arcade, East Fort, Thiruvananthapuram 695 023
11. **Sri. K. M. Shaji MLA**, Kalathodika House, Kaniyabatta P.O., Wayanadu - 673 124
12. **Sri. I. K. Jayadev**, Associate Professor, Dept. of Islamic History, Maharaja's College, Ernakulam



13. **Dr. A. Mohamuda Beegum**, Maharaja's College, Ernakulam, "Parveen", Near St. Antony's Church, Perunna, Changanassery - 686 102
14. **Dr. Joseph John**, Associate Professor, Dept. of Chemistry, S.H. College, Thevara, Cochin - 682 013
15. **Prof. S. Harikumar**, Director, Kerala State Institute of Children's Literature, Sanskrit College Campus, Palayam - 33
16. **Dr. A. Mujeeb**, Joint Director, LBS Centre for Science & Technology, Nandavanam, Palayam, Thiruvananthapuram - 695 033
17. **Dr. K. Sajan**, Professor, Dept. of Marine Geology, CUSAT, Kochi - 16
18. **Dr. Zakkariya K. A.**, Associate Professor, School of Management Studies, CUSAT, Cochin-22.
19. **Sri. Tony Raphy**, Student, 1 year Certificate Course in French, Dept. of English & Foreign Languages, CUSAT, Cochin - 682 022
20. **Sri. Hibi Eden MLA**, Ambatt House, George Eden Road, Kaloor, Kochi - 682 017
21. **Sri. K. Babu MLA**, (Hon'ble Minister), Kanuparambathu, Sanskrit College Road, Thrippunithura - 682 301
22. **Dr. K. Mohan Kumar**, Professor, Department of Atmospheric Sciences, CUSAT, Kochi - 16
23. **Sri. M. M. Laurence**, CITU District Committee Office, Near Municipal Town Hall, Kochi
24. **Sri. M. S. Ansar**, Assistant Registrar, Administrative Office, CUSAT, Kochi-22
25. **Sri. Harilal**, Section Officer, Dept. of Applied Economics, CUSAT, Kochi - 22
26. **Sri. P. I. Basheer**, Lecturer in Electronics, Seethi Sahib Memorial Polytechnic, Tirur, Malappuram, Parankudy House, Pattimattom P.O., Ernakulam - 683 565
27. **Sri. Jamal Manakkaden**, Municipal Chairman, Kalamassery Municipality
28. **Sri. Sadasivan**, Head, Dept. of Bio-Technology & Micro Biology, School of Life Sciences, Kannur University, Thalassery Campus, Palayad, Kannur - 670 661
29. **Dr. V. H. Abdul Salam**, Principal, MES College of Engineering, Kuttipuram, Thrikkanapuram P.O., Malappuram - 679 573
30. **Dr. Z. A. Zoya**, Professor, Dept. of Mechanical Engineering, Govt. Engineering College, Thrissur - 680 009
31. **Dr. K. K. Velayudhan**, Professor & Head, Department of Hindi, Sree Sankaracharya University of Sanskrit, Kalady - 683 574
32. **Dr. Sabu Thomas**, Professor, School of Chemical Science, M.G. University, P.D. Hills P.O., Kottayam - 686 560
33. **Sri. A. N. Rajan**, Ambattumyalil House, Kolazhy P.O., Thrissur - 680 010
34. **Sri. V. K. Ibrahim Kunju MLA**, (Hon'ble Minister), Thaikattukara P.O., Aluva-683 108



35. **Prof. C. Raveendranath.**, Member, Legislative Assembly, Lakshmi Bhavan, Panthalath Lane, Kannattukara, Thrissur - 680 011
36. **Chairman**, Cochin University Students Union, University Union Office, CUSAT, Kochi-16
37. **Dr. Balchand A. N.**, Professor, Dept. of Physical Oceanography, CUSAT, Kochi-16
38. **Dr. A. B. Bhasi**, Associate Professor, School of Engineering, CUSAT, Kochi-22
39. **Dr. Girish Kumar K.**, Professor, Department of Applied Chemistry, CUSAT, Kochi - 22
40. **Dr. Mathew Cherian**, Reader, College of Engineering, Kuttanad, Pulinkunnu, Alappuzha
41. **Sri. Saju Paul MLA**, Panthalingal, Vengoor P.O., Perumbavoor - 683 546
42. **Dr. Radhakrishna Panicker M. R.**, Reader, School of Engineering, CUSAT, Kochi - 22
43. **Dr. Sankaran P. G.**, Associate Professor, Department of Statistics, CUSAT, Kochi - 22
44. **Dr. Sasi Gopalan**, Reader, School of Engineering, CUSAT, Kochi - 22
45. **Dr. Sunil K. Narayanankutty**, Professor, Department of Polymer Science and Rubber Technology, CUSAT, Kochi - 22
46. **Dr. Suresh Kumar P.**, Principal, College of Engineering, Pallipuram, Cherthala - 688 541
47. **Sri. T. S. Nazimuddin**, (Senior Superintendent, Assistant Education Office, Mattancherry), House No. 23/695A, Kannanthara Niketh, Cochin-682 006
48. **Sri. N. L. Sivakumar**, Section Officer (Higher Grade), Agriculture College, Kerala Agricultural University, Vellayani, Trivandrum
49. **Sri. Sharan Kartha**, (Joint Managing Director, CMRL), Poorna Nagar, No. 73, Market Road, Aluva - 1
50. **Dr. N. Vijayan Pillai**, President, National Institute of Personnel Management, Kerala State Productivity Council, Arunima, ACSRA - 69, Ashoka Road, Ernakulam
51. **Sri. Noor Mohamed Methar**, (Kerala Chamber of Commerce and Industry), Mather Mansion, Pullepady, Chittoor Road, Cochin - 682 035
52. **Sri. K. K. Kabeer**, (Techno Cartons), Kadappallymoolayil House, South Kalamassery, Cochin - 682 033
53. **Dr. V. G. Rajesh**, Principal, KMEA Engineering College, Edathala, Kochi - 683 561
54. **Sri. Biju Gopal**, Assistant Professor in Commerce, Govt. College, Thripunithura



MEMBERS OF ACADEMIC COUNCIL

1. **The Vice Chancellor**
2. **The Pro-Vice Chancellor**
3. **All members of the Syndicate who are not otherwise members of the Academic Council**
4. **Dr. A. Mujeeb**, Joint Director, LBS Centre for Science & Technology, Nandavanam, Palayalam, Thiruvananthapuram - 695 033
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15. **Dr. K. Sajan**, Professor, Dept. of Marine Geology, CUSAT, Kochi - 16
16. **Dr. P. Unnikrishnan**, Assistant Professor in Philosophy, Sree Sankaracharya University of Sanskrit, Regional Centre, Payyannur, Edat P.O., Kannur - 670 327
17. **Dr. Godfrey Louis**, Professor, Dept. of Physics, CUSAT, Cochin-22
18. **Dr. P. Radhakrishnan**, Professor, International School of Photonics, CUSAT, Kochi-22
19. **Dr. Gokuldas M.**, Head of Department, Department of Zoology, University of Calicut, Calicut University P.O. - 673 635
20. **Dr. K. V. Jayachandran**, Professor, College of Fisheries, K.A.U., Panangad, Kochi-682 506



21. **Dr. V. S. Sebastian**, Reader (Retd.) School of Legal Studies, CUSAT, Kochi-22
22. **Dr. N. Mohanan**, Professor (Retd.), Department of Hindi, CUSAT, Kochi-22
23. **Dr. Annie Kurian**, Kochuparambil House, University Road, CUSAT P.O., Kochi-22
24. **Dr. K. P. Vijayakumar**, Professor, Dept. of Physics, CUSAT, Kochi-22
25. **Dr. K. Mohankumar**, Professor, Dept. of Atmospheric Science, CUSAT, Kochi-16
26. **Dr. V. K. Ramachandran Nair**, Professor, Dept. of Statistics, CUSAT, Kochi-22
27. **Dr. C. S. Poulouse**, Emeritus Professor, Dept. of Biotechnology, CUSAT, Kochi-22
28. **Dr. P. G. R. Pillai**, Doctor's Garden, Gandhi Nagar P.O., Kottayam-686 008
29. **Dr. K. E. George**, Professor, Department of Polymer Science and Rubber Technology, CUSAT, Kochi – 682 022
30. **Dr. Balchand A. N.**, Professor, Dept. of Physical Oceanography, CUSAT, Kochi-16
31. **Dr. K. Poulouse Jacob**, Professor, Dept. of Comp. Science, CUSAT, Kochi-22
32. **Dr. G. Madhu**, Professor, School of Engineering, CUSAT, Kochi-22
33. **Adv. Asok Mammen Cherian**, Advocate, MM Cherian Law Chambers, St. Vincent Road, Ernakulam North - 682 018
34. **Dr. D. Rajeev**, Associate Professor (Retd.), School of Legal Studies, CUSAT, Kochi-22
35. **Prof. P. R. Poduval**, No. 11, Vidya Nagar, Cochin University P.O., Kochi-22
36. **Dr. S. Harikumar**, Professor, Dept. of Applied Economics, CUSAT, Kochi-22
37. **Dr. P. Sudarsanan Pillai**, Hari Bhavan, Chunangavelly, Erumathala P.O., Alwaye - 683 112
38. **Prof. P. V. Joseph**, Porathur House, Satellite Township, Kakkanad - 30
39. **Dr. A. Vijayakumar**, Professor, Dept. of Mathematics, CUSAT, Cochin-22
40. **Dr. N. R. Menon**, Professor (Retd.), School of Marine Sciences, CUSAT, Cochin-16
41. **Dr. Girishkumar R.**, Assistant Professor, School of International Relations and Politics, Mahatma Gandhi University, Kottayam-686 560
42. **Dr. B. Madhusoodhana Kurup**, Vice Chancellor, Kerala University of Fisheries & Ocean Studies, Panangad - 682 506
43. **Dr. K. Girish Kumar**, Professor, Dept. of Applied Chemistry, CUSAT, Kochi-22
44. **Dr. K. V. Pramod**, Associate Professor, Dept. of Computer Applications, CUSAT, Kochi-22
45. **Dr. N. G. Devaki**, Professor, Dept. of Hindi, CUSAT, Kochi-22
46. **Dr. K. P. Narayanan**, Reader, Dept. of Ship Technology, CUSAT, Kochi-22
47. **Dr. P. Mohanan**, Professor, Dept. of Electronics, CUSAT, Kochi-22



48. **Dr. Aneykutty Joseph**, Professor, Dept. of Marine Biology, Micro Biology & Bio Chemistry, CUSAT, Kochi-16
49. **Dr. David Peter S.**, Professor, SOE, CUSAT, Kochi-22
50. **Dr. Supriya M. H.**, Associate Professor, Department of Electronics, CUSAT, Kochi-22
51. **Dr. Tide P. S.**, Reader, Division of Mechanical Engineering, SOE, CUSAT, Kochi-22
52. **Dr. Saju K. K.**, Reader, SOE, CUSAT, Kochi-22
53. **Dr. A. Mohandas**, Emeritus Professor, NCAAH, CUSAT, Kochi-16
54. **The Director**, NIAT, Naval Base, Kochi-682004
55. **The Director**, CIFNET, Kochi-16
56. **The Co-Ordinator**, NCAAH, CUSAT, Kochi -16
57. **Head of the Department**, Dept. of Applied Chemistry, CUSAT, Kochi - 22
58. **Head of the Department**, Dept. of Applied Economics, CUSAT, Kochi - 22
59. **Head of the Department**, Dept. of Atmospheric Sciences, CUSAT, Kochi - 16
60. **Head of the Department**, Dept. of Bio-Technology, CUSAT, Kochi - 22
61. **The Principal**, School of Engineering, CUSAT, Kochi - 22
62. **The Principal**, Cochin University College of Engineering, Kuttanadu, Alappuzha
63. **Head of the Department**, Dept. of Computer Applications, CUSAT, Kochi-22
64. **Head of the Department**, Dept. of Computer Science, CUSAT, Kochi-22
65. **Head of the Department**, Dept. of Electronics, CUSAT, Kochi-22
66. **The Director**, School of Environmental Studies, CUSAT, Kochi-22
67. **Head of the Department**, Dept. of Culture and Heritage, CUSAT, Kochi -22
68. **The Director**, School of Industrial Fisheries, CUSAT, Kochi - 16
69. **Head of the Department**, Dept. of Instrumentation, CUSAT, Kochi-22
70. **Head of the Department**, Dept. of Hindi, CUSAT, Kochi-22
71. **The Director**, School of Legal Studies, CUSAT, Kochi-22
72. **The Director**, School of Management Studies, CUSAT, Kochi-22
73. **Head of the Department**, Marine Biology, Micro Biology and Bio-Chemistry, CUSAT.
74. **Head of the Department**, Marine Geology and Geophysics, CUSAT, Kochi-16
75. **The Director**, School of Marine Sciences, CUSAT, Kochi-16
76. **Head of the Department**, Dept. of Mathematics, CUSAT, Kochi-22
77. **The Director**, CELOS, CUSAT, Kochi-22
78. **Head of the Department**, Dept. of Physics, CUSAT, Kochi-22
79. **Head of the Department**, Dept. of Polymer Science & Rubber Technology, CUSAT.
80. **Head of the Department**, Dept. of Physical Oceanography, CUSAT, Kochi-16



81. **Head of the Department**, Dept.of Ship Technology, CUSAT, Kochi-22
82. **Head of the Department**, Dept. of Statistics, CUSAT, Kochi-22
83. **Head of the Department**, Dept. of Chemical Oceanography, CUSAT, Kochi-16
84. **Director**, K M School of Marine Engineering, CUSAT, Kochi-22

DEANS OF FACULTIES

1. **Engineering**
Dr. Philip Kurian, Professor, Dept. of Polymer Science & Rubber Technology, CUSAT, Kochi-22
Dr. G. Madhu, Professor, Division of Safety & Fire Engineering, School of Engineering, CUSAT, Kochi - 22 (with effect from 14.05.2013)
2. **Environmental Studies**
Dr. K. Mohankumar, Professor, Department of Atmospheric Sciences, CUSAT, Kochi-16
3. **Humanities**
Dr. R. Sasidharan, Professor, Dept. of Hindi, CUSAT, Kochi-22
Dr. N. Mohanan, Professor, Dept. of Hindi, CUSAT, Kochi-22 (wef 29.05.2013)
4. **Law**
Dr. A. M. Varkey, Reader & Director, School of Legal Studies, CUSAT, Kochi-22
Dr. V. S. Sebastian, School of Legal Studies, CUSAT, Kochi-22 (wef 29.05.2013)
5. **Science**
Dr. K. R. Muraleedharan Nair, Professor, Dept. of Statistics, CUSAT, Kochi-22
Dr. Godfrey Louis, Professor, Dept. of Physics, CUSAT, Kochi-22 (wef 29.05.2013)
6. **Social Sciences**
Dr. M. Bhasi, School Management Studies, CUSAT, Kochi-22
Prof. P. R. Poduval, No. 11, Vidyanagar, CUSAT P.O., Kochi-22 (wef 29.05.2013)
7. **Technology**
Dr. K. Vasudevan, Professor & Head, Dept. of Electronics, CUSAT, Kochi-22
Dr. K. Poulose Jacob, Pro-Vice Chancellor & Professor, CUSAT, Kochi-22 (wef 14.05.2013)
8. **Marine Sciences**
Prof. (Dr.) K. Sajan, Professor, Department of Marine Geology & Geo-Physics, CUSAT, Kochi-16
9. **Medical Sciences**
Prof. P. G. R. Pillai, Doctor's Garden, Gandhi Nagar P.O., Kottayam - 686008



DEPARTMENT OF APPLIED CHEMISTRY

1. Brief History

The Department of Applied Chemistry was established in 1976 with the support of UGC envisaged to play an important role in the further development of the industrial belt in the Greater Cochin area by providing scientific support and trained personnel to the existing industries and by acting as a catalyst for starting up of new industries. The Department started M.Sc. programme in Applied Chemistry in 1977, M. Phil. programme in Chemistry in 1986, and M.Tech. programme in Industrial Catalysis in 1996 (approved by UGC and AICTE).

The Department has acted as a nucleus for starting the Department of Polymer Science and Rubber Technology and the Centre for Biotechnology by initiating B.Tech. and M.Sc. course in the respective areas. After the initial problems of infancy, the Department has grown and emerged as one of the best centres of Chemistry and has been fortunate to produce the first Bhatnagar Award Winner in Chemical Sciences in the entire State of Kerala. The UGC has identified it as one of the national centres to conduct refresher courses for University and College teachers in Chemistry.

The Department has been recently selected for the "Fund for improvement of S&T Infrastructure" (FIST) programme of Department of Science and Technology, Government of India Special Assistance Programme" (SAP) of University Grants Commission. The Department was selected for funding at the second level of support under FIST and SAP programmes.

The Department has carried out a number of research projects, supported by Central and State Government agencies such as DST, MHRD, UGC, AICTE, CSIR, DRDO and KSCSTE. Several research schemes stand completed and ongoing projects are valued at Rs.215.00 lakhs.

The Department has conducted several national seminars/symposia, the major ones being, a seminar and Mass Education programme in Environmental Awareness (1988), the National Symposium on Current Trends in Co-ordination Chemistry (1995) MATCON (2001, 2007 and 2010), CTRIC (2004, 2008, 2011- 2014) Frontiers in Chemistry (2006) and two International Seminars "MATCON (2007 and 2010)." The Department is currently organizing two series of conferences, MATCON (the international conference series) and CTRIC (a national conference series). The Department has over 400 research publications to its credit during the last five years in addition to a few monographs. About 100 students have taken their Ph.D. from the department. Almost all the students who had successfully completed the M.Sc Applied Chemistry and M.Tech Industrial Catalysis courses have found employment in industries, R & D institutions or colleges, some of them have pursued a career in research and have been awarded Ph.Ds. A few of them have also gone abroad and are well settled in industrial establishments, universities and other institutions.



2. Programmes of Study/Research

1. M.Sc. (Applied Chemistry)
2. M.Phil. (Chemistry)
3. M.Tech. (Industrial Catalysis)
4. Ph.D.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. K. K. Mohammed Yusuff	Emeritus Professor	M.Sc., Ph.D.	Co-ordination Chemistry & Catalysis
2.	Dr. S. Sugunan	Emeritus Professor	M.Sc., Ph.D.	Physical Chemistry & Catalysis
3.	Dr. M. R .Prathapa chandra Kurup	Professor	M.Sc., Ph.D.	Inorganic Chemistry
4.	Dr. K. Girish Kumar	Professor	M.Sc., Ph.D.	Analytical Chemistry
5.	Dr. K. Sreekumar	Professor & Head	M.Sc., Ph.D.	Industrial Catalysis
6.	Dr. S. Prathapan Professor	Associate	M.Sc., Ph.D.	Organic Chemistry
7.	Dr. N. Manoj	Associate Professor & Head of the Department	M.Sc., Ph.D.	Organic Chemistry
8.	Dr. P. M. Sabura Begum	Associate Professor	M.Sc.,M.Phil., Ph.D.	Organic Chemistry
9.	Dr. P. V. Mohanan	Asst. Professor	M.Sc., Ph.D.	Analytical Chemistry
10.	Dr. P. A. Unnikrishnan	Asst. Professor	M.Sc., Ph.D.	Organic Chemistry
11.	Dr. P. B. Beneesh	Dstinspire Faculty	M.Sc., Ph.D.	Organic Chemistry

**4. Research Staff**

Sl. No.	Name	Designation	Qualification	Specialization
1	Divya K. M.	Teacher fellow	M. Sc., M. Phil.	Biochemistry
2	Jayakumar K.	UGC Teacher fellow	M. Sc.	Inorganic Chemistry
3	Zafna Rasheed	Forensic Scientific Assistant	M. Sc.	Analytical Chemistry
4	Bindu Sharmila T. K.	UGC Teacher fellow	M. Sc.	Polymer Composite
5	Senju Devassykutty	Teacher fellow	M. Sc.	Organic Chemistry
6	Midhun Dominic C. D.	Teacher Fellow	M. Sc.	Polymer Composites
7	Sajitha T. S.	Scientist	M. Sc.	Organic Chemistry
8	Suma C. S.	Teacher Fellow	M. Sc.	Organic Chemistry
9	Jeemol P. A.	Teacher Fellow	M. Sc.	Polymer Composites
10	Soumini C.	Teacher Fellow	M. Sc.	Physical Chemistry
11	Minu Joys	Teacher Fellow	M. Sc.	Organic Chemistry
12	Theresa, C. J.	Teacher Fellow	M. Sc.	Analytical Chemistry
13	Jesny S.	Teacher Fellow	M. Sc. M. Phil.	Analytical Chemistry
14	Seena Sebastian	Teacher Fellow	M. Sc.	Organic Chemistry

5. Research Scholars

Sl. No.	Name	Designation	Qualification	Specialization
1.	Cimi A. Daniel	UGC BSR	Dr. S. Sugunan	Catalysis by metal oxides
2.	Nissam E.	CSIR	Dr. S. Sugunan	Catalysis by clays
3.	Mothi Krishna Mohan	UGC - BSR	Dr. S. Sugunan	Catalysis by mesoporous silica
4.	Honey Mary Joseph	CSIR	Dr. S. Sugunan	Physical Chemistry
5.	Soumya G.	CSIR	Dr. S. Sugunan	Physical Chemistry



Sl. No.	Name	Designation	Qualification	Specialization
6.	Nisha K.	CSIR	Dr. M. R. Prathapa chandra Kurup	Inorganic Chemistry
7.	Jinsa Mary Jacob	CSIR	Dr. M. R. Prathapa chandra Kurup	Inorganic Chemistry
8.	Bibitha Joseph	CSIR	Dr. M. R. Prathapa chandra Kurup	Inorganic Chemistry
9.	Aravindakshan Ambili	CSIR	Dr. M. R. Prathapa chandra Kurup	Inorganic Chemistry
10.	Divya Thomas	CSIR	Dr. K. Girish Kumar	Development of electrochemical sensors
11.	Soumya T. Cyriac	CSIR	Dr. K. Girish Kumar	Development of Sensors: Pharmaceutical / Organic Compounds
12.	Anuja E. V.	CSIR	Dr. K. Girish Kumar	Biosensors
13.	Jiby K. Gopinath	DST - PURSE	Dr. K. Sreekumar	Conducting Polymers
14.	Smitha George	CSIR	Dr. K. Sreekumar	Dendrimers
15.	Sinija P. S.	CUSAT	Dr. K. Sreekumar	Organic Reactions Catalysed by modified silica
16.	Anjali C. P.	IUCND	Dr. K. Sreekumar	Heterogeneous Catalysis
17.	Jithinkumar V. A.	CSIR	Dr. K. Sreekumar	Heterogeneous Catalysis Using Supported Dendrimers
18.	Jisha K. A.	CSIR	Dr. K. Sreekumar	Periodic Mesoporous Silica based Catalysis
19.	Anjaly Jacob	CSIR	Dr. K. Sreekumar	Polymer Supported Solid Phase Peptide Synthesis
20.	Rakesh N.	CSIR	Dr. S. Prathapan	Organic Synthesis
21.	Sandhya R.	CSIR	Dr.S.Prathapan	Organic Synthesis



Sl. No.	Name	Designation	Qualification	Specialization
22.	Reshma G.	CSIR	Dr. S. Prathapan	Organic Synthesis and photochemical studies
23.	Nithya C.	DST-Inspire	Dr. S. Prathapan	Conducting Polymers
24.	Ligi M. L.	UGC	Dr. S. Prathapan	Organic Synthesis and Photochemical Studies
25.	Seena Sebastian	UGC – BSR	Dr. N. Manoj	Organic Chemistry
26.	Pravitha N. P.	CSIR	Dr. N. Manoj	Organic Chemistry
27.	Kala K.	UGC	Dr. N. Manoj	Organic Chemistry
28.	Vineetha P. K.	UGC	Dr. N. Manoj	Organic Chemistry
29.	Parvathy O. C.	UGC	Dr. N. Manoj	Organic Chemistry
30.	Cisy Abraham	UGC	Dr. N. Manoj	Organic Chemistry
31.	Bhavya Badran	CUSAT	Dr. P. M. Sabura Begum	Polymer composite
32.	Sajitha N. R.	CSIR	Dr. P. M. Sabura Begum	Polymer composite
33.	Divya P. R.	CSIR	Dr. P. M. Sabura Begum	Polymer composite
34.	Saumya T. S.	CSIR	Dr. P. A. Unnikrishnan	Photochemical and photophysical studies of multichromophoric systems.
35.	Shandev P. P.	CSIR	Dr. P. A. Unnikrishnan	Organic Synthesis
36.	Navya Antony	UGC BSR	Dr. P. V. Mohanan	Enzyme Catalysis
37.	Sneha Jose E	CSIR	Dr. P. V. Mohanan	Enzyme Technology
38.	Jessica Elizabeth Philip	UGC	Dr. P. V. Mohanan	Enzyme Technology
39.	Shanty A. A.	Cochin University	Dr. P. V. Mohanan	Enzyme Technology
40.	Bindu V. U.	CSIR	Dr. P. V. Mohanan	Enzyme Technology
41.	Meera Jacob	CSIR	Dr. K. Girish Kumar	Development of sensors
42.	Ammu Rosin Jose	UGC	Dr. K. Girish Kumar	Development of sensors
43.	Maria Augustine	CSIR	Dr. P. V. Mohanan	Enzyme Technology



6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant Librarian	1
3	Assistant	2
4	Typist	1
5	Peon	1
6	Sweeper cum Cleaner	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Assistant	3
2	Storekeeper	1
3	Laboratory Assistant	1

8. Students Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. I Year	1	20	21
2	M.Sc. II Year	4	16	20
3	M.Tech. (Industrial Catalysis) I Year	7	9	16
4	M.Tech. (Industrial Catalysis) II Year	2	4	6
5	M.Phil. I Semester	2	5	7

9. Research Facilities:

a. Laboratories (Major Equipments Available)

Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
Dr. M. R. P. Kurup	UV-Vis NIR	Thermo Evolution 220	Working properly



Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
Dr. K. Sreekumar & his group	a. UV-Vis-NIR Ocean Optics (Fiber Optic Sensor) Spectrophotometer	Ocean Optics Inc SD 2000, 2003	Accessories for recording UV Visible, fluorescence, Diffused reflectance spectroscopy Working properly
	b. Atago Polarimeter	Atago AD100, 2004	Measurement of Specific rotation Working properly
	c. HPLC	Shimadzu	Purification of organic compounds Working properly
	d. Xenon Infinite Global Line 2750 HCL workstation.	HCL, 2002	Theoretical calculation, Working properly
	e. IBM workstation (Quard Core System X 3400)	IBM, 2007	Theoretical calculation, Working properly
	Keithley Source meter	Keithley, USA	Conductivity measurement
	AFM	Nanosurf Inc, Germany	Material surface study
	Solar simulator	Photoemission, USA	Solar cell activity study
	Spin Coater	Laurell, USA	Thin film coating
	Hall measurement system	Ecopia, Korea	Measurement of Hall coefficient
Dr. K. Girishkumar	Cyclic voltammeter	BAS, CH instruments	Working properly
	Fiber optic Fluorescence Spectrometer	Ocean Optics Inc	Working properly
Dr. S. Prathapan	FT-IR Spectrometer	ABB Bomem	Working properly
	HPLC with Diode array detector	Dionex	Working properly
	HPLC-MS	Waters	Working properly
	GC-MS	Agilent	Working properly



Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
Other Equipment for common use	Surface Area	Micromeritics	Working properly
	Atomic Absorption Spectrometer	Thermo	Working properly
	FT-IR	Jasco, Thermo	Working properly
	UV-Vis Spectrophotometer	Labomed, Thermo Evolution	Working properly
	Gas Chromatographs	Chemito	Working properly
	Flamephotometer	Elico	Working properly
	Polarograph	Elico	Working properly
	Electronic Balances	Sartorius	Working properly
	Vacuum Ovens, Hot ovens and Furnaces		Working properly
	Vacuum pumps, Chemical Resistant Diaphragm Vacuum pumps	Precivac, Ilvac, Buchi, Vacuubrand, Heidolph	Working properly
	Rotary Evaporators	IKA, Buchi, Heidolph	Working properly

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 4287 Nos. Journal : 5 Nos	Books : 68 Nos.

10. Distinguished Visitors

1. Dr. A. Ajayaghosh, NIIST Thiruvananthapuram
2. Dr. Sabu Thomas, M. G. University Kottayam
3. Dr. A. N. Sunder Ram, USA
4. Dr. Raji Reddy, IICT Hyderabad
5. Dr. P. A. Joy, NCL Pune
6. Dr. Ajay Venugopal, IISER Thiruvananthapuram



7. Mr. Muraleedharan K. M., IIT Chennai
8. Dr. J. D. Sudha, NIIST Thiruvananthapuram
9. Dr. Edamana Prasad, IIT Chennai
10. Dr. Babu Varghese, IIT Chennai
11. Dr. Alex Siemiarz, UK
12. Dr. Thomas J. Colacot, Johnson Matthey, USA

11. Ph.D. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Development of electrochemical sensors for various pharmaceuticals	Renjini Joseph	Dr. K. Girish Kumar
2.	Development of macrocyclics based electrochemical sensors	Sobhana Mathew	Dr. K. Girish Kumar
3.	Chemically modified glassy carbon electrode as sensors for various pharmaceuticals	Leena R.	Dr. K. Girish Kumar
4.	Voltammetric sensors for the determination of pharmaceuticals	Laina A. L.	Dr. K. Girish Kumar
5.	Ground and Excited state electron transfer reaction between a few anthracene appended tertiary amines and suitable electron acceptors	Jomon P. Jacob	Dr. S. Prathapan
6.	Energetic polymers	Anoop N. A.	Dr. K. Sreekumar
7.	Curcumin and its derivatives as antioxidants and DNA intercalators	Priya Rajan S.	Dr. P. V. Mohanan
8.	Studies on catalysis by ordered Mesoporous SBA-15 Materials Modified with Transition metals	Ambily V. K.	Dr. S. Sugunan
9.	Synthesis and photochemical transformations of a few tethered barrelenes	Eason M. Mathew	Dr. P. A. Unnikrishnan
10.	An insight into transition metal complexes of N4- substituted thiosemicarbazones derived from 2-benzoylpyridine: Spectral studies and crystal structures	K. Jayakumar	Dr. M. R. Prathapa chandra Kurup
11.	Title: Ligation properties of N4-phenylsemicarbazone towards transition metals: Synthesis and spectral studies	Annie C. F.	Dr. M. R. Prathapa chandra Kurup



Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
12.	The ligating versatility of halides in copper(II) complexes- monomers, dimers and chains	Roji J. Kunnath	Dr. M. R. Prathapachandra Kurup
13.	Studies on catalysis by mesoporous ceria modified with transition metals	Rose Philo K. J.	Dr. S. Sugunan
14.	Studies on catalysis by nano titania modified with metals and non-metals	Dhanya T. P.	Dr. S. Sugunan
15.	Catalysis by Enzymes immobilized on tuned mesoporous silica	Reni George	Dr. S. Sugunan

12. List of Publications

Dr. M. R. Prathapachandra Kurup

Sl. No.	Name of Paper
1.	(E)-2-(4-Benzyloxy-2-hydroxybenzylidene)-N-methylhydrazinecarbothioamide N. R. Sajitha, M. Sithambaresan and M. R. Prathapachandra Kurup, <i>Acta Cryst.</i> 2014, <i>E70</i> , o112–o113
2.	N'-[(E)-(3-Fluoropyridin-2-yl)methylidene]pyridine-3-carbohydrazide Dehydrate, Yamuna Nair, M. Sithambaresan, S. Muraleedharan Nair, and M. R. Prathapachandra Kurup. <i>Acta Cryst.</i> 2014, <i>E70</i> , o483–o484
3.	N'-[(E)-Furan-2-ylmethylidene]-4-hydroxybenzohydrazide, R. Datta, V. Ramya, M. Sithambaresan and M. R. P. Kurup, <i>Acta Cryst.</i> 2014, <i>E70</i> , o242
4.	(±)-trans-6,6'-Diethoxy-2,2'-(cyclohexane-1,2-diylbis(nitrilomethanylyl-idene)] diphenol monohydrate, N. Mohan, S. S. Sreejith, M. Sithambaresan and M. R. P. Kurup, <i>Acta Cryst.</i> 2014, <i>E70</i> , o182-o183
5.	Spectral, thermal and structural studies of an acetate bridged polymeric cadmium(II) complex: Poly[aqua(i-acetato)(4-aminobenzoato) cadmium(II) monohydrate] Sunalya M. Roy, M. R. Sudarsanakumar, S. Suma, M. R. Prathapachandra Kurup, V. S. Dhanya, Remya M. Nair, <i>Inorganic Chemistry Communications</i> , 2014, <i>40</i> , 200–204
6.	Spectral, thermal, structural and microhardness studies of tetraaquabis (malonato)cadmium(II)copper(II): A new three-dimensional heterobimetallic framework system, V. S. Dhanya, M. R. Sudarsanakumar, S. Suma, M. R. Prathapachandra Kurup, M. Sithambaresan, Sunalya M. Roy, Shibu M. Eapen, <i>Inorganica Chimica Acta B</i> , 2014, <i>40</i> , 9367–371
7.	N'-[(1E)-1-(2-Fluorophenyl)ethylidene]pyridine-3-carbohydrazide, P. B. Sreeja, M. Sithambaresan, N. Aiswarya and M. R. P. Kurup, <i>Acta Cryst.</i> 2014, <i>E70</i> , o115



Sl. No.	Name of Paper
8.	(E)-2-(4-Benzyloxy-2-hydroxybenzylidene)-N-methylhydrazinecarbothioamide, N. R. Sajitha, M. Sithambaresan and M. R. P. Kurup, <i>Acta Cryst.</i> 2014. <i>E70</i> , o112-o113
9.	N'-(E)-2-Fluorobenzylidene]benzohydrazide, P. B. Sreeja, M. Sithambaresan, N. Aiswarya and M. R. P. Kurup <i>Acta Cryst.</i> 2013, <i>E69</i> , o1828
10.	(2E)-2-(3-Ethoxy-2-hydroxybenzylidene)hydrazinecarboxamide, Aravindakshan A. A., Sithambaresan M., Kurup M. R. P., <i>Acta Cryst. E</i> , 2013, 69, o586-o587.
11.	Spectral, Thermal and Structural Studies of Poly[μ-acetato (4-aminobenzoato) lead(II) monohydrate]: A Polymeric Hydrated Lead(II) Complex with Acetate Bridges, Roy S. M., Sudarsanakumar M. R., Suma S., Kurup M. R. P., Dhanya V. S., <i>J. Inorg. Organomet. Polym.</i> , 2013, 23, 608-615

Dr. K. Girish Kumar

Sl. No.	Name of Paper
12.	S. Chandran, L. A. Lonappan, D. Thomas, T. Jos, K. Girish Kumar, Development of an electrochemical sensor for the determination of amaranth: a synthetic dye in soft drinks. <i>Food Anal. Methods</i> , 2014, 7, 741-746.
13.	T. Jos, D. Thomas, S. T. Cyriac, M. Jacob, K. Girish Kumar, Effect of anionic surfactant on the reduction of Tinidazole at a Gold Nanaoparticle modified glassy carbon electrode. <i>Indo American Journal of Pharmaceutical Research</i> , 2013, 3, 8434-8439.
14.	T. Jos, L. Lonappan, E. V. Anuja, Z. Rasheed, K. Girish Kumar, Diffusion controlled process at an AuNP/Pt electrode surface for the voltammetric determination of TAM. <i>Journal of Pharmaceutical Research and Development</i> , 2013, 2, 224-228.
15.	M. Sobhana, T. Divya, E. V. Anuja, K. Girish Kumar, Manganese (II) –Selective Potentiometric Sensor Based on Calix[4]resorcinarene in PVC Matrix. <i>Frontiers in sensors</i> , 2013, 1, 74-80.
16.	K. Girish Kumar, R. Muthuselvi, Determination of trace amounts of Iron(III) with 2-Dithiocarbamate acetic acid in aqueous medium by molecular absorption spectrophotometry. <i>J. Chem. & Chem. Sci.</i> , 2013, 3, 155-158.
17.	S. Mathew, L. Rajith, L. Lonappan, T. Jos, K. Girish Kumar, A lead (II) selective PVC membrane potentiometric sensor based on a tetra azamacrocyclic ligand. <i>J. Incl. Phenom. Macrocycl. Chem.</i> 2014, 78, 171-177.



Sl. No.	Name of Paper
18.	D. Thomas, L. Lonappan, L. Rajith, S. T. Cyriac, K. Girish Kumar, Quantum Dots (QDs) based fluorescent sensor for the selective determination of Nimesulide. <i>J. Fluores</i> , 2013, 23, 473-478.
19.	A. E. Vikraman, Z. Rasheed, L. Lonappan, L. Rajith, K. Girish Kumar, MWCNT modified gold electrode sensor for the determination of propyl gallate in vegetable oils. <i>Food Anal. Methods</i> , 2013, 6, 775-779.

Dr. K. Sreekumar

Sl. No.	Name of Paper
20.	G. Rajesh Krishnan, K. Sreekumar, Synthesis of on resin poly(propylene imine) dendrimer and its use as organocatalyst, <i>Tetrahedron Lett.</i> , (In Press), 2014.
21.	V. Kannan, K. Sreekumar, Clay supported titanium catalyst for the solvent free synthesis of tetrasubstituted imidazoles and benzimidazoles, <i>J. Mol. Catal. A: Chem.</i> , 2013, 376, 34-39.
22.	G. Rajesh Krishnan, K. Sree Niveditha, K. Sreekumar, Aminated poly(vinyl chloride): An efficient green catalyst for Knoevenagel condensation reactions, <i>Indian Journal of Chemistry</i> , 2013, 52B, 428-431.
23.	K. Mangala, K. Sreekumar, Polycarbosilane-supported titanium(IV) catalyst for Knoevenagelcondensation reaction, <i>Appl. Organomet. Chem.</i> , 2013, 27, 2, 73-78.
24.	K. Mangala, K. Sreekumar, Synthesis and application of polycarbosilane supported manganese ions as catalyst in mannich reaction, <i>J. Appl. Polym. Sci.</i> , 2013, 127, 1, 717-723.

Dr. S. Sugunan

Sl. No.	Name of Paper
25.	Selective C-methylation of phenol with methanol over transition metals modified mesoporous ceria catalysts, Rose Philo K. J., Sugunan S., <i>Journal of Advances in Chemistry</i> , 2013, 3, 213-221.
26.	Improved Stabilities of Immobilized Glucoamylase on Functionalized Mesoporous Silica Synthesised using Decane as Swelling Agent, Reni George, Sanjay Gopinath, Sankaran Sugunan, <i>Bulletin of Chemical Reaction Engineering & Catalysis</i> , , 2013, 8 (1)70 – 76.
27.	Preparation, Characterization and Photocatalytic Activity of N doped TiO ₂ , Dhanya T. P., Sugunan S., <i>IOSR Journal of Applied Chemistry (IOSR-JAC)</i> 2013,4(3), 27-33



Sl. No.	Name of Paper
28.	Visible Light Active Titania Photocatalyst Doped with Molybdneum, Dhanya T. P., Sugunan S., <i>International journal of scientific Research</i> , 2013 ,4, 27-33.
29.	Surfactant-assisted Hydrothermal Synthesis of Ceria-Zirconia Nanostructured Materials for Catalytic Applications, Cimi A. Daniel, S. Sugunan, <i>IOSR Journal of Applied Chemistry (IOSR-JAC)</i> 2013, 5, 23-29.
30.	Ceria Zirconia Mixed Oxides Prepared by Hydrothermal Templating Method for the Oxidation of Ethyl Benzene, Cimi A. Daniel, S. Sugunan, <i>Bulletin of Chemical Reaction Engineering & Catalysis</i> , 2013,8, 97-104 .
31.	Visible light induced photocatalytic activity of polyaniline modified TiO ₂ and Clay- TiO ₂ composites- K. P. Sandhya, Suja Haridas, S. Sugunan, <i>Bulletin of Chemical Reaction Engineering & Catalysis</i> , 2013, 8 (2), 145-153.
32.	Pd, N co doped visible light active TiO ₂ ; A highly efficient photocatalyst for the conversion of Anthracene methanol to Anthraquinone- K. M. Mothi, K .P. Sandhya, A. H. Salim, S. Sugunan, <i>International Journal of Environmental Science and Engineering Research</i> ,2013, 4(3),77-84.

Dr. S. Prathapan

Sl. No.	Name of Paper
33.	"16-Oxapentacyclo[6.6.5.0 1,18.0 2,7.0 9,14]-nonadeca-2,4,6,9,11,13,18-heptaen-15-One" Mathew M. E., Sithambaresan M., Unnikrishnan P. A., Kurup, M. R. P., <i>Acta Cryst.E</i> 2014. 70, o114
34.	"8-Phenyl-16-thiapentacyclo-[6.6.5.0 1,18.0 2,7.0 9,14]nonadeca-2,4,6,9,11,13,18-heptaene " Mathew M. E., Sithambaresan M., Unnikrishnan P. A.; Kurup M. R. P., <i>Acta Cryst.E</i> 2013. 69, o1165

Dr. N. Manoj

Sl. No.	Name of Paper
35.	Micellar control of the photooxidation pathways of 10-methyl phenothiazine: electronversus energy transfer mechanisms. Manju T., Manoj N., Gejo J. L., Braun A. M., Oliveros, E., <i>Photochemical & Photobiological Sciences</i> , 2014, 13, 281-292.

Dr. P. M. Sabura Begum

Sl. No.	Name of Paper
36.	Synthesis Characterization and Application of Rice Husk Nanosilica in Natural Rubber, Dominic M. C .D., Begum S. P. M.; Joseph R., Aiswrya A. P., Kumar P., <i>International Journal of Science, Environment and Technology</i> , 2013, 2, 1027–1035



Sl. No.	Name of Paper
37.	Fabrication of partially epoxy nanocomposites for high performance applications, Sharmila, B.T.K.; Ayswarya, E.; Abraham, B.T.; Begum, S.P.M.; Thomas, E.T., <i>Polymer</i> (Under revision).
38.	Microwave exfoliated reduced graphene oxide/ exfoliated and disordered intercalated Epoxy/Clay nanocomposites via in situ polymerization: Mechanical, Dynamic mechanical, Thermal and Barrier properties, Sharmila B.T. K., Nair A. B., Begum S. P. M., Thomas E. T., <i>Applied Clay science</i> (Communicated).

Dr. P. V. Mohanan

Sl. No.	Name of Paper
39.	N. Antony, S. Balachandran, P. V. Mohanan, Effect of Surfactants on Catalytic Activity of Diastase α -Amylase, <i>J. Surfact. Deterg.</i> , (in press) 2014.

Books

Sl. No.	Name of Book
1	G. Rajesh Krishnan, K. Sreekumar, Supported and Reusable Organocatalysts- "New and Future Developments in Catalysis Hybrid Materials, Composites, and Organocatalysts". Elsevier, ISBN: 978-0-444-53876-5, 2013, 343-364.

13. Participation in seminar/Conference/Refresher Courses etc by faculty/Students.

Sl. No.	
1.	Dr. K. Girish Kumar, Electrochemical sensors (Innovations in Electrochemical Science and Technology, NIT -Warangal, December-2013) Invited Lecture
2.	Dr. N. Manoj, Memmorial Lecure and National Science Day celebrations, St. Berchman's College, Changanassery, Kerala. February, 2014. Invited Lecture
3.	Dr. N. Manoj, International Conference on Nature Inspired Initiatives in Chemical Treds, Indian Institute of Chemical Technology (IICT), Hyderabad, March 2014.
4.	Dr. S. Prathapan, Memmorial Lecure and National Science Day celebrations, St. Berchman's College, Changanassery, Kerala. February, 2014. Invited Lecture
5.	Poly (L-cystiene) modified glassy carbon electrode sensor for the voltammetric determination of Allura red, <i>Anuja E. V. and K. Girish Kumar</i> , CTriC 2014, 17-18 January 2014
6.	Poly (L-cystiene) modified glassy carbon electrode sensor for the voltammetric determination of BHA in food samples, <i>Divya Thomas and K. Girish Kumar</i> , CTriC 2014, 17-18 January 2014



Sl. No.	
7.	Electroanalytical determination of a synthetic antioxidant Propyl Gallte, <i>Soumya T. Cyriac and K. Girish Kumar</i> , CTriC 2014, 17-18 January 2014
8.	Diffusion controlled process at an AuNP/Pt electrode surface for the determination of TAM, <i>Theresa jos and K. Girish Kumar</i> , CTriC 2014, 17-18 January 2014
9.	Study of electrochemical oxidation of sulphite on a gold electrode modified with muti- walled carbon nano-tubes, <i>Jesny S. and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
10.	Manganese (II) –selective potentiometric sensor based on calix[4]resorcinarene in pvc matrix, Swadeshi Science Congress, <i>Sobhana Mathew and K. Girish Kumar</i> , November 2013, M.G. University, Kottayam
11.	Development of mutiwalled carbon nanotube modified platinum electrode sensor for the voltammetric determination of guaifenesin, Swadeshi Science Congress, <i>Zafna Rasheed, Thresa Jos and K. Girish Kumar</i> November 2013, M.G. University, Kottayam
12.	Nanotube modified gold electrode for the determination of pam chloride, <i>Theresa jos and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
13.	Poly (eriochrome black t) modified electrode for the voltammetric determination of tinidazole, <i>Leena R. and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
14.	Cobalt (II) selective pvc membrane electrode based on a new tetraaza macrocyclic ligand, Swadeshi Science Congress, <i>Shruthi C. B. and K. Girish Kumar</i> , November 2013, M.G. University, Kottayam
15.	Development of sensor for amoxicillin trihydrate, <i>Laina A. L. and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
16.	Development of gold nanoparticle based voltammetric sensor for the determination of sunset yellow, <i>Anuja E. V. and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
17.	Development of multiwalled carbon nanotube based sensor for sulfamethoxazole, <i>Unni Sivasankaran, Sindhu Issac and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
18.	Gold nanoparticle modified glassy carbon electrode sensor for the voltammetric determination of sudan i in food samples, <i>Divya Thomas and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam
19.	Development of poly(bromophenol blue) modified glassy carbon electrode based sensors for the determination of synthetic antioxidant tert-butylhydroquinone, <i>Soumya T Cyriac and K. Girish Kumar</i> , Swadeshi Science Congress, November 2013, M.G. University, Kottayam



Sl. No.	
20.	Development of poly(o-aminophenol) modified gold sensor for the determination of ceftriaxone sodium, <i>Meera Jacob, Renjini Joseph and K. Girish Kumar</i> Swadeshi Science Congress, November 2013, M.G. University, Kottayam
21.	Fast and convenient synthesis of low generation, high molecular weight PAMAM dendrimer, <i>Smitha George and K. Sreekumar</i> , CTriC 2014, 17-18 January 2014
22.	Synthesis and Characterization of energetic polyphosphazene, <i>Anoop. N. A. and K. Sreekumar</i> , National Seminar on New Frontiers in Chemistry-2013, Kattappana
23.	Synthesis and application of feather like Polypyrrole/Palladium nanocomposite as catalyst in benzimidazole synthesis, <i>C. P. Anjali and K. Sreekumar</i> , National Seminar on Polymers – Plural Thoughts Over The Boons and Bans- 2014, Kanhangad
24.	3. Synthesis and Characterisation of conjugated D-A copolymers containing Fluorene and quinoxaline units, <i>Jiby K. Gopinath and K. Sreekumar</i> , National Seminar on Polymers – Plural Thoughts Over The Boons and Bans- 2014, Kanhangad
25.	4. Titanium (IV) incorporated polyamidoamine dendritic silica hybrid catalyst in Biginelli reaction-A solvent free method, <i>Sinija P. S. and K. Sreekumar</i> , National Seminar on Polymers – Plural Thoughts Over The Boons and Bans- 2014, Kanhangad
26.	Effect of pH and concentration of buffer solution on the degradation of curcumin analogues in aqueous media <i>K. M. Divya, S. Balachandran and P. V. Mohanan</i> , CTriC 2014, January 17-18, 2014
27.	Synthesis and Spectral Characterization of (E)-N'-(thiophen-2-ylmethylene)nicotinohydrazide <i>Jessica Elizabeth Philip, S. Balachandran and P. V. Mohanan</i> , CTriC 2014, January 17-18, 2014
28.	Magnetic nanocomposites of conducting polymers for enzyme immobilization <i>Maria Augustine, Bindu V. U. and P. V. Mohanan</i> , CTriC 2014, January 17-18, 2014
29.	Cu (II) and Zn (II) Complexes Derived from Heterocyclic Schiff-Bases: Synthesis and Structural Characterisation <i>A. A. Shanty, S. Balachandran and P. V. Mohanan</i> , CTriC 2014, January 17-18, 2014
30.	Synthesis, Characterization and Antioxidant Activity Of Hydrazones, <i>Jessica Elizabeth Philip, S. Balchandran, P. V. Mohanan</i> , 23 rd Swadeshi Science Congress, November 6-8, 2013
31.	Crystal structure of N'-{[(E)-5-bromo-2-hydroxy-3-methoxy phenyl]methylidene}pyridine-3-carohydrazide, <i>Bibitha Joseph and M. R. Prathapachandra Kurup</i> . CTriC 2014, January 17-18, 2014



Sl. No.	
32.	Crystal structure of 1-[(E)-5-bromo-2-hydroxy phenylmethylenedene] amino}pyrrolidin-2-one, Aiswarya N. and M. R. Prathapachandra Kurup., CTriC 2014, January 17-18, 2014
33.	Synthesis and spectral characterization of oxovanadium (IV) complexes derived from an ONO donor N4-phenylsemicarbazone, Annie C.F and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
34.	Crystal structure of N'-(3-ethoxy benzylidene) benzohydrazidemonohydrate, Vineetha M.C. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
35.	Synthesis , characterization and crystal structure of a dioxovanadium(V) complex of aroyl hydrazone, Jessy Emmanuel and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
36.	Synthesis and spectral characterization of mixed ligand copper (II) chelates derived from an ONS donor –phenylhydrazinecarbothioamide, Jinsa Mary Jacob and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
37.	Crystal structure of dioxovanadium (V) complexes of 2-benzoylpyridine-N4-dimethylthiosemicarbazone, Nisha K. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
38.	Crystal structure of N,N'-bis(3-ethoxysalicylidine)-1,4-diaminobutane, Sreejith S. S. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
39.	Synthesis and crystal structure of copper(II) complexes with thiadiazoline ring derived from 2-benzoylpyridine N ⁴ ,N ⁴ -dimethyl-3-thiosemicarbazone K. Jayakumar, A. Ambili Aravindakshan and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
40.	Spectral studies of cobalt (III) salicylaldehyde N(4)-ring incorporating thiosemicarbazone complexes :Crystal studies of sulfenato complex, Leji Latheef and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
41.	Synthesis and spectral characterization of Mn(II) complexes of N4-substituted thiosemicarbazone, E. B. Seenaa and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
42.	Crystal structure of methoxy bridged vanadium(V) complexes derived from 3-methoxy salicylaldehyde furoic acid hydrazone, U. L. Kala, A. Ambili Aravindakshan and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
43.	Synthesis and crystal structure of copper(II) complexes derived from 3-fluoropyridine 2-carboxaldehyde and benzhydrazide, Yamuna Nair, A. Ambili Aravindakshan and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014



Sl. No.	
44.	Crystal structure of a copper complex derived from 1-(E)-[5-bromo-2-oxidobenzylidene]pyrrolidine-2-one, Aiswarya N. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
45.	Crystal structure of (2E)-2-(2-hydroxy -3-ethoxy benzylidene)-N-phenylhydrazinecarboxamide, A. Ambili Aravindakshan and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
46.	The crystal structure of 4-bromo-2-(5,5-dimethyl-1H-benzimidazol-2-yl) phenol, Ambili K.U. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
47.	Crystal structure of a Nickel(II) complex derived from 2-benzoylpyridine benzoylhydrazone, Anila P.V. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
48.	Synthesis and spectral characterization of mixed ligand oxidovanadium (IV) chelates derived from ONS donor N ⁴ -phenylhydrazinecarbothioamide, Jinsa Mary Jacob and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
49.	Molecular structure of (2Z)-2-(5-bromo-2-hydroxy benzylidene)-N-ethylhydrazinecarbothioamide, K. Nisha and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
50.	Synthesis and spectral characterization of novel transition metal complexes with a tridentate aryl hydrazone, Bibitha Joseph and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
51.	Synthesis and spectral characterization of the second harmonic generation efficiency of a tridentate arylhydrazone, Bibitha Joseph and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
52.	Synthesis spectral characterization of Zinc complexes of 2-benzoylhydrazine 4-Nitrobenzyl hydrazone, Vineetha M. C. and M. R. Prathapachandra Kurup. CTriC 2014, January 17-18, 2014
53.	Rice husk nanocellulose whiskers- an effective reinforcing filler in HDPE, Midhun Dominic C. D., CTriC-2014, CUSAT, 17-18 January 2014 (poster).
54.	Synthesis characterization and application of nanocellulose whiskers from rice husk Midhun Dominic C. D., IRCATC-2014, St. Albert's College, Ekm, 9th January 2014 (poster).
55.	Midhun Dominic C. D., First National Students' Assembly and The Launching of Human Values Development Programme held at Bishop Heber College (Autonomous), Tiruchirappalli, Tamilnadu, December 28-30, 2013.
56.	A comparative study on the mechanical properties of HDPE/NCW, HDPE/MCC composites, Midhun Dominic C. D., 12th Prof. K. V. Thomas Endowment National Seminar, Sacred Heart College, Thevara, December 11-12, 2013.



Sl. No.	
57.	Rice husk nanosilica an emerging green filler in HDPE, Midhun Dominic C. D., ICAMS-2013, Sree Sankara College, Kalady, October 23- 24, 2013.
58.	Synthesis characterization and application of nanosilica from rice husk, Midhun Dominic C. D., International Conference on Advanced Polymeric Materials, M.G. University, Ktm., October 11-13, 2013.
59.	Midhun Dominic C. D., Workshop on "Writing Successful Project Proposals" held at AIACHE Ecumenical House, New Delhi, July 22-24, 2013.
60.	Midhun Dominic C. D., Third Euro-India ICNT-2013, M. G. University, Ktm., August 9-11, 2013.
61.	A comparative study on the mechanical properties HDPE/rice husk NanoSiO ₂ with HDPE/commercial silica composites, Midhun Dominic C. D., National Conference on "Recent Trends in Materials Science and Technology", Indian Institute of Space Science and Technology, Tvm., July 10-12, 2013.
62.	Midhun Dominic C. D., National Conference on "Inspiring Higher Education Institutions for Nation Building Opportunities and Challenges", Christ University, Bangalore, May 1-3, 2013.
63.	An investigation of adhesive strength of nanolayered silicate clay reinforced epoxy in aluminium and styrene butadiene rubber substrate, Bindu Sharmila T. K., National seminar on "Emerging nanoscience and its future in biology", St.Aloysius' College, Edathua from August 21-23, 2012. (Best Paper Award).
64.	Barrier properties of epoxy nanoclay composites, Bindu Sharmila T. K., National seminar on "Advanced Polymers", SCIENTIA -2012, M.G.University College of Engineering, September 28-29, 2012.
65.	Mechanical and adhesive properties of epoxy organonoclay composites, Bindu Sharmila T. K., International Conference ANM -2012, IIT, Madras, October 17-19, 2012.
66.	Reinforcing effect of nanoclay on epoxy resin", Bindu Sharmila T. K., National seminar BPGC-2013, CBPST - A unit of CIPET, Kochi, September 27,2013. (2nd Prize).
67.	Synthesis, Characterisation and reinforcing effect of reduced graphene oxide on epoxy resin", Bindu Sharmila T. K., International conference ICAMS-2013, Sree Sankara College, Kalady & Centre for nano science and Nanotechnology, M.G University, October 23-24, 2013. (Best Paper Award).
68.	Epoxy/graphene nanocomposites: Static and Dynamic mechanical properties", Bindu Sharmila T. K., National seminar on "Materials and Characterization-Emerging trends", KKTm Govt.College, Kodungallur, December 17- 18, 2013.



Sl. No.	
69.	Synthesis and characterization of epoxy/microwave exfoliated reduced graphene oxide (MERGO) nanocomposites, Bindu Sharmila T. K., National seminar on CTric-2014 CUSAT, Kochi, January 17-18, 2014 (poster).
70.	Nanocomposites based on Epoxy Resin: Effect of high abrasion furnace fluffly Carbon black on the Mechanical and Adhesive properties, Bindu Sharmila T. K., National seminar on RAMS-2014" NSS College, Ktm., March 04-05, 2014.
71.	Thermo-Mechanical properties of high abrasion furnace fluffly carbon black reinforced epoxy adhesives for high performance applications, Bindu Sharmila T. K., National seminar on "Advances in nanomaterials and polymers", Bharat Mata College, Kochi, March 11-12, 2014 (poster).
72.	Bhavya Bhadran, NCAMS 2012, National Conference on Advances in Materials Science: Macro to Nano scales, March 16-17, 2012, UC College, Aluva
73.	Bhavya Bhadran, NCMST National Conference on Recent Trends in Material Science, July 10-12, 2013, IIST, Tvm.
74.	Bhavya Bhadran, Workshop on NMR and Mass Spectroscopy, July 18-20, 2013, STIC, CUSAT.
75.	Bhavya Bhadran, National seminar CTric 2014, CUSAT, Kochi, January 17-18, 2014.
76.	Divya P. R., A modified interfacial polymerisation method for the synthesis of polyaniline-clay nanocomposites, National seminar CTric-2014, CUSAT, Kochi, 17-18 Jan-2014 (poster).
77.	Divya P. R., Synthesis and characterisation of poly aniline nano fibre-carbon black composite, IRCATC-2014, St. Albert's College, Ekm., 9th Jan-2014 (poster).
78.	Sameeha A. P., "Cu(II) and Zn(II) Schiff base complexes of quinoxaline-2-carboxalidene-2-aminobenzimidazole and 3-hydroxyquinoxaline-2-carboxalidene-2-aminobenzimidazole, National seminar CTric-2014, CUSAT, Kochi, 17-18 Jan-2014 (poster).
79.	Sameeha A. P., Synthesis, spectral and EPR studies of Cu(II) Schiff base complexes of quinoxaline based ligands, IRCATC-2014, St. Albert's College, Ekm., 9th Jan-2014 (poster).
80.	Seena K. Thomas, Synthesis of Cellulose from Acacia Caesia and its Characterisation and Application, National seminar CTric-2014, CUSAT, Kochi, 17-18 Jan-2014 (poster).
81.	Synthesis of N-(4-N,N-bis(2-hydroxyethyl)phenyl)- 2,4,6- triphenylpyridinium Tetrafluoroborate ion, Cisy Abraham, Manoj N., CTric 2014



Sl. No.	
82.	Synthesis and characterization of triazine based donor acceptor system, K. Kala, O. C. Parvathy, N. Manoj, CTriC 2014
83.	Synthesis of Bisthiophenecycloalkanones, C. Nithya, P. A. Unnikrishnan, S. Prathapan CTriC 2014
84.	Development of a simple and efficient route for the synthesis of substituted benzoquinolines, N. Rakesh, P. A. Unnikrishnan, S. Prathapan, CTriC 2014
85.	Studies on the Solvent Dependence in the Reaction of (Anthracen-9-yl)methyl benzyl thioether with DMAD, G. Reshma, J. P. Jacob, P. A. Unnikrishnan, N. Manoj, S. Prathapan, CTriC 2014
86.	Synthesis of indole derivative by the reaction of nitron with electron deficient acetylene, R. Sandhya, P. A. Unnikrishnan, S. Prathapan, CTriC 2014
87.	A Convenient Synthesis of Unsymmetrical 2,5-Disubstituted-1,3,4-Oxadiazoles, P. P. Shandev, P. A. Unnikrishnan, S. Prathapan, CTriC 2014
88.	Synthesis of 4-(4-N,N-bis(2-hydroxyethyl)phenyl)-4-aza-8,12-dioxatriangulenium Tetrafluoroborate ion Saumya Jos, Cisy Abraham, Vineetha P. K., Manoj N., CTriC 2014
89.	Site Selective Diels-Alder reaction of 9-(2-furylmethoxymethyl)anthracene, T. S. Saumya, K. M. Nishad, S. Prathapan, P. A. Unnikrishnan, CTriC 2014
90.	Modification of Optical Limiting Properties of PANI with Nano TiO ₂ , Sandhya K. P., Anju K. Augustine, F. Mathew, S. Sugunan, V. P. N. Nampoori, DAE-BRNS National Laser Symposium-2014, 17,18-January 2014.
91.	A Comparative Study of Transesterification Reaction Over Metal Modified Ceria Zirconia Catalysts, Cimi A. Daniel, S. Sugunan, IRCATC-2014, 9-January 2014.
92.	Immobilized Catalase on Glutaraldehyde Functionalized Mesocellular Foams for Bio-Degradation of Phenol, Reni George, S. Sugunan, IRCATC-2014, 9-January 2014.
93.	Antibacterial Activity studies of TiO ₂ -PANI nanocomposites, Sandhya K. P., S. Sugunan, IRCATC-2014, 9-January 2014.
94.	Comparative Catalytic Efficiency Between Adsorbed And Covalently Bound Catalase on Comparative Study on The Catalytic Properties of Modified Ceria Zirconia Catalysts for The Transesterification of Diethyl Malonate, Cimi A. Daniel, S. Sugunan, CTriC-2014, 17,18- January 2014.
95.	Nanogold Supported Metal Loaded Mesoporous Silica Based Solids in The Catalytic Reduction of Nitro Benzene, Soumini C., Sugunan S., CTriC-2014, 17,18- January 2014.



Sl. No.	
96.	Photo Oxidation of Phenyl Appended Anthracene Methanol Over Modified Titania Systems, Mothi Krishna Mohan and S. Sugunan, CTriC-2014, 17,18- January 2014.
97.	Visible Light Induced Photocatalytic Degradation of 4-Nitrophenol By Polyaniline Sensitized TiO ₂ Nanocomposites, <i>Sandhya K. P., S. Sugunan</i> , CTRIC-2014, 17,18 January 2014.
98.	Visible light induced Photocatalytic degradation of Rhodamine B by Reduced Graphene Oxide-TiO ₂ nanocomposites, <i>Soumya G., Sugunan S.</i> , CTriC-2014, 17,18- January 2014.

14. Awards/Honours/Fellowships etc Received

Sl. No.	Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
1.	Dr. K. Girish Kumar	Siksha Ratan Puraskar -2013	India International Friendship Society, New Delhi
2.	Dr. Beneesh, P. B.	DST INSPIRE FACULTY Award	DST
3.	Cisy Abraham	UGC JRF	UGC
4.	Amrutha U.	UGC JRF	UGC
5.	Jithin Kumar V. A.	UGC JRF	UGC
6.	Soumya Xavier	UGC NET	UGC
7.	Soumya T. Cyriac	CSIR JRF	CSIR
8.	Soumya Jos	UGC NET	UGC
9.	Divya K. M.	CSIR JRF	CSIR
10.	Suhada K. M.	UGC JRF	UGC
11.	Jamsheena V.	CSIR JRF	CSIR
12.	Jessica Elizabeth Philip	UGC JRF	UGC
13.	Ligi M. L.	UGC JRF	UGC
14.	Vineetha M. C.	CSIR JRF	CSIR
15.	Seena K. Thomas	CSIR JRF	CSIR
16.	Maria Agustine	CSIR JRF	CSIR



Sl. No.	Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
17.	Thomson Devassia	UGC JRF	UGC
18.	Anila P. V.	CSIR JRF	CSIR
19.	Shandev P. P.	CSIR JRF	CSIR
20.	Daly Kuriakose	UGC JRF	UGC
21.	Lincy Tom	CSIR JRF	CSIR
22.	Fredi Francis C.	GATE	
23.	Nadheem Hassan V.	UGC JRF	UGC
24.	Ammu Rosin Jose	UGC JRF	UGC

15. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount in Lakhs	Status of the Project	Investigator(s)
1	Theoretical Investigations on Low Band Gap Conjugated Polymers	DST [HPCF at CMSD, UoH]		Ongoing	Dr. K. Sreekumar
2	Development of Low Band Gap Conjugated Polymers for Inverted Heterojunction Solar Cells	DST	70.57	Ongoing	Dr. K. Sreekumar (PI) & Dr. K. P. Vijayakumar (Co-PI)
3	Development of Eosin doped poly(vinyl alcohol) as holographic data storage media	DST	45.00	Ongoing	Dr. C. Sudha Kartha (PI), Dr. Rani Joseph (Co-PI) & Dr. K. Sreekumar (Co-PI)
4	"Development of Electrochemical Sensors for Food Analysis"	DRDO	24.93 Lakhs	Ongoing	Dr. K. Girish Kumar
5	Development of Novel Macrocyclics Based Electrochemical Sensors for Metals	KSCSTE	12.5 Lakhs	Ongoing	Dr. K. Girish Kumar
6	Bimetallic 3d-4f Schiff base complexes: Materials with luminescence properties	DRDO	27 Lakhs	Ongoing	Dr. M. R. Prathapa chandra Kurup
7	DST INSPIRE Faculty Award Project	DST	35 Lakhs	Ongoing	Dr. P. B. Beneesh



16. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Photo catalysis by nano titania for detoxification of water containing pollutants	Mothi Krishnan & Dr. S. Sugunan
2.	Photo catalysis by titania conducting polymer composites	Sandhya K. P. & Dr. S. Sugunan
3.	Synthesis of nanogold supported over mesoporous Ti/Zr-SBA 15 materials and their catalytic performance	Sowmini C. & Dr. S. Sugunan
4.	Photocatalysis by TiO ₂ /Graphene composites	Soumya Gopi & Dr. S. Sugunan
5.	Photocatalysis by TiO ₂ /carbon nano tubes	Honey mary Joseph & Dr. S. Sugunan
6.	Studies of metal complexes of multidentate ligands	Sheeja S. R. & M. R. P. Kurup
7.	Structural and NLO properties of some metal complexes	K.Jayakumar & M. R. P. Kurup
8.	Transition metal complexes of thiosemicarbazones	Nisha K. & M. R. P. Kurup
9.	Transition metal complexes of thiosemicarbazones	Jinsa Mary Jacob & M. R. P. Kurup
10.	Metal complexes of some acylhydrazones	Bibitha Joseph & M. R. P. Kurup
11.	Synthesis and Charaterization and Application studies of Transion Metal complexes	Aiswarya N. & M. R. P. Kurup
12.	Synthesis and Charaterizationof Metal complexes of multidentate ligands	Sreejith S. S. & M. R. P. Kurup
13.	Synthesis and Charaterization of Transion Metal complexes	Fousiamol M. M. & M. R. P. Kurup
14.	Synthesis and Characterization of Transition Metal complexes of multidentate ligands	Ambili K. U. & M. R. P. Kurup
15.	Synthesis and Characterization of Transition Metal complexes	Vineetha M. C. & M. R. P. Kurup
16.	Development of electrochemical sensors for various pharmaceuticals	Renjini Joseph & Dr. K. Girish Kumar
17.	Development of macrocyclics based electrochemical sensors	Sobhana Mathew & Dr. K. Girish Kumar
18.	Development of electrochemical sensors for various pharmaceuticals	Theresa C. J. & Dr. K. Girish Kumar



Sl.No.	Problems/Topics	Investigator(s)
19.	Development of electrochemical sensors	Divya Thomas & Dr. K. Girish Kumar
20.	Development of Sensors: Pharmaceutical / Organic Compounds	Soumya T. Cyriac & Dr. K. Girish Kumar
21.	Development of voltammetric sensors for food analysis	Jesny S. & Dr. K. Girish Kumar
22.	Development of chemical sensors	Zafna Rasheed & Dr. K. Girish Kumar
23.	Biosensors	Anuja E. V. & Dr. K. Girish Kumar
24.	Periphery modified dendrimers in organic synthesis.	Smitha George & Dr. K. Sreekumar
25.	Conducting polymers.	Jiby K Gopinath & Dr. K. Sreekumar
26.	Organic reactions catalyzed by functionalized periodic mesoporous silica.	Sinija P. S. & Dr. K. Sreekumar
27.	Heterogeneous catalysis by polymer supported metal catalyst.	Anjali C. P. & Dr. K. Sreekumar
28.	Synthesis characterization and application of hyper branched polymer and star branched polymer.	Sherlymole P B & Dr. K. Sreekumar
29.	Catalysis by dendrimer supported Catalyst.	Jithinkumar V. A. & Dr. K. Sreekumar
30.	Synthesis of a few nitrogen and oxygen heterocycles	Sandhya R. & Dr. S. Prathapan
31.	Ground & excited state electron transfer reaction between some sulphides and suitable electron acceptors	Reshma G. & Dr. S. Prathapan
32.	Synthesis of a few nitrogen and oxygen heterocycles	Rakesh N. & Dr. S. Prathapan
33.	Improved method for synthesis of blue light emitting poly (p-phenylene vinylene) derivatives bearing highly phenylated pendants	Nithya C. & Dr. S. Prathapan
34.	Macromolecular architecture of new soluble conjugated- non conjugated polymers via introduction of solubilizing groups	Ligi M. L. & Dr. S. Prathapan
35.	Catalysis by functionalised mesoporous silica	Jisha K. A. & Dr. S. Prathapan



Sl.No.	Problems/Topics	Investigator(s)
36.	Study of energy transfer phenomena in bridged donor-acceptor systems	Parvathy O. C. & Dr. S. Prathapan
37.	Synthesis and study of triaryl cation based singlet oxygen sensitizer for photodynamic therapy	Seena Sebastian & Dr. N. Manoj
38.	Synthesis and study of triangulenium ions based donor-acceptor systems in solar cell applications	Pravitha N. P. & Dr. N. Manoj
39.	Synthesis of triazine based donor-acceptor systems	Suma C. S. & Dr. N. Manoj
40.	Synthesis and study of chirally modified triarylmethane dyes	Senju Devassykutty & Dr. N. Manoj
41.	Synthesis and study of donor-acceptor systems	Kala K. & Dr. N. Manoj
42.	Synthesis and study of triangulenium cation based donor-acceptor systems for solar cell applications	Cisy Abraham & Dr. N. Manoj
43.	Synthesis of heteroatom bridged triaryl cations: Application of radical cyclisation and dehydration strategies	Vineetha P. K. & Dr. N. Manoj
44.	Development of novel synthetic methods via C-H bond activation strategy	Jith C. J. & Dr. N. Manoj
45.	Studies on the use of rice husk silica and bagasse silica in different rubbers	Midhun Dominic C.D & Dr. P. M. Sabura Begum
46.	Studies on the properties of different rubbers using modified clay nano composites	Bhavya Bhadran & Dr. P. M. Sabura Begum
47.	Polymer nanocomposites	Divya P. R. & Dr. P. M. Sabura Begum
48.	Effect of nanofillers on adhesive performance of epoxy resin	Bindu Sharmila T. K. & Dr. P. M. Sabura Begum
49.	Rubber Composites	Jeemol P. A. & Dr. P. M. Sabura Begum
50.	Polymer composites	Seena K. Thomas & Dr. P. M. Sabura Begum
51.	Studies on the synthesis, characterization and applications of some new schiff base complexes of transition metals	Sameeha A. P. & Dr. P. M. Sabura Begum
52.	Synthesis and Spectral Characterization of Metal complexes of multidentate ligands	Ambili Aravindakshan A. & Dr. P. M. Sabura Begum
53.	Spectral Studies and structure of Transition Metal complexes of multidentate ligands	Sajitha N. R. & Dr. P. M. Sabura Begum
54.	Immobilization of diastase α -amylase on the synthetic and natural polymers	Navya Antony & Dr. P. V. Mohanan



Sl.No.	Problems/Topics	Investigator(s)
55.	Synthesis, characterization and biological studies of metal complexes of Schiff base	Jessica Elizabeth Philip & Dr. P. V. Mohanan
56.	Studies of metal complexes of Schiff base	Shanty A. A. & Dr. P. V. Mohanan
57.	Enzyme immobilization on biopolymer nano composite	Bindu V. U. & Dr. P. V. Mohanan
58.	Synthesis, characterization and biological studies of metal complexes of amino acid Schiff base	Sneha Jose E. & Dr. P. V. Mohanan
59.	Enzyme immobilization on magnetic polymer nano composite	Maria Augustine & Dr. P. V. Mohanan
60.	Photochemical & photophysical studies on a few barrelene derivatives	Eason M. Mathew & Dr. P. A. Unnikrishnan
61.	Studies on novel applications and development studies on a few barrelene derivatives	Sajitha T. S. & Dr. P. A. Unnikrishnan
62.	Photochemical & photophysical studies on a few multichromophoric arrays	Saumya T. S. & Dr. P. A. Unnikrishnan
63.	Design and synthesis of selected targets with desired properties: Bischromophoric systems	Shandev P. P. & Dr. P. A. Unnikrishnan
64.	Synthesis and transformations of a few amine-appended anthracenes and related compounds	Tomson Devassia & Dr. P. A. Unnikrishnan
65.	Development of sensors	Meera Jacob & Dr. K. Girish Kumar
66.	Development of sensors	Ammu Rosin Jose & Dr. K. Girish Kumar
67.	Polymer supported solid phase peptide synthesis	Anjali Jacob & Dr. K. Sreekumar
68.	Synthesis, characterization and physiological studies of new synthetic curcumin analogs	Divya K. M. & Dr. P. V. Mohanan

17. Seminar/Conference/Workshop/Refresher Course conducted by the Department :

National Seminar on Current Trends in Chemistry, **CTriC 2014** (17-18 January, 2014) was coordinated by Dr. P. M. Sabura Begum with the financial support of CUSAT, UGC, KSCSTE, DRDO and BRNS

National Science Day Celebrations – One day Chemistry workshop on 15 February, 2014 was coordinated by Dr. P. A. Unnikrishnan for selected students of 8th standard from schools in Ernakulam District with financial support of KSCSTE and DST.





DEPARTMENT OF APPLIED ECONOMICS

1. Brief History of the Department

The Department of Applied Economics was established in the University in the year 1979. It was originally envisaged primarily as a research-oriented department with its focus on applied economic problems. Situated in a Science and Technology academic environment, the Department promotes studies and research pertaining to the economic dimensions of science, technology and society as also the economic problems of the region.

2. Programmes of Study/Research

The candidates for the Ph.D and M.Phil programmes are admitted on the basis of an entrance test and an interview, the dates of which are notified by the University during the month of December. Candidates eligible for the Junior Research Fellowship from the UGC are exempted from the entrance test for the Ph.D programme.

The MA Applied Economics programme at the department is designed to provide advanced theoretical and applied economics education, involving:

- A grounding in the principles of microeconomics
- An understanding of different schools of thought in macroeconomic theory and policy
- An appreciation of the nature of business and its role within the private enterprise system.
- The ability to use basic economic principles to analyse decision making within the firm and identify and explain the impact of key governmental policies on business
- A familiarity with recent developments in economic approaches to business strategy.
- A range of transferable skills in task-planning, communication, research, information analysis and interpretation and team-working.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. S. Harikumar	Professor and Head	MA, Ph.D	Agricultural Economics, Environmental Economics



Sl. No.	Name	Designation	Qualification	Specialization
2	Dr. P. Arunachalam	Professor	M.A.,M.Phil., Ph.D.	Quantitative Methods, International Economics
3	Dr. D. Rajasenan	Professor	M A, Ph.D.	Econometrics, Fisheries Economics
4	Dr. M. Meera Bai	Professor	M.A.(Eco), M.A.(History), Ph.D.	Industrial Economics, Gender Economics
5	Dr. P. K. Manoj	Asst. Professor	B.Tech., MBA, MA (Eco), M.Com., M.Phil., M.Com. LL.B; Ph.D; CAIIB; AMT (Fin.); AMIE	Finance and Accounts, Business Strategy, Operations Management

4. Research Scholar

Sl. No.	Name	Year	Area of Work	Supervising Guide	Funding Agency
1	Abdul Nazar Vallasserri	2008	Trends and patterns of agricultural credit in India during the post reforms period.	Dr. P. Arunachalam	
2	Bijith George Abraham	2010	Community participation in Ecotourism and inclusive development in Kerala	Dr. D. Rajasenan	
4	Dhanya A.	2011	Foreign Direct Investment in India	Dr. Manoj P. K.	UGC-JRF
5	Dhanya C.	2012	Women Empowerment in Coastal Areas of Malabar	Dr. Meera Bai M.	UGC-JRF
6	Emilson V. V.	2010	International Container Transshipment Terminal, Vallarpadam: The Port Based Special Economic Zone with Boundless Economic Possibilities and Opportunities	Dr. P. Arunachalam	
7	Elizabeth George	2008	Employee empowerment A study with special reference to banking sector	Dr. K. C. Sankaranarayanan	
8	Freeda V. Simon	2010	Informal labour market in Kerala: A study of female labourers	Dr. S. Harikumar	



Sl. No.	Name	Year	Area of Work	Supervising Guide	Funding Agency
9	Haseena C. A.	2011	Occupational pattern of women Migrants from Kerala to Middle East	Dr. Meera Bai M.	
10	Y. C. Ibrahim	2008	Export performance for Indian traditional items of exports in the WTO regime A study of prices exports	Dr. P. Arunachalam	
11	Igy George	2008	Economic Linkage of Airport-A Case Study of Cochin International Airport Ltd.	Dr. K. C. Sankara Narayanan	
12	Jayesh Balan	2009	A study on socio-economic impact of AIDS on AIDS affected people in Kerala	Dr. P. Arunachalam	
13	Jaheer Mukthar K. P.	2011	Housing situation in India-significance of affordable housing	Dr. P. K. Manoj	
14	Jayson Jacob	2008	Retail Industry in globalized scenario-a Study of Kerala	Dr. Mary Joseph	
15	Jayasree Paul	2006	Substainability of the Kerala Model of Economic Growth	Dr. Mary Joseph	
16	Justine Joseph	2009	The role of self help groups in Community Development: A case study of self help groups.	Dr. P. Arunachalam	
17	Keerthan Rose Alexon P.	2011	MGNREGS-Its Impat on Women Empowerment and povery alleviation in Kerala	Dr. Manoj P. K.	M.Phil
18	Mohammed Kasim C.	2010	Determinants of food security and nutritional status in Kerala A comparative study of Urban and Rural areas	Dr. S. Harikumar	
19	Nalinam M.	2009	Poverty and child morbidity	Dr. S. Harikumar	



Sl. No.	Name	Year	Area of Work	Supervising Guide	Funding Agency
20	Nemat Shereen J.	2008	A study of food processing in Kerala. A comparative study between modern food industries (India) Ltd and Elite Foods Pvt. Ltd.	Dr. K. A. Zakkariya	
21	Praveena K.	2009	Economic Inequality in Kerala: An Inter-District Analysis		
22	Premkumar M. P.	2009	Unorganised work force and social security: a study of Kerala	Dr. S. Harikumar	
23	Rajeev B.	2010	SHGs and Cooperatives as social security options for traditional fishing communities in Kerala- An analysis in the context for globalization		
24	Rajesh R.	2010	The Dynamics of social exclusion a probe into the livelihood and employment of workers in plantation sector in Kerala	Dr. D. Rajasenan	
25	Remya Mohandas	2006	Kudumbashree: A study of selected districts in Kerala		
26	Saritha C. K.	2010	Socio economic mobility of the employees in the IT sector	Dr. Meera Bai M.	
27	Sebastian Thomas	2006	Industrial Economics- Kerala Economy	Dr. Meera Bai M.	
28	Shelly M. K.	2005	A comparative study on the economic impact of self-financing courses at higher education	Dr. George Varghese	
29	Shihabudheen N.	2011	Efficacy of micro finance in Women Empowerment: A study with special reference to 'Kudumbashree'	Dr. Manoj P. K.	



Sl. No.	Name	Year	Area of Work	Supervising Guide	Funding Agency
30	P. R. Suresh	2009	Social structural determinant of education among tribes in Kerala	Dr. D. Rajasenan	
31	Susan Joseph	2011	Financial disclosure practices of housing finance companies in India in the reforms era	Dr. Manoj P. K.	
32	Subhash K.	2012	A study on Socio-economic Impact of Agricultural Price Instability and Income Uncertainty in Kerala	Dr. Meera Bai M.	
33	Soumya K. M.	2009	Economics of organic farming in Kerala: Scope and Constraints	Dr. K. C. Sankara Narayanan	
34	Teena Thomas P.	2009	Impact of emigration on Human Development	Dr. S. Harikumar	
35	Vigi V. Nair	2009	Behavioural Competency Management with Special reference to Banking and IT sector in Kerala	Dr. K. C. Sankara Narayanan	
36	Vinod K. U.	2007	An economic analysis of special economic zones in Kerala	Dr. Meera Bai M.	
37	Vipinchandh P. C.	2010	Communication and development impact of Satelite Communication and Socio Economic Development with special reference to information generated and communicated by ISRO Satelites		
38	Ajay Singh O. T.	2012	Socio-economic conditions of women in self help grounds with special reference to Kumbalam Panchayath	Dr. P. K. Manoj	
39	Sancy K. Jose	2012	An Analysis of Consumption Expenditure Pattern of fixed income households in Kerala	Prof. K. C. Sankaranarayanan	



Sl. No.	Name	Year	Area of Work	Supervising Guide	Funding Agency
40	Jinto John	2012	Land Acquisition and evictee's settlement packages for infrastructural developments in Ernakulam district since 2000: A case study of Moolampilli rehabilitation package	Dr. Meera Bai M.	
41	Sachin Pavithran A. P.	2012	Socio Economic impact of the CRZ notification on the coastal community of Kerala	Prof. K. C. Sankaranarayanan	
42	Reni Sebastian	2012	Migration: An Economic and Social Analysis with special reference to United States of America	Dr. P. K. Manoj	
43	Nishamol M.	2013	Tribal Sub Plan (TSP) and its impact on Education and Health of Indigenous People in Kerala with special reference to Wayanad and Idukki	Dr. D. Rajasenan	

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant	1
3	Selection Grade Typist/Steno	1
4	Peon	1
5	Sweeper cum Cleaner	1
6	Asst. Librarian	

6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	MA III	2	13	15
2	MA I	4	10	14
3	M.Phil. I	1	9	10
4	Ph.D	-	-	-



7. Research Facilities:

a. Laboratories (List out Major Equipments Available)

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 11467 Journals : 2029	Books : 973 Journals : 33

8. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Rashtriya Swasthya Bhima Yojana Comprehensive Health Scheme (RSBYCHIS) in Kerala: A Study on the Effectiveness and Utilization of the Scheme with Special Reference to Ernakulam and Wayanad Districts”	Mini P. P.	Dr. P. Arunachalam
2.	Employee Empowerment-A Study with Special Reference to Banking Sector	Elizabeth George	Dr. K. A. Zakkariya
3.	The impact of Globalisation on the Spices Economy of Kerala with Special Reference to Pepper	Sudheer S. P.	Dr. P. Arunachalam
4.	Impact of the Sanitary and Phytosanitary agreement on the exports of Marine Products from India with special reference to Kerala	Parvathy P.	Dr. D. Rajasenan
5.	Income, Livelihood and Educational Attainment of Tribal Communities in Kerala-Exploring inter community disparities	Binu Paul	Dr. D. Rajasenan





DEPARTMENT OF ATMOSPHERIC SCIENCES

1. Brief History

The Department of Atmospheric Sciences was formed in 1996 by bifurcating the erstwhile Physical Oceanography and Meteorology Division of the School of Marine Sciences. The Department started offering a 4-semester M. Sc programme in Meteorology since 1975 and a 4-semester M. Tech in Atmospheric Science since 1989.

Apart from teaching activities, research works in modeling, diagnostic, theoretical and observational studies in the field of Meteorology/Atmospheric Sciences are in full swing. The Department has successfully completed the phase I & II of the ambitious project under the *New Millennium Indian Technology Leadership Initiative (NMITLI)*.

The University Grants Commission has selected the Department of Atmospheric Sciences under its Special Assistance Programme (SAP) based on the quality of teaching, academic achievements, research in thrust area and viable potential for future development. The essence and primary aim of SAP of the UGC is the combination of teaching and research to encourage group research efforts. The project entitled, Monsoon Cloud Characteristics under UGC – SAP - Level DRS Phase III was granted in 2013 with a financial support of Rs.64 lakhs for five years is expected to develop the Department into a Centre of Excellence.

Department received Rs.20 lakhs as Special Assistance from UGC(SAP) for Augmentation of Infrastructure to Department of Atmospheric Sciences during 2007-2011.

Department of Science and Technology (DST) identified the Department of Atmospheric Sciences as one of the premier centres in India in the field of Atmospheric Research and Teaching and sanctioned Rs.30 Lakhs under its FIST programme.

We are very proud that Ministry of Science and Technology, Government of India has identified CUSAT for installing the most sophisticated and advanced ST radar to study and predict variability of Monsoon over the Kerala region and the regional climate variability. A grant of Rs.20 Crores has sanctioned for this 5-year project. The proposed ST Radar at Cochin is the 7th system in the World to study the atmospheric features. It is first Wind Profiler Radar in the near-equatorial site to study the monsoon features. CUSAT has selected first among a strong contestants including ISRO, IIT Kharagpur, IIG, Mumbai and many other prestigious national Institutes in India. This is the highest project funded by Ministry of Science and Technology to a state University. ST Radars are emerging as powerful tools for Atmospheric Research in recent years around the world. They have immense applications in studies in Meteorology, Cloud Physics, Thunderstorms, Convections, Atmospheric Electricity, Climate Change, Environmental Physics, Civil aviation, communications, etc.

Seven efficient and dynamic faculty are available in the Department. Prestigious awards such as BOYSCAST, Commission of the European Communities (CEC) Fellowships, etc. were awarded to the faculty. International and national awards for the academic excellence and achievements were also received. The Department has produced 41 Ph.D.s and published about 190 research papers in reputed international and national scientific journals. In addition, more than 200 research papers were presented in various national/international scientific



conferences in India and abroad. Eminent Scientists and Professors are often invited to the Department for giving lectures in advanced areas.

The Department has high-speed computational facilities and full-fledged surface weather observatory. The Department has started releasing weather balloons into the atmosphere to obtain upper air weather information using Radio Sonde . It has also setup a data bank, which has NCEP/NCAR reanalysis global data, UARS data from NASA, Rocket data, MST Radar data, surface weather observations, TOMS data, etc.

2. Programmes of Study/Research

- (1) M.Sc. Meteorology (2) M.Tech Atmospheric Sciences
(3) Ph.D Programme in Meteorology/Atmospheric Science

The syllabi for both the M.Sc. Course in Meteorology and the M.Tech Course in Atmospheric Sciences are fully modified at par with the syllabi of foreign universities of international standard. The M.Sc. Course is now in Credit System with 50% internal and external evaluations and the M.Tech Course with 100% internal evaluation. M.Tech Course is a four-semester programme from 2002 admissions.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr.K.Mohankumar	Professor, Dean, Faculty of Environmental Studies	M.Sc., Ph.D	Stratosphere-Troposphere Interactions, Middle Atmosphere
2.	Dr. C. A. Babu	Professor & Head	M.Sc., Ph.D	Boundary Layer Meteorology
3.	Dr.Santosh K. R.	Associate Professor	M.Sc., Ph.D	Remote Sensing
4.	Sri. B. Chakrapani	Associate Professor	M.Sc.	Numerical Modelling of Atmospheric and Ocean Processes
5.	Dr. V. Madhu	Assistant Professor	M.Tech, Ph.D	Middle Atmospheric Dynamics
6.	Dr. Ignatius Kunjumon	Assistant Professor	M.Tech, Ph.D	Modelling Studies
7.	Dr. Venu G. Nair	Lecturer on contract basis	M.Tech, Ph.D	Tropical Meteorology
8.	Dr. Johnson Zacharia	Lecturer on contract basis	M.Tech, Ph.D	Air- Sea interactions

**4. Research Staff**

Sl. No.	Name	Designation	Qualification	Specialization
1	Smitha John	DST-WOS-A Scientist	M.Tech	Meteorology

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Smitha A	NA	Dr.H.S. Ram Mohan	Meteorology
2.	Jayakrishnan P.R.	NA	Dr.C.A.Babu	Meteorology
3.	Sivaprasad P	NA	Dr.C.A.Babu	Meteorology
4.	Smart K B	DST-PURSE	Dr. C. A. Babu	Meteorology
5.	Sudeep Kumar B L	ISRO-JRF	Dr.C.A.Babu	Meteorology
6.	Shinu Sheela Wilson	Nansen- JRF	Dr.K.Mohankumar	Meteorology
7.	Suresh N	UJRF	Dr.K.Mohankumar	Meteorology
8.	Baburaj P P	NA	Dr.K.Mohankumar	Meteorology
9.	Anu Xavier	KSCTE	Dr.K.Mohankumar	Meteorology
10.	Remya.R	Kerala Govt	Dr.K.Mohankumar	Meteorology
11.	Nithya K	UGC-BSR	Dr.K.Mohankumar	Meteorology
12.	Sreelekha P N	UGC-Inspire	Dr.C.A.Babu	Meteorology
13.	Shinto Roose	MoES	Dr.K.Mohankumar	Meteorology
14.	Asifsha T M	DST-SERB	Dr.Santosh K R	Meteorology
15.	Sivakumar K U	NA	Dr.Santosh K R	Meteorology
16.	Vinod Sankar N	NA	Dr.C.A.Babu	Meteorology
17.	Narendra Reddy N	NA	Dr.K.Mohankumar	Meteorology

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Section Officer (Typist)	1
3	Asst. Section Officer	1
4	Office Attendant	1



7. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Officer Gr. I	1
2	Technical Officer Gr. I (Sr. Scale)	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. Meteorology	3	6	9
2	Ph.D.	2	-	2

9. Research Facilities

a. Laboratories (Major equipments available)

1. Meteorological Instrumentation Laboratory: **Sonic Anemometer, Micro Rain Radar, High Resolution GPS Radiosonde (GRAW), Automatic Weather Station, 20 m Meteorological Tower**
2. Synoptic Lab
3. Computer Lab
4. Surface Meteorological Observatory
5. Modelling Lab : SGI O2/origin 200/350/IBM Workstation/Rack Server
6. Atmospheric Data Bank

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. Prince K. Xavier	Royal Met Centre, UK	Delivered a talk
2.	Dr. Rajeevan	SPL, VSSC, ISRO	Delivered a talk
3.	Dr. M. C. George	CSIRO, Australia	Delivered a talk
4.	Dr. Anandkumar K.	Pune University	Delivered a talk
5.	Dr. Ramesh Kumar	NIO, Goa	Delivered a talk
6.	Commodore Vijayakumar	Indian Navy	Delivered a talk

**11. Ph.Ds Awarded**

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Saptio-Temporal Variability of Atmospheric Ozone over Indian subcontinte and its relation to Meteorological parameters	Anila Alex	Dr. K. Mohan Kumar
2.	Environmental Influences on the Frequency and Intensity of North Indian Ocean Tropical Cyclones	Krishna Mohan K. S.	Dr. K. Mohan Kumar
3.	Evolution and Dynamics of the Lakshadweep Cold Pool and Lakshadweep Low in the Arabian Sea	Johnson Zacharia	Dr. C. K. Rajan

12. Publications**a. Papers**

Sl. No.	Name of Paper
1.	Nithin Viswambharan &K. Mohanakumar (2013) Changes in the Walker and Hadley circulations associatedwith the Southern Annular Mode. Theor Appl Climatol, DOI 10.1007 / s00704-013-1011-0
2.	T.P. Sabin, C.A. Babu and P.V. Joseph (2013) SST – Convection Relation over Tropical Ocean . Int. J. of Climatology, 33(6), 1424-1435.
3	Jayakrishnan. P.R and C.A. Babu (2013). Study of the oceanic heat budget components over the Arabian Sea during the formation and evolution of super Cyclone, Gonu, J. of Atmospheric and Climate Sciences, 3, 282-290.
4.	Hamza Varikoden, M.R. Ramesh Kumar and C. A. Babu (2013). Indian Summer Monsoon Rainfall Characteristics during Contrasting Monsoon Years, J. of Pure and Applied Geophysics, DOI 10.1007/s00024-013-0691-9.
5.	Asha S. Philip, C. A. Babu and P. V. Hareeshkumar (2013). Meteorological aspects of Mud Bank Formation along Southwest Coast of India, J of Continental Shelf Research, Vol 65, 45-51, 2013.
6.	Hamza Varikoden, K. Krishna Kumar and C.A.Babu (2013). Long Term Trends of Seasonal and Monthly Rainfall in Different Intensity Ranges Over Indian Subcontinent, Mausam, Vol 64,3, 481-488.
7.	Jayakrishnan P.R. and C.A. Babu (2013). Variations of surface boundary layer parameters associated with Cyclone Gonu over the Arabian Sea using QuikSCAT data, Int J. of Remote Sensing, 34 (7), 2417-2431.
8.	C.A. Babu and Hamza Varikoden (2013). Inter-annual and inter-decadal variability of low pressure system formed over Indian land mass and adjoining seas. Published as a chapter in the book, Climate Change Impact on Ecosystem, published by Scientific Publisher(India) Pages 52-60.



9.	Sivaprasad P. and C.A. Babu (2013). Inter-annual and inter-decadal variability of low pressure system formed over Indian land mass and adjoining seas. Published as a chapter in the book, Climate Change Impact on Ecosystem, published by Scientific Publisher(India) Pages 201-210.
10.	Jayakrishnan P.R. and C.A. Babu (2013). Drastic variation in the surface boundary layer parameters over Cochin during the annular solar eclipse: Analysis using sonic anemometer data, J. of Atm and Solar – Terrestrial Physics, 94, 49-53.
11.	Resmi E. A., K. Mohankumar, K.S. Appu, (2013). Effect of polar sudden stratospheric warming on the tropical stratosphere and troposphere and its surface signature over the Indian region. <i>Journal of Atmospheric and solar-Terrestrial physics</i> 105-106, page 15- 29.
12.	Jayakrishnan. P.R and C.A. Babu, (2013). Study of the oceanic heat budget components over the Arabian Sea during the formation and evolution of super Cyclone, Gonu, J Atmospheric and Climate Sciences, 3, 282-290 (IF: 0.42).
13.	Sivaprasad P. and C.A. Babu (2013), Seasonal variability in the vertical variation of aerosols over Indian region, published as a chapter in the book, Climate change and environment, 201-210, Scientific Publishers (India).
14.	Asha S. Philip, C. A. Babu and P. V. Hareeshkumar (2013), Meteorological aspects of Mud Bank Formation along Southwest Coast of India, accepted for publication in the Journal : Continental Shelf Research (IF: 2.6).
15.	Hamza Varikoden, K. Krishna Kumar and C.A.Babu (2013), Long Term Trends of Seasonal and Monthly Rainfall in Different Intensity Ranges Over Indian Subcontinent, accepted for publication in the Journal : Mausam (IF: 0.51).
16.	Jayakrishnan P.R. and C.A. Babu (2013), Variations of surface boundary layer parameters associated with Cyclone Gonu over the Arabian Sea using QuikSCAT data, International Journal of Remote Sensing, 34 (7), 2417-2431 (IF: 1.12)
17.	C.A. Babu and Hamza Varikoden (2013). Inter-annual and inter-decadal variability of low pressure system formed over Indian land mass and adjoining seas, published as a chapter in the book, Climate Change Impact on Ecosystem 52-60, Scientific Publishers (India).
18.	Madhu V (2013): Impact of Sudden Stratospheric Warming events on Columnar Ozone over the Polar Region, proceedings of 25th Kerala Science congress, @2013, Kerala State Council for Science, Technology and Environment, Govt. of Kerala (KSCSTE) ISBN: 81-86366-83-0, Vol. 1, PP 543.
19.	Shinto Roose and V. Madhu (2013): Temporal and spatial variability of column ozone over tropics, proceedings of 25th Kerala Science congress @2013, INDIA, , KSCSTE, ISBN: 81-86366-83-0, Vol. 1, PP 543.
20.	Nithin Viswambharan & K. Mohanakumar (2014) Modulation of Indian summer monsoon through northern and southern hemispheric extra-tropical oscillations. Clim Dyn. DOI : 10.1007/s00382-014-2049-0



21.	Hamza Varikoden, M.R. Ramesh Kumar and C. A. Babu (2014). Indian Summer Monsoon Rainfall Characteristics during Contrasting Monsoon Years, Pure and Applied Geophysics. 171, 7, 1461-1472 (IF: 1.37).
22.	Jayakrishnan P.R and C.A. Babu (2014). Assessment of convective activity using stability indices as inferred from radiosonde and MODIS data, J Atmospheric and Climate Sciences, 4, 122-130 (IF:0.42)
23.	R. Harikumar, Hamza Varikoden, C.A. Babu, R. Vishnu and G. Mohankumar, (2014). An Investigation on the consequential features of southwest monsoon-2007 onset and super cyclone "Gonu" using satellite, model and ground based data, J Ind. GeoPhys. Union, 18, 319 329 (IF : 0.71).
24.	Hamza Varikoden and C. A. Babu (2014). Indian summer monsoon rainfall and its relation with SST in the equatorial Atlantic and Pacific Oceans, Int. J of Clim, 10.1002/joc-4056 (IF : 2.91).
25.	M. Soltani and C. A. Babu, A. Mofidi (2014). Meteorological Aspects of Abnormal Cooling Event over Iran in April 2009, Meteorol Atmos Phys, DOI 10.1007/s00703-014-0309-5 (IF : 1.25)
26.	Madhu, V. (2014): Variation of Zonal Winds in the Upper Troposphere and Lower Stratosphere in Association with Deficient and Excess Indian Summer Monsoon Scenario, Atmospheric and Climate Sciences, (ISSN Print: 2160-0414, ISSN Online: 2160-0422), 4, 685-695.
27.	Madhu, V. (2014): Spatial and Temporal Variability of Total Column Ozone over the Indian Subcontinent: A Study Based on Nimbus-7 TOMS Satellite, Atmospheric and Climate Sciences, (ISSN Print: 2160-0414, ISSN Online: 2160-0422), 4, 884-898.
28.	Jayakrishnan P. R., C. A. Babu, Lekshmi Mudra B., and S. Gopika (2013). Tropical cyclone and rainfall trends in a global warming scenario over India, Proceedings of National Conference OSICON 2013 "Role of Oceans in Earth System", IITM, Pune, 26-28 November 2013, pp 252-254.
29.	Smart Kundassery and C.A. Babu, (2013) RiverineGIS - A Geo-Visual Framework for Enhancing River Literacy, Proceedings of XXX111 Indian National Cartographic Association (INCA) International Congress on Integrated Decentralized Planning: Geospatial Thinking, ICT and Good Governance, at Jodhpur from 19 - 21 September 2013.
30.	Sudeepkumar. B. L., Hamza Varikoden and C. A. Babu (2013). Simulation of Active-Break Cycle of Indian Summer Monsoon using GCM Models, Proceedings of National Conference, OSICON on "Role of Oceans in Earth System" held at IITM, Pune during 26-28 November 2013
31.	Jayakrishnan P.R., C. A. Babu and Hamza Varikkoden (2013). Sea breeze induced circulation characteristics and associated surface boundary layer parameters over Cochin., Proceedings of COSMOS Symposium held during 09-10 May, 2013, NPOL, Cochin, 152-156.
32.	Smart Kundassery and C.A. Babu (2013). An Integrated Spatial and Temporal Assessment of Occurrence of Mud Banks along Kerala Coast using GIS, Proceedings of COSMOS Symposium held during 09-10 May, 2013, NPOL, Cochin.



33.	C.A. Babu and Nithya K (2013). Influence of monsoon organized convection and along shore wind on coastal upwelling in the Arabian Sea during monsoon season, Proceedings of COSMOS Symposium held during 09-10 May, 2013, NPOL, Cochin
34.	C. A. Babu and Jayakrishnan P.R.(2013). Characteristics of oceanic heat budget components associated with monsoon organized convection, Proceedings of COSMOS Symposium held during 09-10 May, 2013, NPOL, Cochin
35.	Hamza Varikoden and C. A. Babu (2013). Trend Analysis of South China Sea Fluxes and Their Relation with Maritime Continent Monsoon, Proceedings of COSMOS Symposium held during 09-10 May, 2013, NPOL, Cochin
36.	V. Madhu (2013) Impact of Sudden Stratospheric Warming events on Columnar Ozone over the Polar and Middle Latitude Regions. Quadrennial Ozone symposium 2012, organized by the International Ozone Commission hosted by Environment of Canada and the Canadian Meteorology and Oceanographic Organization Toronto, Canada 26-31 st August 2013.
37.	Shinto Roose and B.Chakrapani (2013) Variation of Water Clarity and Chlorophyll-a in Bay of Bengal, in Response to Indian Summer Monsoon, 2002-12. National Conference of Ocean Society of India, Role of Oceans in Earth Systems, OSICON'13, IITM Pune, November 26-28, 2013.
38.	Shinu Sheela Wilson & P V Joseph (2013) Difference between El Ninos associated with drought Indian Summer Monsoon and those not associated during 1979 to 2010. Proceedings of National Conference OSICON 2013 "Role of Oceans in Earth System", IITM, Pune, 26-28 November 2013.
39.	C A Babu, P. N. Sreelekha and Hamza Varikoden (2014), Characteristics of monsoon organized convections : viewed as multiple onsets of Indian summer monsoon, Proceedings of the World Congress on Research and Innovations 2K13 held during 17-20 December, 2013 at St. Joseph's College, Irinjalakuda, pp 112-119.
40.	P. N. Sreelekha, C.A. Babu, Jayakrishnan P. R. and Hamza Varikoden, (2014). Dynamic features associated with deficit monsoon during 2009 : A comparative study, Proceedings of the World Congress on Research and Innovations 2K13 held during 17-20 December, 2013 at St. Joseph's College, Irinjalakuda, pp151-156.
41.	Smart Kundassery, C.A. Babu and Anil Bhardwaj, (2014) Dependence of Solar Activity Cycle on Generation of Lunar X-ray Fluorescence, Proceedings of the World Congress on Research and Innovations 2K13 held during 17-20 December, 2013 at St. Joseph's College, Irinjalakuda, pp 86-91.
42.	V. Madhu. (2014) A possible UT/LS coupling during dry and wet years of Indian summer monsoon Circulation. 5 th SPARC General Assembly (WCRP) Conference during 12 -17 th January, 2014, Queenstown, New Zealand
43.	Shinto Roose, Anu xavier, Nithya Narayanan and K.Mohankumar (2014): . Characteristics of Southwest Monsoon over Kerala during 2013. The 26th Kerala Science Congress, 28-31thJanuary 2014, Published by Kerala State Council for Science, Technology Environment, 2014.



44.	Remya R and K Mohan Kumar (2014). A Study of the Ocean Forcing Findlater Jet over the Indian Region and Its Impact on Kerala Rainfall, proceedings, 26 th Kerala Science Congress, 28-31 st January 2014, held at Wayanad, Kerala.
45.	Shinto Roose. (2014) "Variability of Carbon dioxide and Water vapour over Arabian sea during Indian Summer Monsoon". International Tropical Meteorology Symposium (INTROMET-2014), SRM University, Chennai, February 21-24, 2014. INDIA
46.	Jayakrishnan P.R and C.A. Babu (2014). Oscillations embedded in the oceanic heat budget components during Indian summer monsoon, Proceedings of the International Tropical Meteorology Symposium, (INTROMET) held at SRM University during 21-25 February, 2014, pp 342-346.
47.	C.A. Babu, Jayakrishnan P.R and Theja P.K. (2014). Characteristics of heat budget, moisture budget and moisture transport associated with monsoon organized convection, Proceedings of the International Tropical meteorology symposium (INTROMET) on monsoons-observations, prediction and simulation 21-24 February 2014, pp 43-48.
48.	P. N. Sreelekha and C. A. Babu (2014). Variability of bio-productivity of coastal waters in the Arabian Sea during monsoon season. National Seminar on 'Climate Change and Marine Ecosystems' held by from 20-21 March 2014 at Lakeside Campus, CUSAT.

13. Participation in Seminar/Conference/Refresher Course etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Nithya K	National Symposium on "Coastal Oceanographic Studies: Modeling and Observations (COSMOS) 9-10 May 2013 organised by Naval Physical & Oceanographic Laboratory(NPOL), Cochin.	Presented paper
All students & Faculty	National workshop on Atmosphere-Ocean Interaction during 12-14 August 2013, CUSAT.	Attended
Dr. V. Madhu	Quadrennial Ozone symposium 2012, organized by the International Ozone Commission hosted by Environment of Canada and the Canadian Meteorology and Oceanographic Organization, Toronto, Canada, 26-31st August 2013.	Presented paper
Smart K B	XXXIII Indian national cartography Association International Congress 19-21 September 2013 at Jodhpur, Rajasthan	Presented a paper
All students & Faculty	National Symposium on Preservation of Ozone Layer and Climate Change, 24 th September 2013, CUSAT	Attended



Shinu Sheela Wilson	Indo-Mareclim Winter school on Climate Change, Marine Ecosystems and Coastal Zone Management during 2-7 November 2013 held at Kochi	Attended
Anu Xavier	Indo-European workshop on Monsoon and Ocean variability, climate change and sea level variations, 11-13 November 2013 conducted by NERCI, Kochi,	Attended
Asifsha T. M.	Indo-European workshop on Monsoon and Ocean variability, climate change and sea level variations, 11-13 November 2013 conducted by NERCI, Kochi,	Attended
Shinu Sheela Wilson	India-EU Workshop II on Monsoon and Ocean variability, Climate Change and Sea Level Variations during 11-13 November 2013 at Bolgatty Palace, Kochi	Attended
Remya R.	India-EU Workshop II on Monsoon and Ocean variability, Climate Change and Sea Level Variations during 11-13 November 2013 at Bolgatty Palace, Kochi	Attended
Sreelekha P. N.	India-EU Workshop II on Monsoon and Ocean variability, Climate Change and Sea Level Variations during 11-13 November 2013 at Bolgatty Palace, Kochi	Attended
Sudeep Kumar B. L.	OSICON -2013, conducted during 26-28 November 2013 at IITM, Pune.	Presented paper
Shinto Roose	OSICON -2013, conducted during 26-28 November 2013 at IITM, Pune.	Presented paper
Shinu Sheela Wilson	OSICON -2013, conducted during 26-28 November 2013 at IITM, Pune.	Presented a paper
Sreelekha P. N.	World Congress on Research and Innovations 2K13 held during 17-20 December, 2013 at St. Joseph's College, Irinjalakkuda	Presented paper
All Research Students	International Seminar on Research Impact, Publishing and Profiling, at School of Marine Sciences, CUSAT, 3 January 2014	Attended
Prof K. Mohankumar	5 th SPARC General Assembly (WCRP) Conference at Queenstown, New Zealand during 12 -17 th January, 2014.	Presented Keynote Address & Chaired Session
Dr. V. Madhu	5 th SPARC General Assembly (WCRP) Conference at Queenstown, New Zealand during 12 -17 th January, 2014.	Presented paper



Sreelekha P. N.	Training Programme on Climate Science (CSTP) , 20-31 January 2014, IISc, Bangalore	Attended
Anu Xavier	Training Programme on Climate Science (CSTP) , 20-31 January 2014, IISc, Bangalore	Attended
Sudeep Kumar B. L.	26 th Kerala Science Congress, 28 th – 31 st January 2014, Wayanad	Presented paper
Asifsha T. M.	26 th Kerala Science Congress 28-31 January 2014, Wayanad, Kerala	Attended
Remya R.	26 th Kerala Science Congress 28-31 January 2014, Wayanad, Kerala	Presented a paper
Smart K. B.	National Space Science Symposium 28 January – 01 February 2014 at Dibrugarh University, Assam	Presented a paper
Dr. Madhu V.	SERB School II, on Fundamentals of Radars for Atmospheric Research scheduled during 5- 28th February, 2014.	Attended
Anu Xavier	SERB School II, on Fundamentals of Radars for Atmospheric Research scheduled during 5- 28th February, 2014.	Attended
Remya R.	SERB School II, on Fundamentals of Radars for Atmospheric Research scheduled during 5- 28th February, 2014.	Attended
Nithya K.	SERB School II, on Fundamentals of Radars for Atmospheric Research scheduled during 5- 28th February, 2014.	Attended
Sudeep Kumar B. L.	International Tropical Meteorology Symposium (INTROMET – 2014), conducted during 21-25 February 2014 at SRM University, Chennai.	Presented paper
Remya R.	National Seminar on Climate Change and Marine Ecosystems (CCME-2014), 20-21 st March 2014, organized by the Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Attended
Sreelekha P. N.	National Seminar on Climate Change and Marine Ecosystems (CCME-2014), 20-21 st March 2014, organized by the Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Presented paper
Dr. V. Madhu	Workshop on “Data Processing and Presentation in Marine Sciences using open source software tools”, Sponsored by UGC-SAP held at CUSAT from 24-28 th March, 2014.	Attended



Shinu Sheela Wilson	Nansen Environmental and Remote Sensing Center, Bergen during 12 May-24 July 2014	Visited
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14. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Studies on the Troposphere features and Stratosphere Troposphere Coupling Processes over the Monsoon region using Stratosphere Troposphere (ST) Radar at Cochin	DST	19.98 Crores	Dr. K. Mohankumar
2	Numerical Study of the Dynamics of severe thunderstorms over Indian region using the WRF Model	DST WOS - A	5.95 Lakhs	Smitha John
3.	Atmospheric Boundary layer & Cloud Characteristics and monitoring of aerosol over Cochin	ISRO-RESPOND	9.31 Lakhs	Dr. C. A. Babu
4.	Temporal variability and Spatial Variability of Total ozone over the Tropical region-Special reference to Indian Scenario	ISRO-RESPOND	5.50 Lakhs	Dr. V. Madhu
5.	Integrated Atmosphere Ozone Variability over Lakshadweep & Cochin in the present climate change scenario – Observations & Modelling Studies	DST-SERB	52 lakhs	Dr. V. Madhu
6.	Role of Ocean in the Extended Range Prediction of Monsoon's Active Break Cycle Improving Hindcast Skill of the NCEP-CFS Modeling System	IITM- MoES	30.60 Lakhs	B. Chakrapani
7.	Theoretical Modelling of Soft X-Rays from the vantage of Galilean Satellites	ISRO-PLANEX	14.51 lakhs	Dr. C. A. Babu
Total Amount of Funded Projects		Rs. 20 Crores, 19.79 Lakhs		

**16. Research Programmes and Activities**

Sl. No.	Problem/Topic	Investigator(s)
1.	Influence of wind stress curl over the Bay of Bengal	Smitha A. Dr. H. S. Ram Mohan
2.	Aerosol Study in Boundary Layer	Sivaprasad P. Dr. C. A. Babu
3.	Numerical Study of the Dynamics of severe thunderstorms over Indian region using the WRF model	Smitha John A. <i>Dr. H. S. Ram Mohan</i>
4.	Evolution of Atmosphere on a natural satellite harboring subsurface ocean	Smart K. B. Dr. C. A. Babu
5.	Interannual Variability of Monsoon over India	Shinu Sheela Wilson Dr. K. Mohankumar
6.	Characteristics of Monsoon Boundary Layer	Sudeep Kumar B. L. Dr. C. A. Babu
7.	Study of Vapour transport from Troposphere to Stratosphere	Suresh N. Dr. K. Mohankumar
8.	Dynamical and Physical Forcing of Tropical Cyclones	Baburaj P. P. Dr. K. Mohankumar
9.	Characteristics of Monsoon Organized Convections Associated with Indian Summer Monsoon	Sreelekha P. N. Dr. C. A. Babu
10.	Stratospheric QBO and Asian Summer Monsoon	Nithya K. Dr. K. Mohan Kumar
11.	Monsoon Variability and Role of Ocean	Shinto Roose Dr. K. Mohan Kumar
12.	Stratosphere-Troposphere Coupling and its Role in Climate Change	Remya R. Dr. K. Mohan Kumar
13.	Jet Streams and Indian Summer Monsoon	Anu Xavier Dr. K. Mohan Kumar
14.	Troposphere - Stratosphere Exchanges and its Relation to the Indian Summer Monsoon	Asif Sha Dr. Santosh K. R.
15.	Upper Tropospheric process over the Northern Arabian Sea and its impact on the Indian Summer Monsoon	Sivakumar U Dr. Santosh K. R.


17. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator(s)	Funding Agency
1.	National workshop on Atmosphere-Ocean Interaction during	12-14 August 2013	Dr. C. A. Babu	CUSAT
2.	National Symposium on Preservation of Ozone Layer and Climate Change	24 September 2013	Dr. V. Madhu	CUSAT & Kerala State Council for Science, Technology & Environment, Govt. of Kerala
3.	SERB School on Fundamentals of Radars for Atmospheric Research - II	February 5-28 2014	Dr. K. Mohankumar & Dr. Santosh K. R.	DST
4.	WMO Day 2014	24 March 2014	B. Chakrapani	IMS Cochin Chapter





DEPARTMENT OF BIOTECHNOLOGY

1. Brief History of the Department:

The mandate of the Department is to train human resources in Biotechnology and to cater to the needs of the Nation in harnessing the vast biodiversity and to promote bioindustries, not only in the state of Kerala but also in the Nation. The M.Sc. programme in Biotechnology offers comprehensive education in all aspects of modern applied biology. The programme has been designed in such a way that the students are well trained in state-of-the-art techniques in the world of fermentation, molecular biology, genetic engineering, plant biotechnology, bio-informatics, molecular neurobiology and immunology. The theoretical and practical knowledge acquired by the student during the first three semesters is perfected through an intensive dissertation work during the fourth semester. Topically relevant problems are identified for the purpose so as to impart training in identification and execution of research problems and interpretation of data.

Most of the M. Sc. students opt for research programmes in national/international laboratories after they complete their programme. They also find employment in industries, educational institutions and other organizations involved in R and D and also in medical, pharmaceutical, agricultural and environmental biotechnology sectors.

Research activities of the Department are presently centered on areas such as Microbial Technology, Medical Biotechnology, Genetic Engineering, Molecular Neurobiology, Cell Biology and Plant Biotechnology. The research students generally get absorbed as Scientists in different national and international laboratories and as lecturers in Universities/Colleges.

On an average, about 70% of the M.Sc. students clear the NET and 80% pass the GATE.

72 students have so far taken their doctoral degrees from the Department, with about 205 scientific publications from the Department.

In addition the department also conducts collaborative research with other sister Departments in the University like Dept. of Applied Chemistry, Dept. of Physics, International School of Photonics., and Dept of Polymer and Rubber Technology and has published several papers in international journals.

2. Programmes of Study/Research : M. Sc. and Ph. D.



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. M. Chandrasekaran (LWA)	Professor	M.Sc. Ph.D	Microbial Technology
2	Dr. Sarita G. Bhat	Associate Professor	M.Sc., Ph.D	Microbial Genetics
3	Dr. Padma Nambisan	Associate Professor & Head	M.Sc., Ph.D	Plant Biotechnology

4. Emeritus Professor/Scientist (if any) :

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. C. S. Paulose	UGC-BSR Professor	M.Sc., Ph.D.	Neuroscience

5. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Anju T. R.	Research	Ph.D.	Neuroscience

6. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Anu M. A.	RGNF-UGC	Dr. Sarita G. Bhat	Microbial Genetics
2.	Bindiya E. S.	MoES Project	Dr. Sarita G. Bhat	Microbial Genetic Technology
3.	Tina K. J.	MoES Project	Dr. Sarita G. Bhat	Microbial Genetic Technology
4.	Nayana P.	KSCSTE	Dr. Padma Nambisan	Plant Biotechnology
5.	Jijith	UJRF	Dr. M Chandrasekaran	Microbial technology lab

**7. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Office Supdt.	1
3	Assistant Section Officer	1
4	Sr. Gr. Assistant	1
5	Peon	1
6	Sweeper-cum-cleaner	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc.	3	9	12
2	Ph.D.		4	4

9. Research Facilities**a. Laboratories**

1. PCR unit-Automatic Thermocycler (Eppendorf) – 2 nos.
2. Gel Documentation system (Amersham Pharmacia)
3. Gel documentation system (Biorad)
4. HPLC (Shimadzu)
5. Liquid Scintillation Counter (Wallac 1409)
6. Protein gel electrophoretic systems (Amersham Pharmacia)
7. Chromatographic columns (Amersham Pharmacia)
8. Refrigerated Centrifuge (Heraeus)
9. Spectrophotometer (Spectronic Genesis 5, Milton Roy (USA))
10. Spectrophotometer (Shimadzu 3, ELICO)
11. Hybridization oven (Amersham Pharmacia) 2 no.s
12. Fermenter 14 litre - Fully automated (Scigenics)
13. Mini jar fermenter (Eyela Inc. Japan)
14. Gamma Counter (ECI)
15. Phase contrast microscope (Nikon, Japan)
16. Inverted Phase Contrast Microscope (Olympus CK 40)



17. Lyophilizer (YamataNeocool, Japan)
18. Electronic balance (Mettler) 2no.s
19. UV Cross linker (Hofer)
20. -70°C Freezer (Sanyo)
21. Ice flaker (Sanyo)
22. Refrigerated Centrifuge (Sigma)
23. Real Time PCR
24. Confocal Microscope
25. Nanospectrophotometer
26. Cryostat
27. -86°C Freezer
28. FPLC
29. Ultra Centrifuge.
30. HPLC
31. Gel documentation system

b. Library

No. of books and journals as on 31st march of the previous year	Additions during the current year
1792	43

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. K. C. Majumdar	Princ. Scientist, (Retd.) CCMB, Hyderabad. Currently at BHU, Banaras	
2	Dr. Rajendran KV	CIFE, Mumbai	
3	Dr. Prakash Koringa	Anand Agriculture University, Anand, Gujarat	
4	Dr. C. Jayabaskaran	IISc. Bangalore	
5	Dr. Deepthy Menon	AIMS, Kochi	
6	Dr. P. R. Sudhakaran	Director, Kerala Biotech Commission, KSCSTE	
7	Dr. K. G. Nair	Director, C-SiS	
8	Dr. P. Sreekumar	Neurosurgeon, Krishna Nursing Home	



11. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Studies on the induction of variation through <i>in vitro</i> culture in <i>Jatropha curcas</i> L	Jikku Jose	Dr. Padma Nambisan
2.	Bioremediation of hydrocarbons by <i>Lysinibacillus fusiformis</i> BTTS10	Roselin Alex	Dr. M Chandra sekaran Co-G: Dr. Sarita G. Bhat
3.	Studies on physicochemical and biological properties of protease inhibitor from edible mushroom <i>pleurotus florida</i>	Manzur Ali P. P.	Dr. Elyas K. K. Co-G: Dr. Sarita G. Bhat
4	Isolation, purification, characterization and application of proteinaceous protease inhibitor from marine bacterium <i>Pseudomonas mendocina</i> BTMW 301	Sapna K.	Dr. Elyas K. K.
5	Studies on extracellular enzyme production during growth of <i>pleurotus sp.</i> on lignocellulosic agriwaste and the utilization of spent mushroom substrate	Jasmine Koshy	Dr. Padma Nambisan
6	GABA and 5-HT chitosan nanoparticles enhanced liver cell proliferation and neuronal survival in partially hepatectomised rats: GABA _B and 5-HT _{2A}	Shilpa Joy	Dr. C. S. Paulose
7	Glutamatergic NMDA AMPA receptors functional regulation in streptozotocin induced diabetic rats: Effect of Vitamin D ₃ and Curcumin supplementation	Jayanarayanan S.	Dr. C. S. Paulose
8	Cholinergic receptor subtypes functional regulation in spinal cord injured monoplegic rats: effect of 5-HT, GABA and bone marrow cells	Chinthu Romeo	Dr. C. S. Paulose

12. Publications

a. Papers

Sl. No.	Name of Paper
1	Sajimol, Jayalakshmi, Roselin Alex and Sarita G. Bhat (2013) Highly luminescent and bio-compatible, L-citrulline capped ZnS:Mn nanocrystals for rapid screening of metal accumulating <i>Lysinibacillus fusiformis</i> bacteria. Luminescence: The Journal of Biological and Chemical Luminescence (DOI 10.1002/bio.2477). Impact factor. 1.731



Sl. No.	Name of Paper
2	Alphonsa Vijaya Joseph, Raghul Subin S., Harisree P. Nair and Sarita G. Bhat (2013). Occurrence of Potential Pathogenic <i>Aeromonas</i> species in Tropical Seafood, Aquafarms and Mangroves off Cochin Coast in South India. Accepted for publication in <i>Veterinary World</i> Vol.6 No.6 June 2013. Ref No. VW/Accept/205/2OL2
3	Karthikeyan P., Sarita G. Bhat, and Chandrasekaran M. (2013) Halocin SH10 production by an extreme haloarchaeon <i>Natrinema</i> sp. BTSH10 isolated from salt pans of South India – Accepted for publication-Saudi journal of Biological Sciences –Elsevier. http://dx.doi.org/10.1016/j.sjbs.2013.02.002
4	Raghul Subin S., Siju M. Varghese, Sarita G. Bhat (2013) Isolation and characterization of polyhydroxyalkanoates accumulating <i>Vibrio</i> sp. strain BTTC26 from marine sediments and its production kinetics . Accepted for publication in J. Scien. Indus. Res.(JSIR) Impact factor 0.587
5	Raghul Subin S., Sarita G. Bhat*, M. Chandrasekaran, Vidya Francis and Eby Thomas Thachil (2013) Biodegradation of polyvinyl alcohol-low linear density polyethylene blended plastic film by consortium of marine benthic vibrios. J. Environ. Sci. Technol. (accepted for publication 6.5.2013; JEST-D-12-00274R2) Impact factor 3.05
6	Manjula R., Karthikeyan P., Cikesh P. C., Bindiya E. S., Sarita G. Bhat and M. Chandrasekaran (2014) Halophiles and Halozymes from Tannery effluent as well as food grade table salt crystals. Journal of Pure and Applied Microbiology, Vol. 8 No. 1
7	Helvin Vincent, Harisree P. Nair and Sarita G. Bhat (2013) Community genomics involving culture independent approach for assessing the phylogenetic diversity of mangrove sediment. Indian Journal of Applied Research, October 2013, Vol 3(10), 29-32 (ISSN No. 2249-555X) Impact factor 2.1652
8	Harisree P. Nair, Helvin Vincent and Sarita G. Bhat (2013) Culture independent analysis of the soil microbiome to assess microbial diversity of mangrove soil. (Accepted for publication in Biogenetics journal, Nov, 2013
9	Raghul Subin S., Sarita G. Bhat, M. Chandrasekaran (2014) Biocompatible polyhydroxybutyrate(PHB) production by marine <i>Vibrio azureus</i> BTK33 under submerged fermentation. Ann Microbiol. DOI.10.1007/s13213-014-0878-z Impact factor 1.549
10	Hariharan S. and Nambisan P. (2013) Optimization of lignin peroxidase, manganese peroxidase, and Lac production from <i>Ganoderma lucidum</i> under solid state fermentation of pine apple leaf, Bioresources 8(1), 250-271 Impact factor 1.418
11	Anju T. R., Ajayan M. S., Paulose C. S. (2013) Disruption of cerebellar cholinergic system in hypoxic neonatal rats and its regulation with glucose, oxygen and epinephrineresuscitations.Neuroscience236:253-61. I F- 3.380



Sl. No.	Name of Paper
12	Smijin S., Anju T. R., Jayanarayanan S., Sherin A., Paulose C. S. (2013) Impaired motor learning attributed to altered AMPA receptor function in cerebellum of Temporal lobe epileptic rats: ameliorating effects of Withania somnifera and Withanolide A. <i>Epilepsy & Behavior</i> 27(3):484-91. I.F. – 2.335
13	Chinthu R., Anju T. R., Nandhu M. S. and C. S. Paulose. (2013). Cholinergic receptor alterations in the brain stem of spinal cord injured rats. <i>Neurochemical Research</i> 38(2):389-97. I.F. – 2.240.
14	J. Shilpa, M. Anitha, Cheramadathikudyl Paulose (2013). "Increased neuronal survival in the brain stem during liver injury : Role of GABA and 5-HT chitosan nanoparticles". <i>Journal of Neuroscience Research</i> , 91:1203–1214 I.F. – 2.974
15	Anju T. R., Paulose C. S. (2013). Striatal cholinergic functional alterations in hypoxic neonatal rats: Role of glucose, oxygen and epinephrine resuscitation. <i>Biochemistry and cell biology</i> . 91(5):350-6. I.F. – 2.92
16	Joy shilpa, Mary Abraham pretty, Malat Anitha, Cheramadathikudiyil skaria Paulose. (2013). Gamma aminobutyric acid B and 5-hydroxy tryptamine 2A receptors functional regulation during enhanced liver cell proliferation by GABA and 5-HT chitosan nanoparticles treatment. <i>Eur.J.Pharmacology</i> . 715(1-3):154-63. IF-2.9
17	J. Shilpa, T. R. Anju, M. S. Ajayan, C. S. Paulose. (2014). Increased cortical neuronal survival during liver injury: Effect of GABA and 5-HT chitosan nanoparticles. <i>Journal of Biomedical Nanotechnology</i> . 10:4622-631(10) I.F.- 5.256
18	Roshni Baby Thomas, Shilpa Joy, Ajayan M. S., C. S. Paulose. (2014). Neuroprotective Potential of Bacopa monnieri and Bacoside A Against Dopamine Receptor Dysfunction in the Cerebral Cortex of Neonatal Hypoglycaemic Rats. 33(8):1065-74. I.F.- 2.29
19	J. Shilpa, C. S. Paulose. (2014). GABA and 5-HT chitosan nanoparticles decrease striatal neuronal degeneration and motor deficits during liver injury. <i>Journal of materials science: materials in medicine</i> . DOI 10.1007/s10856-014-5195-3. IF 2.316

b. Books

Sl. No.	Name of Book
1	Sarita G Bhat and Nambisan P. (2014) Proceedings of National symposium on Emerging trends in Biotechnology 2014. Directorate of Public Relations and Publications, CUSAT. ISBN-978-93-80095-47-9



13. Participation in Seminar/Conference/Refresher Course etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Anala R. and Nambisan P	Anala R. and Nambisan P. (2014) Influence of the growth of <i>Pleurotus ostreatus</i> on phytoliths in paddy straw. National Symposium on Emerging Trends in Biotechnology 2014, CUSAT, Jan22-23, 2014	Poster Presentation
Soumya P. S. and Nambisan P.	Soumya P. S. and Nambisan P. (2014) Partial purification of laccase from <i>Pleurotus ostreatus</i> NCIM1200. National Symposium on Emerging Trends in Biotechnology 2014, CUSAT, Jan22-23, 2014	Poster Presentation
Jose J., Nambisan P.	Jose J., Nambisan P. (2014): Analysis of variation in petiole extracts from regenerant of <i>Jatropha curcas</i> L., International Conference on Biodiversity, Bioresources and Biotechnology organized by Association for the Advancement of Biodiversity Science at Hotel Quorum, Mysore, Karnataka, India, 30-31 January, 2014	Poster Presentation
Dr. Sarita G. Bhat	Short course on Metagenomics: Role of Next generation sequencing and bioinformatics from 15 th -24 th October, 2013, Dept of Animal Biotechnology, College of Veterinary Science and Animal husbandry, Anand Agricultural University. Gujarat	Participant
Dr. Sarita G. Bhat	23 rd Swadeshi Science Congress, held from 6-8 th nov, 2013, at MG University , Kottayam	Participant
Dr. Sarita G. Bhat	UGC-sponsored workshop on Molecular Identification and Computational biology, Dec, 16-20, 2013, held at Dept of Biosciences, MES College, Marampally, Ernakulum, Kerala	Resource person
Dr. Sarita G. Bhat	Participated in the 101 st Indian Science congress held at University of Jammu from 3-7 th Feb, 2014	Participant
Dr. Sarita G. Bhat	Tools and Techniques in molecular biology and bioinformatics-KSCSTE sponsored Short term training programme from 10-15 th Feb, 2014, at Dept. of Biotechnology, Cochin University of Science and Technology, Cochin	Resource person



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Sarita G. Bhat	National Science day celebrations -2014 invited talk on .Women in Science-the story of three women Scientists at St. Albert's college, Ernakulam on 25 th Feb, 2014	Resource person
Dr. Sarita G. Bhat	Symposium on Women in Science (SWOS-2014) 7 th March, St.Xavier's college for women, Aluva -	Resource person

14. Role of Faculty in International/National organizations/Institutions/ Editorial Boards

15. Awards/Honours/Fellowships etc. received

16. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
1	Screening and Isolation of Potential bioactive molecules from the Deep sea organisms including bacteria No.MoES/10-MLR/2/2012 dt. 13.02-2008	(MOES) Govt.of India (2012-2017)	87,50,000/-	Dr. Sarita G Bhat -PI
2	DST-FIST Programme	DST-FIST 2008-13	85 Lakhs	Head of the Dept.
3	Whole genome analysis of marine microbial community for novel feed enzymes F. No. 41-527/2012/(SR) dated 17-July, 2012	UGC 2012-2015	14,40,800/-	Dr. Sarita G Bhat -PI
4	Salmonella lytic bacteriophages for application as biocontrol agents" F.No. 009/SRSHS/2012/CSTE dated 20 th Nov, 2013	KSCSTE (Govt. of Kerala) 2014-2017	17,40, 600/-	Dr. Sarita G Bhat -PI

17. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1	Microbial Technology	Prof. (Dr) M. Chandrasekaran
2	Microbial Genetics-Metagenomics for diversity and function, Horizontal Gene Transfer, phage host interactions, CRISPRs, bioactive compounds from marine organisms	Dr. Sarita G. Bhat
3	Plant Biotechnology	Dr. Padma Nambisan

**18. Seminar/Conference/Workshop/Refresher Courses conducted by the Department**

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Short term training programme 'Tools and Techniques in Molecular biology and Bioinformatics	February 10-15, 2014.	Dr. Padma Nambisan	Kerala Biotechnology Commission of KSCSTE
2	National symposium "Emerging trends in Biotechnology" at the Department of Biotechnology, Cochin University of Science and Technology, Cochin 22,	22-23 rd , January, 2014	Dr. Sarita G. Bhat	DBT, UGC, DST (PURSE)

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DEPARTMENT OF CHEMICAL OCEANOGRAPHY

1. Brief History of the Department:

The Department of Chemical Oceanography was first conceived and established as a Division of the School of Marine Sciences in 1984 and subsequently reorganized in 1996 into a fully fledged and independent Department of the University. The Department of Chemical Oceanography has credentials of facilities and rich expertise in teaching, research and consultancy in hydro chemical and analytical studies on diverse aspects of the environment. It has pioneered investigations in areas of Nutrient Chemo dynamics, Phase Exchange of Aquatic Pollutants, Bio-geo-organics, Trace metal Speciation, Marine Natural Products, Aerosols etc., and has contributed valuable inputs into the National/International Database.

It was the study conducted by this Department on the uptake of metals by aquatic organisms (Curr. Sci., 46, 437, 1977) that radically transformed pollution monitoring strategies and paved the way for the use of biological organisms in pollution monitoring studies all over India.

This Department was the first to carry out chemical investigations to unravel the mysteries of "mud-banks", the unique seawater phenomenon.

Sophisticated instrumental facilities available in the Department include UV-VIS Spectrometer, AAS, GC, HPLC, GCMS, LCMS, FTIR, Electrophoresis, High Speed Centrifuge, Rotary Evaporator, Laminar Flow Chambers, ICP AAS etc

The Department is actively engaged in consultancy and extension activities that include Analytical Testing/Training, Water Quality Analysis etc.

2. Programmes of Study/Research:

- a) M. Sc (Hydro Chemistry)
- b) M. Phil (Marine Chemistry)
- c) Research



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. C. H.Sujatha	Associate Professor	M.Sc., Ph.D.	Chemical Oceanography, Marine organic chemistry, pesticides in the aquatic chemistry, Aerosols
2	Dr. N. Chandramohana kumar	Professor	M.Sc., Ph.D.	Marine organic chemistry Marine humus, metal organic interactions, major ion cycles, Mangrove systems Atmospheric chemistry
3	Dr. S. Muraleedharan Nair	Professor	M.Sc., Ph.D.	Chemical Oceanography, Marine organic compounds, chemo-nutrient cycling/ speciation, Marine natural products, Mangrove systems

4. Emeritus Professor/Scientist (if any) : Nil

5. Visiting Faculty (If any) : Nil

6. Research Staff /Project Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Manju Mary Joseph	Principal Investigator	Ph.D	Organic Geochemistry
2	Athira Sreekanth	Junior Research Fellow	M.Sc Chemistry	
3	Eldhose Cheriyan	Junior Research Fellow	M.Sc Chemistry	
4	Mrudulrag S. K.	Junior Research Fellow	M.Sc Chemistry	



Sl. No.	Name	Designation	Qualification	Specialization
5	Nisha K. G.	Junior Research Fellow	M.Sc Bio-Chemistry	
6	Resmi P.	Junior Research Fellow	M.Sc	Organic Geochemistry

7. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Akhil P. S.	MoES	Dr. C. H. Sujatha	
2	Abilash P. Kailash	Part-Time	Dr. S. Muraleedharan Nair	
3	Anuradha V.	DST	Dr. S. Muraleedharan Nair	
4	Anu Shaji	Part-Time	Dr. P. Seralathan	
5	Byju K.	DST	Dr. N. Chandramohanakumar	
6	Dayala V. T.	CUSAT	Dr. C. H. Sujatha	
7	Gayathree Devi P. K.	Part-Time	Dr. C. H. Sujatha	
8	Josekutty Ozhukayil	CUSAT	Dr. N. Chandramohanakumar	
9	Kala K Jacob	CUSAT	Dr. N. Chandramohanakumar	
10	Leena P. P.	CUSAT	Dr. S. Muraleedharan Nair	
11	Manju M. N.	CUSAT	Dr. N. Chandramohanakumar	
12	Manju P. Nair	CUSAT	Dr. C. H. Sujatha	
13	Nebula Murukesh	CUSAT	Dr. N. Chandramohanakumar	
14	Prashob Peter K. J.	CUSAT	Dr. S. Muraleedharan Nair	
15	Ragi A. S.	DST	Dr. S. Muraleedharan Nair	
16	Ramzi A.	KSCSTE	Dr. N. Chandramohanakumar	
17	Reshmi P.	MoES	Dr. N. Chandramohanakumar	
18	Salas P. M.	CUSAT	Dr. C. H. Sujatha	
19	Saritha S.	CSIR	Dr. S. Muraleedharan Nair	
20	Shibini Mol P. A.	CSIR	Dr. C.H.Sujatha	
21	Sanil Kumar K. S.	Part-Time	Dr. S. Muraleedharan Nair	
22	Libin Baby	Part-Time	Dr. T. V. Sankar (CIFT)	
23	Maneesh T. P.	Part-Time	Dr. P. Seralathan	



8. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Assistant	1
2	Lab Assistant	1
3	Office Attender	1

9. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Assistant (Grade 1)	1

10. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. (Hydrochemistry)	6	18	24
2	M.Phil. (Marine Chemistry)	3	5	8
3	Ph.D	9	14	23

11. Research Facilities

a. Laboratories

b. Major equipments

UV-VIS Spectrometer, AAS, GC, CHN, Polo graphic Analyzer, Laminar Flow Chambers, HPLC, LCMS, GCMS, FTIR, LYOPHLYZER, BIOREACTOR, ROTARY EVAPORATOR, FLASH CHROMATOGRAPH, ICP AAS etc

c. Library : Nil

d. Others

12. Distinguished Visitors : Nil

13. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Ecotoxic Metal Records and its degree of Geochemical Symphony in the Niche of Cochin Estuarine System- A Theraptic Perspective	Pratheesh V. B.	Dr. C. H. Sujatha



Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
2	Source Characterization of Sedimentary Organic Matter in a Tropical Estuary, Southwest Coast of India: A Biomarker Approach.	Gireesh Kumar T.	Dr. N. Chandra mohanakumar
3	Implications of Hydrobiology and Nutrient dynamics on Tropic structure and Interactions in Cochin backwaters	Radhika R.	Dr. C. H. Sujatha
4	Ecotoxicological Assessment of Antifouling Biocides in the Sediments of Cochin Estuarine System	Deepulal P. M.	Dr. C. H. Sujatha
5	Biogeochemical and ecological feedbacks on eutrophication in Cochin backwaters	Martin G. D.	Dr. N. Chandra mohanakumar

14. Publications

a. Papers

Sl. No.	Name of Paper
1.	Yamuna Nair, M. Sithambaresan, S. M. Nair and M. R. Prathapachandra Kurup, 2014. N-[(E)-(3-Fluorophyridian-2-yl)methylidene]pyridine-3-carbohydrazide dehydrate, Acta Crystallographica Section E. E70,0483-0484.
2.	Padma P., V. S. Sheela, S. Suryakumari, K. V. Jayalakshmy, S. M. Nair and N. C. Kumar. 2014. Assesment of water quality of a river-dominated estuary with hydrochemical parameters: A statistical approach, Water Quality, Exposure and Health. 5: 197-214
3.	Prashob Peter K. J. and Nair S. M. and Kumar N. C. 2014. Genesis of structural features of humic acids from the sediments of a high productive coastal zone. Geochemical Journal. Doi.10.2343/geochemj.2.0302.
4.	Biju K., Anuradha V., Vasundhara G., Nair S. M. and Kumar N. C., 2014. In Vitro and In Silico Studies on the Anticancer and Apoptosis-linlucing Activities of the Sterols Indentified from the Soft Coral, Subergorgia reticulate. Pharmacognosy Magazine. 10: S65-71.
5.	Rejomon George , Martin G. D., Nair S. M. and Kumar N. C. 2013. Biomonitoring of trace metal pollution using the bivalve molluses, Villorita cyprinoides, from the Cochin backwaters, Environmental Monitoring and Assessment. 185: 10317-10331.
6.	Saritha S., Nair S. M. and Kumar N. C. 2013. Nano-orderd cellulose containing iá crystalline domains derved from the algae Chaetomorpha antennia. BioNanoScience. 3:423-427.



Sl. No.	Name of Paper
7.	Rejimon George, Muraleedharan K. R., Martin G. D., Sabu P., Vijay John Gerson, Dineshkumar P. K., Nair S. M., N. C. and Nair K. K. C. 2013. Nutrient biogeochemistry of the eastern Arabian Sea during the southwest monsoon retreat. <i>Environmental Earth Sciences</i> . 68:703-718.
8.	Nair S. M., Balachand A. N., Prashob Peter K. V. and Shaiju P. 2013. Mobilization of trace metals in a tropical turbid estuary influenced by a monsoon season. <i>Environmental Earth Sciences</i> , 70:807-819.
9.	Nair S. M., Balchand A. N., Prashob Peter K. V and Anu Gopinath, 2013. Phenomenal changes in the forms of nitrogen: results from a coastal zone of south west India. <i>Chemical Speciation and Bioavailability</i> . 25: 89-96
10.	Anuradha V., Byju K., Emilda Rosmine, Anu Gopinath, Nair S. M., Kumar N. C. Prashob Peter K. V., Gireesh Kumar, Vasundhara G. 2013. In silico biological activity of steroids from the marine sponge <i>Axinella carteri</i> . <i>Medicinal Chemistry Research</i> . 22:1142-1146.
11.	Anuradha V., Emilda Rosmine, Nair S. M. and Kumar N. C. 2013. Chemical characterization of the lipophilic extract of <i>Hydrilla verticillata</i> : a widely spread aquatic weed. <i>Journal of Plant Biochemistry and Biotechnology</i> . 22:304-311.
12.	Byju K., Anuradha V., Emilda Rosmine, S. Muraleedharan Nair, N. Chandramohanakumar., 2013. Chemical characterization of the lipophilic extract of <i>Hydrilla verticillata</i> : a widely spread aquatic weed, <i>Journal of Plant Biochemistry and Biotechnology</i> , DOI 10.1007/s13562-012-0159-5.
13.	Anuradha V., Byju K., Kala acob., Anu Gopinath., Prashob Peter K. J., Gireeshkumar T. R., Vasundhara G., Emilda Rosmine, Harishankar H. S., Kumar N. C. and Nair S. M., 2013. Evaluation of biochemical and nutritional potential of seaweeds from Lakshadweep archipelago. (<i>Accepted for publication in "Journal of Aquatic food product technology"</i>).
14.	Anuradha V., S. M, Nair, Kumar N. C., 2013. Humic acids from the sediments of three ecologically different estuarine systems- a comparison. <i>International Journal of environmental sciences</i> , 2(1): 174-184.
15.	Byju K., Vasundhara G, Anuradha V., Nair S. M., Kumar N. C., 2013. Phytol – the precursor of vitamins in <i>Chaetomorpha antinnina</i> (<i>Accepted in Mapana Journal of Sciences</i>).
16.	Anuradha V., Vineetha P. V., Amrutha Manoj, Stephy P. S., Byju K., Shameem K., Vasundhara G., N. C. Kumar, S. M. Nair., 2013. Sterol composition of the Indian green lipped mussel <i>Perna viridis</i> (<i>Accepted in Mapana Journal of Sciences</i>).
17.	Distribution and sources of sedimentary organic matter in a tropical estuary, south west coast of India (Cochin estuary): A baseline study. T. R. Gireeshkumar, P. M. Deepulal, N. Chandramohanakumar <i>Marine pollution bulletin</i> 66 (1), 239-245, 2013.



Sl. No.	Name of Paper
18.	Martin G. D., Jyothibabu R., Madhu N. V., Balachandran K. K., Maheswari, Nair., Muraleedharan K. R., Arun P. K., Haridevi C. K., Revichandran C. (2013). Impact of eutrophication on the occurrence of <i>Trichodesmium</i> in the Cochin backwaters, the largest estuary along the west coast of India. <i>Environmental Monitoring and Assessment</i> , 185 (2), 1237-53. DOI: 10.1007/s10661-012-2628-7.
19.	Rejomon G., Muraleedharan K. R., Martin G. D., Sabu P., Vijay J. G., Dineshkumar P. K., Nair S. M., Chandramohanakumar N., Nair K. K. C. (2013). Nutrient biogeochemistry of the eastern Arabian Sea during the southwest monsoon retreat. <i>Environmental Earth Sciences</i> , 68, 703-718. DOI 10.1007/s12665-012-1772-2.
20.	Larissa Dsikowitzky, Inga Nordhaus, Sujatha C. H., Akhil P. S., Kunjupilai Soman, Jan Schwarzbauer (2014) A combined chemical-biological assessment of industrial contamination in an estuarine system in Kerala, India <i>Science of the Total Environment (in press)</i> .
21.	P. S. Akhil, C. H. Sujatha (2014) Spatial budgetary evaluation of organochlorine contaminants in the sediments of Cochin Estuary, India. <i>Marine pollution bulletin</i> .174(1-4),299-312.
22.	P. M. Deepulal C. H. Sujatha & T. R. Gireesh kumar (2014) Distribution of REEs along South Coast of India. <i>Indian Journal of Geo-Marine Sciences</i> , 43(1), 96-105.
23.	Dayala V. T., Salas P. M., Sujatha C. H. (2014) Spatial and Seasonal variations of Phytoplankton species and their relationship to physicochemical variables in the Cochin Estuarine waters, Southwest coast of India. <i>Indian Journal of Geo-Marine Sciences (in press)</i> .
24.	Shibini Mol P. A., Dayala V. T., Sujatha C. H. (2014) Spatial Relationship among Phytoplankton Abundance and Physiochemical parameters around the Coastal waters of Kerala. <i>International Journal of Current Research (in press)</i> .
25.	Jose M., Gayathree Devi P. K., Sujatha C. H. (2013) Spatio - Temporal Trace Gas and Trace Metal Foot Prints in an Industrial and Marine Scenario. <i>Journal of Atmospheric Pollution</i> 1(1),12-17.
26.	K. N. Sumangala, P. S. Akhil, C. H. Sujatha (2013): Hydrogeochemical Quality Assessment of Ground Waters in Ernakulam District, Kerala, India. <i>Journal of Environmental Science, Computer Science and Engineering & Technology</i> . 11/2013,vol.2, No.4,1353-1368.
27.	Dayala V. T., Jose Mathew, Sujatha C. H. (2013): Distributional Characteristics of Dimethyl Sulphide (DMS) Related To Phytoplankton Biomass and Nutrient Dynamics in the Cochin Estuary. <i>International Journal of Current Research</i> . 10/2013,5(10),3155-3164.



Sl. No.	Name of Paper
28.	Akhil P. S., Manju P. Nair and Sujatha C.H. (2013) "Core Sediment Biogeochemistry in Specific Zones of Cochin Estuarine System (CES)"- <i>Journal of Earth System Science</i> (Accepted). 122(6), pp 1557-1570.
29.	Manju P. Nair, Akhil P. S. and Sujatha C. H. (2013) " Toxic Metal Distribution in the Core Sediment of Cochin Estuarine System (CES)" - <i>International Journal of Environmental Research</i> 8(1):133-138.
30.	Manju P. Nair and Sujatha C. H. (2013) Environmental Geochemistry of Core Sediment in the Cochin Estuary (CE) - <i>Research Journal of Chemical Sciences</i> . 3(4), 65-69.
31.	Manju P. Nair and Sujatha C. H. (2013) "Organochlorine Pesticide residues in the sediments of Kerala coast" – <i>Global Journal of Applied Environmental Sciences</i> .3(1),31-40.
32.	Jyothish Kumar T. and Sujatha C. H. (2013) Characterization of heavy metal and pesticide contamination in soils of kasargod district, kerala. <i>International Journal of Geology, Earth and Environmental Sciences</i> .3(1),36-40.
33.	Manju P. Nair, Akhil P. S. and Sujatha C. H. (2013) "Geochemistry of Core Sediment from Antarctic Region" <i>Research journal of Chemistry and Environment</i> 17(2), 8-12.
34.	Manju P. Nair., C. H. Sujatha. (2013) Iron fractionation in the Sediments of Kerala Coast- <i>International Journal of Green and Herbal Chemistry</i> 2(3) 555-561.
35.	Akhil P. S. , Sumangala K. N. and Sujatha C. H. (2013) "Groundwater Hydrochemistry in the Crystalline Laterites/ Forest Loams of Kasargod District, Kerala, India." <i>Water Science and Technology: Water Supply</i> .13(2), 486-498.
36.	Manju P. Nair., C. H. Sujatha (2013) Fractionation of Phosphorus in the Sediments of Kerala Coast- <i>Journal of Chemical, Biological and Physical Sciences</i> 3(3) 2274-2278.

b. Books : Nil

15. Participation in Seminar/Conference/Refresher Course etc by Faculty/ Students

1.	Saritha S., Prashob Peter K. J. and Nair S. M. 2013. Fatty acid characterization in microalgae and its demonstration as food chain component in aquaculture. National Seminar on Aquatic Chemistry (Aguasem' 13) Cochin, India. P29.
2.	Byju K., Emilda Rosmine, Rartheesh Kumar C. Sc, Renjiath K. R., Gireesh Kumar T. R., Shiju P., Vasundhara G., Nair S. M. and Kumar N. C. 2013. Evaluation of water quality parameters of Sasthamkotta lake. National Seminar on Aquatic Chemistry (Aguasem'13). Cochin, India. P14.



3.	Padma P., Nair S. M., sheela V. S. and Kumar N. C. 2013. Status of nutrients in the estuarine waters of kayamkulam subjected to effluent discharge from NTPC. National Seminar on Aquatic Chemistry (Aquasem'13). Cochin, India. P11.
4.	Leena P. P., Ragi A. S., Gireeshkumar T. R. and Nair S. M. 2013. Identification of lipid composition in the organic shell matrix of mangrove sanil, Telescopium telescopium. National Seminar on Aquatic Chemistry (Aquasem'13) Cochin, India. P37.
5.	Anuradha V., Vasundhara G., Kumar N. C. and Nair S. M. 2013. Potability of water in the upper reaches of river Periyar –a brief assessment. National Seminar on Aquatic Chemistry (Aquasem'13). Cochin, India. 15.
6.	Ragi A. S., Leena P. P., Gireeshkumar T. R. and Nair S. M., 2013. Qualitative analysis of the major lipid compounds from the tissue of aquatic gastropod Telescopium Telescopium. National Seminar on Aquatic Chemistry (Aquasem'13) Cochin, India. P30.
7.	Participated in National Conference of Ocean Society of India (OSICON'13) and presented two papers entitled "Characterization of Organic Matter in the core sediments of Cochin Estuarine System" and "Geochemical Assessment of Metal contamination in the Core Sediments of Cochin Estuarine System" held during 25 th November to 28 th November 2013 at Indian Institute of Tropical Meteorology, Pune, India.
8.	Participated in Regional Seminar on "Water Quality Assessment and Management of Kerala State" and presented a paper entitled "Soil Geochemical Facsimile of Kasargod District with special reference to Ground water Quality" held during 5-6 February 2013 organized by National Institute of Hydrology, at Trivandram, Kerala.
9.	Presented a paper on "Geochemical Characteristics of Sediment core Pore water Particulate matter from Cochin Estuary" in the National seminar Aquasem'13 on Recent Developments in Water Chemistry with Specific Reference to Water Resources and Management organized by the Department of Chemical Oceanography CUSAT, Society of Aquatic Chemists Kochi on 21 – 23 March 2013.

**16. Role of Faculty in International/National organizations/Institutions/
Editorial Boards : Nil**

17. Awards/Honours/Fellowships etc. received : Nil



18. Sponsored Research Projects/Research Programmes and Activities

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Development of Marine Biotechnology	Kerala State	5000000	Dr. Chandramohana kumar Dr. S. M. Nair Dr. Babu Philip Dr A. V. Saramma
2	"Biogeochemistry of selected Trace elements and their isotopes (Fe,Zn, Mn and Cu) in the realm of Arabian Sea with special reference to Kerala Coast"	MoES, Govt.of India	2910000	Dr C. H. Sujatha
3	Quantification of trace metals and its counter parts as an inter locking system for revealing sediment/ water/air status in southern tip of peninsular India	MoEs CMLRE Govt. of India	66,00,000	Dr. C. H. Sujatha
4	Contaminant characterization of soil in selected areas (Chittor and Kanjikode) of Palakkad district, Kerala.	KSCSTE	14,800	Dr. C. H. Sujatha
5	Sterols and Hopanoids as Organic Matter Biomarkers in Mangrove Ecosystems along Kerala Coast	STEC, Kerala	1109000	Dr. Chandramohana kumar Dr. S. M. Nair Dr. Pratapachandra Kurup

19. Research Programmes and Activities : Nil

20. Seminar/Conference/Workshop/Refresher Courses conducted by the Department : Nil

21. Consultancy Work : Nil

22. Thesis Submitted Title of thesis

1. Shaiju P : Ecological Interpretation of Trace Metal Contents and Contaminant Source Characterization of Sediments of the Cochin Backwaters
2. Renjitha Reveendran : Biochemical aspects of shell mineralization in the estuarine mollusc -Villorita Cyprinoides Var Cochinensis





DEPARTMENT OF COMPUTER APPLICATIONS

1. Brief History

Computer Applications is one of the thrust areas in Science and Technology. In appreciation to its growing importance in business and industrial scenario, the University established Department of Computer Applications to facilitate Research and Human Resource Development in the subject. The Department offers Master's Programme in Computer Applications (M.C.A.) and research programme leading to Ph.D.

The Department in its present form was founded in 01.01.1995 as one of the constituent department of School of Computer Science Studies, under the Faculty of Technology. Earlier from 11.04.1992, it was a division under the School of Mathematical Sciences. The University implemented the MCA Programme with substantial financial assistance, jointly from the UGC and DOE, Government of India.

2. Programmes of Study/Research

MCA
Ph.D. (Computer Applications)
Ph.D. (Library Science and Information Technology)

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. B. Kannan	Associate Professor	M.Sc., M.Phil, M.Tech., Ph.D.	Artificial Intelligence Graph Algorithms Language Computing Image Processing
2	Dr. K. V. Pramod	Associate Professor	M.Sc., Ph.D.	Simulation & Modelling Mathematical Morphology Cryptography
3	Dr. A. Sreekumar	Associate Professor	M.Sc., M.Tech., Ph.D.	Compiler Design Number Theory Cryptography
4	Smt. S. Malathi	Assistant Professor	M.C.A., M.Tech.	Software Quality Assurance Software Project Management Software Engineering



4. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1.	Smt. Rafidha Rahiman	Contract Lecturer	MCA	Systems Software Computer Based Optimization
2.	Smt. Facila Chinchu O.	Contract Lecturer	MCA	Computer Networks
3	Smt. Keerthy A. S.	Contract Lecturer	MCA, MPhil	Combinatorics and Graph Theory
4	Sri. Abhiram H.	Guest Faculty	MCA	Android Application Programming
5	Ms. Gopika A.	Guest Faculty	M.CA	Programming in C
6	Ms. Anju L.	Guest Faculty	MCA	Cryptography and Network Security
7	Smt. Sasikala K.	Guest Faculty	M.Sc., B.Ed., M.Phil	Discrete Mathematics & Structures
8	Smt. Febin E. Jalal	Guest Faculty	M.Tech	Database Management System
9	Ms. Binitha K. S.	Guest Faculty	M. Tech	Web Application Design using PHP
10	Ms. Sabitha Mohan	Guest Faculty	MCA	Computer Organization
11	Sri. Priyesh Prasannan	Guest Faculty	M.Tech	Combinatorics & Graph Theory

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Aneurin Salim A. L.	Nil	Dr. K.V. Pramod	Computer Applications
2.	Archana S. N.	Nil	Dr. S. Humayoon Kabir	Virtual Resource Sharing Centre for the Engineering Colleges Affiliated to Mahatma Gandhi University : A Proposal



Sl. No.	Name	Funding Agency	Guide	Area of Work
3.	Arumughavelan S.	Nil	Dr. K. V. Pramod	Computer Applications
4.	Arun Madhu	Nil	Dr. A. Sreekumar	Wireless Sensor Networks
5.	Beena A. L.	Nil	Dr. S. Humayoon Kabir	Library Science and Information technology
6.	Bino Sebastian V.	Nil	Dr. A. Unnikrishnan	Computer Applications
7.	Binu Jacob	Nil	Dr. K. V. Pramod	Computer Applications
8.	Binu V. P.	Nil	Dr. A. Sreekumar	Information Extraction from online Social Network
9.	Cecil Sam Koshy	Nil	Dr. K. V. Pramod	A Comprehensive Study on Routing, Coverage and Security in Wireless Sensor Network
10.	Deepika M. P.	Nil	Dr. A. Sreekumar	Visual Cryptography
11.	Dhanya P. M.	Nil	Dr. A. Sreekumar	Natural Language Processing
12.	Indukala Ramanath	Nil	Dr. M. Bhasi	Applying cognitive load theory to Computer Science Education in Schools
13.	Jessy George	Nil	Dr. A. Sreekumar	Mobile Ad-Hoc Network Security
14.	Jino P. J.	Nil	Dr. A. Unnikrishnan	Computer Applications
15.	Krishna Kumar M.	Nil	Dr. K. V. Pramod	Computer Applications
16.	Malalathi S.	Nil	Dr. B. Kannan	Computer Applications
17.	Ramkumar R.	Nil	Dr. B. Kannan	Graph Theory
18.	Remya A. R.	Govt. of India	Dr. A. Sreekumar	Cryptography
19.	Reshmi S.	Nil	Dr. B. Kannan	Computer Applications
20.	Santhosh Kumar M. B.	Nil	Dr. A. Sreekumar	Medical Imaging for Brain Tumour Detection & 3D Analysis



Sl. No.	Name	Funding Agency	Guide	Area of Work
21.	Sariga Raj	Nil	Dr. Jagathyraj V. P.	Computer Applications
22.	Shine K. George	Nil	Dr Jagathy Raj V. P.	Library Science and Information technology
23.	Smiju I. S.	Nil	Dr. M. Bhasi	Software Project Management
24.	Srikrishnan S.	Nil	Dr. M. Bhasi	Computer Applications
25.	Sunil Kumar R.	Nil	Dr. M. Jathavedan	Graph Theory
26.	Surendran Cherukodan	Nil	Dr. S. Humayoon Kabir	Impact of Open Source Software on Libraries : a web based study
27.	Tibin Thomas	Nil	Dr. M. Jathavedan	Topological Fluid Mechanism
28.	Unnikrishnan K.	Nil	Dr. K. V. Pramod	Computer Applications
29.	Parameswaran R.	Nil	Dr. M. Jathavedan	Differential equations related to fluid Mechanics
30.	Jasir M. P.	UGC	Dr. B. Kannan	Machine Intelligence
31.	Jestin Joy	Nil	Dr. B. Kannan	Graph Algorithms and Applications
32.	Vijith T. K.	UGC	Dr. K. V. Pramod	Unified approach for detection of image manipulation using metadata analysis

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistant Section Officer	1
3.	Senior Grade Assistants	2
4.	Section Officer Typist / Steno	1
5.	U.D. Typist / Steno	1
6.	Professional Assistant	1



Sl. No.	Designation	No. of Posts
7	Peon Spl. Gr.	1
8	Peon	1
9	Sweeper – cum – Cleaner	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Programme Assistant	1
2.	Technical Assistant Gr. II (Computer)	1
3.	Technical Assistant Gr. II (Electrical)	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	MCA II Semester	18	40	58
2	MCA IV Semester	21	38	59
3	MCA VI Semester	21	34	55

9. Research Facilities

a. Laboratories

Department Laboratory

The Department has a well-equipped laboratory, which is being constantly updated with the latest computers. At present the laboratory has 43 IBM Desktops based on Pentium IV with Windows XP, 30 AMD Athlon 64 bit PCs running Suse Linux 9.3, 3 Desktops IBM Thinkcentre Intel Pentium D, 1 IBM Thinkpad, 1 Dell Poweredge 1950 Server, 12 TFL Orchid Intel Core 2 Duo Desktops, IBM X Series 255 Server Quad Processor based on Intel Xeon with Windows 2003 Server, 2 Acer Aspire 4736 Laptops, 30 Delta Computers with Intel Core 2 Duo Processor, 14 HCL Computers with Intel Core i3 Processor, 1 HCL ME L74 Laptop, 1 Acer Net book, 17 Keltron Computers with Intel Core i7 Processor, 3 iMac Computers with Intel Core i5 Processor, 9 Laserjet Printers and 2 Inkjet Printers. The Department provides 24 hour internet access to its students through a dedicated link to the campus network.

The Department has also at its disposal, modern state of the art equipment such as Multimedia Projector from Toshiba (1 No.), Hitachi (1No.), Optoma (1 No.), Sanyo (2 Nos.), Panasonic (2 Nos.), HCL Infocus (1 No.) to aid in the teaching process. Some of the sister Departments also seek our help for their special needs.

**b. Library**

No. of books and journals as on 31st march of the previous year	Additions during the current year
Books : 5559 Journals : 19	Books : 235 Journals : Nil

c. Others**10. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Matjaz Kovse, Bio Informatics Group Department of Computer Science & Interdisciplinary Centre for Bioinformatics University of Leipzig, Germany	DST sponsored Indo - Slovenian Research Project in which Dr. B. Kannan, Associate Professor is also a member	
2	Sanghamitra Bandyopadhyay Bottom of Form Top of Form Professor of Computer Science, Indian Statistical Institute, Kolkata, India		

11. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Document Image Segmentation and Compression using Artificial Neural Networks and Evolutionary Methods	Aysha V.	Dr. B. Kannan
2.	Design and Development of Efficient Classification Schemes For Web Content Mining	Shine N. Das	Dr. K. V. Pramod
3.	Statistical Machine Learning Techniques for the prediction of learning disabilities in School age Children	Julie M. David	Dr. B. Kannan
4.	Improved Feature Extraction and Classification Techniques for Multi Spectral Brain Magnetic Resonance Images	Sindhumul S.	Dr. B. Kannan

**12. Publications****a. Papers**

Sl. No.	Name of Paper
Dr. K. V. PRAMOD	
1	Jomy John, Kannan Balakrishnan, K.V. Pramod, A system for offline recognition of handwritten characters in Malayalam script, International Journal of Image, Graphics and Signal Processing, MECS-Press, 2013
2	“An Empirical Study of Industry Practice in Software Development Risk Management”, Srikrishnan S., Bhasi M., Pramod K. V. Int. J. of Scientific and Research Publications Volume 3, Issue 6, June 2013
3	Comparative Reassessment of Two common Software Projects Management Methodologies, Smiju Sudevan, M. Bhasi, Pramod K. V., Indian J. of Social Development , Vol.13, No.2, Dec.2013
Dr. A. SREEKUMAR	
1	Wireless Sensor Network Controlled Vehicle Navigation System and its applications.International Journal of Information Processing 7(2), PP-32-40, 2013.
2	Efficient Multi Secret Sharing with Generalized Access Structure.International Journal of Computer Applications, 90(12), PP1- 6, 2014.
3	An Improved Lossless Secret Image Sharing Scheme National Conference in “Security Monitoring” (NCSM – 2013) on 15 th & 16 th February, 2013 at Amrita School of Arts & Science, Kochi.
4	An Improved Non-Repudiate Scheme – Feature Marking Voice Signal Communication.International Journal of Computer Network & Information Security 2, PP-1-8, 2014.
Dr. B. KANNAN	
1.	Betweenness Centrality in Some Classes of Graphs K. Balakrishnan, M. Jathavedan arXiv preprint arXiv:1403.4701 2014
2.	Mathematical Morphology on Hypergraphs Using Vertex-Hyperedge Correspondence B. Sebastian, A. Unnikrishnan, K. Balakrishnan, P. B. Ramkumar ISRN Discrete Mathematics 2014
3.	HWR for Indian Languages: A Comprehensive Survey K. Balakrishnan, P. J. Jino 2014
4.	Content-Based Image Retrieval of Axial Brain Slices Using a Novel LBP with a Ternary Encoding A. Varghese, K. Balakrishnan, R. R. Varghese, J. S. Paul The Computer Journal, bxu008 2014



Sl. No.	Name of Paper
5.	Morphological filtering on hypergraphs V. B. Sebastian, A. Unnikrishnan, K. Balakrishnan, P. B. Ramkumar arXiv preprint arXiv:1402.4258 2014
6.	Equal opportunity networks, distance-balanced graphs, and Wiener game K. Balakrishnan, B. Brešar, M. Changat, S. Klavžar, A. Vesel, ...Discrete Optimization 2014
7.	Performance Analysis of K-Means Clustering For Remotely Sensed Images. K. Venkateswaran, N. Kasthuri, K. Balakrishnan, K. Prakash International Journal of Computer Applications 84 2013
8	Connected digit speech recognition system for Malayalam language C. Kurian, K. Balakrishnan, Sadhana, 1-8 2013
9	Spectral clustering independent component analysis for tissue classification from brain MRIS Sindhumol, A Kumar, K Balakrishnan Biomedical Signal Processing and Control 8 (6), 667-674 2013
10	Performance Improvement of Fuzzy and Neuro Fuzzy Systems: Prediction of Learning Disabilities in School-age Children. J. M. David, K. Balakrishnan International Journal of Intelligent Systems & Applications 5 (12) 2013
11	Brain Tissue Classification from Multispectral MRI by Wavelet based Principal Component Analysis. S. Sindhumol, K. Balakrishnan, A. Kumar International Journal of Image, Graphics & Signal Processing 5 (8) 2013
12	Ultrasound Image Despeckling using Local Binary Pattern Weighted Linear Filtering. S. Joseph, K. Balakrishnan, M. R. Nair, R. R. Varghese International Journal of Information Technology & Computer Science 5 (6) 1 2013
13	Automated Brain Tissue Classification by Multisignal Wavelet Decomposition and Independent Component Analysis S. Sindhumol, A. Kumar, K. Balakrishnan ISRN Biomedical Imaging 2013
14	Fair Sets of Some Class of Graphs R. R. Kumar, K. Balakrishnan, P. G. Narasimha-ShenoarXiv preprint arXiv:1304.5378 2013
15	Wavelet based independent component analysis for multispectral brain tissue classification S. Sindhumol, A. Kumar, K. Balakrishnan Communications and Signal Processing (ICCSP), 2013 International Conference ... 2013
16	A System for Offline Recognition of Handwritten Characters in Malayalam Script. J. John, K. Balakrishnan, K. V. Pramod International Journal of Image, Graphics & Signal Processing 5 (4) 1 2013
17	An Autonomous Framework for Classifier Selection in WekaPA Mingo, K. A. Rafidha Rehiman, K. Balakrishnan International Journal Of Engineering And Computer Science 2 (3), 696-703 2013
18	A Comparative study of HMM and SVM in Malayalam Digit Recognition K. M .Harsha, O. Facila Chinchu, C. Kurian, K. Balakrishnan, NCILC 2013



Sl. No.	Name of Paper
19	Abnormality Detection from Multispectral Brain MRI using Multiresolution Independent Component Analysis. S. Sindhumol, A. Kumar, K. Balakrishnan International Journal of Signal Processing, Image Processing & Pattern ... 1 2013
20	Content Based Image Retrieval of Brain MR Images across Different Classes A. Varghese, K. Balakrishnan, R. R. Varghese, J. S. Paul World Academy of Science, Engineering and Technology 80 2013
21	Content Based Image Retrieval of T2 Weighted Brain MR Images Similar to T1 Weighted Images,A. Varghese, K. Balakrishnan, R. R. Varghese, J. S. Paul Pattern Recognition and Machine Intelligence, 474-481 2013
22	Learning disability prediction tool using ANN and ANFIS J. M. David, K. Balakrishnan Soft Computing, 1-20 2013

13. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr . K. V. Pramod	National Conference on Indian Language Computing 2014 (NCILC – 14), Organized by Department of Computer Applications, CUSAT, Feb 1-2, 2014.	Chair
	National Conference on Advanced Trends in Computing and Communication (NATCCOM 2K14) Organized by Christ Knowledge City, Muvattupuzha held on 13 th March 2014	Chair
Dr. B. Kannan	National Conference on Software Engineering 2013, 13-14, August 2013, Department of Computer Science, CUSAT	Chair
	National Conference on Soft Computing Techniques for Data Mining (NCSCTDM 2014), 6-7, January 2014, MES College Marampally	Keynote Speaker
	National Conference on Recent Trends in Information Technology (NCRTIT – 2014), Sree Ayyappa College, Eramallikkara	Speaker
	National Conference on Recent Advances in Computer and Electronics Engineering (NCRACEE), 6-7 March 2014, Malabar College, Thrissur	Chair



Name of Participant	Name of Seminar/Conference/Workshop	Role
	National Conference on Indian Language Computing 2014 (NCILC – 14), Organized by Department of Computer Applications, CUSAT, Feb 1-2, 2014.	Chair
Dr. A. Sreekumar	Research Methodologies in Engineering & Technology	Participant
	National Conference on Recent Advances in Computer and Electronics Engineering (NCRACEE), 6-7 March 2014, Malabar College, Thrissur	Chair
Smt. S. Malathi	National Conference on Indian Language Computing 2014 (NCILC – 14), Organized by Department of Computer Applications, CUSAT, Feb 1-2, 2014.	Participant

14. Seminar/Conference/Workshop/Refresher Course conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Conference of Indian Language Computing 2014	February 1-2, 2014	Dr. K. V. Pramod	UGC





DEPARTMENT OF COMPUTER SCIENCE

1. Brief History

The Department of Computer Science came into existence in 1984 with an M.Tech. programme in Computer and Information Sciences, which was the first in the state of Kerala. In 1986, the Department was identified by the Defense Research and Development Organization for conducting a M.Sc. programme in Computer Software, as a feeder course to the DRDO Laboratories. The department served as a seeding agent for the establishment of the Computer Centre, which was inaugurated by the then Prime Minister in 1990. The department was entrusted with the responsibility of conducting the MCA programme in June 1994, which helped to streamline the course and setting it on the right track. The B.Tech. course started in 1996, was given co-ordinating support by the department in the branch of Computer Science & Engineering. A new M.Tech. programme in Software Engineering sponsored by UGC was also started in the academic year 2000-2001

Ph.D. programmes in the areas of Artificial Intelligence, Networking, Information Systems Engineering, VLSI, etc. are being pursued.

The department has so far received grants to the tune of Rs. 10 crore from various national agencies. The INFOCUS project with support from the Netherlands Government and collaboration of the Delft University of Technology was piloted by the department.

The campus Intranet, the CUSAT website and the campus intercom system were initiated and commissioned by the department. The Centre for Information Resource Management (CIRM) was proposed and nurtured by the department.

The department provides technical expertise and support to various Government/Quasi-government bodies.

2. Programmes of Study/Research

1. M.Tech. Computer and Information Science
2. M.Tech. Software Engineering
3. M.Tech Computer Science with Specialization in Embedded Systems (Part Time)
4. Ph. D



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. K. Poullose Jacob	Professor	M.Tech, Ph.D	Parallel Architecture, Computer Networks, Information Systems Engineering
2	Dr. Sumam Mary Idicula	Professor	M.Tech., Ph.D	Natural language Processing, Human Computer Interaction
3	Sri. K. B. Muralidharan	Asst. Professor	M.Tech.	Artificial Intelligence
4	Dr. G. Santhosh Kumar	Asst. Professor	M.Tech.	Software Engineering Wireless Mobile Networks
5	Mrs. Athira B.	Asst. Professor (contract)	M.Tech.	Software Engineering
6	Smt. Rose George Kunthara	Asst. Professor (guest)	M.Tech.	Embedded Computer Architecture
7	Sri. Sameer Mohamed Thahir	Asst. Professor (guest)	M.Tech.	Real-Time Operating Systems
8	Sri. Agnel John K. J.	Asst. Professor (guest)	M.Tech.	Programming Embedded Systems

4. Research Scholars (Full Time & Part-time)

Sl. No.	Name	Guide	Area of Work
1	Bindya M. Varghese	Dr. N. Unnikrishnan	Mining of Spatial Data using Hierarchical data Structures
2	Daleesha M. Viswanathan	Dr. Sumam Mary idicula	Human computer Interaction
3	Vineetha S.	Dr. Sumam Mary idicula	Bioinformatics
4	Binsu C. Kovoor	Dr. K. Poullose Jacob	System Security
5	Mohanam K.	Dr. Sumam Mary Idicula	Software Engineering
6	Mini U.	Dr. K. Poullose Jacob	Information Science
7	Santhosh Simon	Dr. K. Poullose Jacob	Expert Systems
8	Prime Kumar	Dr. Sumam Mary idicula	Neural Networks
9	Sindhu L.	Dr. Sumam Mary idicula	Natural Language Processing
10	Bindu Baby Thomas	Dr. Sumam Mary idicula	Natural Language Processing
11	Lini Varghese	Dr. K. Poullose Jacob	Mobile Computing
12	Vimina E. R.	Dr. K. Poullose Jacob	Computer Vision



13	Anupama Surendran (FT)	Dr. Philip Samuel	Object Oriented Program Testing
14	Pradeep M.	Dr. David Peter	Adaptive MAC in Adhoc Wireless Networks
15	Manilal D. L.	Dr. David Peter	MAC layer design in Hybrid Traffic in WI-MAX Network Environment
16	Latha R. Nair	Dr. David Peter	Natural Language Processing
17	Vinod Kumar P. P.	Dr. K. Paulose Jacob	Parallel MD Simulation algorithms
18	Thresiamma K. George	Dr. M. D. Baby	Data base Security
19	Saju P. John	Dr. Philip Samuel	Current problems in advanced authentication techniques in wired / wireless networks
20	Sreejith C. K.	Dr. David Peter	Knowledge discovery and financial for forecasting using Data Mining
21	Asha Das	Dr. David Peter	Medical ImageRegistration Application to SPECT and MRI Images
22	Sonia Sunny	Dr. David Peter	Speech recognition using digital signal processing and neural networks
23	Sunitha E. V.	Dr. Philip Samuel	Object Oriented Modeling and Design
24	Renu George	Dr. Philip Samuel	Compiler Design
25	Manju K.	Dr. David Peter S.	Natural Language Processing
26	Jyothi John	Dr. David Peter S.	Distributed Computing
27	Manoj Ray D.	Dr. Philip Samuel	Cost Estimation for Global Software Development
28	Murali Mohanan	Dr. Philip Samuel	Effective and Improved Requirement Engineering
29	Jayasree K.	Dr. Sumam Mary Idicula	Video Classification and Retrieval using Multimodal Analysis
30	Reena Murali	Dr. David Peter S.	Gene Expression Profiling (Bio Informatics)
31	Jisha P. Abraham	Dr. Sheena Mathew	Computer Architecture and Parallel Processing



32	Vipin Kumar K. S.	Dr. Sheena Mathew	Software Engineering
33	Pramod Pavithran	Dr. Sheena Mathew	Network Security and Cryptography
34	Sminu Isudheen	Dr. Sheena Mathew	Data Mining
35	Anil C. B.	Dr. Sheena Mathew	Localization, Object Tracking and Time Synchronization in Wireless Sensor Network
36	Jayaprabha P.	Dr. K. Poullose Jacob	Computer Generated Holograms and its applications
37	Preetha Theresa Joy	Dr. K. Poullose Jacob	Adhoc Wireless Networks
38	Sr.Thresiamma Devasia	Dr. K. Poullose Jacob	Automatic Early Stage Glaucoma Detection using Image Processing Techniques
39	Preetha K. G.	Dr. A. Unnikrishnan	Mobile Adhoc Networks
40	Deepa Elizebeth George	Dr. A. Unnikrishnan	Multi Sensor Data Fusion
41	Brighty Jose	Dr. M. D. Baby	Re-Engineering Public Library System in Kerala
42	Jacob Mathews	Dr. Rekha K. James	Low Power IC Design
43	Jithesh V.	Dr. K. Poullose Jacob	Imaging and Discrimination of Concealed Radar Targets
44	Deepa T.	Dr. A. Unnikrishnan	Cluster-based Outlier Mining
45	Janardhanan P. S.	Dr. Philip Samuel	Multi-Core Adaptability of Operating Systems
46	Jayasree V.	Dr. M. D. Baby	Hospital Libraries in Kerala : Challenges and Opportunities
47	Tony Joseph	Dr. M. D. Baby	Multilingual Facilities in Library Software a Comparative Study of selected Commercial And Open Source Softwares
48	Sreekala P. K.	Dr. M. D. Baby	Digital Archiving of Newspapers : A Feasibility Study on a Consortia Approach for Building a Digital Repository of Leading Newspapers in Kerala
49	Shimmi Asokan	Dr. G. Santhoshkumar	Formal Specification and Verification of Software Systems



50	T. Sobha	Dr. A. Unnikrishnan	Development of Effective Models For Image Understanding
51	Saritha S.	Dr. G. Santhosh Kumar and Dr. Rekha K. James	Studies in Spatiotemporal Data Mining
52	Sonia Abraham	Dr. Rekha K. James	Investigations on data mining and its applications in novel platforms
53	Mary Priya Sebastian	Dr. G. Santhoshkumar	Linguistic knowledge based Machine Translator for Malayalam
54	K. H. Kochaleema	Dr. G. Santhoshkumar	Modelling and Verification of Embedded Systems
55	Binu A.	Dr. G Santhosh kumar and Dr. Rekha K. James	Energy – Aware incremental compilation techniques for Mobile Processors
56	V. Damodaran	Dr. G. Santhosh kumar	Developing Machine Translation methods for closely related Languages
57	K. B. Muralidharan	Dr. M. Bhasi and Dr. G. Santhosh Kumar	Low-Latency Processing of Event Streams
58	Vinu Paul M. V.	Dr. G. Santhosh Kumar	Mapping of Cyber Space Geometry through High Speed Network Traffic Analysis
59	Suresh Kumar N.	Dr. G. Santhosh Kumar and Dr. A. Sreekumar	Communication protocol framework for cyber physical systems
60	Muhammed Anees V.	Dr. G. Santhosh Kumar	Real time analysis of surveillance video and detection of abnormalities in high density crowds

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant Section Officer	2
3	Office Superintendent (Typist)	1 (vacant)
4	Office Attendant	1
5	Sweeper/Cleaner	1(vacant)



6. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Tech. Officer Gr. I	1
2	Tech. Asst. Gr. III	3
3	Tech. Asst. Gr. II	2
4	Junior Librarian	1

7. Students Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Tech. Degree in Computer and Information Science (Two batches)	9	25	34
2	M.Tech. Degree in Software Engineering (Two batches)	13	20	33
3	M.Tech Computer Science with Specialisation in Embedded System 2011&2013 admission	16	12	28
4	Ph. D (Including 2013 admission)	24	36	60

8. Research Facility

a. Laboratory

The research laboratories have been developed/augmented using the 2007 MHRD grant.

1. Human-Computer Interaction Laboratory (HCI Lab)

Objectives

- To Provide hands on experience on various modes of interaction with computers
- To facilitate research in the field of human computer interaction
- To undertake projects and consultancy work related to the development of multimode interfaces to diverse, challenged or non-specialist users
- To investigate problems of accessibility of computers for users of different ages, skill levels, cognitive styles, sensory & motion impairments or native language

2. Embedded Systems Laboratory (ESL)

ESL Offers excellent facilities for researchers, academics and industry to work with, in the areas mentioned below-

- Networked Embedded System Design
- Embedded Control Systems
- Real Time Operating Systems

ESL Develops practical and viable Embedded System Design Technologies for unprecedented design challenges.



ESL Provides hands on experience on embedded-real time operating system, embedded middleware and design methodologies for real-embedded systems

3. Mobile Computing Lab (MCL)

The Mission of Mobile Computing Lab is to perform research in the theory and practice of areas related to mobility of systems, users, data and computing. Thrust areas of research are-

- Applications and computing services supporting mobile users-
- Architectures, protocols and algorithms to cope with mobility-
- Mobile Agents-
- Wireless/Mobile service management and delivery

4. Software Engineering Laboratory (SEL)

Software Engineering Laboratory offers innovative software engineering research facilities to develop and deploy value added software. Main areas of work envisaged are-

- Object Oriented Analysis, Design and Development .
- Automated Software Testing-
- Process Modelling-
- Agent Based Computing

Software Facilities

- AUTODESK Motion Builder Pro-7
- Q pointer Voice Speech Recognition Software
- Face Tracking System for Face Gesture Recognition
- Shape Hand Plus System for capturing full range of wrist, finger & thumb movement
- RTLinux : Operating System for Real-Time / Embedded applications
- VxWorks : Real-Time operating system with Tornado IDE
- LabView : A visual design tool for measurement analysis & signal processing
- TinyOS : Development platform for tiny devices
- Montavista Linux
- Asterix IP PBX (to be acquired)
- NS2 Simulation Software
- Matlab R2006a
- Opensource JAVA/SIP environment
- Service Delivery Platform (to be acquired)
- SDK for Windows/Linux Smart Phones (to be acquired)
- Rational Rose Enterprise Suite version 2003 server with ten clients:

CASE tool for automating software development lifecycle activities. Suite comprises the following packages:



Rational Requisite Pro, Rational Rose, Rational SoDA, Rational Purify, Rational Robot, Rational Clear Case, Rational Quantify and Rational Clear Quest.

- **Microsoft Visual Studio .NET with MSDN**

An integrated development environment (IDE) for developing web applications, web services, desktop applications, and mobile applications.

- **NetBeans (freeware)**

Linux based integrated tool for software development and associated documentation (UML diagrams).

- **Matlab version 7.0**

Library of signal and image processing routines.

- **Open CV (Computer Vision)**

Intel's open computer vision library for solving various computer vision problems.

Software

1. Windows 2000
2. Oracle 8i
3. Rational Suite Enterprise Edition
4. Math Lab
5. RT- Linux Pro 2.2
6. Lab view 8.2
7. Windriver Tornado 2.2.1/Vx Works 5.5.1
8. Montavista Linux

b. Major Equipments

Sl. No.	Name of Equipment	Date of Purchase	Cost of the Item	Number of Items
1	Intel Core i3 550	17-03-2012	4,96,000	20
2	Ibm A Pro Intellisatation	20-08-2007	8,72,600	1
3	IBM THINKPAD Intel Core2Duo, 1.83Ghz Processor, 512 mb RAM, 80gb HDD, DVDWriter, WI-Fi bluetoorh NIC	16-08-2007	2,31,920	4
4	HCL Infosystem Computer Server	27-03-2006	2,48,700	
5	PC-104 Embeded System	06-01-2006	2,10,000	
6	USB CD ROM for PXI & Lab view Professional systems for windows	11-12-2006	9,90,000	
7	Month vista LinerEmbedded Planet	01-10-2007	12,90,000	3



8	IBM Think Centre	19-02-2007	2,16,000	6
9	(i) Mote Kit 5040cc (ii) MIB 520CA (iii) MPR 400 CB channel	20-03-2007	4,01,250	16
10	Toshiba Projector	20-03-2007	1,53,417	
11	S B C- Power Quick II Vx Works OEM License for power PC	05-01-2007	16,44,057	6 [1&5]
12	HP LASERJET 3800 COLOR S/N CNZKD89696	07-04-2007	6,56,450	
13	IBM Thinkpad	16-08-2007	2,31,920	4
14	IMB E Server IBM Eserver X3400	16-08-2007	1,45,912	1
15	IBM 3400 Tower server	17-08-2007	2,74,560	
16	IBM Z-PRO	20-08-2007	5,56,250	1
17	H P Laser Jet	20-08-2007	74,952	1
18	I B M Think Centre	21-11-2007	4,32,000	12
19	Orchid PC (KSN-8471)	28-04-2009	1,84,250	10
20	Computers	31-03-2010	4,81,600	7
21	Dell Workstation Precision T	13-03-2012	10,97,400	15
22	HCL Infosystem Computer	20-04-2012	3,72,000	15

c. Library

No. of books and journals as on 31st march of the previous year	Additions during the current year
Books : 5758 Journals : 57	Books : 30 Journals : Nil

d. Others : Overhead Projectors, Multimedia Projector etc.

9. Distinguished Visitors

Sl. No.	Name & Designation	Official Address	Date & Time	Purpose of Visit	Remarks, if any
1	Mr. Vijay Kumar M.	CEOWeby Info Tech Pvt. Ltd Thiruvananthapuram	3 rd July 2013	To deliver a talk	Technology change expected in next 5 years
2	Mr. Harjinder Singh Lallie	Senior Teaching Fellow (Cyber-Security) University of Warwick (WMG)	27 th Nov. 2013	To deliver a talk	Cyber security



Sl. No.	Name & Designation	Official Address	Date & Time	Purpose of Visit	Remarks, if any
3	Mr. Paul Dorbec	University of Bordeaux France	10 th March 2014	To deliver a talk	Algorithms for Domination & Power Domination in Trees

10. Ph.Ds. Awarded

Sl. No.	Name of Research Scholar	Title
1	Smt. Litt .A. J.	Computational Models For The Prediction Of Severe Thunderstorms Over Indian Region
2	Smt. Bindu M. S.	Design and Development of a Named Entity Based Question Answering System for Malayalam Language
3	Sri. Sreeraj M.	A Writer Identification System for Handwritten Malayalam Documents

11. Publications

Sl. No.	Name of Paper	Impact Factor, if any
1	A virtual backbone based approach for cooperative caching in mobile ad hoc networks, P. T. Joy, K. P. Jacob	
2	A New Algorithm for Adaptive Smoothing of Signals in Speech Enhancement, S. Sunny, S. D. Peter, K. P. Jacob, IERI Procedia 4, 337-343	
3	Cooperative Caching Framework for Mobile Cloud Computing, P. T. Joy, K. P. Jacob, arXiv preprint arXiv:1307.7563	
4	A location aided cooperative caching protocol for mobile ad hoc networks, P. T. Joy, K. P. Jacob	
5	HEAP: Hybrid Energy-efficient Aggregation Protocol for Large Scale Wireless Sensor Networks, S. Simon, K. P. Jacob, International Journal Of Computers & Technology 4 (2c2), 713-721	
6	RE-MAC: A Reliable Energy Efficient MAC Protocol For Wireless Sensor Networks, S. Simon, K. P. Jacob, International Journal of Computers & Technology 4 (2b), 509-517	
7	Content Based Image Retrieval Using Low Level Features of Automatically Extracted Regions of Interest, E. R. Vimina, K. P. Jacob, Journal of Image and Graphics 1 (1)	



8	A key based cache replacement policy for cooperative caching in mobile ad hoc networks, P. T. Joy, K. P. Jacob, Advance Computing Conference (IACC), 2013 IEEE 3rd International, 383-387	
9	Spatial Clustering Algorithms-An Overview. B. M. Varghese, A. Unnikrishnan, K. P. Jacob, Asian Journal of Computer Science & Information Technology 3 (1)	
10	Peer To Peer Cache Resolution Mechanism For Mobile Ad Hoc Networks, P. T. Joy, K. P. Jacob, International Journal	
11	Effectiveness of Feature Detection Operators On The Performance of Iris Biometric Recognition System, B. C. Kovoov, M. H. Supriya, K. P. Jacob, International Journal	
12	A Novel Cache Resolution Technique For Cooperative Caching In Wireless Mobile Networks, P. T. Joy, K. P. Jacob, Computer Science	
13	Combined Feature Extraction Techniques And Naive Bayes Classifier For Speech Recognition, S. Sunny, S. David Peter, K. P. Jacob, Computer Science	
14	Iris Biometric Recognition System Employing Canny Operator, B. C. Kovoov, M. H. Supriya, K. P. Jacob, First International Conference on Computational Science and Engineering (CSE ...	
15	A Sub-block Based Image Retrieval Using Modified Integrated Region Matching, E. R. Vimina, K. P. Jacob, International Journal of Computer Science Issues (IJCSI) 10 (1)	
16	Design and development of data mining models for the prediction of manpower placement in the technical domain, S. M. Idicula, Sudeep Elayidam Cochin	
17	MicroRNA-mRNA interaction network using TSK-type recurrent neural fuzzy network, S. Vineetha, C. Chandra Shekara Bhat, S. M. Idicula, Gene 515 (2), 385-390	
18	Author Identification in Malayalam using n-grams, B. B. Thomas, L. Sindhu, S. M. Idicula	
19	A Novel Decision Tree Algorithm for Numeric Datasets-C 4.5* Stat, S. M. Idicula, J. Alexander, Sudeep Elayidam	
20	A Framework of Statistical Machine Translator from English to Malayalam, G. Santhosh Kumar, M. P. Sebastian, S. Kurian	
21	Research Directions in Cyber Physical Systems, G. Santhosh Kumar	



12. Participation in Seminar/Conference/Refresher courses etc. by the Faculty/ Students

Participant(s)	Name of Seminar/Conference/Workshop	Role
Dr. Sumam Mary Idicula	NCSOFT 2013	Organizing Chair
Dr. Sumam Mary Idicula	Workshop on ICT in Higher education	Participant
Dr. G. Santhosh Kumar	NCSOFT 2013	Event Chair
Dr. G. Santhosh Kumar	4 th National Conference on Indian Language Computing (NCILC – 2014), Feb 2 nd 2014	Paper Presenter
Dr. G. Santhosh Kumar	National Conference on Recent Trends n Knowledge Management (NCR TKM – 2014)	Paper Presenter
Dr. G. Santhosh Kumar	AICTE – Faculty Development Program 21 st October – 3 rd November 2013	Participant
Dr. G. Santhosh Kumar	NAAC Sponsored National Workshop, June 20-21 st 2013	Resource Person
Dr. G. Santhosh Kumar	National Conference on Recent Innovations in Science & Technology (NCRiST) 26,27 April 2013	Technical Chair
Dr. G. Santhosh Kumar	FDP on Advanced Networking and Practical Aspects of Network Security, 17 June 2013	Resource Person
Sri. Murlaidharan K. B.	NCSOFT 2013	Technical Chair
6 students	One day Workshop on Introduction to LaTeX 4 th January (Vadakara, CAPE)	Paper Presenter
8 students	One day Workshop on Introduction to Python and LaTeX 10 th January 2014 (FISAT)	Paper Presenter
18 students	BigData Analytics Workshop” on Saturday 15th Feb 2014	Paper Presenter

13. Role of faculty in International/National Organizations/Institutions/ Editorial Board

name of Faculty	Name of Organization	Role
Dr. Sumam Mary Idicula	M.G University, Kottayam	Board of Studies Member
Dr. Sumam Mary Idicula	PSG College of Technology, Coimbatore	Board of Studies Member

**14. Awards/Honours/Fellowships etc Received**

Sl. No.	Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
1	Dr. G. Santhosh Kumar	ACM Senior Member grade	Association for Computing Machinery, USA
2	Dr. G. Santhosh Kumar	Ambassador for ACM	Association for Computing Machinery, USA

15. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (Rs.)	Investigator(s)
1	e-governance @ CUSAT	Kerala State	20 lakhs	Dr. K. Poulose Jacob
2	DST-FIST	DST	52 lakhs	Dr. Sumam Mary Idicula & Dr. G. Santhosh Kumar

16. Research Programmes and Activities

Sl.No.	Problems/Topics	Investigator(s)
1.	Datamining	Dr. Sumam Mary Idicula
2.	Sensor Networks	Dr. G. Santhosh Kumar
3	Bigdata	Mr. K. B. Muralidharan

17. Seminar/Conference/Workshop/Refresher Courses

Title of the Seminar/ Conference/Workshop/ Refresher Course	Event Date	National/ International	Funding Agency	Co-ordinator
National Conference on Software Engineering	13-14 Juny 2013	National	Self	Dr. K. Poulose Jacob

18. Consultancy Work

Expertise of the department faculty are sought and availed by organizations / institutions of the Government / Quasi Government.





DEPARTMENT OF ELECTRONICS

1. Brief History of the Department

The Department of Electronics was established in 1975, as a post graduate Department with Master's and Ph.D programmes in the frontier field of Electronics. Post-graduate programmes include M.Sc Electronics and M.Tech Electronics with specializations in Microwave and Radar Electronics and Digital Electronics.

The Doctoral Programmes are mainly in fields such as Underwater Acoustics, Ocean Electronics, Microwave Propagation & Antennas, Microwave Material Studies, Image Processing, Pattern Recognition, Microprocessor Applications and Signal processing. National agencies like the DST, ISRO, AICTE, DOE, DRDO, DOD, CSIR, MoES, NRB, DIT and are supporting this Department through various Research projects and Research Fellowships.

The Department of Electronics has well equipped Signal Processing, Microwave Electronics, Ocean Electronics, Intelligent Machines & systems and Microprocessor Research Laboratories for carrying out research work at M.Tech and Ph.D levels.

The Department was chosen for special assistance by the UGC under different schemes. The University Grants Commission has sanctioned "COSIST" assistance in 1988, to the Department for the development of postgraduate education and research in the areas of Microprocessor Applications and Microwave Antennas. In 1994, the Department was selected by the UGC for Departmental Research Support (DRS) in the field of Ocean Electronics and for the special assistance programme of UGC at DSA level in the year 2000. UGC has recognized the Department as a participant in the Centre of Excellence in Laser and Optoelectronic sciences. The Department is currently undertaking research projects from various agencies and has successfully completed major research projects worth more than one crore. The Department has already established international collaboration with Delft University, Netherlands, Polarizone incorporation, Malaysia, University of Paris, France and University of Kent, U K for different research projects. The research facilities of the department are used by different national research laboratories and research organizations like NAL Bangalore, SAC Ahmadabad, Indian Navy etc.

The Department conducts two symposia as biennial events – the National Symposium on Antennas & Propagation (APSYM – which commenced from 1988 and the symposium on Ocean Electronics (SYMPOL) – from 1991 onwards. Effective from 2007 onwards, SYMPOL, is being organized as international conferences with the technical co-sponsorship of IEEE Oceanic Engineering Society and Acoustical Society of America.



The Department has over 250 research publications and 18 students have taken Ph.D degree during the past five years. It also has very good library facilities having more than 6000 specialized books on Electronics and is also subscribing international and national journals.

The technical biasing of the University, spectacular growth of Electronics industries in Kerala and the location of the University in the industrial zone of the State are all favourable aspects for substantial development of this Department.

2. Programmes of Study/Research : M.Sc., M.Tech., Ph.D.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. C. K. Aanandan	Professor & Head	M.Sc.,Ph.D.	Microwave Communication, Radar Systems and Antennas
2.	Dr. K. Vasudevan	Professor	M.Sc.,Ph.D.	Antennas, Electromagnetics, Microwave Devices, Radar Systems, Microwave Communications
3.	Dr. P. R. S. Pillai	Professor	M.Sc.,Ph.D.	Digital Communication Computer Networks, Underwater Acoustics Microprocessors
4.	Dr. P. Mohanan	Professor	M.Sc.,Ph.D.	Antennas, Microwave Networks, Microwave Communication
5.	Dr. Tessamma Thomas	Professor	M.Sc.,M.Tech, Ph.D.	Speech/Image & Bio-medical Signal Processing, Digital System Design
6.	Dr. James Kurian	Associate Professor	M.Sc., M.Tech., Ph.D	Instrumentation, Embedded Systems
7.	Dr. Supriya M. H.	Associate Professor	B.Tech., M.Tech., Ph.D.	Signal Processing, Network Analysis, Digital Electronics, Microprocessors, Control Systems, Data Structures.



4. Visiting Faculty (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Sri. A. K. Prakash	Former Senior Scientist, NPOL	M.Tech.	Radar & Communication

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
Full – Time				
1.	Tony D.	UGC	Dr. K. Vasudevan	Microwave Antennas
2.	Lindo A. O.	UGC	Dr. C. K. Aanandan	Microwave Antennas
3.	Dinesh R.	UGC	Dr. P. Mohanan	Microwaves
4.	Deepak U.	UGC	Dr. P. Mohanan	Microwave Antennas
5.	Nijas C. M.	UGC	Dr. P. Mohanan	Microwave Antennas
6.	Vinesh P. V.	UGC-JRF	Dr. K. Vasudevan	Multiband Folded Antennas
7.	Abdul Rasheed	UGC-JRF	Dr. K. Vasudevan	Compact Broadband metamaterial Antennas
8.	Suraj Kamal	Project Fellow	Dr. Supriya M. H.	Accessories imaging
9.	Roshna T. K.	UGC	Dr. P. Mohanan	Microwave Antennas
10.	Sajitha V. R.	KSCSTE	Dr. P. Mohanan	Compact metamaterial loaded microwave filter
11.	Nobert Thomas Pallath (Thesis submitted)	FIP	Dr. Tessamma Thomas	Design and Development of a hybrid MAC protocol for video transmission over wireless networks
12.	Sreekala	Project	Dr. C. K. Aanandan	Nanomaterials
13.	Dibin Mary George	KSCSTE	Dr. C. K. Aanandan	Microwave Antennas



Sl. No.	Name	Funding Agency	Guide	Area of Work
Part – Time				
1.	Paulbert Thomas	-	Dr. C. K. Aanandan	Microwaves
2.	Anju P. Mathews	-	Dr. C. K. Aanandan	Microwave Antennas
3.	Anish Kumar M. S.	-	Dr. Gopikakumari	Signal processing
4.	Mohankumar K.	-	Dr. P. R. S. Pillai	Underwater Acoustics
5.	Sethunadh R.	-	Dr. Tessamma Thomas	Image Processing
6.	Cyriac M. Odackal	-	Dr. C. K. Aanandan	Microwave Electronics
7.	Sarah Jacob	-	Dr. P. Mohanan	Microwave Electronics
8.	Binesh T.	-	Dr. P. R. S. Pillai	Ocean Electronics
9.	Prakash K. C.	-	Dr. K. Vasudevan	Microwave Electronics
10.	Sreenadh S.	-	Dr. C. K. Aanandan	Microwave Imaging
11.	Anu Sabarish R.	-	Dr. Tessamma Thomas	Image Processing
12.	Rithu James	-	Dr. Supriya M. H.	Ocean Electronics
13.	Prajas John	-	Dr. P. R. S. Pillai	Embedded Systems
14.	Sherin B. M.	-	Dr. Supriya M. H.	Embedded Systems
15.	Sumitha mathew		Dr. K. Vasudevan	Microwave Antennas
16.	Biju K. V.	-	Dr. P. R. S. Pillai	Acoustic Modem
17.	Tina P. G.	-	Dr. Tessamma	Image Processing
18.	S.M Alex Raj	-	Dr. Supriya M. H.	VLSI Systems
19.	Ashkarali P.	-	Dr. C. K. Aanandan	Microwave Electronics

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistant	3
3.	Office Supdt.	1
4.	Sl.Gr.Typist/Steno	1 (on daily wage)
5.	Peon	2
6.	Sweeper	1 (on daily wages)



7. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Maintenance Engineer	1
2.	Tech.Asst.Grade III	4 (1 Vacant)
3.	Technician	1 (Vacant)
4.	Printer	1
5.	Asst. Librarian	1
6.	Lab. Assistant	3
7.	Storekeeper Gr. I (Electronic Science)	1

8. Student Enrollment (2013 admission)

Sl. No.	Programme of Study	Men	Women	Total
1.	M.Tech. (Electronics)	10	16	26
2.	M.Sc. (Electronic Science)	18	6	24
3.	Ph.D. (Full-Time)	1	3	4
4.	Ph.D. (Part-Time)	1	-	1

9. Research Facilities

a. List of Major Equipments available in the Department (cost exceeding more than 1 lakh)

Sl. No.	Equipment	Cost in Lakhs
1	HP 8510 C Network Analyzer	20.00
2	HP 8514 B S Parameter Test set	20.50
3	HP 8341 B Broad band Microwave sweep oscillator	7.00
4	HP 83651B Dedicated source 45 MHz - 50 GHz	18.5
5	HP 8511B Frequency Converter	1.36
6	HP Spectrum Analyzer	7.98
7	Multifunction generator HP 8904A	1.95
8	Flaw Detector UFD 300	4.98
9	Level recorder , Turn Table, Recording Accessories	3.00
10	Power Amplifier B& K (2 Nos)	3.75(each)



Sl. No.	Equipment	Cost in Lakhs
11	Measuring Amplifier (2 Nos)	1.25(each)
12	Precession Conditioning Amplifier	1.05
13	Charge Amplifier	1.12
14	Transducer B & K 8100, 8103, 8104, 8105 (4 Nos)	2.92
15	HP Dual Power meter (2 Nos)	3.00
16	S- Band Radar (Donated by LRDE, Bangalore)	100.00
17	Robot Arm & Vision System	7.00
18	Lock-in Amplifier	2.00
19	UPS 5 KVA(6 Nos)	9.00
20	HP 8349 B Frequency Converter	1.5
21	HP Microwave Sweep Oscillator	6.5
22	Short Range Sonar	5.07
23	Fully Instrumented Underwater Transducer Evaluation Facility	20.00
24	Fully Instrumented Far Field Antenna Test Facility	20.00
25	Standard Transducer	2.92
26	Echo Sounder ES60	17.29
27	Simulation Software for Microwave Circuits/Antennas	2.00
28	Underwater Video Camera & Accessories	5.03
29	Matlab for DSP Laboratory	3.68
30	48 Channel 100MHz Logic Analyzer	1.05
31	Workstations (2 Nos.)	1.53 (each)
32	Portable Network Analyzer	5.00
33	Microwave Vector Network Analyzer	38.07
34	Dual Frequency Sonar	6.62
35	SMD Rework Station	13.25
36	Logic Analyzer	4.31
37	Digital Storage Oscilloscope	1.07
38	Computer with Xeon Processor 3.73 GHz x 2 (16 Nos.)	42.83



Sl. No.	Equipment	Cost in Lakhs
39	Spectrum Analyzer	3.26
40	Colour CCD Camera COHU	3.82
41	Sony Lap Top	1.16
42	UPS IGA Sattern 5 KVA (8 Nos.)	12.24
43	HP XW 4300 Workstation	1.30
44	20 KVA Diesel Generator	3.14
45	Agilent PNA	45.00
46	Simulation Software for Microwave Circuits/Antennas	13.00
47	VLSI Tools	4.00
48	Workstation/Computers etc.	12.00
49	Generator / UPS etc.	8.00
50	R & S PNA – Network Analyzer	37.00
51	TDS 2022 Two channel 200 MHz 2GS/s Oscilloscope (DSO)	1.00
52	SMD Re-work station Martin DBL-05 + Air Compressor	17.00
53	Plasma Display	4.95
54	Coventor MEMS Software	9.93
55	Video Conferencing System	2.80
56	Anritsu Make Spectrum Analyzer MS 2724 B	12.44
57	20 Element Hydrophone Array	2.86
58	PCB Prototype Machine	7.86
59	External Power Sensor	1.98
60	OR 36-8 Channel FFT Analyser	14.39
61	Workstation 10 Nos.	15.61
62	Probe Station	20.94
63	Keil MDK & RL Software (5)	4.95
64	Altium Designer tool for PCB and embedded system design	3.00
65	Agilent Network Analyser 67 GHz	



Research and Training Laboratories of The Department.

With assistance from different funding agencies, Research and Training Laboratories have been set up in the Department in frontier areas of Electronics.

A. Ocean Electronics Laboratory (CUCENTOL)

A Research and Training Laboratory in Ocean Electronics (CUCENTOL) has been set up in the Department with the financial assistance from the Ministry of Human Resource Development, Govt. of India and the UGC. An amount of Rs.32 lakhs was sanctioned by the Ministry in two installments for this Centre. University Grants Commission has approved the establishment of the Centre during the VIII plan period with essential staff and infrastructure. UGC has sanctioned a sum of Rs.60.00 lakhs under the DRS programme in 1993. Developments of new Underwater Transducers and Arrays for Sonar Applications are the major activities of the centre.

Studies on marine animal behaviour are gaining increased attention nowadays. The marine biologists have been labouring hard to develop systems to understand the behaviour and physiology of marine animals in their normal environment. The requirement of monitoring the detailed geographical position of fish in the open sea is highly complex. Migratory patterns of certain commercially important species are widely used for the purpose of stock assessments. The real time monitoring of the migratory routes is not feasible in the case of marine animals, which spend majority of the time at higher depths, as high frequency signals are heavily attenuated in underwater. Certain animals like whales, sharks, etc. spend a considerable time in the sea surface, while the species like tuna do not come to the sea surface at all. The satellite based active tracking can be resorted to only for certain species and active tracking is much expensive compared to passive tracking. Hence the migratory pattern of highly migratory species like the tuna in the open sea, can only be performed by attaching archival tags to the species under study. These tags can be used to measure the oceanographic parameters, such as pressure, temperature, light level data, etc.

A prototype archival electronic tag for monitoring the ocean parameters like temperature, pressure and light intensity has been developed. A digital temperature sensor is used to sample the temperature from the tag's surroundings, while a micro machined piezoresistive silicon digital pressure sensor, which is capable of measuring absolute pressure levels upto 14 bars, provides the depth information. The depth measurements can be made more accurate, if the resolution of the pressure sensor is significantly high. An absolute pressure measurement with a resolution of 1.2 mbar (approx. 1.2 cm in depth measurements) has been achieved with this tag. One of the important parameters to be measured is the geolocation of the species, which is computed from the ambient light intensities recorded by the digital light sensor in the tag. These parameters can be sampled and recorded in the memory at preset time intervals, as set at the time of deployment of the tag. This minaturised tag provides the temperature data with 13 bit resolution, while



the pressure and light intensity values have 15 bit resolutions. When used in fisheries studies, the size of the device has to be miniaturised, so that by way of attaching such devices, the normal behaviour of the species remain unaffected.

Simulation of Rotating Hydrophone arrays and Localisation of the Underwater Targets Using Buoy Systems and Estimation of DOA Using the Buoy System are also undertaken in this laboratory. Works in the area of Underwater Target Classifier Capable of Reducing Self-Convolution Distortion, Towards Improving the Space Reconstruction of Underwater Signals, Collection and Analysis of Ocean Noise Data Using NI cDAQ 9215 and NI LabVIEW as well as OROS OR-36 Based Platform for Recording and Analysing the Ocean Noise Data is also undertaken in the lab.

B. Microwave Electronics and Antenna Laboratory

A well established research and training Laboratory in Microwave Electronics and Antennas has been set up in this Department with financial assistance from MHRD, UGC, DST (Govt. of India) and DoE (Govt. of India). The Laboratory is equipped with most modern and sophisticated equipment like HP 8510 B Network Analyzer, Agilent Network Analyser 67 GHz, Cascade Probe Station, Microwave Power Meter and different antenna and RCS standards. The laboratory is having a Microwave Anechoic Chamber for simulating free space environment for antenna and RCS measurements. The Chamber has instrumentation set-up attached to it with provision for fully automatic measurement based on HP 8510 B Network Analyzer and Scientific Atlanta Positioner. The Department has developed an indigenous software which is used for quick and precise antenna measurements and analysis. The major areas of research now being pursued are microstrip antennas and transmission lines, integrated circuits and antennas, reduction of radar cross section, microwave non-destructive testing, leaky wave antennas, microwave horn antenna, material studies in microwave region etc. These facilities are being used/operated by many establishments like SAMEER (Bombay & Madras), SAC Ahamadabad, NPOL, Cochin, Delhi University, CSIR Regional Research Laboratory (Trivandrum), Jadavpur University, Gulbarga University and others.

Major works undertaken are:

- Electrically Small Antennas
- Substrate Integrated Waveguide
- Miniature Antenna for Medical Applications:
- RFID Tags
- Ultra Wide Band Antennas
- Low Radiation Hazard Antennas for Mobile Applications
- MIMO Antennas
- Microwave properties of nano composite
- Radar Cross section studies



C. Embedded System Laboratory (ESL)

The Department has set up an Embedded Systems Laboratory, comprising of Martin Auto vision Expert 9.5 SMD Re-workstation, Tektronics 34 Channel Logic Analyzer, Tektronics Digital Storage Oscilloscope, etc.. The nature of activities currently being pursued in the Department making use of these facilities include the design and development of Embedded Systems for the realization of steering/control system for hydrophone arrays, embedded signal processor modules, embedded CDMA transceiver modules, miniaturized archival tags for tagging tuna, development of miniaturized embedded global positioning devices, etc..

(i) Training and Research facilities in VLSI Design

In view of the importance and significance in promoting Training and Research activities in VLSI Design, the Department is planning to establish a VLSI Laboratory for exposing the PG students and Research Scholars to this most emerging area of Electronics, and cater the requirements of National Laboratories and industries.

(ii) VLSI/Embedded Systems Laboratory

This Laboratory was set-up with the assistance from the Ministry of Human Resource Development, Government of India. A total grant to the tune of Rs.50.00 lakhs has been sanctioned for setting-up this Laboratory.

E. Audio and Image Research Lab (AIRL)

In this laboratory major works are done in the following areas:

1. Biomedical Image Processing

- Analysis and Content Based Image Retrieval of Scoliosis images
- Mammogram analysis using fractals for the detection of breast cancer
- Genomic Signal Processing
- DNA Image processing
- Microarray Image Processing
- Finger Print Recognition and Identification

D. Advanced Signal Processing & Instrumentation Research Lab (ASPIRE)

In this laboratory major works are done in the following areas:

- Implementation of an underwater target classifier with improved success rates using HMM concepts.
- Kinematic Predictive Tracking of Underwater Targets using Extended Kalman Filter
- Selective Listening of Underwater Acoustic Targets using MVDR Beamforming



- Acoustic Classification of Marine Species using Self-Organizing Maps
- Design of SVM Based Underwater Target Classifier
- Asymmetric cryptography based GSM audio authentication system
- General Processing using Graphical Processing Unit for Hidden Markov Models
- PDA Filters for multiple target tracking
- Acoustic Synthesis of Underwater targets
- VLSI systems for computer vision

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 5937 Foreign Journals : 45 Indian Journals : 5	Nil

c. Others

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Avinash Chander	Secretary Department of Defence R&D, DG R&D and SA to RM	Inaugural Address, SYMPOL 2013
2.	Dr. V. Bhujanga Rao	DS & CC, R& D, DRDO	Keynote address, SYMPOL-2013
3.	Dr. M. A. Atmanand	Director, NIOT	Invited Guest, SYMPOL-2013
4.	Dr. Tessy Thomas	Project Director for Agni-IV missile in DRDO	Invited Guest, SYMPOL-2013
5.	Dr. Albert J. Williams	Woods Hole Institute, US	TCC, SYMPOL 2013
6.	Prof. Tamaki Ura	University of Tokyo, Japan	Invited talk , SYMPOL 2013
7.	Dr. Harumi Sugimatsu	University of Tokyo, Japan	Invited talk , SYMPOL 2013
8.	Dr. James S. Collins	University of Victoria, US	TCC, SYMPOL 2013



Sl. No.	Name	Affiliation	Remarks
9.	Dr. Katsuyoshi Kawaguchi	University of Tokyo, Japan	Invited talk , SYMPOL 2013
10.	Dr. Arun Kumar K. S.	IIT, Delhi	Invited talk , SYMPOL 2013
11.	Jean-Pierre Hermand	Germany	
12.	Prof. Gopu R. Potty	University of Rhode Island,US	
13.	Dr. Isabella Williams	USA	
14.	Yo-ichi Oda	Japan	

11. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Development of Techniques for the Automatic Extraction and Grade Detection of Glioma tumors from Conventional Brain Magnetic Resonant Images	Anandaresmi S.	Dr. Tessamma Thomas
2.	Development and Microwave characterization of selected biocompatible materials and conducting polymers	Ullas G. Kallapura	Dr. K. T. Mathew
3	Underwater Target Localisation Tacking and Classification	Prabha C.	Dr. P. R. S. Pillai
4	4D Graphical Visualisation based on Rotation invariant moments and Video Object Fusion for Computer Assisted Spine Surgery	Nobert Thomas Pallath	Dr. Tessamma Thomas
5	Design and Development of Coplanar Strip Fed Planar Antennas	Sreejith M. Nair	Dr. P. Mohanan
6	Development of a Biometric Personal Authentication System based on Fingerprint and Speech, February 2013	Praveen N.	Dr. Tessamma Thomas
7	Development of Directionally Adaptive Techniques for Single Image Super Resolution, February 2013	Reji A. P.	Dr. Tessamma Thomas
8	Development of a Fully Automated Image Analysis Method for a High Density CDNA & Array CGH Microarray based Genomic Studies, March 2013.	Deepa J.	Dr. Tessamma Thomas



12. Publications

a. Publications in International/National Journals/Symposia

1.	Sumi M., Dinesh R., Nijas C., Mridula S., & Mohanan P. (2014). Frequency Coded Chipless RFID Tag using Spurline Resonators. <i>Radioengineering</i> , 23(1).
2.	Pushpakaran S. V., Raj R. K., PV, V., Mohanan P., & Vasudevan K. (2014). A Metaresonator Inspired Dual Band Antenna for Wireless Applications.
3.	Dinesh R., Vinod V. K. T., Anila P. V., Jithin P., Deepa, C. M. & Mohanan P. (2014). A compact zeroth order directional antenna. <i>Microwave and Optical Technology Letters</i> , 56(4), 929-932.
4.	Anila P. V., Indhu K. K., Nijas C. M., Sujith R., Mridula S., & Mohanan P. (2014). A planar compact metamaterial inspired broadband antenna. <i>Microwave and Optical Technology Letters</i> , 56(3), 610-613.
5.	Deepak U., Roshna T. K., Nijas C. M., Mohanan P., "Compact CPW fed electrically small antenna for WLAN application," <i>Electronics Letters</i> , vol.50, no.2, pp.62,64, January 16 2014
6.	Bindu C. J., Mridula S., & Mohanan P. (2014). High Selectivity Filter Employing Stepped Impedance Resonators, Series Capacitors and Defected Ground Structures for Ultra Wide Band Applications. <i>Progress In Electromagnetics Research C</i> , 49, 123-131.
7.	Deepak U., Roshna T. K., Nijas C. M., & Mohanan P. (2014). Compact CPW fed electrically small antenna for WLAN application. <i>Electronics Letters</i> , 50(2), 62-64.
8.	Nijas C. M., Suseela S., Deepak U., Wahid P., & Mohanan P. (2013, December). Low cost chipless tag with multi-bit encoding technique. In <i>Microwave and RF Conference, 2013 IEEE MTT-S International</i> (pp. 1-4). IEEE.
9.	Joseph S., Paul B., Mridula S. & Mohanan P. (2013). A Novel Planar Fractal Antenna with CPW-Feed for Multiband Applications. <i>RADIOENGINEERING</i> , 22(4), 1262-1266.
10.	Joseph S., Binu Paul, Mridula S., & Mohanan P. (2013). A Novel Planar Fractal Antenna with CPW-Feed for Multiband Applications. <i>RADIOENGINEERING</i> , 22(4), 1263.
11.	Dinesh R., Vinod V. K. T., Deepak U., Vinesh P. V., & Mohanan P. (2013). CPW fed Zeroth order Resonator Antenna Using Shorted CRLH Transmission Line. <i>Microwave and Optical Technology Letters</i> , 55(12), 2844-2847.
12.	Dinesh R., Vinod V. K. T., Sarin V. P., Shameena V. A., & Mohanan P. (2013). Asymmetrical grounded CPW fed antenna for WLAN applications. <i>Microwave and Optical Technology Letters</i> , 55(11), 2739-2741.



13.	Suseela S.; Wahid P.; Mohanan P., "A catheter antenna for cardiac ablation," Antennas and Propagation Society International Symposium (APSURSI), 2013 IEEE, vol., no., pp.2046,2047, 7-13 July 2013
14.	Deepak, U.; Roshna, T.K.; Nijas, C.M.; Dinesh, R.; Mohanan, P., "Compact CPW fed ZOR antenna for WLAN application," Antennas and Propagation Society International Symposium (APSURSI), 2013 IEEE, vol., no., pp.984,985, 7-13 July 2013
15.	Nijas, C.M.; Vinesh, P.V.; Sajitha, V.R.; Anila, P.V.; Mohanan, P., "Optimisation of quarter wave microstrip open stub resonators for chipless RFID applications," Antennas and Propagation Society International Symposium (APSURSI), 2013 IEEE, vol., no., pp.1506,1507, 7-13 July 2013
16.	S. Vinayasree, MA Soloman, Vijutha Sunny, P. Mohanan, Philip Kurian, MR Anantharaman, A microwave absorber based on strontium ferrite-carbon black-nitrile rubber for S and X-band applications, Composites Science and Technology, Volume 82, 18 June 2013, Pages 69-75
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24.	Pushpakaran, S. V., SeidMuhammed, N. M., Raj, R. K., Pradeep, A., Mohanan, P., & Vasudevan, K. (2013). A Compact Stacked Dipole Antenna With Directional Radiation Coverage for Wireless Communications. Antennas and Wireless Propagation Letters, IEEE, 12, 841-844.



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27.	Suraj Kamal, Shameer K. Mohammed, Deep Learning Architectures for Underwater Target Recognition. <i>International Symposium on Ocean Electronics, SYMPOL 2013, Kochi, October 23-25,2013</i> , PP 48-54.
28.	Sabna N., Supriya M. H. and P. R. Saseendran Pillai, Computationally Efficient Sparse Reconstruction of Underwater Signals, <i>International Symposium on Ocean Electronics, SYMPOL 2013, Kochi, October 23-25,2013</i> , PP 88-95.
29.	Binesh T., Supriya M. H. and P. R. Saseendran Pillai, Underwater Target Classifier Using Modified Kaiser-Bessel Window, <i>International Symposium on Ocean Electronics, SYMPOL 2013, Kochi, October 23-25,2013</i> , PP 82-87.
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32.	Sherin B. M., Supriya M. H. & P. R. Saseendran Pillai <i>Underwater Acoustic Target Classification System using SVM</i> , <i>International Journal of Electronics and Communication Engineering (IJECE)</i> ,Vol. 2, Issue 5, Nov 2013, 73-80
33.	Rithu James & Supriya M. H., <i>Speckle Reduction Based on Optimum Mutiresolution Level</i> , <i>International Journal of Electronics and Communication Engineering (IJECE)</i> , Vol. 3, Issue 1, Jan 2014, 1-8
34.	Manju Paul, P. R. Saseendran Pillai and Supriya M. H., <i>Kinematic Predictive Tracking of Underwater Targets using Extended Kalman Filter</i> , 1 st International Conference and Exhibition on UNDERWATER ACOUSTICS, 23- 28 June 2013
35.	Deepa M. S., P. R. Saseendran Pillai and Supriya M. H., <i>Selective Listening of Underwater Acoustic Targets using MVDR Beamforming</i> , 1 st International Conference and Exhibition on UNDERWATER ACOUSTICS, 23- 28 June 2013
36.	Vandana S., P. R. Saseendran Pillai and Supriya M. H., <i>Acoustic Classification of Marine Species using Self-Organizing Maps</i> , 1 st International Conference and Exhibition on UNDERWATER ACOUSTICS, 23- 28 June 2013
37.	Praveen N., Tessamma Thomas, Text-dependent Speaker recognition by MFCC and Back propagation Neural Network, <i>Int. J. of Computer Application</i> , Vol.74, No. 5, July 2013, pp.31-39



38.	Resmi A., Thomas T., Thomas B., A Novel Automatic Method for Extraction of Glioma Tumor, White matter and Grey matter from Brain Magnetic Resonant Images, Biomedical imaging intervention Journal, Vol 9, issue 2, 2013
39.	Deepa J. and Tessamma Thomas, A New Gridding Technique for High Density Microarray Images Using Intensity Projection Profile of Best Sub Image, IISTE Journal of Computer Engineering and Intelligent Systems Vol.4, No 1, 2013, pp.7-18.
40.	Sethunadh R. and Tessamma Thomas, SAR Image despeckling in directionlet domain based on edge detection, ELECTRONICS LETTERS, vol.49, No 6, 14TH March 2013.
41.	Sethunadh R. and Tessamma Thomas, SAR Image despeckling using adaptive multiscale products thresholding in directionlet domain, ELECTRONICS LETTERS, 29TH August 2013, vol.49, No 18
42.	V. K. Menon, Dinesh Kumar V. P. and Tessamma Thomas, Experiments with a Novel content Based Image Retrieval Software: Can We Eliminate Classification Systems in Adolescent Idiopathic Scoliosis, Global Spine Journal, Vol 3, No:3, Nov 2013, pp:13-20.
43.	Sethunadh R. and Tessamma Thomas, Spatially adaptive image denoising using undecimated Directionlet transform, Int. J. of Computer Application, vol.84, No.11, Dec 2013, pp.43-49.
44.	Sethunadh R., TessammaThomas, Spatially Adaptive Despeckling Of SAR Image using bi-variate thresholding in directionlet domain, ELECTRONICS LETTERS, Vol.50, No.1, 4 Jan 2014, pp:43-49.
45.	Ananda Resmi S. and Tessamma Thomas, Automatic Detection and Classification of Glioma Tumors using Statistical Features, Int. J. of Emerging Technologies in Computational and Applied Sciences (IJETCAS), Vol.7, No.1, Dec 2013 - Feb 2014, pp.08-14
46.	Anu Sabarish R. and Tessamma Thomas, Molecular Phylogeny Analysis Using Correlation Distance And Spectral Distance, International Journal of Data Mining and Bioinformatics, Inderscience Pub, 2014.
47.	Indian Patent has been applied for the work, " <i>A Method and System of Spine Surgery</i> ", and Docket No. 13512 dtd.15.06.2013 is obtained from the Patent office

b. Books

Sl. No.	Name of Book
1.	Proceedings of APSYM 2013



13. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Nijas C. M.	IEEE International Symposium on Antennas and Propagation, Orlando, Florida, USA, July 2013.	Delegate
Mohanan P.	IEEE International Symposium on Antennas and Propagation, Orlando, Florida, USA, July 2013.	Delegate

14. Sponsored Research Projects

Sl. No.	Co-ordinator/ Principal Investigator/ Co-Investigator	Title of the Project	Funding Agency	Total Amount (Rs. in lakhs)
1.	Dr. K. Vasudevan Dr. P. Mohanan	DSA Special Assistance Programme	UGC	75.00
2.	Dr. Supriya M. H.	HMM Based target Classifier with improved success rates	NRB -Delhi	43.55
3.	Dr. P. R. S.Pillai Dr. Supriya M. H.	Sonic characterization of Marine Species	MoES, Delhi	264.33

15. Research Programmes and Activities

Sl. No.	Problem / Topic	Investigator(s)
1.	(i) Electrically Small Antennas (ii) Substrate Integrated Waveguide (iii) Miniature Antenna for Medical Applications: (iv) RFID Tags (v) Ultra Wide Band Antennas (vi) Low Radiation Hazard Antennas for Mobile Applications (vii) MIMO Antennas (viii) Microwave properties of nano composite	Dr. P. Mohanan Dr. C. K. Aanandan
2.	(i) Simulation of Rotating Hydrophone arrays and Localisation of the Underwater Targets Using Buoy Systems (ii) Estimation of DOA Using the Buoy System (iii) Classification using Bispectral Features and Neural Networks (iv) Hidden Markov Model Based Underwater Target Classifier	Dr. P. R. S. Pillai Dr. M. H. Supriya



	(v) Streaming audio in on-line biometric security system- Audio and Image Processing	
3.	1. Biomedical Image Processing (a) Analysis and Content Based Image Retrieval of Scoliosis images (b) Mammogram analysis using fractals for the detection of breast cancer 2. Genomic Signal Processing (a) DNA Image processing (b) Microarray Image Processing 3. (a) Finger Print Recognition and Identification (b) Super resolution 4. Glioma detection from brain NRI Analysis 5. Phylogenetic classification using functional properties of proteins	Dr. Tessamma Thomas
4.	(i) Kinematic Predictive Tracking of Underwater Targets using Extended Kalman Filter (ii) Selective Listening of Underwater Acoustic Targets using MVDR Beamforming (iii) Acoustic Classification of Marine Species using Self-Organizing Maps (iv) Design of SVM Based Underwater Target Classifier (v) Asymmetric cryptography based GSM audio authentication system (vi) General Processing using Graphical Processing Unit for Hidden Markov Models (vii) PDA Filters for multiple target tracking	Dr. M. H. Supriya
5.	(a) Metamaterial Antennas (b) PIFA antennas (c) Microstrip Broad Band Patch Antennas (d) Circularly Polarised antennas with tuning capability	Dr. K. Vasudevan

16. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Chairman/Coordinator	Funding Agency
1.	SYMPOL 2013	3 days (23-25 Oct-2013)	Dr. P. R. S. Pillai Dr. Supriya M. H.	DST, CSIR, UGC, KSCSTE, Etc.





DEPARTMENT OF ENGLISH AND FOREIGN LANGUAGES

1. Brief History of the Department:

The Department was established in 1976 under the name of Foreign Languages. In the year 2003 it was renamed as the Department of Culture and Heritage. In order to give more importance to English and Foreign languages pedagogy, the Department was rechristened in 2012 as the Department of English and Foreign Languages. Besides its earlier concerns with teaching linguistic and literary aspects of languages like English, French, German, Japanese and Russian, the Department now gives thrust to communicative aspects of languages and culture. During 2006- 07, the study of Italian language and culture was introduced with funding from the Italian Government.

One of the extension activities of the Department consists of conducting short – term Courses in language and culture for institutions and the public on demand. Yet another is consultancy in terms of interpretation and translation. With the emergence of English as a global lingua franca, the teaching of English will be given added importance. To facilitate communication skills in English and other languages a multimedia laboratory has been set up. Short- term Courses of 3 months duration in communicative English and vacation programs in Foreign Languages are conducted.

The Department conducted UGC Sponsored National Workshop on “English as a Medium of Global Communication” on 5th & 6th March 2014.

2. Programmes of Study/Research

1. Certificate Courses in French, German, Italian, Japanese and Russian.
2. Diploma Courses in French, German, Italian, Japanese and Russian.
3. Integrated Diploma Courses in French, German, Italian, Japanese and Russian.
4. P.G Diploma Courses in Communicative English.
5. Ph. D. Programme.
6. Short- term Courses on the above foreign Languages and Communicative English.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Smt. Brinda Bala Sreenivasan	Asst. Professor in English & Head	M.A. English, (Qualified SLET- Accredited by UGC)	English Language and Literature.

**4. Visiting Faculty**

Sl. No.	Name	Designation	Qualification	Specialization
1	Mr. Salvatore Giuseppe Sorisi	Asst. Professor in Italian (on contract)	Master Degree in Foreign Languages and Literature, Ph.D	Italian Language and Literature.
2	Prof. K. C. George	Guest Faculty	M.A.	French Language and Literature.
3	A Achyuta Menon	Guest Faculty	M.A.	German Language and Literature
4	Dr. Mathew Joseph	Guest Faculty	M.A., Ph.D	English Language and Literature
5	Paul Valsan	Guest Faculty	Diploma in Mech. Engg Japanese Language Level 3 & 4	Japanese Language and Literature
6	Jubimol K. G.	Guest Faculty	M.A, M. Phil	English Language and Literature
7	Sabitha K. Babu	Guest Faculty	M.A.	French Language and Literature

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Sri. Jose Augustine	-	Dr. Mariamma Vincent Panikulangara	Polemics and Culture Patterns in the Fiction related films and other works of M.T. vasudevan Nair- A Brief Study.
2	Smt. Ansy Sebastian	-	Dr. Mariamma Vincent Panikulangara	The aesthetics of Paul Verlaine and Changampuzha Krishna Pillai – A Comparative Perspective.

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Selection Grade Assistant	1
2	Typist (HG)	1
3	Library Assistant	1
4	Peon (HG)	1



7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Certificate Course in French	33	7	40
2	Certificate Course in German	31	8	39
3	Certificate Course in Italian	2	18	20
4	Integrated Diploma in Japanese	15	4	19
5	P.G. Diploma in Communicative English	6	3	9
6	Ph.D. Programme	1	1	2

8. Research Facilities

a. Laboratories

A multimedia Language Laboratory has been set up with 25 positions.

b. Major equipments

Digital Light Projector (DLP) in the class room that facilities digital and e-learning

c. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
7181	37

d. Others : Journals : National Geography (16 Nos)

9. Publications

a. Papers

Sl.No.	Name of Paper	Impact Factor, if any
1.	Cosmopolis and the Contemporary world of Global Capitalism	
2.	Ayyankali : The Voice of the Downtrodden	

b. Books

Sl. No.	Name of Book
1	Creativity in the Era of Globalization

**10. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Student**

Name of Participant	Name of Seminar/Conference/Workshop	Role
Smt. Brinda Bala Sreenivasan	UGC Sponsored National Workshop English as a Medium of Global Communication	Workshop Coordinator
Smt. Brinda Bala Sreenivasan	UGC Sponsored National Residency Workshop Oncapacity Building for Women Managers in Higher Education : Sensitivity – Awareness- Motivation	Participant
Smt. Brinda Bala Sreenivasan	National Seminar on Women Empowerment, Media and Human Rights.	Participant

11. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1	Polemics and Culture Patterns in the Fiction related films and other works of M.T. vasudevan Nair- A Brief Study	Dr. Mariamma Vincent Panikulangara
2	The aesthetics of Paul Verlaine and Changampuzha Krishna Pillai – A Comparative Perspective	Dr. Mariamma Vincent Panikulangara

12. Seminar/Conference/Workshop/Refresher Courses conducted by the Department :

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	English as a Medium of Global Communication	2 days (5-6 March 2014)	Smt. Brinda Bala Sreenivasan	UGC

13. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Translation and Interpretation of official documents and manuals	Mr. Salvatore Giuseppe Sorisi	Institution and individuals





DEPARTMENT OF HINDI

1. Brief History of the Department

The Department of Hindi, established in 1963, is one of the oldest departments of the University. It was a part of the Kerala University and joined the folds of University of Cochin when it was established in the year 1971. From the period of inception, it has blossomed into one of the prestigious institutions among Indian University Departments engaged in teaching and research of Hindi Language and Literature.

The Department is actively engaged in research in different areas like Ancient and Modern Poetry, Fiction, Drama and Theatre studies, Criticism, Grammar, Linguistics, Comparative Studies of Languages and Literature, Folk Literature, Translation, Computer Aided Language Teaching etc.

The Department is one of the leading centers of research in Hindi and the faculties have guided about 177 Ph.Ds. The creative capabilities of four of the teaching faculty received the recognition through the award of Fellowships/Prizes. About Sixty Seven research papers, Twenty Six books and learned articles have been published by the faculty during the past four years.

The Department Library has about 46,762 books and is currently subscribing 67 journals. The PG students and Research Scholars from various parts of Kerala use the Library as a reference centre. It has been assessed as one of the best libraries in the country. The Department has a well-equipped computer lab and conducts short term Computer Courses.

The department is a UGC SAP identified one. It has completed this stages of DRS (Department Research Support). Now the next stage DSA phase-1 is going on. This is the only Hindi Department in South India which got DRS and DSA for the study and research in Hindi Language and Literature.

The Department organizes national seminars every year and also conducts UGC sponsored programmes.

2. Programmes of Study/Research

1. M.A. Hindi Language and Literature
2. M.Phil
3. P.G. Diploma in Translational and Functional Hindi
4. Ph.D

**3. Faculty Members**

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. R. Sasidharan	Professor	M.A., M.Phil., Ph.D Diploma in Translation	Hindi Drama and Theatre Comparative Literature, Translation Studies
2.	Dr. N. G. Devaki	Professor	M.A., Ph.D	Medieval and Modern Poetry, Computer aided Language Learning, Poetics, Functional Hindi, Linguistics, Scientific Translation.
3	Dr. K. Vanaja	Professor & Head	M.A, Ph.D, D. Lit	Criticism Comparative Literature, Modern Literature and Translation studies
4	Dr. K Ajitha	Associate Professor	M.A, M.Phil, Ph.D	Modern Drama and Theatre Comparative Study

4. Emeritus Professor/Scientist (if any) : Dr. Mohanan, Emeritus Professor.**5. Research Scholars**

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Teena Tomy		Dr. M. Shanmughan	Samakaleen Kahani Mein Sampradayikata Ke Bahu Aayami Sandarbh
2	Sreeja A. S.		Dr. R. Sasidharan	Swtantryottar Hindi Natokom Mein Pryogdharmita Ke Vividh Aayam.
3	Pradeep C. P.		Dr. P. A. Shemim Aliyar	Adhunik Hindi Upanyasom mein Aupaniveshik Shakthiyom ka Pratirodh
4	Sunitha T. N.		Dr. R. Sasidharan	Narendra Mohan Ka Rachana Sansar
5	Sujithakumari G. S.		Dr. P. A. Shemim Aliyar	Adhuni Hindi Natak Aur Upanyas Mein Abhiyakt Kalakar Ki Srijanatmakta Ek Anusheelan
6	Shalbi Mohanan		Dr. R. Sasidharan	Daya Prakash Sinha ke Natakom Mein Prayodharmita Ke Vividh Aayam
7	Nimisha I. V.		Dr. N. Mohanan	Sattothar Hindi Natokom Mein Lok Natya Ka Prabhav



8	Vineetha N. A.		Dr. K. Ajitha	Nabbe ke dashak ki Kavayathriyom Ki Kavitaavom mein Stri Vimarsh
9	V. Manju Bhashini		Dr. R. Sasidharan	Samakaleen Hindi Upanyas Mein Upabhog Sanskriti Ke Vibhinn Aayam
10	Deepthi A. S.		Dr. K. Ajitha	Samakaleen kahani Mein Kisani Samvedana
11	Anjali Krishnan		Dr. N. Mohanan	Kashinath Singh Ka Rachana Sansar
12	Blessy V.		Dr. K. Vanaja	Samakaleen Hindi Kahaniyom Mein Vrুদ্ধ Jeevan ka Yatharth
13	Sandhya S.		Dr. R. Sasidharan	Mrinal Pandey Ka Rachana Sansar
14	Aneesh Shankar P. S.		Dr. N. Mohanan	Hindi Ke Musalman Upanyasakarom Ke Upanyasom mein Bharateeyata ki avadharana
15	Teresa Tincy T. G.		Dr. K. Vanaja	Hindi Ki Stree Atmakatha; Ek Anusheelan
16	Saranya T. S.		Dr. M. Shanmughan	Samakaleen Mahila Kahanikarom Ki Kahaniyom Mein Badalti Naitik Chethana
17	Girish Kumar K. K.		Dr. N. Mohanan	Samakaleen Hindi Kavita Mein Nava Upanivesh Ka Pratirodh
18	Remya Joseph K. J.		Dr. N. G. Devaki	Jainedrakumar, Ilachandra Joshi Aur Anjey Ki Manovygyanik Kahaniyom Ka Punarmoolyankan
19	K. Lekha		Dr. K. Ajitha	Stree Vimarsh Ke Sandharbh Mein Stree Natya Lekhan
20	Safeena S. A.		Dr. K. Ajitha	Anamika Alka Saraogi Aur Mahua Majhi Ka Katha Sahitya: Ek Vishleshnatmak Adhyayan"
21	Manish K. Gopinath		Dr. K. Ajitha	Hindi Ki Dalit Atmakathaom Ka Vishleshnatmak Adhyayan
22	LakshmiPriya C.		Dr. R Sasidharan	Samakaleen Hindi Natak: Ek Vishleshnatmak Adhyayan



23	Vidya P. V.		Dr. R Sasidharan	Hindi Balnatak:Ek Adhyayan
24	Susmitha Ghai		Dr. N. Mohanan	Samakaleen Hindi Upanyas Mein Gandhi Chintan
25	Silpa P. B.		Dr. K. Vanaja	Samakaleen Hindi Upanyas Mein Adivasi Jeevan Ka Yatharth
26	Seena Kurian		Dr. K. Vanaja	Samakaleen Hindi Kavita Mein Lok Tatv
27	Sreejina P. P.		Dr. N. Mohanan	Samakalin Hindi Upanyas Mein Laghu Sanskrutiyom Ka Vishleshanatmak Adhyayan
28	Soumya M. B.		Dr. K. Ajitha	Samakaleen Hindi Mahila Kahanikaron Ki Kahaniyon Mein Manavadhikar
29	Sumi C. S.		Dr. N. G. Devaki	Samakaleen Hindi Kahaniyom Ka Pravruttagath Anusheelam
30	Arya Viswanath		Dr. N. G. Devaki	Samakaleen Hindi Malayalam Mahila Kahanikarom Ki Kahaniyom Ka Tulnatmak Adhyayan
31	Krishnapriya T. P.		Dr. N. G. Devaki	Amarkant Ki Kahaniyom Ka Vishleshnatmak Anusheelan
32	Sangeetha Nair		Dr. N. G. Devaki	Adhunik Hindi Kavayitriyon Ki Kavitaon Ka Vishleshnatmak Adhyayan
33	Aparna Venu		Dr. K. Ajitha	Bharatiya Mahila Rang Manch: Ek Adhyayan Hindi Aur Malayalam Ke Vishesh Sandarbh Mein
34	Salma Das P.		Dr. N. G. Devaki	Rajesh Joshi Aur Pawan Karan Ki Kavitaon Mein Abhivyakt Samajik Yatharth Ka Anusheelan
35	Sajana Beegum K. H.		Dr. K. Ajitha	Samakaleen Hindi-Malayalam Mahila Kahaneekarom Ki Kahaniyom Mein Prathirodi Chethana (1990 SE 2010 Tak Ki Kahaniyom Ke Vesesh Sandharbh Mein)
36	Mary Ria D'Couth		Dr. R. Sasidharan	Samakaleen Hindi Kahaniyom Main Mahanagareeya Jeevan Ka Yadharth



37	Sariga I. V.		Dr. N. Mohanan	Prem Chand Ke Katha Sahitya Ka Sampathi Shasthriya Vivechan
38	Geethu V. Krishnan		Dr. R. Sasidharan	Adhunik Hindi Jeevaneeparak Upanyaas: Ek Adhyayan
39	Kanakalatha O.		Dr. N. Mohanan	Swayamprakash Ka Rachana Sansar
40	Reshmi Raveendran		Dr. K. Ajitha	Hindi Ke Natyaroopantaron Ki Samvedana Aur Sanrachna -Ek Vishleshnatmak Adhyayan
41	G. Sugida		Dr. K. Vanaja	Paristhitik Streevad Ke Sandarbh Mein Samakaleen Hindi Upanyas: Ek Adhyayan
42	Beena Pylee		Dr. K. Vanaja	Upanivesh Aur Navaupaniveshkaleen Stree Kendrit Hindi Upanyasom Ka Tulanatmak Adhyayan
43	Dhanya K. P.		Dr. K. Vanaja	Samakaleen Hindi Kavita Ka Pravrutthigat Adhyayan (Nabbe Ke Baad Ki Kavithavom Ke Vishesh Sandarbh Mein)
44	Neethu George		Dr. M. Shanmughan	Mamata Kaliya Ki Kahaniyom Ka Vishleshanatmak Adhyayan
45	Mahesh S.		Dr. M. Shanmughan	Samakaleen Hindi Kavita Mein Badalte Manaveey Sambandh
46	Arpana Issac		Dr. M. Shanmughan	Sanjeev Ki Kahaniyon Ka Vishleshnatmak Adhyayan
47	Sinju P. V.		Dr. M. Shanmughan	Anchalikata Ke Pariprekshya Mein Markandey Ka Katha Sahitya: Ek Anusheelan
48	Syamkumar S.		Dr. K. Vanaja	Hindi Ki Samakaleen Dalit Evam Adivasi Kavitavom Ka Tulanatmak Adhyayan
49	Pavan Bharti		Dr. K. Vanaja	Hindi Ke Navajagarankaleen Nibandh Sahitya Mein Rashtriya Asmita: Ek Anusheelan



50	Thanooja Thaha		Dr. K. Vanaja	Samakaleenata Ke Pariprekshya Mein Udayaprakash Ka Rachana Sansar
51	Hema Narayanan		Dr. K. Vanaja	Hindi Ke Samakaleen Mahila Lekhan Ka Soundarya Shastra: Katha Sahitya Ke Vishesh Sandarbh Mein
52	Vishnu Thankappan		Dr. K. Ajitha	Samakaleen Hindi Kahani Mein Loktantra Vimarsh
53	Reshma V. C.		Dr. N. G. Devaki	Samakaleen Hindi Kavita Mein Jeevan Moolya
54	Helen Mary A. J.		Dr. N. G. Devaki	Mahabharat Par Adharith Narendra Kohli Ke Upanyasom Ka Anusheelan
55	Mary Jeena K. G.		Dr. N. Mohanan	Hindi Aur Malayalam Navajagarankaleen Upanyasom Ka Tulanatmak Adhyayan

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Junior Librarian	1
3	Assistant	2
4	Typist	2
5	Lab/Library Assistant	1
6	Peon	1
7	Sweeper-cum-Cleaner	1

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.A	4	23	27
2	M.Phil	0	10	10
3	Ph. D	4	8	12
4	PGDT	1	22	23



8. Research Facilities

a. Laboratories : Computer Lab

b. Major Equipments :

c. Library :

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 46,762 Journals : 67	

d. Others

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Arun Kamal (Laureate)	Patna University, Patna	Presented a Lecture and released a book on Eco Feminism written by Dr. K. Vanaja
2	Dr. Neeraja Madhav (Writer)	All India Radio, Varanasi	Made a speech on Women Rights and Human Rights
3	Dr. Rajendra Upadhyay (Writer)	Dy. Director, All India Radio, Delhi	Made speech on Premchand Literature
4	Kamala Menon (Writer)	Member, Lok Adalat, Ernakulam	Inaugurated Hindi Day celebration
5	Chemmanam Chacko	(Writer) Malayalam	Made a speech on Sreshtha Bhasha, Malayalam
6	Dr. Garima Shrivastava	Central University, Hyderabad	Made a speech on Feminist Discourse in Hindi Literature
7	Dr. Vinod Tiwari	Delhi University	Made a speech on Various trends in Contemporary Hindi Criticism
8	Usha Gasnguly	Director and Theatrist	Inaugurated National Seminar on Samakaleen Sahitya Ka Lokpaksh
9	Dr. Pradeepan Pampirikunnu	Social Activist and Professor, SSUS, Kalady	Inaugurated Keralapiravi Day Celebration
10	Dr. Chandrasekhara Reddy	SV University, Tirupati	Made a presentation in the National Seminar on Samakaleen Sahitya Ka Lokpaksh



Sl. No.	Name	Affiliation	Remarks
11	Dr. Bajrang Bihari Tiwari	Delhi University	Made key note address in the National Seminar on Samakaleen Sahitya Ka Lokpaksh
12	Alok Gupta	Central University, Gujarat	Made a lecture on the Trends on Contemporary Hindi Literature

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Nav Aupaniveshik Sandarb Mein Samakaleen Kahani : Ek Vishleshan	Teena Thomas	Dr. M. Shanmughan
2	Samakaleen Hindi Upanyasom mein Paristhitik Sajagata Ka Adhyayan	Indu P. S.	Dr. M. Shanmughan
3	Jayashankar Prasad aur Mohan Rakesh ke Natakam ka Shastriya anuseelan	Mayalakshmi R.	Dr. N. G. Devaki
4	Sanjeev ka Upanyas Ek Vishleshnatmak Adhyayan	Viji V.	Dr. N. Mohanan
5	Hindi Upanyasom ka Vishleshnatmak Vibhagan per Kendrit Adhyayan	Sheena M. A.	Dr. N. Mohanan
6	Hindi ki Samakaleen Nareevadi Alochana: Ek Adhyayan	Veena J.	Dr. K. Vanaja
7	Adhunik Hindi natya sameeksha- Ek vishleshnatmak Adhyayan	Rajagopal G. Pai	Dr. R. Sasidharan
8	Shailesh matiyani ka upanyas -Ek Anusheelan	Laija P. J.	Dr. K. Vanaja

11. Publications**a. Papers**

Sl. No.	Name of Paper
Dr. R. Sasidharan	
1.	Ramvilas Sharma Ka Kavya – Anuseelan (2013)
2.	Bhavani Prasad Mishra Ke Kavya Mein Vyangya – Anuseelan 2014 January
Dr. N. G. Devaki	
1	Bhashayum Mastishka Ghdanayum 'Swadeshi Science vol- 10 No.1 October, December 2013
2	Vaisvik Paridrushya Mein Rajbhasha Karyakshetriy Karamachariyom Ki Hindi Ko den 'Chirag No.2, 2013



Dr. K. Vanaja	
1.	1. Eco Feminism 'Parichay' – Banaras 2. Kamayani Mein Eco Feminism –'Vak' – Delhi 3. Bharathendu Ki Virasat – Gagananchal' – Delhi 4. Nirmal Verma Ka Gahan Paristitivad – Anuseelan-CUSAT 5. Samakaleen Hindi Upanyas Mein Manavadhikar in the journal Manavadhikar ISSN:0973-7588
Dr.K Ajitha	
	1. Andolandharmita Aur Dalit Kavita (Part of Book) Samakaleen Kavita Ke Aayaam Vani Prakaashan 2013 2. Mahila Atmakatha Lekhan (part of Book)Samakaleen Hindi Sahitya Aur Mahila Lekhan,2013 3. Bhavaniprsad Mishraki Kavita – Anusheelan2013

b. Books

Sl. No.	Name of Paper
	Dr. R. Sasidharan (Translated) Draupai (Telugu Novel translated to Malayalam for Sahitya Academi, New Delhi)
	Dr. K. Vanaja 1. Malayalam : Bhasha, Sahitya Aur Sanskar – National Book Trust, Delhi 2. Pandavpuram (Translated) – Vani Prakasan, Delhi 3. Bharateey Kahaniyam (Edited) – Rajpal & Sons - Delhi

12. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. R. Sasidharan	1. Paper presented in the UGC National Seminar on Raja Bhasha Hindi Vaishwik Sandarbh conducted by the Dept. of Hindi, Calicut University on 26 th and 27 th Oct.2013	Resource Person
	2. Paper presented in the UGC National Seminar on Challenges of Contemporary Literature conducted by the Dept. of Hindi, Govt. College, Kattappana on 9,10,11 Oc. 2013	Resource Person
	3. Paper presented in the UGC National Seminar on Nationalism and the Challenges of Contemporary Literature conducted by the Dept. of Hindi, Kerala Central University, Kazaragod on 12 and 13 December 2013	Resource Person
	4. Paper presented in the UGC National Seminar on Comparative Literature and Culture conducted by the Dept. of Hindi, Kannur University on 29,30,31 Jan.2014	Resource Person



Name of Participant	Name of Seminar/Conference/Workshop	Role
	5. Attended National Seminar on Women Empowerment, Media and Human Rights conducted by the Dept. of Hindi, CUSAT and National Commission for Human Rights, govt. of India on 9 and 10 January 2014	Participant
	6. Paper presented in the UGC National Seminar on Dalit Sahitya Vividh Aayam conducted by the Dept. of Hindi, Calicut University on 4 and 5 March 2014	Resource Person
	7. Conducted UGC National Seminar on Samakalin Sahitya Ka Lok Paksh conducted by the Dept. of Hindi, CUSAT on 3 and 4 February 2014	Co-ordinator
	8. Refresher course Engaged classes in refresher course at ASC, Calicut University in October 2013	Resource Person
	9. Refresher course Engaged classes in refresher course at Ernakulam, on Official Language Hindi for the officials of the HPCL on 15 th January 2014	Resource Person
Dr. N. G. Devaki	1. Understanding Language Phenomenon through the intervention of Science and Technology' paper presented in the 41 st All India Conference of Dravidian Linguists held on 20-22 June 2013 at University of Madras	Paper Presentation
	2. Anuvad Ki Disha Mein Adhyatan Chintan' UGC National Seminar at Pazhassi Raja NSS College Mattannur on 'Different Aspects of Contemporary Hindi Literature' held during 29-30 August 2013	Paper Presentation
	3. National Seminar on 'Modern Poetry and poets of Bundelkhand' at Bundelkhand University, Jhansi during 3-4 December 2013	Paper Presentation
	4. UGC National Seminar on 'Samakaleen Chintan' at Sree Sankaracharya University of Sanskrit, Regional Centre, Panamanna, Kollam during 10-11 February	Presided a Session
	5. UGC National Seminar on 'Modern Readings on Bhakti Literature' at Sree Sankaracharya University, Regional Centre, thrissur held during 12-13 March 2014	Inaugural Speech



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. Vanaja	Paper presented	Resource person
	1. UGC National Seminar conducted by NSS College, Chenganassery on the topic; 'Samakaleen Sahitya Mein Eco-Feminism'	
	2. UGC National Seminar conducted by SSUS, Kalady on the topic ;'Samakaleen Upanyas Mein Paryavaran Vimarsh	Resource person
	3. National Seminar conducted by Central Hindi Directorate and Kerala Hindi Prachar Sabha, Trivandrum on the topic; 'Samakaleen Kahani'.	Resource person
	4. Conducted National Seminar on Women Empowerment, Media and Human Rights conducted by the CUSAT and National Commission for Human Rights, govt. of India on 9and 10 January 2014	Co-ordinator
	5. National Seminar conducted by the Dept. of Hindi, CUSAT on 'Samakalin Sahitya Ka Lok Paksh' on 3 and 4 February 2014	Resource person
	6. Edited Journals 'Ramvilas Sharma – Visheshang – Anuseelan	Resource person
Refresher courses Banaras Hindu University Calicut University	Resource person	
Dr. K. Ajitha	1. National Seminar conducted by Dept. of Hindi, Catholicate College, Pathanamthitta on 'Contemporary Hindi Literature and Women writing' on 26,27,28 September 2013	Resource person
	2. Attended seminar on 'Badalte Sambandh Aur Sahitya – Nikalp, Thrissur on 24 th Aug. 2013	Participant
	3. National Seminar conducted by Dept. of Hindi, Calicut University on 'Samakaleen Hindi Kahani Aur Rajendra Yadav' on 12/12/2013	Participant
	4. National Seminar conducted by Dept. of Hindi, Victoria College, Palakkad on the topic 'Influence of Eastern and Western thought in Hindi criticism' on 7 and 8 Oct. 2013	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
	5. Attended National Seminar on Women Empowerment, Media and Human Rights conducted by the Dept. of Hindi, CUSAT and National Commission for Human Rights, govt. of India on 9 and 10 January 2014	Participant
	6. Conducted UGC National Seminar on Samakalin Sahitya Ka Lok Paksh conducted by the Dept. of Hindi, CUSAT on 3 and 4 February 2014	Participant
	7. National Seminar on Samakaleen Hindi Sahitya Aur Stree Paksheeya Chintan conducted by the Dept. of Hindi, SSUS, Regional Centre, Panmana on 10 and 11 Feb. 2014	Participant
	8. National Seminar on Theatre Arts – Problems and solutions conducted by the Dept. of Hindi, St. Alberts College, Ernakulam on 30 and 31 Jan. 2014	Participant
	9. National Seminar conducted by Dept. of Hindi, SSUS Regional Centre, Thrissur on the topic 'Bhakti Sahitya on 12 and 13 March 2014	Participant
	10. National Seminar on Feminist theatre in Indian Scenario conducted by the Dept. of Hindi, MPMMSN Trust, Shornur on 20 and 21 March 2014	Participant

13. Role of faculty in International/National Organizations/Institutions/ Editorial Board

Name of Faculty	Name of Organization	Role
Dr. K. Ajitha	St. Pauls' College, Ernakulam (Literary Journal)	Member, Electoral Board.
Dr. N. G. Devaki	Sahitya Mein Paristitiki	Editor of Anuseelan vol-43 No.29 Member, Editorial Board of 'Swadesi Science (Quarterly Journal)



14. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. K. Vanaja	Hindi Bhasha Bhushan' Samman	Sahitya Mandal, Natwara, Udaipur, Rajasthan
Dr. K. Ajitha	1. Bharat Jyoti Award 2. Rashtriya Hindi Sammelan Award	Indian International Friendship Society – New Delhi Rashtriya Hindi Sahitya Sammelan, Thiruvananthapuram

15. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (Rs.)	Investigator(s)
1	Literary Journal			

16. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Chairman/Coordinator	Funding Agency
1	Hindi day Celebration	One Day	Hindi Dept	CUSAT
2	Kerala Piravi Aghosham	One Day	Dept of Hindi	CUSAT
3	National Seminar on Women Empowerment, Media and Human Rights conducted alongwith National Commission for Human Rights, govt. of India on 9 and 10 January 2014	Two Day	Dept of Hindi	CUSAT
4	National Seminar conducted by the Dept. of Hindi, CUSAT on Samakalin Sahitya Ka Lok Paksh on 3 and 4 February 2014	Two days	Dept of Hindi	CUSAT





DEPARTMENT OF INSTRUMENTATION

1. Brief History of the Department

The Department of Instrumentation was established in the year 1995. Though it is a relatively young teaching and research department, it has a long history of evolution as it was derived from the University Science Instrumentation Centre (USIC). USIC was established in the University in 1978 as a service department with assistance from UGC. USIC has been extending instrumentation services to various science and technology departments of the University by way of design and fabrication of experimental gadgets, electronics design and fabrication, glass blowing, carpentry work etc. It has been carrying out consultancy work for other academic institutions, R&D organizations and industries as well. The Centre was elevated to the status of an academic department in the year 1995. From 1999 onwards, the Department is offering four years (8 Semesters) B.Tech course in Instrumentation. MSc Degree course in Instrumentation was started from 2011.

The Department has a very active research programme in the areas of Instrumentation and Applied Physics. The Department has implemented several research projects sponsored by external funding agencies like DST, DAE, UGC, AICTE, STED (Kerala) and TWAS. It has been the venue for national symposia and the faculty members have published several research papers in reputed national and international journals.

The Department extends instrumentation services to all sister Departments. It also offers consultancy for the design/fabrication of experimental systems for teaching/research, calibration/industrial applications.

2. Programmes of Study/Research

- B Tech in Instrumentation Technology
- MSc Instrumentation
- Ph.D

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Stephen Rodrigues	Associate Professor	Ph.D.	Microwave Electronics
2	Dr. K. Rajeev Kumar	Associate Professor	Ph.D.	Semiconductor Thin Films
3	Dr. Johney Issac	Assistant Professor	Ph.D.	Solid State Physics
4	Dr. K. N. Madhusoodanan	Associate Professor	Ph.D.	Analytical Instrumentation



4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Subin Thomas	UGC-Maulana Azad National Fellowship for minority student	Dr. K. Rajeev Kumar	Flexible Electronics
2	Rahana Raj T.	SC/ST cell Kerala Govt.	Dr. K. Rajeev Kumar	Thin Films
3	Hasna K.	UGC-JRF	Dr. K. Rajeev Kumar	Thin Film transistors
4	N. Savitha	Nil	Dr. K. Rajeev Kumar	Atomic Layer Deposition
5	Mohammed Abdul Rahman	Nil	Dr. K. Rajeev Kumar	Transparent Electronics
6	Jayalakshmy M. S.	UJRF	Dr. Jacob Philip	Studies on thermal properties of condensed materials physical properties of low-dimensional solids
7	Soumya H.	UJRF	Dr. Jacob Philip	Studies on thermal properties of condensed materials physical properties of low-dimensional solids
8	Uma S.	UJRF	Dr. Jacob Philip	Studies on thermal properties of condensed materials physical properties of low-dimensional solids
9	Nisha M. R.	UJRF	Dr. Jacob Philip	Studies on thermal properties of condensed materials physical properties of low-dimensional solids
10	Rakhikrishna R.	DST Project	Dr. Johny Isaac	Investigations on nano structured piezoceramics encapsulated in electroactive polymer matrix
11	Nissamuddeen Kunnath	DST Project	Dr. Jacob Philip	Investigations on nano structured piezoceramics encapsulated in electro active polymer matrix
12	Mathew M. Mecheril	UJRF	Dr. Jacob Philip	Study of Acoustic signals using ANN
13	Lidiya T. V.	UJRF	Dr. K. Rajeev Kumar	Preparation and Characterization of Semiconducting Oxides



				based Multilayers/ Quantum well structures by Atomic Layer Deposition
14	Sheeja P. George	Nil	Dr. Johney Issac	Simulation and Modeling of e-field distribution and associated parameters in Inter-digital capacitive transducers and surface acoustic wave devices
15	V. T. Gopakumar	Nil	Dr. K. N. Madhusoodanan	All Optical Advanced 3R Generator and Optical Coherent Receiver using Bragg Grating Filters and Mode-locked Fiber lasers
16	Melbin baby	Nil	Dr. K. Rajeev Kumar	Preparation and Characterisation of Certain Oxide Semiconductors by Chemical methods
17	S. Sundararajan	Nil	Dr. K. N. Madhusoodanan	Development and Testing of Sensor Linearisation Techniques
18	Sita Radhakrishnan	Nil	Dr. Johney Issac	Adaptive fuzzy Neural Modelling and Control Scheme for Blood Oxygen Level in Post surgical Patients

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Section Officer (Typist)	1
3	Assistants	3
4	LD Typist/Steno	1
5	Peon	1
6	Sweeper-cum-Cleaner	1

6. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Officer Grade II	2
2	Technical Officer Grade I	1
3	Technical Assistant Grade II	2



Sl. No.	Designation	No. of Posts
4	Technical Assistant Grade III	2
5	Technician IV	3
6	Technician III	1
7	Technician II	1
8	Technician I	4

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech Instrumentation	113	8	121
2	M.Sc Instrumentation	21	9	30

8. Research Facilities

a. Laboratories (List out Major equipments available)

1. Microwave oven plasma deposition Unit
2. Microwave plasma assisted atomic layer deposition system
3. DC plasma atomic layer deposition unit.
4. PPE set up
5. IPPE set up
6. PA set up
7. Dielectric constant and pyroelectric co-efficient set up
8. TWRC Set up
9. Travelling photo thermal wave set up
10. Distributed Control System (DCS)

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
No. of Books : 2922 No. of Journals : 19	No. of Books : 204 No. of Journals :

9. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1		Nisha R.	Dr. K. N. Madhusoodanan
2		Benjamin Varghese	Dr. K. N. Madhusoodanan

**10. Publications****a. Papers**

Sl. No.	Name of Paper
1	Rakhikrishna R.: Thermophysical Mechanical and Dielectric Studies of Piperidium p-hydroxy benzoate, J Therm Anal Calorim.(2013), 114: 1245-1254 (Online April 2013)
2	Rakhikrishna R.: Studies on thermophysical and Mechanical Properties of Hydrzonium L-tartarate, J Therm Anal Calorim.(2013),
3	Jayalakshmy M. S.: Pyroelectric figures of Merit and Associated Properties of LT/PVDF nanocomposites for thermal/IR sensing, Sensors and Actuatore A: Physical; 206; 2014; 121-126
4	Jayalakshmy M. S.: Phase matching, X Ray topography, Optical and Thermal Analysis of LAlanine Cadmium Chloride monohydrate: A nonlinear optical material , Appl. Phys.A:DOI: 10.1007/S00339-013-7902-1, August 2013.
5	Jayalakshmy M. S.: Effective thermal conductivity of condensed polymeric nonfluids (nanosolids) controlled by diffusion and interfacial scattering, Pramana, 81, 2013, 849-864.
6	Jayalakshmy M. S.: Bulk growth of Ninhydrin Single Crystals by solvent evaporation method and its characerisation for SHG and THG applications, Spectrochim Acta, Part A, 122, 2014, 309-314.
7	Jayalakshmy M. S.: Synthesis and single crystal growth of LPCCM and its characterization for higher order harmonic generation applications, Cryst. Engg; DOI: 10.1039/ C3CE41957F) November 2013.

11. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Rehna Raj T.	UGC Seminar (Dec.2013) KKTm College, Kodungalloor	Author & Presenter (Dec.2013)
Rakhi Krishna R.	National Seminar on Materials and Characterisation, KKTm College, Kodungalloor	Author & Presenter
Jayalakshmy M. S.	National Seminar on Materials and Characterisation, KKTm College, Kodungalloor	Author & Presenter
Jayalakshmy M. S.	National Seminar on Biopolymers and Green Composites- Emerging Science and Technology	Author & Presenter



12. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship	Awarding Agency
Soumya H.	DST PURSE	DST
Jayalakshmy M. S.	DST PURSE	DST
Rakhikrishna R.	DST JRF	DST
Subin Thomas	UGC-Maulana Azad National Fellowship for minority student	UGC

13. Sponsored Research Projects/

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Investigations on the fabrication of multilayers of High k materials by atomic layer deposition and their characterisation	KSCSTE	11,90,000	Dr. K. Rajeev Kumar
3	Investigations on the electroactive polymeric composites of nano structured piezoceramics	DST	88,00,000	Dr. Jacob Philip Dr. Rani Joseph Dr. Johny Isaac

14. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Life Improving Knowledge and Employability Skills	1 day	Sri. Sreejith S. Mohan	CUSAT





DEPARTMENT OF MARINE BIOLOGY, MICROBIOLOGY & BIOCHEMISTRY

2. Brief History of the Department:

The Department of Marine Biology Microbiology & Biochemistry is the academic continuation of the original Department of Marine Biology and Fisheries established in 1938 under the University of Travancore. The M.Sc course in Marine Biology was started in 1958. Today the annual intake of students is 20. So far about 577 students have completed the course. The department has four Research divisions namely, Marine biology, Microbiology, Biochemistry and Algology (Marine Botany) with well maintained laboratories equipped with sophisticated instruments. At present 74 Research Scholars are working in these labs. In all, 111 Ph.Ds have been awarded. Eighteen externally funded research projects have been completed successfully. Major thrust areas of research include Microbiology, Biochemistry, Fishery Biology, Aquaculture, Fish Pathology, Marine Pollution monitoring, Marine benthos, Biodiversity and Marine Pharmacology. Further the department has an M.Phil Degree course in Life Science with an intake of 6 students.

2. Programmes of Study/Research

1. M.Sc Marine Biology
2. M.Phil. Life Sciences
3. PhD. in all the areas specified above

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Aneykutty Joseph	Professor	M.F.Sc. Ph.D	Fisheries Science with specialization in Aquaculture
2.	Dr. A. V. Saramma	Professor	M.Sc. Ph.D	Microbiology
3.	Dr. Mohamed Hatha A. A.	Associate Professor	M.Sc. Ph.D	Fish Pathology & Nutrition
4.	Dr. S. Bijoy Nandan	Associate Professor	M.Sc. Ph.D	Marine Ecology & Pollution
5.	Dr. Rosamma Philip	Asst. Professor	M.Sc. Ph.D	Marine Microbiology



4. Emeritus Professor/Scientist (if any)

Sl. No.	Name	Designation	Qualification	Specialization
1	Prof. Dr. N. R. Menon	Emeritus Professor	M.Sc. Ph.D	Invertebrate Biology
2	Prof. Dr. C. K. Radhakrishnan	Emeritus Professor	M.Sc. Ph.D	Marine Pollution

5. Visiting Faculty (If any) : Nil

6. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Mujeeb Rahiman K. M.	Research Associate	M.Sc, Ph.D	Microbiology
2.	Dr. Prabhakaran M. P. (till June 2013)	Research Associate	M.Sc, Ph.D	Marine Ecology
3.	Dr. Jayesh P.	UGC DS KOTHARI PDF	M.Sc, Ph.D	Marine Biotechnology

7. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Nikitha Divakaran	-	Prof. Dr. N. R. Menon	Toxicology
2	Nousherkhan.K	-	Dr. R. Damodaran	Benthic Ecology
3	Suresh Kumar.J	-	Prof. Dr. Babu Philip	Biochemistry
4	Ignatius Kunjumon K. V.	-	Prof. Dr. Babu Philip	Biochemistry
5	Smitha S. L.	RGNF-UGC	Dr. Rosamma Philip	Bioactive compounds from marine fungus
6	Neil Scolastin Correya	-	Dr. Rosamma Philip	Microbenthos in the slope sediments
7	Sunish K. S.	-	Prof. Dr. A. Mohandas	Marirne Actinomycetes
8	Jisha Jose	University	Prof. Dr. Babu Philip	Biochemical effects of Cadmium Chloride



Sl. No.	Name	Funding Agency	Guide	Area of Work
9	Cilla Abraham	University	Prof. Dr. C. K. Radhakrishnan	<i>Penaeus Monodon Larvae</i>
10	Abhilash K. R.	-	Dr. A. V. Saramma	Bioactive compounds from benthic microorganisms
11	Vrinda S.	University	Dr. Rosamma Philip	Crustacean moult inhibiting hormones
12	Jayanthi T. T.	Harijan Welfare Dept.	Prof. Dr. C. K. Radhakrishnan	Bioactive compounds
13	Anilkumar P. R.	MoES Project	Prof. R. Damodaran	Benthic Ecology
14	Sudha S.	University	Dr. A. A. Mohamed Hatha	Food microbiology
15	Jisha V. K.	RGNF-UGC	Dr. A. V. Saramma	Cyanobacteria
16	Hari Sankar H. S.	University	Dr. Babu Philip	Biochemistry
17	Reema Kuriakose	FIP	Dr. Rosamma Philip	Marine Yeasts
18	Anit M. Thomas	Project-MoES	Dr. A. V. Saramma	Bioactive compound from HAB associated bacteria
19	Jini Jacob	RFSMS	Prof. Dr. R. Damodaran	Meiobenthos
20	Deepthi Augustine	University	Dr. Rosamma Philip	Marine actinomycetes
21	Sathiavathy	-	Prof. Dr. N. R. Menon	Fisheries
22	Nifty John	University	Dr. A. A. Mohamed Hatha	Motile Aeromonads
23	Sreedevi O. K.	University	Dr. S. Bijoy Nandan	Plankton & productivity
24	Shubhankar Ghosh	RFSMS-UGC	Dr. A. A. Mohamed Hatha	Probiotics
25	Shameeda C. H.	-	Prof. Dr. C. K. Radhakrishnan	Marine Biology
26	Lathika Cicily Thomas	MoES project	Dr. S. Bijoy Nandan	Productivity patterns in Arabia Sea
27	Chaithanya E. R.	Projec-DOD	Dr. Rosamma Philip	Antimicrobial peptides



Sl. No.	Name	Funding Agency	Guide	Area of Work
28	Anu Pavithran	University	Dr. S. Bijoy Nandan	Intertidal Ecology
29	Ramya K. D.	Project-MoES	Dr. Rosamma Philip	Microbenthos in the SW coast of India
30	Jimly C. Jacob	Project-MoES	Dr. Rosamma Philip	Microbenthos in the SE coast of India
31	Thasneem T. A.	University	Dr.S.Bijoy Nandan	Estuarine Ecology
32	A. Deborah Gnana Selvam.A	RFSMS	Dr. A. A. Mohamed Hatha	Bacterial pathogens from paddy cum prawn fields.
33	Shyam Kumar S.	-	Dr. A. V. Saramma	Micro algae culture and its biotechnology
34	Naveen Sathyan	MoES Project	Dr. Rosamma Philip	Antimicrobial peptides
35	Divya P. S.	UGC-CSIR	Dr. A. A. Mohamed Hatha	Molecular Epidemiology of <i>Diarrheagenic</i>
36	P. Lakshmi Devi	-	Prof. Dr. Aneykutty Joseph	Taxonomy of Brachyuran crabs
37	Jayasree S.	-	Prof. Dr. Aneykutty Joseph	Structure of Benthos, zooplankton and fishery resources of mangroves
38	Nisha Raj	-	Prof. Dr. Aneykutty Joseph	Macrobrachium Rosenbergii
39	Neethu C. S.	-	Dr. A. V. Saramma	Psychrophiles. Psychrotrophs and their enzymes
40	Sheeja George	-	Prof. Dr. Aneykutty Joseph	Standardization of an efficient protocol for rapid <i>in vitro</i> propagation of some valuable aquarium plants
41	Aiswarya Gopal	-	Dr. A. V. Saramma	Benthos
42	Vineetha S.	UGC	Dr. S. Bijoy Nandan	Benthic Ecology
43	Retina I. Cleetus	MoEF project	Dr. S. Bijoy Nandan	Plankton Ecology
44	Asha C. V.	MoEF project	Dr. S. Bijoy Nandan	Benthic Ecology



Sl. No.	Name	Funding Agency	Guide	Area of Work
45	Emilda Rosemine		Dr. A. V. Saramma	Marine Actinomycetes
46	Rakhi Gopalan K. P.		Dr. S. Bijoy Nandan	Marine Ecology
47	Ally C. Antony		Dr. A. A. Mohamed Hatha	Fish Pathology
48	Rani Varghese	DST	Prof. A. Mohandas	Mangrove Ecology
49	Akhilesh Vijay	KSCSTE	Dr. S. Bijoy Nandan	Ecology of wetlands
50	Susan Joy	-	Dr. Babu Philip	Biochemistry
51	Reshma Silvester		Dr. A. A. Mohamed Hatha	Microbiology
52	Sreelekshmi S.		Prof. Dr. C. K. Radhakrishnan	Mangrove ecology
53	Preethy C. M.		Prof. Dr. C. K. Radhakrishnan	Mangrove Taxonomy & Ecological Characterisation
54	Lekshmi S.		Dr. Babu Philip	Marine Biology
55	Neema Job		Dr. Babu Philip	Marine Endophytes
56	Wilsy Wilson		Prof. Dr. C. K. Radhakrishnan	Marine Yeasts
57	Sajana N.		Prof. Dr. C. K. Radhakrishnan	Marine Biology
58	Vinu Jacob		Dr. R. Damodaran	Marine Biology
59	Shruthi Venugopal		Dr. R. Damodaran	Benthic Ecology
60	Aneesa P. A.		Prof. Dr. C. K. Radhakrishnan	Microbiology
61	Jayachandran P. R.		Dr. K. J. Joseph	Benthic Biotope
62	Aiswarya Nair		Dr. T. P. Sajeevan	Bioactive Peptides from Fishes
63.	Ajin A. M.		Dr. N. R. Menon	Coastal Marine Ecosystem
64.	Jabir T.		Dr. K. J. Joseph	Denitrifying Bacteria
65.	Sruthy K. S.		Dr. R. Damodaran	Bioactive Peptides from Crustaceans
66.	Manomi S.		Dr. Rosamma Philip	Endophytic Fungi



Sl. No.	Name	Funding Agency	Guide	Area of Work
67.	Nashad M.		Dr. N. R. Menon	Monitoring and modeling of harmful algal blooms
68.	Philomina Joseph		Dr. K. J. Joseph	Benthos and accumulation of heavy metals
69.	R. Ranju		Dr. N. R. Menon	Toxonomy and systematics of Benthic Foraminifirans
70.	Bini Francis		Dr. K. J. Joseph	Survival of food borne pathogens in food contact surfaces in speafod industry and efficacy of disinfectants and spices extracts in controlling – their growth.
71.	Rajani S. Ganga		Prof. Dr. Aneykutty Joseph	Live Feed Bio Enrich-ment
72.	Thasneem T. R.		Dr. K. J. Joseph	Role of Microbenthos in Remuneralisation of Shelf Sediments along Kerala Coast with Special reference to Kerala Coast
73.	Vijayalakshmi K. C.		Dr. K. J. Joseph	Investigation on Bloom forming Algae
74.	Jasmin K. A.		Dr. A. V. Saramma	Isolation, characterization and mass cultivation of economically important microalgae
75.	Santu K. S.		Dr. Babu Philip	Toxonomy and systematics of copepods from selected wet lands and its potential in live feed aquaculture
76.	Radhika R.		Prof. Dr. C. K. Radhakrishnan	Toxonomy and Genetic Characterisation of Cyclopoid and Harpacticoid Copepods from Lakshadweep Islands, India.
77.	Bhavya Kachiprath		Dr. R. Damodaran	Novel Enzymes from Marine Environment – A metagenomic approach



Sl. No.	Name	Funding Agency	Guide	Area of Work
78.	Solly Solomon		Dr. R. Damodaran	Gene Mining for commercially important enzymes from marine organisms
79.	Sanu V. F.		Dr. K. J. Joseph	Taxonomy and genetic characterization of Calanoid Copepods (Crustacea) from Lakshadweep Waters and Prospects as live feed for aquaculture
80.	Anu P. R.		Prof. Dr. C. K. Radhakrishnan	Toxicity effects of selected trace metals on marine organisms.
81.	M. Abhijith		Dr. K. J. Joseph	Algae – Bacterial Interactions with reference to Bloom forming algae
82.	Soumya Krishnankutty		Dr. A. A. Mohamed Hatha	Molecular Baricading of macrobenthos along Kerala Coast

8. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer (H.G)	1
2.	Sr. Gr. Assistant	2
3.	Sel. Gr. Typist/Stenographer	1
4.	Office Attendant (Aquarium Asst.)	1
5.	Office Attendant	1

9. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Technical Asst. Grade III	1
2.	Lab Assistant	2
3.	Specimen Collector	1



9. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc Marine Biology	3	15	18
2	M.Phil Life Sciences	1	5	6
3	Ph.D	3	10	13

10. Research Facilities

a. Laboratories

1. Marine Biology Wet Lab
2. Microbiology Lab
3. Biochemistry Lab
4. Instrumentation lab
5. Computer Lab
6. Electron Microscope Lab
7. Algology Lab (Marine Botany)
8. Aquaculture lab
9. Ecology lab
10. Fish Pathology Lab

Major equipments available

1. Fluorescence Microscope LEICA, Germany
2. Biologic Duo Flow Chromatographic system, BioRad ,USA
3. Electrofocussing Unit
4. Lyophiliser
5. Ultramicrotome
6. Refrigerated centrifuges
7. HPLC
8. Particle Size Analyzer
9. Fermenter
10. Vacuum Concentrators
11. PAGE apparatus
12. Spectrophotometers
13. PCR Machines
14. Deep Freezers



15. Microscopes (Bright Field/ Phase Contrast/ Fluorescence)
16. Anaerobic Chamber
17. Atomic Absorption Spectrophotometer
18. Incubator Shaker (Jeio Tech, Korea)
19. Cold storage chamber (Sanyo, Japan)
20. Liquid Nitrogen cylinder (Thermo Scientific ,USA)
21. UV- VIS Spectrophotometer,
22. Real Time PCR (ABI ,USA)
23. Gas Chromatograph
24. Microbial ID System
25. Phase Contrast Microscope
26. Blood Analyser (Biochemical Analyser)
27. Microbial identification system
28. Gel Documentation system
29. Water Quality Analyser
30. Epifluorescence Microscope
31. Electrophoresis with Gel documentation system
32. Gradient PCR
33. Kjel Plus-Digestion and Distillation Unit
34. TOC Analyser (2 Nos.)
35. Binocular Microscope
36. Rotary Vacuum Flash Evaporator
37. Dual Vertical Gel Electrophoresis Unit

b. Library : Nil

c. Others

11. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. Pattanathu K. S. M. Rahman	Biotechnology Programme Leader, Chemical and Bioprocess Engineering Group, School of Science and Engineering, Teesside University, Middlesbrough - TS1 3BA, Tees Valley, United Kingdom.	Delivered lecture on bio surfactants



Sl. No.	Name	Affiliation	Remarks
2	Dr. Ganesh K.	Project Manager Rajiv Gandhi Centre for Aquaculture Srikali Tamil Nadu	Delivered lecture on "Diversification of aquaculture with special reference to Seabass and crab culture"

12. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Marine yeast isolates from Arabian Sea and Bay of Bengal : Biochemical, molecular and phylogenetic characterization	Reema Kuriakose	Dr. Rosamma Philip
2.	Heterotrophic bacteria from the slope sediments of Arabian Sea	Neil Scolastin Correya	Dr. Rosamma Philip

13. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1.	Shabitha K. B., Aneykutty Joseph and Gijo Ittoop (2013) Growth performance of advanced fry of the Grass carp <i>Ctenopharyngodon idella</i> (Valenciennes) fed with Cocoa pod huskpowder incorporated diet. <i>Fishery Technology</i> 50:16-21	
2.	Devi P. L., Nair D. G. and Joseph A. (2013) Habitat ecology and food and feeding of the herring bow crab <i>Varuna litterata</i> (Fabricius, 1798) of Cochin Backwaters, Kerala, India. <i>Arthropods</i> 2(4): 172 – 188.	
3.	Sheeja George E., Alphi Korath and Aneykutty Joseph (2014) In vitro propagation of <i>Limnophila aromatica</i> (Lam.) Merr, an ornamental and medicinal aquatic plant. <i>International journal of Applied research and studies</i> (In press)	
4.	K. Naseera, Gijo Ittoop, K. A. Aneesha, Lakshmi Devi and Aneykutty Joseph (2014) Biochemical variations of microalgae <i>Isochrysis galbana</i> in different culture media. <i>Journal of Aquaculture</i> (In press)	
5.	Divya T. Babu, Swapna P. Antony, Simi P. Joseph, Ann Rose Bright, Rosamma Philip 2013 Marine yeast <i>Candida aquatextoris</i> S527 as a potential immunostimulant in black tiger shrimp <i>Penaeus monodon</i> <i>Journal of Invertebrate Pathology</i> 112: 243-252.	



Sl. No.	Name of Paper	Impact Factor, if any
6.	E. R. Chaithanya, Rosamma Philip, Naveen Sathyan, and P. R. Anil Kumar 2013 Molecular Characterization and Phylogenetic Analysis of a Histone-Derived Antimicrobial Peptide Teleostin from the Marine Teleost Fishes, <i>Tachysurus jella</i> and <i>Cynoglossus semifasciatus</i> Hindawi Publishing Corporation ISRN Molecular Biology. Volume 2013, Article ID 185807, 7 pages http://dx.doi.org/10.1155/2013/185807 .	
7.	Selven Subramanian and Rosamma Philip 2013 Identification of haematological markers in shrimp health assessment from the immune profile of <i>Fenneropenaeus indicus</i> on b-1,3-glucan administration and white spot syndrome virus challenge Aquaculture International. DOI 10.1007/s10499-013-9621-1	
8.	Rejish Kumar V. J., Vrinda Sukumaran, Cini Achuthan, Valsamma Joseph, Rosamma Philip, I. S. Bright singh 2013. Molecular characterization of the nitrifying bacterial consortia employed for the activation of bioreactors used in brackish and marine aquaculture systems. International Biodeterioration and Biodegradation 78:74-81.	
9.	Jimly C. Jacob, Ramya K. D., Bright Singh I. S. and Rosamma Philip 2013. Bathymetric and latitudinal shift in sedimentary parameters along the shelf sediments of Bay of Bengal: Influence on heterotrophic bacteria. Advances in Applied Science Research, 2013, 4(2):119-133 (Pelagia Research Library ISSN: 0976-8610).	
10.	Swapna P. Antony, V. V. Afsal and Rosamma Philip 2013 Antimicrobial peptides from the Indian white shrimp <i>Fenneropenaeus indicus</i> isolation and in vitro activity profile. Blue Biotechnology Journal Vol 1 (4): 473-480.	
11.	E. R. Chaithanya, Rosamma Philip Naveen Sathyan, P. R. Anil Kumar, Sherine Sonia Cubelio and I. S. Bright Singh 2013 Molecular Characterisation and Phylogenetic Analysis of a Novel Isoform of Hepatic Antimicrobial Peptide, Hepcidin (Zc-hepc1), from the Coral Fish Moorish idol, <i>Zanclus cornutus</i> (Linnaeus, 1758) Probiotics and Antimicrobial proteins 5:187–194 DOI 10.1007/s12602-013-9139-x. 5:187–194	
12.	Jayesh P., Jose S., Rosamma Philip, Singh I. S. B. 2012. A novel medium for the development of <i>in vitro</i> cell culture system from <i>Penaeus monodon</i> . Cytotechnology DOI 10.1007/s10616-012-9491-9. 2013 , 65:307–322.	



Sl. No.	Name of Paper	Impact Factor, if any
13.	Soumya K. S., Jimly C. Jacob, Neil Scolastin Correya, Smitha S. L., Ramya K. D., Anil Kumar P. R., Manuel Thomas and Rosamma Philip 2013 Filamentous fungal isolates from the continental shelf and slope sediments of Arabian Sea. International Journal of Research in Marine Sciences 2(1): 26-32.	
14.	Kutty S. N., Lawman D., Singh I. S. B. and Philip R. 2013 Black yeasts from the slope sediments of Bay of Bengal: phylogenetic and functional characterization. Mycosphere 4 (3): 346–361.	
15.	Sreedevi N. Kutty, Rosamma Philip and R. Damodaran 2013 Marine yeasts in the slope sediments of Arabian sea and Bay of Bengal. European Journal of Experimental Biology, 2013, 3(3):311-327	
16.	Naveen Sathyan, Rosamma Philip, E. R. Chaithanya, P. R. Anil Kumar, V. N. Sanjeevan and I. S. Bright Singh 2013 Characterization of Histone H2A derived antimicrobial peptides, hariottins from Sicklefin Chimaera Neohariotta pinnata (Schnakenbeck,1931) and its evolutionary divergence with respect to COI and histone H2A ISRN Molecular Biology p 1-10. Article ID 930216,10 pages http://dx.doi.org/10.1155/2013/930216	
17.	Jimly C. Jacob, Ramya K. D., Bright Singh I. S. and Rosamma Philip 2013 Bathymetric and latitudinal shift in sedimentary parameters along the shelf sediments of Bay of Bengal: Influence on heterotrophic bacteria. Advances in Applied Science Research 4(2):119-133	
18.	Ramya K. D., Jimly C. Jacob, Neil S. Correya, Bright Singh I. S. and Rosamma Philip 2013. Biogeochemistry of the shelf sediments of south eastern Arabian sea: Effect on benthic bacterial heterotrophs. Advances in Applied Science Research, 2013, 4(3): 315-328	
19.	Sarlin P. J. and Rosamma Philip 2013 A molasses based fermentation medium for marine yeast biomass production. International Journal of Research in Marine Sciences 2(2): 39-44.	
20.	Selven Subramanian and Rosamma Philip 2013 Glutathione-S-transferase as enzyme marker for health monitoring in <i>Fenneropenaeus indicus</i> under acute salinity perturbations and WSSV infection. International Journal of Research in Fisheries and Aquaculture 2013; 3(3): 71-77	
21.	V. V. Afsal, Swapna P. Antony, Ann Rose Bright, Rosamma Philip 2013 Molecular identification and characterization of Type I crustin isoforms from the hemocytes of portunid crabs, <i>Scylla tranquebarica</i> and <i>Portunus pelagicus</i> Cellular Immunology 284 : 45–50	



Sl. No.	Name of Paper	Impact Factor, if any
22.	Selven Subramannian and Rosamma Philip 2013 Acid phosphatase as enzyme marker for health monitoring in <i>Fenneropenaeus indicus</i> under environmental perturbations and WSSV infection. International Journal of Research in Biological Sciences 3(3): 116-122.	
23.	Dafni Mendez, Ramya K. D., Jimly C. Jacob, Rosamma Philip 2013 Heterotrophic bacterial and fungal diversity in the inner shelf sediments of central west coast of india . Advances in applied science research. 4(4): 490-500.	
24.	Selven Subramannian and Rosamma Philip 2013 Antioxidant profile of hepatopancreas, gill and muscle tissue of <i>Fenneropenaeus indicus</i> subjected to acute salinity change and WSSV challenge. International Journal of Research in Zoology. 3(3): 116-122.	
25.	Sreedevi N. Kutty, Rosamma Philip, and R. Damodaran Degradation of Petroleum Hydrocarbons by Marine Yeasts <i>Candida tropicalis</i> SD 302 and <i>Pichia guilliermondii</i> SD 337 Blue Biotechnology Journal p. 423-431.	
26.	Priyaja P., Jayesh P., Neil Scolastin Correya, B. Sreelakshmi, N. S. Sudheer, Rosamma Philip and I. S. Bright Singh 2014 Antagonistic effect of <i>Pseudomonas aeruginosa</i> isolates from various ecological niches on <i>Vibrio</i> species pathogenic to crustaceans . Journal of Coastal Life Medicine 2(1): 76-84.	
27.	Anil Kumar, Deepthi Augustine, Dilip Panikar, Aswathy Nandakumar, Kavitha R. Dinesh, Shamsul Karim, and Rosamma Philip 2014 <i>Nocardia farcinica</i> Brain Abscess: Epidemiology, Pathophysiology and Literature Review. Surgical Infections. DOI 10.1089/sur.2012.205.	
28.	Jayesh P., Philip R., and Singh I. S. B. 2014 Multifactorial interaction of growth factors on <i>Penaeus monodon</i> lymphoid cells and the impact of IGFs in DNA synthesis and metabolic activity <i>in vitro</i> . Cytotechnology. DOI 10.1007/s10616-014-9697-0.	
29.	Smitha S. L. and Rosamma Philip 2014 Antibiotic production by a marine fungus <i>Penicillium citrinum</i> S36 through solid state fermentation: Optimization by Response Surface Methodology. International Journal of Research in Biomedicine and Biotechnology 4(1): 6-13	
30.	Aiswarya Gopal, Useph, K., Abdul Jaleel, Saramma, A. V. and Sanjeevan, V. N. (2013) A new species of polychate, <i>Pettibonella shompens</i> (Orbiniidae) from the Nicobar Islands, North Indian Ocean. Paper accepted for publication in the international journal, <i>Marine Biology Research</i> .	



Sl. No.	Name of Paper	Impact Factor, if any
31.	Hatha A. A. M, Mujeeb Rahiman K. M., Deepulal K. M., Krishnan K. P., Rupesh Kumar Sinha & Saramma A. V. (2013) Impact of climate change on heterotrophic bacterial communities in the water and sediment of Kongsfjord in Norwegian Arctic. Book Chapter in <i>Climate change and Himalayan Informatics</i> (eds.) Sundararesan, J., Pankaj Gupta, Santhosh, K.M. and Ram Boojh, Scientific Publishers (India).	
32.	Sanilkumar M. G., Joseph K. J. and Saramma A. V. (2013) Distribution of planktonic microalgae in the estuarine and coastal regions of Kerala. Book Chapter in <i>Estuaries of India, Biodiversity, Ecology, Conservation and Management</i> (eds.): Rao, D.V., Laishram Kosygin and Swetapadma Dash, NBI Nature Books India, Kolkata.	
33.	Hatha A. A. M., Mujeeb Rahiman K. M., Krishnan K. P., Saramma A. V., Saritha G. and Deepu Lal. (2013) Characterisation and bioprospecting of cold adapted yeast from water samples of Kongsfjord, Norwegian Arctic. <i>Indian Journal of Geo-marine Sciences</i> , 42(4).	
34.	Hatha A. A. M., Divya P. S., Saramma A. V. Mujeeb Rahiman and Krishnan K. P. (2013) Migratory bird <i>Brnata leucopis</i> , a potential carrier of diverse <i>Escherichia coli</i> serotypes into pristine Arctic environment. <i>Current Science</i> , 104(8), 1078-1080.	
35.	Rejishamol M. P., Lekshmi S., Vijayalakshmi K. C. and Saramma A. V. (2013) Antioxidant potential of Cyanobacteria isolated from Cochin Estuary. In Book of abstracts. International Conference on Ecosystem Conservation, Climate change and Sustainable Development, University of Kerala. p.272.	
36.	Vijayalakshmi K. C., Anit M. Thomas, Sanilkumar M. G., Hatha A. A. M. and Saramma A. V. (2013) Allelopathic effect of <i>Prymnesium parvum</i> Carter on selected microalgae in semi continuous cultures. In Book of abstracts. International Conference on Ecosystem Conservation, Climate change and Sustainable Development, University of Kerala. p.301.	
37.	Shyam Kumar S. and Saramma A. V. (2013) A revised method for pigment extraction from marine nanoplanktonic algal cultures. <i>Journal of Algal Biomass Utilization</i> 4(2), 47-52.	
38.	Lathika Cicily, K. B. Padmakumar, B. R. Smitha, C. R. Asha Devi, S. Bijoy Nandan and V. N. Sanjeevan, 2013, Spatio-temporal variation of microphytoplankton in the upwelling system of South Eastern Arabian Sea during the summer monsoon 2009. <i>Oceanologia</i> , 55(1), 185-204.	



Sl. No.	Name of Paper	Impact Factor, if any
39.	Jayachandran P. R., Bijoy Nandan S., Sreedevi O. K., Sanu V. F., 2013. Environmental influence on fish assemblage in a tropical estuary (Kodungallur-Azhikode Estuary), South West Coast of India. <i>Int. J. Mar. Sci.</i> 3(2):4-16 doi:(doi: 10.5376/ijms. 2013.03.0002).	
40.	Ciji P. P. and S. Bijoy Nandan 2014. Toxicity of copper and zinc to <i>Puntius parrah</i> (Day, 1865). <i>Marine Environmental Research</i> , 93: 38-46.(Publisher: Elsevier, U.K.) Impact factor: 2.456	
41.	Anu P. R., Jayachandran P. R., Sreekumar P. K., S. Bijoy Nandan, 2014, A Review on Heavy Metal Pollution in Cochin Backwaters, Southwest Coast of India, <i>Int. J. Mar. Sci.</i> , Vol.4, No.10: 92-98 (doi: 10.5376/ijms.2014.04.0010).(Publisher: Biopublisher, Sophia publishers, Canada)	
42.	Girish Kumar B. and S. Bijoy Nandan, 2014, Effects of copper on the humoral and biochemical indices of the teleost fish, <i>Anabas testudineus</i> (Bloch, 1792) <i>Walailak Journal of Science & Technology (WJST)</i> Vol. 11, (in press). (Publisher: Institute of Research & Development of Walailak University, Thailand : Impact factor 0.108)	
43.	Anu Pavithran & S. Bijoy Nandan 2014 Distribution and diversity of intertidal macrofauna of Dharmadam beach, South west coast of India, <i>Int. J. Mar. Sci.</i> (Accepted).(Publisher: Biopublisher, Sophia publishers, Canada)	
44.	Jayachandran P. R., Bijoy NandanS., Sreedevi, 2014 Spatio - temporal pattern of Primary Production in a Tropical Coastal Wetland (Kodungallur-Azhikode estuary), South west coast of India, <i>Journal of Coastal Development (International)</i> (in press).(Publisher: Environmental Sciences group, OMICS)	
45.	Prabhakaran M. P., S. Bijoy Nandan, P. R. Jayachandran & N. G. K. Pillai 2013 Species diversity and community structure of ichthyofauna in the sea grass ecosystem of Minicoy Atoll, Lakshadweep, India, <i>Indian Journal of Geo - Marine Sciences</i> , 42(3), 349-359. (Publisher: National Institute of Science Communication & Information Resources, CSIR, Govt. of India, New Delhi) Impact factor: 0.422	
46.	Zulfath P. P., Hari sankar H. S. & Bijoy Nandan S. 2013, Effect of organochlorine pesticide, lindane on the antioxidant activity of <i>Oreochromis Mossambicus</i> (Peters), <i>Journal of Aquatic Biology & Fisheries</i> , Vol. 1&2, 97-105.	
47.	S. Bijoy Nandan, C. M. Sumitha and B. Girish kumar 2013, Manganese induced haematological and histopathological changes in <i>oreochromis Mossambicus</i> (Peters, 1852), <i>Pollution Research</i> , vol. 32 (3).	



Sl. No.	Name of Paper	Impact Factor, if any
48.	Ambily V. and S. Bijoy Nandan 2014 Growth trends and biometric indices of <i>Arius subrostratus</i> (Valenciennes, 1840) from Cochin Estuary, Kerala, Journal of Marine Biological Association of India (in press).	
49.	Jesmi Y., Mujeeb Rahiman K. M., Hatha A. A. M., Deepu Lal and Jyothi, S. (2014) Risk assessment of rooftop collected rainwater for individual household and community use in Central Kerala, India. Journal of Environmental Health., 76: 114-121. (National Environmental Health Association, USA, I.F., 1.10)	
50.	Sowmya M., Rejula M. P., Rejith P. G., Mahesh Mohan, Makesh Karupiah and A. A. M. Hatha (2014) Halophilic metal tolerant bacteria from Vembanadu Lake as possible means of bioremediation of lead and cadmium. Accepted for publication in Journal of Environmental Biology, 35: 240-245. (Impact factor – 0.64)	
51.	Shubhankar Ghosh, Einar Ringo, Debora Gnanaselvam, Mujeeb Rahiman K. M., Naveen Sathyan, Nifty John and A. A. M. Hatha (2014) Gut associated lactic acid bacteria from the estuarine fish <i>Mugil cephalus</i> : Molecular diversity and antibacterial activities against pathogens. International Journal of Aquaculture., 4(1): 1-11. doi: 10.5376/ija.2014.04.0001. (Impact factor – 0.3)	
52.	Jabir T., Dhanya V., Jesmi Y., Prabhakaran M. P., Saravanane N., Gupta G. V. M and A. A. M. Hatha (2013) Occurrence and distribution of diatom-diazotrophic cyanobacterial association (DDA) during <i>Trichodesmium</i> bloom in the southeastern Arabian sea. International Journal of Oceanography. Article ID 350594, 6 pages http://dx.doi.org/10.1155/2013/350594 .	
53.	Mohamed Hatha A. A., Mujeeb Rahiman K. M., Krishnan K. P. Saramma A. V., Sarita G. and Deepulal (2013) Characterisation and bioprospecting of cold adapted yeast from water samples of Kongsfjord, Norwegian Arctic. Indian Journal of Geo Marine Sciences, Vol.42 (4): 458-465. (Impact Factor – 0.563)	
54.	Nifty John and A. A. M. Hatha (2013) Distribution, extracellular virulence factors and drug resistance of motile aeromonads in fresh water ornamental fishes and associated carriage water. International Journal of Aquaculture, 3(17): 92-100. doi: 10.5376/ija.2013.03.001. (Impact factor – 0.3)	
55.	Mohamed Hatha A. A., Divya P. S., Saramma A. V. Mujeeb Rahiman and K. P. Krishnan (2013). Migratory bird <i>Branta leucopsis</i> , a potential carrier of diverse <i>Escherichia coli</i> serotypes into pristine arctic environment. Current Science, 104 (8): 1078-1080. (Impact Factor., 0.935)	



Sl. No.	Name of Paper	Impact Factor, if any
56.	Abhirosh C., V. Sherin, A. P. Thomas, A. A. M. Hatha and A. Mazumdar (2013) Survival of multidrug resistant enteropathogenic <i>Escherichia coli</i> and <i>Salmonella paratyphi</i> in Vembanadu Lake as function of salt water barrier along southwest coast of India. <i>Journal of Water and Health</i> , 11(2): 324-331. doi:10.2166/wh.2013.221. (Impact Factor., 1.367)	

b. Books

Sl. No.	Name of Book
1.	Devi P. L., Joseph A. and Khan S. A. (2014) Diversity of Brachyuran Crabs of Cochin Backwaters, Kerala, India, in "Marine faunal communities of India" published by Zoological survey of India [In Press]
2.	Prabhakaran M. P., Pillai N. G. K., Jayachandran P. R., Bijoy Nandan S., 2013. Species Composition and Distribution of Sponges (Phylum: Porifera) in the Seagrass Ecosystem of Minicoy Atoll, Lakshadweep, India. In: Venkataraman K., Sivaperuman C., Raghunathan C. (Eds.), <i>Ecology and Conservation of Tropical Marine Faunal Communities. Springer Berlin Heidelberg</i> , pp. 43-54.
3.	Bijoy Nandan S., Asha C. V, Akhilesh Vijay, Jayachandran P. R., 2013 Benthic faunal assemblage - Diversity and Time Scale Changes in the ice cold Kongsfjorden Arctic Ecosystem. In: Sundaresan, S., Gupta P., Santosh K. M., Ram Boojh (Eds.), <i>Climate change and Himalayan Informatics. Scientific Publishers (India)</i> , p. 184. (Publisher: Scientific Publishers, India) S. Bijoy Nandan 2013, Retting of coconut husk in the coastal water bodies of south west coast of India – an ecological perspective in Discover potential of coconut fibre published by National Institute of Research on Jute and Allied Fibre Technology, Indian Council of Agricultural Research, Kolkata (in press).
4.	Hatha A. A. M., Mujeb Rahiman K. M., Deepu Lal K. M., Krishnan K. P., Rupesh Kumar Sinha and A. V. Saramma (2013) Impact of climate change on heterotrophic bacterial communities in the water and sediment of Kongsfjord in Norwegian Arctic. Book Chapter in <i>Climate Change and Himalayas</i> . Editors: J. Sundaresan, Pankaj Gupta, K. M. Santhosh and Ram Boojh. ISBN No. 978-81-7233-846-6. Pp. 170-181.
5.	Hatha A. A. M. (2013) Microbial Enzymes as an effective tool in bioremediation of polluted soil and water ecosystems. Book Chapter in <i>Approach towards Cleaner Environment</i> . Editors: Anuradha Mishra and Abha Dubey. ISBN No. 81-8428-016-5. Pp: 139-144. (Durga Publications, India)



14. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Rosamma Philip	UGC Sponsored national Seminar on Aquatic chemistry (Aguasem'13) during 21-23 March 2013. Cochin University of Science and Technology	
	National Seminar on Bioinformatics in marine biology: Next generation sequencing technologies and applications, Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 26 th March 2013.	
	UGC-SAP Sponsored Training programme on 'Sequence analysis and molecular docking' March 27 2013 at Department of Marine Biology ,Microbiology and Biochemistry, CUSAT.	
	Training on Real Time PCR, Invitrogen Life Technologies, Whitefield, Bangalore, 22-24 June 2013.	
	International seminar on 'Research Impact, publishing and profiling' jointly organized by School of marine Sciences and Kerala Library Association, Ernakulam. 3rd January 2014.	
	National Seminar on 'Climate Change and Marine Ecosystems' organized by Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 20-21 March 2014.	
	UGC sponsored Workshop on 'Data Processing and Presentation in Marine Sciences using Open source Software tools' during 24-28 March 2014 at Department of Marine Biology, Microbiology and Biochemistry, CUSAT.	
Dr. A. V. Saramma	Aguasem'13 organised by the Dept. of Marine Biology, Microbiology and Biochemistry of Chemical Oceanography held during 21-23 March 2013. Cochin University of Science and Technology	
	National Seminar on Bioinformatics in marine biology: Next generation sequencing technologies and applications, Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 26 th March 2013	



Name of Participant	Name of Seminar/Conference/Workshop	Role
	National Seminar on 'Climate Change and Marine Ecosystems' organized by Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 20-21 March 2014.	
Dr. A. A. Mohamed Hatha	International Conference on Health Related Water Microbiology (Watermicro 2013) during October 15-20 2013 at Florianopolis, Brazil	
	Indian Science Congress at University of Jammu during Feb 2-8, 2014	
	UGC Sponsored national Seminar on Aquatic chemistry (Aquasem'13) during 21-23 March 2013. Cochin University of Science and Technology	
	National Seminar on Bioinformatics in marine biology: Next generation sequencing technologies and applications, Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 26 th March 2013.	
	UGC-SAP Sponsored Training programme on 'Sequence analysis and molecular docking' March 27 2013 at Department of Marine Biology ,Microbiology and Biochemistry, CUSAT	
	International seminar on 'Research Impact, publishing and profiling' jointly organized by School of marine Sciences and Kerala Library Association, Ernakulam. 3rd January 2014.	
	National Seminar on 'Climate Change and Marine Ecosystems' organized by Department of Marine Biology, Microbiology and Biochemistry, Cochin University of Science and Technology 20-21 March 2014.	
	UGC sponsored Workshop on 'Data Processing and Presentation in Marine Sciences using Open source software tools' during 24-28 March 2014.	



15. Role of Faculty in International/National Organizations/Editorial Boards

Name of Faculty	Name of Seminar/Conference/Workshop	Role
Dr. A. A. Mohamed Hatha	Workshop On International Research Opportunities and Biomanufacturing Technology, ROBT, Wednesday, 21 st Aug 2013, Karpagam University, Coimbatore	Chairing
	International Conference on 'Climate Change and Himalayas: Current Status and Future Perspectives (ICCCCH-2013), 28-31 October 2013 at CSIR-NISCAIR, New Delhi	Chairing
	National Conference on Ecotechnologies for Waste Water Treatment – Present Challenges and Future Horizons (NCEWT-2014), 21-22 January 2014 at Department of Environmental Sciences, Bharathiar University, Coimbatore	Chairing
	Several International and National Journals (Environmental Monitoring and Assessment by Springer, Aquaculture Research by Wiley International, BMC Microbiology, Indian Journal of Marine Sciences, South Pacific Journal of Natural Sciences etc.)	Reviewer
	Asian Journal of Microbiology, Biotechnology and Environmental Sciences	Member, Editorial Board
	Journal of Infectious Diseases and Global Health	Editor
	American Society of Microbiology	Member
	Society of Fishery Technologist of India	Life Member
	Association of Microbiologists of India	Life Member,
	Association of Biotechnologists of India	Life Member
	DST-FAST Track Project	Referee to research projects
	CUSAT	Member, Board of Studies in Marine Biology
	University of Calicut	Member, Board of Studies in Microbiology
University of Calicut	Member, Board of Studies in Aquaculture	



Name of Faculty	Name of Seminar/Conference/Workshop	Role
	Bharathidasan University	Member, Board of Studies in Marine Sciences
	CUSAT	Member, Academic Council
Dr. A. V. Saramma	UGC	Subject Expert for evaluation of microbiology projects
	KUFOS	Subject Expert for appointing adhoc lecturers
	CUSAT	Member, Board of Studies in Marine Biology
	MG University	Member, Board of Studies in Microbiology
	University of Calicut	Member, Board of Studies in Microbiology
	CMFRI, Cochin	Member, Assessment Committee
	MG University	Chairman, PhD evaluation Board
	CUSAT	Member, Faculty of Marine Sciences
Dr. Aneykutty Joseph	Asian Fisheries Society (AFS)	Life Member
	Fisheries Graduate Association	Life Member
	Journal of Aquaculture	Life Member
	Journal of Marine Biological Association of India	Life Member
	CUSAT	Member, Academic Council



Name of Faculty	Name of Seminar/Conference/Workshop	Role
	CUSAT	Member Board of Studies in Marine Biology
	CUSAT	Member-Gender Justice Complaint Committee
	CUSAT	Advisory Committee Member – Remedial Coaching for SC/ST/OBC and minority students
Dr. Rosamma Philip	Pondicherry University.	Member - Board of studies, M.Sc. Marine Biology,
	National Centre for Aquatic Animal Health, CUSAT	Member- Board of Studies - M.Tech in Marine Biotechnology (DBT, Govt. of India Sponsored Programme),
	National Centre for aquatic Animal Health (NCAAH), CUSAT	Advisory Board Member
	Amrita Institute of Medical Sciences, Cochin	Member - Biosafety Committee
	NCAAH, CUSAT.	Member -Biosafety Committee
Dr. S. Bijoy Nandan	CUSAT	Member, Board of Studies in Marine Biology
	Kerala State Pollution Control Board	Member, Sate Pollution Control Awards
	Kerala State Pollution Control Board	Expert Committee Member
	e-waste, Management and Handling Committee	Member



Name of Faculty	Name of Seminar/Conference/Workshop	Role
	to monitor the environmental impacts of the works executed under the Kuttanad package, headed by the Secretary (Environment Department)	Member consortium of experts
	State River and Wetland Authority.	Member, Vembanad Eco development Authority
	organized by the CESS in association with Ministry of Environment & Forests and World Bank Management	Member of the Working Group on Vembanad lake
	Dept. of Marine Biology, Microbiology and Biochemistry, CUSAT, from August 2012 to date.	Secretary, Marine Biology Alumni Association
	Kendriya Vidyalaya Sangathan, Regional Office, Ernakulam	Member, Regional Advisory Committee
	Kerala State Pollution Control Board	Expert member, Government Monitoring Committee on Fish Kill in Periyar River,

16. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr.S.Bijoy Nandan	Nehru – Full Bright Lecturer Fellowship 2013-14: from 15 September 2013 to 14 January 2014 in Virginia Institute of Marine Science, College of William & Mary, USA.	United States India Educational Foundation
Dr. S. Bijoy Nandan	Fullbright Outreach lecture fund award for delivering a special Centre for Marine Biodiversity and Conservation (CMBC) Seminar in Scripps Institution of Oceanography (SIO), University of California, San Diego(UCSD), "Are the Wetlands of Southern India in Peril – A Time Scale Analysis".	University of California, San Diego(UCSD)



Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. A. A. Mohamed Hatha	Shri. P. K Das Memorial Best Faculty Award 2013 in Microbiology – Senior Category	
Dr. A. A. Mohamed Hatha	President, Society of Marine Biologists of India – Since 2011	
Dr. A. A. Mohamed Hatha	Research Co-ordinator, Earth Science and Technology Cell (ESTC), instituted by Govt. of India at Cochin University of Science and Technology	

17. Sponsored Research Projects/

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Carbon Dynamics and budgeting in Wetland ecosystems and its Possible Influence on Livelihood Activities funded by the Dept. of Marine Biology, Microbiology and Biochemistry of Environment & Climate Change (2012 – 2015, March)	Govt. of Kerala		Dr. S. Bijoy Nandan
2	Systematics and molecular phylogeny of pelagic copepods (Crustaceans) from the coastal wetlands of South West Coast of India (2012 July – 2015):	UGC		Dr. S. Bijoy Nandan
3	Taxonomy and Genetic Characterization of Pelagic Copepods(Crustacea) from the Marine waters of the South West Coast of India (2012 onwards)	Dept. of Marine Biology, Govt. of India	296.15 lakhs	Dr. S. Bijoy Nandan
4	2010 – 2013 May: <i>Studies on the Mangrove Ecosystems of South West coast of India in the context of sustainable livelihood objectives</i>	Dept. of Environment & Climate Change, Govt. of Kerala	22 lakhs.	Dr. S. Bijoy Nandan
5	2010- 2013 November: <i>Ecosystem Based Monitoring and Modelling of the Vembanad-Kol Wetland in Kuttanad, Kerala,</i>	Ministry of Environment & Forests, Govt. of India.	25 lakhs.	Dr. S. Bijoy Nandan



Sl. No.	Title	Sponsoring Agency	Amount in lakhs	Investigator(s)
6	2012 – 2015, March: <i>Carbon Dynamics and budgeting in Wetland ecosystems and its Possible Influence on Livelihood Activities</i>	Dept. of Environment & Climate Change, Govt. of Kerala.		Dr. S. Bijoy Nandan
7	'Modeling biogeochemical cycles in coastal oceans' Duration 5 Years (2013-18).	Space Application Center, ISRO, Govt. of India.	INR 52,42,000/-	Dr. A. A. Mohamed Hatha
8	'Role of microbenthos on remineralisation of shelf sediments along Kerala coast'. Duration 5 Years (2012-17).	Centre for Marine Living Resources and Ecology (CMLRE), MoES, Govt. of India.	INR 70,00,000/-	Dr. A. A. Mohamed Hatha
9	'Marine Biodiversity along Kerala Coast' funded by Duration – 5 years (2012-17).	Centre for Marine Living Resources and Ecology (CMLRE), MoES, Govt. of India.	INR 60,50,000/-	Dr. A. A. Mohamed Hatha
10	'Role of heterotrophic bacteria and cyanobacteria in the Nitrogen cycle in the Cochin estuary ad coastal waters with special reference to nitrification, denitrification and nitrogen fixing capabilities'. Duration – 5 years. (2011-16)	Ministry of Earth Sciences (MoES), Govt. of India.	INR 44,64,500/-	Dr. A. A. Mohamed Hatha
11	'Development of a microbial consortium that could be used as a probiotic in the culture and rearing operations of commercially important indigenous ornamental fishes of Kerala'.Duration – 3 Years (2011-14).	Kerala State Council for Science, Technology and Environment, Govt. of Kerala, India.	INR 21,37,000/-	Dr. A. A. Mohamed Hatha
12	Monitoring of Harmful Algal Blooms along South West Coast of India. Duration 5 Years		INR 80,000,00/-	Dr. A. A. Mohamed Hatha (Co-Principal Investigator)



18. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	9 th December 2013: Field cruise in the York River estuary and Chesapeake bay on the coast of Atlantic coast, on board the Virginia Institute of Marine Science research vessel, for shoal survey in sampling water and sediment parameters.	Dr. S. Bijoy Nandan
2.	9 th January 2014: Field visit to Chesapeake Bay and associated wetlands in Smithsonian Environment Research Centre, Maryland.	Dr. S. Bijoy Nandan
3.	9-10 th September 2013: Field visit in the South river, in the Appalachian Mountains, Waynesboro, USA for studying Mercury pollution and its effects on food web.	Dr. S. Bijoy Nandan
4.	19 th November 2013: Visit to Middle peninsula in Gloucester point, Virginia at the land fill site which generates methane based energy.	Dr. S. Bijoy Nandan

19. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Seminar on "Climate Change and Marine Ecosystem"	20-21 March 2013	Dr. A .A. Mohamed Hatha	UGC &
2.	<i>Meeting of the International Indian Ocean Expedition in connection and its 50th year celebrations, organized by</i>	17 March 2014	Secretary- Dr. S. Bijoy Nandan	Marine Biology Alumni Association & Society of Marine Biologists, Dept. of Marine Biology, Microbiology & Biochemistry, CUSAT
3.	Workshop on 'Data Processing and Presentation in Marine Sciences using Open source software tools'	24-28 March 2014.	Dr. Rosamma Philip	UGC

**20. Consultancy Work :**

Sl. No.	Title of Consultancy	Name of Consultant	Sponsoring Agency
1.	To carry out Baseline Marine Environmental Survey at Valiyathura, Trivandrum	Dr. A. A. Mohamed Hatha	L & T
2.	To carry out Marine Environmental Survey for EIA study for Cochin Port	Dr. A. A. Mohamed Hatha	L & T
3.	Fish kill in Periyar river	Dr. S. Bijoy Nandan	Kerala State Pollution Control Board
4.	Hydrochemistry of Vembanad Wetland System	Dr. S. Bijoy Nandan	Kerala State Pollution Control Board

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DEPARTMENT OF MARINE GEOLOGY & GEOPHYSICS

1. Brief History of the Department

Earth Science education is enhancing its relevance and scope globally owing to recent advances in geoexploration and the role it has in environmental and development issues. CUSAT is one of the premier Universities in the country to begin a full fledged post graduate programme in Marine Geology in the year 1976 taking into account the global advancement in general and national needs in particular in the field of Marine Sciences. A 3-year M.Sc (Tech.) programme in Marine Geophysics was introduced in 1992 which has now been restructured into a 2-year M.Sc. programme. Both the programmes had been designed to aim at the development of manpower in the fields of Marine Geology and Geophysics with a special emphasis on offshore areas with a view to cater the needs of various research institutions and survey organizations as well as private companies engaged in mineral exploration, sea bed surveys, remote sensing and oil and ground water prospecting. The students of this Department are absorbed as technical personnel in various central, State public sector and private organizations like ONGC, GSI, NIO, NGRI, CGWB, CESS and Universities. Several major research projects funded by external agencies have been undertaken /are in operation in the Department.

2. Programmes of Study/Research

1. M.Sc Marine Geology
2. M.Sc Marine Geophysics
3. Ph.D

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. M. Ravisankar	Associate Professor	M.Sc. Ph.D	Optoelectronics & PC-based instrumentation
2.	Dr. C. G. Nambiar	Professor	M.Sc. Ph.D	Geochemistry, Mineralogy, Petrology, Structural Geology
3.	Dr. K. Sajan	Professor	M.Sc. Ph.D	Marine Geology Geochemistry
4.	Dr. K. R. Baiju	Assistant Professor	M.Sc. Ph.D	Petrology, Mineralogy, Geochemistry

**4. Emeritus Professor/Scientist (if any) : Nil****5. Visiting Faculty (If any)**

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. N. R. Nisha	Contract Lecturer	Ph.D.	Micropaleontology and Paleooceanography.
2.	Prof. S. Rajendran	Contract Lecturer	Ph.D.	Marine Geophysics Ground Water & Remote Sensing.
3.	Dr. Laju Michael	Contract Lecturer	Ph.D.	Gravity Methods, Seismic methods, Well logging
4.	Ms. Anu R.	Contract Lecturer	M.Sc.(Tech) Marine Geophysics	Seismology, Geodynamics, Ground Water Geology, Well Logging
5.	Mr. Mahesh Narayanan	Contract Lecturer	M.Sc. Marine Geophysics	Magnetic Methods, Ground Water Geophysics, Well Logging
6.	Dr. K. T. Damodaran	U.G.C. Visiting Professor	Ph.D.	Mineral Resources and Geochemistry.
7.	Dr. Reji Srinivas	Guest Lecturer	Ph.D.	Geochemistry, Sedimentology
8.	Dr. Ajith G. Nair	Guest Lecturer	Ph.D.	Sedimentology, Marine Geology
9.	Dr. Babu N.	Guest Lecturer	Ph.D.	Sedimentology, Marine Geology
10.	Prof. P. Seralathan	Guest Lecturer	Ph.D.	Sedimentology

6. Research/Project Staff : Nil**7. Research Scholars**

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Jishnu B. K.	DST	Dr. C. G. Nambiar	Trace element Geo-chemistry of Sulphides in Gold bearing S-CO ₃ -SiO ₂ Associations of the Wynad Gold Field (WGF) and Attapadi-Pudur Gold Field (APGF)
2	Anish A. U.	Nil	Dr. K. R. Baiju	Studies on Neotectonism of Southern India



Sl. No.	Name	Funding Agency	Guide	Area of Work
3	S. Sakkir	Nil	Dr. K. Sajan	Sedimentology, Geochemistry & groundwater potential of Holocene sediments in parts of low land, Southern Kerala
4	Rekha R.	Nil	Dr. K. Sajan	Biogeochemistry of the mangrove Ecosystems of Southern Kerala, India
5	Uthaman C. P.	Nil	Dr. K. Sajan	Sediment Distribution and Physical Characteristics of Sediments along the West Coast of India
6	Praveen M. N.	Nil	Dr. C. G. Nambiar	Certain geological Aspects of the Eastern Betul Belt
7	Vinayachandran	Nil	Dr. A. C. Narayana	Study of Hydrogeology and Hydrochemistry and Modeling of Flow Regime of Watersheds
8	Saradhi P. Kumar	Nil	Dr. Baiju K. R.	Texture, Mineralogy, Geochemistry and Provenance study of various Sedimentary Rocks of Southern India.
9	Shoby Sankar	Nil	Dr. Baiju K. R.	Studies on Sedimentological, Geochemical, and Structural aspects of Petroliferous Basins Southern India.
10	Sui. A. S.	Rajiv Gandhi Fellowship	Dr. K. R. Baiju	Geochemistry, Geochronology of Metapelites of South India
11	Amaldev T.	Rajiv Gandhi Fellowship	Dr. K. R. Baiju	Studies on Petrology, Geochemistry, Geochronology and structural aspects of igneous and metamorphic rocks of south western Dharwar craton

**8. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Typist	1
3.	Assistant	2
4.	Peon	1

9. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Technical Assistant	1 (Vacant)
2.	Laboratory Assistant	1

10. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	I Year Marine Geology	4	3	7
2	II Year Marine Geology	3	7	10
3	I Year Marine Geophysics	8	4	12
4	II Year Marine Geophysics	10	2	12

11. Research Facilities**a. Laboratories**

1. Mineralogy & Petrology Lab
2. Geochemistry Lab
3. Geochemistry Instrumentation Lab
4. Sedimentology Lab
5. Geological Meuseum
6. Electronics Lab
7. Gravity & Seismic Lab
8. Micropaleontology Lab
9. Computer Lab



b. Major equipments

1. X Ray Diffractometer
2. Differential Thermal Analyzer
3. Gravity Meter
4. Proton precession Magnetometer (Land)
5. Proton precession magnetometer (Marine)
6. Receptivity meters
7. Echo Sounder
8. Sub-bottom Profiler
9. Fluxgate Magnetometer
10. Petrological Microscope
11. Rock Core Driller
12. Leica Stereoscope Microscope with CCT camera
13. Binocular Microscope
14. Electronic Balances
15. Magnetic Separator
16. Flame Photometer
17. Spectro Photometer
18. Soil-water analysis kit

c. Library : Nil

d. Others

12. Distinguished Visitors : Nil

13. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Sedimentological and Geotechnical studies of Coastal Sediments of Central Kerala"	Ms. Vinu Prakash	Dr. A. C. Narayana

**14. Publications****a. Papers**

Sl. No.	Name of Paper
1	Role of saline brine in graphite bearing high grade metamorphic rocks – a fluid inclusion study – Authors:- Baiju K. R., Nambiar C. G. and G. N. Jadhav. Proceedings UGC-SAP-DRS II Seminar 29 th March 2014, Department of Geology, University of Kerala, pp 8-13
2	Physico-chemical characterization of Allantite from Thodupuzha: Authors:- Baiju K. R., Amaldev T. and Sui A. S. Kerala. Proceedings of the 'Mineralia-2014' National Seminar on Mineral Resources of Kerala, 6-8 March 2014, Department of Geology, University of Kerala, pp 179

b. Books : Nil**15. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students**

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. R. Baiju	National Workshop on Atmospheric – Ocean Interaction – Department of Atmospheric Science, CUSAT	Participant
Dr. K. R. Baiju	Induction training of FLAIR, Department of Higher Education, Kerala	Participant

16. Role of Faculty in International/National organizations/Institutions/Editorial Boards : Nil**17. Awards/Honours/Fellowships etc. received : Nil****18. Sponsored Research Projects : Nil****19. Research Programmes and Activities : Nil****20. Seminar/Conference/Workshop/Refresher Courses conducted by the Department : Nil****21. Consultancy Work : Nil**



DEPARTMENT OF MATHEMATICS

1. Brief History of the Department

The combined Department of Mathematics and Statistics came into existence in November 1976, with the major objective of developing it to a Centre of Excellence in this region in mathematical sciences and applications and to provide facilities for training, study and research in these areas. This Department was bifurcated to form an independent Department of Mathematics on 1st January, 1996. The Department conducts a Masters Degree programme in Mathematics, an M.Phil Programme in Mathematics and Ph.D. programme. Students of M.Sc. (Mathematics) generally take up teaching positions or opt for research. The Department has produced about 63 Ph.D.s and has published about 280 research papers in refereed journals. Apart from giving instruction in post graduate courses, the Department has from the very beginning taken the leadership in promoting research in mathematics and its applications, especially in this part of the country. This was realized in a two-fold way one, by guiding young researchers to do their doctoral work and two, by conducting extension programmes which will improve the instruction at the P.G. level in colleges and encourage youngsters to take up research. Thrust areas of research are Stochastic Control theory, Retrial Queues, Mathematical Finance, Graph Theory, Combinatorial Convexity Theory, Deterministic Field Theories, Fuzzy Mathematics, Wavelet Analysis, Operator Theory. The department has been receiving a library grant from NBHM since 1991. The department library has about 8500 books and subscribes to 12 Indian and 3 foreign journals, Mathematical Reviews and Mathscinet. Also, the department has been co-ordinating the Mathematical Olympiads and related training programmes for school children with the assistance of NBHM since 1990.

2. Programmes of Study/Research

- 1 M.Sc. Mathematics
- 2 M.Sc. in Operations Research & Computer Applications (No admission since 2006)
- 3 M.Phil Mathematics
- 4 Ph.D.

**3. Faculty Members**

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. A. Vijayakumar	Professor & Head	M.Sc., Ph.D.	Graph Theory, Discrete Mathematics
2.	Dr. P. G. Romeo	Professor & Head	M.Sc., Ph.D.	Algebra
3.	Dr. B. Lakshmy	Associate Professor	M.Sc., Ph.D.	Mathematical Statistics , Stochastic Processes, Operations Research
4.	Dr. M. N. Narayanan Namboodiri	Assistant Professor	M.Sc., Ph.D.	Functional Analysis, Operator Theory

4. Emeritus Professor/Scientist (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. A. Krishnamoorthy	Professor	M.Sc., Ph.D.	

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
Part-time				
1	Resmi T.	-	Dr. B. Lakshmy	Stochastic modelling
2	Resmi Varghese	-	Dr. B. Lakshmy	Stochastic modelling
3	Gireesan K. K.	-	Dr. T. Trivikraman	Some Problems in Topology Fuzzy Topology and Related Areas
4	Jaya S.	-	Dr. B. Lakshmy	Stochastic Processes
5	Lakshmy V. P.	-	Dr. T. Trivikraman	Problems in topology Fractals and Related Areas
6	Gopakumar B.	-	Dr. A. Krishna moorthy	Stochastic Modelling
7	Satheesh Kumar S.	-	Dr. M. N. Narayanan Namboodiri	Acoustic Modelling using Wavelets



Sl. No.	Name	Funding Agency	Guide	Area of Work
8	Bittu L. Lambi	-	Dr. M. N. Narayanan Namboodiri	Solution to differential equation using wavelets
9	Susan Mathew	-	Dr. M. Jathavedan Panakkal	Fluid Mechanics
10	Viji M.	-	Dr. R. S. Chakravarti	Studies on some Non Commutative rings
11	Sathian M. K.	-	Dr. A. Krishna moorthy	Stochastic modeling analysis and application
12	Pravas K.	-	Dr. A. Vijaya kumar	Some problems in graph theory and related topics
13	Didimos K. V.	-	Dr. R. S. Chakravarti	Theories of Matter, Spinors & Geometric Algebra
14	Rajeena Margret V. J.	-	Dr. T. P. Johnson	Some Problems in algebra, Topology
15	Vinitha T.	-	Dr. T. P. Johnson	Some Problems in Topology Analysis.
16	Elizabeth Reshma M. T.	-	Dr. T. P. Johnson	Some Problems in Analysis Lattice Theory Topology.
17	Binitha Benny	-	Dr. A. Krishna moorthy	Stochastic Modelling
18	Vijayagovindan C.	-	Dr. A. Krishna moorthy	Stochastic Modelling
19	Manjunath A. S.	-	Dr. A. Krishna moorthy	Stochastic Modelling and Analysis
20	Abdul Rof V.	-	Dr. A. Krishna moorthy	
21	Sreejamol P. R.	-	Dr. P. G. Romeo	Semigroups
22	Anju S. Mattam	-	Dr. Sasi Gopalan	
23	Yogesh Prasad N.	-	Dr. T. P. Johnson	
24	Chitra M. R.	-	Dr. A. Vijayakumar	
25	Anu Varghese	CSIR	Dr. A. Vijayakumar	Some Problems in Algebraic Graph Theory
26	Savitha K. S.		Dr. A. Vijayakumar	



Sl. No.	Name	Funding Agency	Guide	Area of Work
27	Sindhurani P. J.		Dr. T. P. Johnson	
28	Balesh K.	-	Dr. P. G. Romeo	Semigroups and Operator Algebras
29	Divya V.	-	Dr. A. Krishna moorthy	
30	Nisha A. B.	-	Dr. T. P. Johnson	
Full-time				
31	Manikandan R.	UGC	Dr. A. Krishna moorthy	Stochastic modeling and analysis
32	Jayaprasad P. N.	UGC-FIP	Dr. T. P. Johnson	Topology
33	Pamy Sebastian		Dr. T. P. Johnson	Some Problems in Fuzzy Set Theory and Related Topics
34	Tijo James	NBHM	Dr. A. Vijayakumar	Graph Classes
35	Seethu Varghese	KSCSTE	Dr. A. Vijayakumar	Cartesian Product of Graphs
36	Raji George			
37	Dhanya Shajin	-	Dr. B. Lakshmy	Stochastic Processes
38	Akhila R.	-	Dr. P. G. Romeo	Semirings

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer (H.G)	1
2.	Assistant Section Officer	1
3.	Office Superintendent	1
4.	Assistant Librarian	1
5.	Peon	1
6.	Sweeper-cum-Cleaner	1



7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc Mathematics			
2	M.Phil (Maths)			
3	Ph.D.	15	26	41

8. Research Facilities

a. Laboratories (List out Major equipments available)

Computer Lab

More than 20 Computers connected through Local Area Network and all with hi-speed Internet Connectivity. Printers are also made available. Each of the faculty members, office and department library are also provided with computers with hi-speed Internet connectivity. Besides above, there is one lap-top computer, LCD projector, OH Projector etc to support academic activities.

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
9101	32

c. Others

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Prof. A. K. Nandakumaran	Indian Institute of Science, Bangalore.	"Optimization to Optimal Control: A tour from Classical to Modern through Calculus of Variations" on 25/09/2013.
2.	Prof. S. M. Hegde	Dept. of Mathematics and Computational Sciences, NITK, Surathkal.	"Graph Labellings and its Applications" and "Algorithmic Graph Theory" on 27/09/2013.
3.	Dr. M. A. Pathan	Professor in Mathematics (Retd.) Aligarh Muslim University	"Lie Theory and Differential Equations" on 12/02/2014.



Sl. No.	Name	Affiliation	Remarks
4.	Dr. Paul Dorbec	Associate Professor, LaBRI, Universite Bordeaux 1, 351 crs de la Liberation33405 Talence (FR).	Research collaboration during 3 – 16 March 2014.

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	“Discrete Time Inventory Models with/ without Positive Service Time”	Deepthi C. P.	Prof. A. Krishnamoorthy

11. Publications**a. Papers**

Sl. No.	Name of Paper
1.	L. Golinski, K. Kumar, M. N. N. Namboodiri and S. Serra-Capizzano, A note on a discrete version of Borg's Theorem via Toeplitz-Laurent operators with Matrix valued symbols,. Bolletino Della Unione Matematica Italiana, 2013.
2.	K. Kumar, M. N. N. Namboodiri and S. Serra-Capizzano, Perturbation of Operators and Approximation of Spectrum., Accepted (In print) for publication, Proc., Indian Academy of Sciences (Springer)
3.	K. Kumar, M. N. N. Namboodiri and S. Serra -Capizzano, Preconditioners and Korovkin-type Theorems for Infinite Dimensional Bounded Linear Operators via Completely positive maps, Studia Mathematica, 218 (2) (2013).
4.	M. N. N. Namboodiri, S. Pramod and A. K. Vijayaraj, Finite Dimensional Cebesev Subspaces Of C^* -algebras, J. Ramanujan Math.Soc., Vol29, No 1, March (2014)
5.	Krishnamoorthy A., Manikandan R. and Lakshmy B. – ‘A Revisit to Queueing Inventory System with Positive Service Time’ Annals of Operations Research (Springer) DO/10.1007/S 10479-013-1437-X, 2013.
6.	Krishnamoorthy A., Manikandan R., and Lakshmy B. – ‘Production Inventory with Positive Service Time and Loss’ Proceedings of the Eighteenth Ramanujan Symposium on Recent Trends in Dynamical Systems and Mathematical Modeling, University of Madras, Chennai, 25-27 September 2013, Vol.18, 57-64, 2014.
7.	Weakly clique irreducibility of NEPS of two graphs, (A. Vijayakumar, Aparna Lakshmanan, S. Tao- Ming Wang), Util. Math. (2013) .



12. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. P. G. Romeo	Workshop on syllabus revision on PG course in Mathematics, Department of Mathematics, University of Kerala, 10-11 July, 2013	Resource Person
Prof. P. G. Romeo	Refresher Course, Govt Engg. College, Thrissur	Resource Person
Prof. P. G. Romeo	National Seminar on Advanced Mathematical Analysis and Operator Theory, Aquinas College, Edacochin, 23-24 January 2014	Invited Speaker
Prof. P. G. Romeo	International Conference on algebra and Discrete Mathematics, Govt. College, Kattapana, March 2014.	Invited Speaker
Dr. M. N. Narayanan Namboodiri	Visited Institute Of Mathematics, Technological University Of Clausthal, Zellerfeld, Germany from March 30 th to April 07, 2013. Gave a Colloquium talk and many informal lectures on problems related to spectral theory.	Invited Speaker
Dr. M. N. Narayanan Namboodiri	Workshop on Singular and Geometric Analysis, Institute Of Mathematics, University Of Potsdam, Germany, March 24-28, 2014 and gave a talk on computational aspects of spectral -zeta functions on hyperbolic manifolds -a general formulation. In addition visited Institute Of Maths, Georg Agust Univ. Of Gottingen, Germany, gave a talk on Korovkin-type theorems and cluster convergence of matrices.	Invited Speaker
	IWOTA, IISc Bangalore, India-December 2013. Gave a contributory talk on Korovkin-type theorems. CONFERENCE IN HONOUR OF PROF. K. B. SINHA, JNCASR, BANGALORE I was one of the organising members for the above conference held at KSOM, Calicut, during 7-15, February 2014.	Organising Member
Prof. A. Vijayakumar	S.B. College, Changanassery – 26 th September 2013.	Invited Talk
	National seminar on Fuzzy Mathematics and Graph Theory at St. Alossius College, Elthuruth. 30 th October 2013.	Key note address.
	Third India-Taiwan Conference on Discrete Mathematics, National Chiao-Tung University, Hsinchu, Taiwan. 21 st November 2013.	Invited Talk



	Graph Energy – A Survey – National Conference on Emerging Trends in Graph Connections, University of Kerala. – 8 th January 2014.	Invited Talk
	Prof. P. L. Bhatnagar Endowment Lecture on “Excitements & Applications of Mathematics”. 48 th Annual Conference of Association of Mathematics Teachers of India. 11 th January 2014.	Invited Talk
	Research promotion workshop on Introduction to Graph and Geometric Algorithms TIFR-IIITM Department of Future Studies, University of Kerala. – 25 th January 2014.	Invited Talk

13. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Instructional Workshop on Cryptology	May 5-10, 2013	Prof. A. Vijayakumar	CRSI
2.	Instructional Workshop on Semigroups and applications	Feb. 22-24, 2014	Dr. P. G. Romeo	NBHM, CSIR, SERB(DST)
3.	International Conference on Semigroups Algebras and Operator Theory	Feb. 26-28, 2014	Dr. P. G. Romeo	NBHM, CSIR, SERB(DST), KSCSTE

A merit evening was held on 1 February, 2014 to award ‘KSCSTE Cash Prizes ’of Rs 5000/ each , sponsored by the Kerala state Council for Science, Technology and Environment and Prof C S Venkataraman memorial prizes to the five toppers - Mohan Nandakumar, Vishnu H. Nair, Dhananjay R Varma(all from SaraswathiVidyanikethan School, Elamakkara), Nitin M Pai (BVM,Elamakkara) and Atul Antony Zacharias (SaraswathiVidyanikethan School, Elamakkara) of the Regional Mathematical Olympiad held on 1st December 2013.

Prof. Yuri Bilu, University of Bordeaux , France, was the Chief Guest. Prof. A.Vijayakumar, (Regional Coordinator, INMO), Prof P.G. Romeo, (Head, Department of Mathematics, CUSAT) and Dr.K.V.Pramod,(President, OSADMS) were also present.





DEPARTMENT OF PHYSICS

1. Brief History of the Department

Department of Physics of the Cochin University of Science & Technology came into existence as the Ernakulam Centre of the Department of Physics of University of Kerala in the year 1963. Prof. K. Venkateswarlu was the founder Head of this Department. From a moderate beginning it gradually grew to a centre of excellence with emphasis on teaching and research. Today the Department of Physics is well known within India and abroad for its contribution in teaching and research. During its existence for the last 50 years, it has made rapid strides in the realm of research both in experimental and theoretical physics. The Department also has produced innumerable illustrious alumni who are all well placed in different spheres of life throughout the globe. The Department offers post graduate programmes namely M.Sc. (Physics), M.Phil (Physics) and Ph.D. Admissions to these programmes are all through competitive entrance examinations. The Department of Physics is also recipient of generous financial assistance in the form of sponsored projects from various agencies viz. UGC, AICTE, IUCAA, DST, DRDO, CSIR, IUAC, DAE, KSCSTE, MNRE and others.

This year UGC identified this department as the **Centre for advanced Studies** considering the achievements in research. Also Department of Science and Technology supported the department financially under **DST-FIST** programme.

The Department is ably supported by a team of teaching, non-teaching and technical staff with the full co-operation of students. The faculty members of the department are engaged in active collaborative research with their counterparts at the national and international level and also with the sister Departments of the University. Some of the leading institutions with which they interact are NCL, Pune; NIIST, Trivandrum; Inter University Accelerator Centre, New Delhi; IGCAR, Kalpakam; VSSC, Trivandrum; IUCAA, Pune and others. There are also on-going collaborative programmes with faculty members from NTU, Singapore; NUS, Singapore; Rice University, USA; Toyo University, Japan; Tokyo Institute of Technology, Japan; IWATE University, Japan. Steps are afoot to protect the intellectual property rights of the Department. Already a technology transfer of holographic recording material developed in the Department has been made to a company; two Indian Patents have also been filed. The Department intends to be a harbinger for all the changes that is envisaged to occur in the 21st century in the realm of science in general and physics in particular.

2. Programmes of Study/Research

M.Sc. (Physics) : 2 year programme.

M.Phil. (Physics) : 1 year programme.

Ph.D (Full time and Part time).

**3. Faculty Members**

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. K. P. Vijayakumar	Professor	M.Sc., Ph.D	Thin film solar cells
2.	Dr. B. Pradeep	Professor and Head	M.Sc., Ph.D.	Thin film technology Compound semiconducting thin films
3.	Dr. Ramesh Babu T.	Professor	M.Sc.,Ph.D.	Theoretical Physics
4.	Dr. M. R. Anantharaman	Professor	M.Sc., Ph.D	Experimental Solid state Physics, Nano science and Nanotechnology, Polymer Physics.
5.	Dr. C. Sudha Kartha	Professor	M.Sc., Ph.D	Holography, Semiconducting thin films
6.	Dr. L. Godfrey	Professor	M. Sc., Ph.D	Experimental Solid state Physics, Electronic Instrumentation, Astrobiology.
7.	Dr. S. Jayalekshmi	Professor	M.Sc., Ph.D	Conducting Polymers, Polymer Thin Films, Lithium battery materials.
8.	Dr. M. K. Jayaraj	Professor	M.Sc., Ph.D	Nano Material Science, Optoelectronic devices.
9.	Dr. M. Junaid Bushiri	Associate Professor	M.Sc., Ph.D	Nano Material Science, Thin Film Technology, Spectroscopy.
10	Dr. Titus K. Mathew	Associate Professor	M.Sc., Ph.D	Theoretical Physics

4. Emeritus Professor/Scientist (if any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. M. Sabir	Emeritus Professor	M.Sc. Ph.D.	Theoretical Physics
2.	Dr. V. C. Kuriakose	Emeritus Professor	M.Sc. Ph.D.	Theoretical Physics



5. Research Staff

6. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Sanal K. C.	IUCND	Dr. M. K. Jayaraj	Thin film transistors
2.	Sasanka Kumar S.	UGC-RFSMS	Dr. M. K. Jayaraj	Plasma studies
3.	Saritha A. C.	UGC-FIP	Dr. M. K. Jayaraj	Transparent conducting oxides
4.	Vikas L. S.	UGC-RFSMS	Dr. M. K. Jayaraj	Nano solar cells
5.	Subha P. P.	UGC-RFSMS	Dr. M. K. Jayaraj	Metal oxide nanosensors
6.	Hasna K.	UGC	Dr. M. K. Jayaraj	Raman Spectroscopy
7.	Satish B.	Part time	Dr. M. K. Jayaraj	Ferroelectrics
8.	James K. K.	Part time	Dr. M. K. Jayaraj	Ferroelectrics
9.	Krishnaprasad P. S.	Part time	Dr. M. K. Jayaraj	Ferroelectrics
10.	Hysen Thomas	FIP	Dr. M. R. Anantharaman	Magnetic Metal Alloys
11.	M. P. Vasudevan Nambudiry	FIP	Dr. M. R. Anantharaman	Magneto Rheological Elastomers
12.	Geetha P.	UGC-RFSMS	Dr. M. R. Anantharaman	Amorphous Magnetic Thin Films
13.	Vinayasree S.	UGC-RGNF	Dr. M. R. Anantharaman	Magnetic nanofluids
14.	Sethulakshmi N.	DST-INSPIRE	Dr. M. R. Anantharaman	Multiferroics
15.	Lija K. Joy	UGC-RFSMS	Dr. M. R. Anantharaman	Ferroelectric and Multiferroic Materials
16.	Lisha Raghavan	UGC-IUAC Project	Dr. M. R. Anantharaman	Amorphous Magnetic Thin Films
17.	Sudeep P. M.	UGC-RFSMS	Dr. M. R. Anantharaman	Graphene materials
18.	Athira	KSCSTE	Dr. Godfrey Louis	Theoretical Physics



Sl. No.	Name	Funding Agency	Guide	Area of Work
19.	Sivaraj K. S.	DAE-BRNS project	Dr. M. R. Anantharaman	Multiferroics
20.	Aravind P. B.	DST Nano Project	Dr. M. R. Anantharaman	Amorphous Magnetic Thin Films
21.	Poornima N.	UGC-RFSMS	Dr. C. Sudha Kartha	Photoluminescence
22.	Sree Roop S. S.	NIL	Dr. C. Sudha Kartha	Holography
23.	Anas Swalih P. K.	UGC	Dr. C. Sudha Kartha	Photothermal beam deflection technique
24.	Deepu D. R.	UGC-RFSMS	Dr. C. Sudha Kartha	Transparent conducting metal oxides
25.	Aswathy G.	KSCSTE	Dr. C. Sudha Kartha	Holography
26.	Anshad A.	UGC-RFSMS	Dr. C. Sudha Kartha	Photorefractive materials
27.	Jisha J. Pillai	DST	Dr. C. Sudha Kartha	Photorefractive materials
28.	Rajesh C. S.	DST	Dr. C. Sudha Kartha	Holography
29.	T. H. Sajeesh	UGC	Dr. K. P. Vijayakumar	Thin Film Solar Cells
30.	Rajesh Menon M. R.		Dr. K. P. Vijayakumar	Polymer Solar Cells
31.	Angel Susan Cherian	CSIR	Dr. K. P. Vijayakumar	Thin Film Solar Cells
32.	Rajeshmon V. G.	CSIR	Dr. K. P. Vijayakumar	Thin Film Solar Cells
33.	Santhosh M. V.	MNRE	Dr. K. P. Vijayakumar	Thin Film Solar Cells
34.	Gincy Sunny	MNRE	Dr. K. P. Vijayakumar	Thin Film Solar Cells
35.	Geethu R.	DST	Dr. K. P. Vijayakumar	Polymer Solar Cells
36.	Urmila K. S.	UGC RFSMS	Dr. B. Pradeep	Thin film
37.	Sreejith P.	Part time	Dr. B. Pradeep	Thin film
38.	Namitha Asokan T.	Part time	Dr. B. Pradeep	Thin film
39.	Abhilash A.	E-grantz	Dr. B. Pradeep	Thin film
40.	Majeesh M	Full time	Dr. B. Pradeep	Thin film
41.	Priyesh K. V.	UGC RFSMS	Dr. Ramesh Babu T.	Quantum Optics



Sl. No.	Name	Funding Agency	Guide	Area of Work
42.	Anoop P. D.	Part time	Dr. Ramesh Babu T.	Bose Einstein condensate
43.	Lini Devassy	UGC RFSMS	Dr. Ramesh Babu T./ Dr. V. C. Kuriakose	Bose – Einstein Condensation
44.	Navaneeth P.	DST-PURSE	Dr. Ramesh Babu T.	Neutrino Physics
45.	Shaju K. Y.	(FIP)	Dr. Ramesh Babu T.	Astrophysics
46.	Praseetha P.	E-grantz	Dr. Ramesh Babu T.	Cosmology (Theoretical Physics)
47.	Bhavya B.	UGC RFSMS	Dr. V. C. Kuriakose	Cosmology / Astro Physics
48.	Nijo Varghese	UGC-RFSMS Full Time	Dr.V. C. Kuriakose	Gravitation/Cosmology
49.	Prasia P.	UGC JRF Part-time	Dr. V. C. Kuriakose	Extended theories of gravity
50.	Saneesh Sebastian	CSIR-SRF	Dr. V. C. Kuriakose	Gravitation / Cosmology
51.	Tharanath R.	UGC-RFSMS	Dr. V. C. Kuriakose	Black Holes : Thermo Dynamic Properties and quasi normal mode
52.	Vivek M.	UGC - RFSMS	Dr. V. C. Kuriakose	Astrophysics/Astronomy'
53.	Prasobh C. B.	UGC RFSMS	Dr. Ramesh Babu T. / Dr. V. C. Kuriakose	Thermodynamic and Scattering properties of Black holes
54.	Sajan P.	E-grantz	Dr. M. Junaid Bushiri	Nanomaterials
55.	Bini B. Nair	Part time	Dr. M. Junaid Bushiri	Synthesis of ZnO materials
56.	Ganesh Chandra Prabhu V.	UGC JRF	Dr. M. Junaid Bushiri	Nano materials
57.	Shajira P. S.	UGC-JRF	Dr. Junaid Bushiri	Synthesis and characterization of Tin oxide Micro and nanostructures.
58.	Nima K. S.	Part time	Dr. M. Sabir / Dr. V. C. Kuriakose	Synchronization of Chaos
59.	Vinod R.	RGNF	Dr. Junaid Bushiri	Nanomaterials



Sl. No.	Name	Funding Agency	Guide	Area of Work
60.	Satheesh M.	E-grantz	Dr. M. Junaid Bushiri	Nanomaterials
61.	Dhannia T.	Part time	Dr. S. Jayalekshmi	Cerium Oxide based Nanocrystals for Sensor Applications.
62.	Anil Kumar K. M.	Part time	Dr. S. Jayalekshmi	Rechargeable Lithium Battery Materials.
63.	Francis Xavier P. A.	Part time	Dr. S. Jayalekshmi	Conducting Polymer based Optoelectronic Devices.
64.	Anand P. B.	BRNS	Dr. S. Jayalekshmi	polymer based optoelectronics, photovo
65.	Saheeda	FIP	Dr. S. Jayalekshmi	Polymer based battery
66.	Sabira	FIP	Dr. S. Jayalekshmi	Polymer thin film
67.	Athira Sasidharan	KSCSTE	Prof. Godfrey Louis	Astrophysics
68.	Beena Mol		Dr. M. Junaith Bushiri	Nano materials
69.	Giza Grace Ninan		Dr. K. P. Vijayakumar	Thin film solar cell
70.	Krishna Sagar		Dr. M. Junaith Bushiri	Nano materials
71.	Shijeesh M. R.		Prof. M. K. Jayaraj	Transparent electronics
72.	Hiba Rahman E	CSIR	Prof. B. Pradeep	Thin film
73.	Sreejith M. S.		Dr. K. P. Vijayakumar	Thin film solar cell
74.	Jubimol J.		Prof. Godfrey Louis	Photoluminescence
75.	Sijith E.		Prof. Ramesh Babu T.	Neutrino Physics
76.	Anjana R.		Prof. M. K. Jayaraj	Luminescent Materials
77.	Joseph John		Prof. S. Jayalekshmi	Applications of Polymer composites
78.	Rijeesh K.		Prof. Ramesh Babu T.	Neutrino Physics
79.	Naseef Mohammed P. N.		Prof. Ramesh Babu T.	Neutrino Physics
80.	Manoj M.		Prof. S. Jayalekshmi	Organic LED



7. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistants	2+1 Vacant
3.	Typist / Steno	1
4.	Peon	2
5.	Sweeper-cum-cleaner	Vacant

8. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Technical Officer	1
2.	Instrument Technician	1
3.	Store Keeper	1
4.	Lab. Assistant	3
5.	Asst. Librarian	1
6.	Library Asst.	1

9. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Project Fellow	2		2
2	Ph.D. 2012-13	42	29	71
3	M.Phil 2013-14	2	7	9
4	M.Sc. 2013-14	21	33	54

10. Research Facilities :

a. Laboratories (List out Major equipments available)

1. Atomic Force Microscope
2. The high resolution Raman spectrometer
3. Microprobe station with IV-CV Measurement System
4. UV-Vis-NIR Spectrophotometer (analytical Instruments)
5. Dual channel energy meter (Rj-7620)
6. Radiometric calibration source (Ocean optics)
7. 12" S.S. spherical vacuum chamber



8. 4th harmonics Nd:YAG laser
9. Cylindrical vacuum chamber
10. Planar magnetron sputtering
11. Planar magnetron RF sputtering
12. High vacuum box coater
13. Hydrothermal Furnace
14. HP 4285A Precision LCR Meter View
15. Rohde & Schwarz Vector Network Analyzer (ZVB 4)
16. EG&G 7260DSP Lock-in Amplifier
17. Cryocon temperature Controller
18. High Vacuum Metal Coating Unit
19. AC Plasma Polymerisation Unit
20. RF Plasma Polymerisation Unit
21. Tetronix Storage Oscilloscope
22. Chemat-Technology Spin Coater
23. Fritsch High Energy Ball Milling Unit
24. High Temperature Furnaces
25. High Field Electromagnets
26. A full fledged Magneto-Optical Kerr effect(MOKE)Set-up(under
27. fabrication)
28. KEMI - Centrifuge Model 8C
29. Keithley Picoammeter/Voltage source.
30. Laser Doppler Vibrometer (Polytec-0FV5000)
31. KBr press Model M-15 Pelletizer

b. Laboratories (List out Major equipments available)

c. Optoelectronic Devices Lab:

1. High Resolution X-ray Diffractometer
2. Potentiostat/Galvanostat
3. Centifuge
4. Spin coater
5. Ultrasonic cleaner
6. Turbomolecular pump
7. Wet chemical Bench
8. Micro Raman
9. Atomic Force Microscopy
10. Micro probe station Semiconductor Analyser
11. Pulsed Laser Deposition Unit
12. Vacuum unit for laser plasma studies
13. 4th harmonic Nd:YAG laser (Spectra Physics, Quanta Ray LAB 170 – 10)
14. Laser Probe energy meter
15. RF and DC Cosputtering unit
16. RF Sputtering unit
17. Electron beam evaporation/Thermal evaporation unit
18. Hydrothermal furnace



19. Digital storage oscilloscope
20. CCD and PMT for plasma studies
21. Electroluminescent characterisation setup
22. High temperature furnace
23. Non-linear characterisation setup

d. Thin Film Microelectronics Research Laboratory

1. Conductivity Setup
2. Photoconductivity Set up
3. Hall effect Setup
4. Thermoelectric Power Setup
5. Digital Balance
6. Tolanskys Thickness Measurement Unit
7. Vacuum Coating Unit
8. Ultrasonic Cleaner
9. Rotary Pump
10. Hot air Oven
11. Distillation Unit
12. Keithley Nanovoltmeter
13. Digital Multimeter
14. Oscilloscope
15. Lock- in Amplifier
16. Megohm Meter
17. Multimeter
18. Digital Picoammeter
19. Digital Electrometer
20. Servo stabilizer
21. U P S
22. Hot air blower
23. Curie Temperature Kit
24. Oxygen cylinder
25. Analytical Single Pan Balance
26. Broad band Power energy meter
27. Frequency Counter
28. Signal generator
29. FET Nanoammeter
30. Pulse Generator
31. Keithly digital multimeter

3. Major equipments in Magnetism Lab

1. LCR Meter (HP 4285A - 75 KHz to 30 MHz)
2. High Energy Ball Milling Unit P-7 (Fritsch)
3. Lock In Amplifier, (EG & G Instruments DSP Model 7260)
4. Dielectric Cells (For Bulk sample & Thin films) With Necessary Accessories
5. I-V Characterization System, (Keithley Model 487)
6. Dual Trace Analog Oscilloscope, (Philips Model Os-5020p)



7. Digital Real Time Storage Oscilloscope, (Tektronix Model TDS 220)
8. Function Generator, (Tektronix Model CFG 253)
9. AC plasma polymerization coating unit (Polymer Thin film)
10. Vibration free table.
11. RF plasma polymerization coating unit (Polymer Thin film)
12. High Vacuum Metal Coating Unit
13. High Temperature Furnaces (Upto 1600°C)
14. Electronic Balance
15. Ultra Sound Cleaner, Cole Palmer (Model 8610)
16. Electromagnet which can go upto 10000 Gauss
17. Electromagnet which can go upto 10000 Gauss (Axially hole drilled for MO studies)
18. Spin Coating Unit.
19. Laser Doppler Vibrometer (Polytech, Germany).
20. Vector Network analyzer(Rohde & Schwarz)

4. Major equipments in Thin Film Photovoltaic Division

1. Vacuum Coating Unit (IHVP-12)
2. Electron Beam Evaporation Unit (BC-300)
3. Thermally Stimulated Current Measurement System (IMS-2000)
4. Spray Coating Unit.
5. Chemical Spray Pyrolysis Units (Automated)
6. Chemical Spray Pyrolysis Units (Manual)
7. Successive Ionic Layer Adsorption and Reaction (SILAR) set up
8. X-ray Photoelectron Spectrometer
9. Solar Simulator
10. SMU
11. Hall measurement system
12. Vacuum coating units
13. Spray pyrolysis unit

5. Major equipments in Applied Optics Division

1. Photothermal Deflection (PTD) Spectroscopy
2. Low temperature Photoluminescence spectroscopy (PL) Setup
3. Light Beam Induced Current (LBIC) Measurement System
4. Photoconductivity (PC) Setup
5. Liquid Helium cryostat (8 K-300 K)
6. Ar⁺ laser (180 mW (488 nm))
7. Switchable He-Cd Laser (441 nm and 325 nm)
8. Frequency doubled Nd:YAG laser 0-30 mW (532 nm)
9. He-Ne lasers 5 mW, 10 mW and 15 mW (633 nm)
10. He-Ne Laser 1 mW (543 nm)
11. Diode laser 5mW(650 nm)
12. Xe Arc Lamp
13. Vibration isolation table (TMC)
14. Electronic shutter



15. Optical power meter
16. CCD Camera
17. Spin Coating Units
18. Soleil-Babinet Compensator
19. Lock-in amplifier
20. HP LCZ meter
21. Vacuum oven
22. Hot air oven

6. Major equipments in Division for Research in Advanced Materials.

1. Vacuum Evaporation Unit – Indovision (DJK 300)
2. Spin Coating Unit – SPS Spin 150 Wafer Spinner
3. Muffle Furnace – 1000°C
4. Muffle Furnace with PID Controller and Gas Feeding Facility - 1200°C
5. Vacuum Oven – Rotek – up to 300°C, 10^{-3} mbar
6. Table-top Hydraulic Pellet Press – Up to 15 tones
7. GPIB Interfacing with LabVIEW for Electrical Characterization
8. Fully Automated Setup for Charge-Discharge and Cyclic Voltametry
9. Fully Automated Setup for Four-probe and Two-probe Electrical Conductivity Measurements under High and Low Temperatures in Vacuum
10. Hot-Air Oven upto 300°C.
11. Fume-cupboard for material synthesis
12. Glove box (MTI corporation USA)
13. 8 channels battery analyser (MTI corporation USA)
14. Digital weighing balance (Mettler Toledo)
15. Level Surface
16. Solvent distillation unit
17. Keithley 2400 source meter
18. Keithley 2001 multimeter

7. Major equipments in Nano Functional Materials Lab

1. Hydrothermal Oven (Up to 400°C)
2. Microwave oven
3. Spray Pyrolysis Setup (Manual)
4. Digital Ultrasonic Cleaner
5. Magnetic Stirrer
6. Combustion Reaction Setup
7. Heater

8. Common Facilities

Sl. No.	Name of the Equipment
1	NIR Spectrophotometer & Accessories (Hitachi)
2	Differential Scanning Calorimeter(DSC-7)
3	Rigaku Model D max C X-ray Diffractometer System



Sl. No.	Name of the Equipment
4	236 Source Measure Unit (Kiethley)
5	H.I.T Horizontal Tube furnace
6	Model REF 396-D22 variable temp closed refrigeration system for Optical & resistivity measurements
7	Triax 320 system
8	CCD Camera
9	LCR meter (HP 4192)
10	Model CCS -100/202 closed cycle liquid helium cryostat
11	HP Work station –Linux Based XW-6000 3.2GHz 533 FSB dual processor with 17” colour monitor
12	82.5 KVA diesel generating set
13	Stylus Surface Profiler
14	Flourimeter
15	UV-Vis NIR Spectrometer
16	Liquid Nitrogen Generator (Table Top)
17	Hall Effect Measurement System
18	Crystal Cutter
19	Optical Microscopes (Versamet)

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Book till 31/03/2013 : 14244	80
Journals : 11	Nil

b. Others**11. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1	Prof. Ramon Alcubilla Gonzalez	Departament of Enginyeria ElectrònicaUniversitat Politècnica Catalunya, SPAIN.	Delivered a talk on “PV solar cells activities and also briefed about the future activities in the framework of the research exchange in Indo-Spanish project.



Sl. No.	Name	Affiliation	Remarks
2	Mr. Sergi Galindo Lorente	Universitat Politecnica de Catalunya, Spain.	Carried out some preliminary research work on growth of IGZO thin films by pulsed laser deposition in the framework of the research exchange in Indo-Spanish project.
3	Prof. Joaquin Puigdollers Gonzalez	Universitat Politecnica de Catalunya, Spain.	Delivered a talk on "Organic devices (PV-TFTs) at UPC" and also attended the project evaluation meeting in the framework of the research exchange in Indo-Spanish project.
4	Dr. Aldrin Antony	Departament de Física Aplicada i Òptica, Universitat de Barcelona, Spain	Visited Cochin University of Science and Technology, Cochin, India as part of the Indo-Spanish collaborative research project.
5	Masaya ICHIMURA	Department of Engineering Physics, Electronics, and Mechanics, Nagoya Institute of Technology, Japan.	To start a India-Japan joint project, by applying for "DST-JSPSBilateral Joint Projects and also attended "International conference on optoelectronic materials and thin films for advanced Technology
6	Nobuyuki IWATA	Department of Electronics & Computer Science, Nihon University, Japan.	To start a India-Japan joint project, by applying for "DST-JSPSBilateral Joint Projects and also attended "International conference on optoelectronic materials and thin films for advanced Technology.
7	Hiroaki NISHIKAWA	Faculty of Biology-Oriented Science and Technology, Kinki University, Japan.	To start a India-Japan joint project, by applying for "DST-JSPSBilateral Joint Projects and also attended "International conference on optoelectronic materials and thin films for advanced Technology.



Sl. No.	Name	Affiliation	Remarks
8	Thomas Thundat	Professor, Dept. of Chemical and materials Engineering, University of Alberta, Canada	Delivered a talk in the Dept. of Physics: Topic- Photothermal Cantilever Deflection Spectroscopy and Microscopy
9	Gunter Beddies	Scientist, Institute of physics, Technical University of Chemnitz, Germany	Visited Dept. of Physics under DST DAAD PPP exchange program between CUSAT and Technical University of Chemnitz, Germany undertaken by Prof. M. R. Anantharaman
10	Marcus Daniel	Research Scholar, Institute of physics, Technical University of Chemnitz, Germany	Visited Dept. of Physics under DST DAAD PPP exchange program between CUSAT and Technical University of Chemnitz, Germany undertaken by Prof. M. R. Anantharaman
11	Prof. Tamio Endo	Mie University, Japan	Presented a talk on "Fabrication of La(Ba,Sr) MnO ₃ /ZnO Heterostructures and Electrical Junction/ Switching Characteristics".
12	Prof. D. G. Kuberkar	Saurashtra University, Gujarat	Presented a talk on "Studies on Functional oxide based thin film devices"
13	Dr. Vineeth Valsan	University of Ferrara, Italy	Presented a talk on "Extending the band of focusing X-ray telescopes beyond 100 keV: motivations and proposed solutions"
14	Prof. J. V. Narlikar	IUCAA, Pune	Gave a talk on Nov. 23, 2013
15	Prof. Annapurni S.	IIA, Bangalore	Gave a talk on Jan. 10, 2014
16	G. Sreenivasan		
17	Ramesh Narayanan		



12. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Synthesis and Characterization of 3d – Transition Metals doped ZnO Thin Films and Nanostructures for possible Spintronic Applications	Arun Aravind	Prof. M. K. Jayaraj
2.	Prospects of sprayed CZTS Thin film solar cell from the perspective of material characterization and device performance	Rajeshmon V. G.	Prof. C. Sudha Kartha
3.	Probing the Active Galactic Nuclei Using Optical Spectroscopy	Vivek M.	Prof. V. C. Kuriakose
4.	Studies on Quasinormal Modes and Late-Time Tails in Black Hole Spacetimes	Nijo Varghese	Prof. V. C. Kuriakose
5.	Structural, Electrical and Electrochemical Characterization of High Frequency Magnetron Sputtered Spinel Oxide Cathode Films for Lithium Ion Battery Applications	Rajive Tomy M.	Prof. S. Jayalekshmi
6.	On the Improvement of Window and Absorber Layer Properties of Sprayed $\text{CuInS}_2/\text{In}_2\text{S}_3$ Thin Film Solarcells Using Doping and Multilayer Structures	Angel Susan Cherian	Prof. K. P. Vijayakumar
7.	Investigations on some Amino Acid Based Single Crystals for Nonlinear Optical Applications and Amino Acid Capped Nanocrystals	Sreevalsa V. G.	Prof. S. Jayalekshmi
8.	On the Tailoring of Magnetic Properties of Fe-Based Alloy Thin Films by Swift Heavy Ion Irradiation and Thermal Annealing	Hysen Thomas	Prof. M. R. Anantharaman
9.	Investigations on novel polymer nano composites and bio-compatible manganese doped ZnS nanocrystals for photonic and bio-imaging applications	Sajimol Augustine M.	Prof. S. Jayalekshmi

**13. Publications****a. Papers**

Sl. No.	Name of Paper
1.	Optical properties of Cu doped ZnO thin films grown by pulsed laser deposition, Arun Aravind, M. K. Jayaraj, <i>Phy. Express</i> (2013)
2.	Synthesis of chemically pure, luminescent Eu ³⁺ doped HAp nanoparticles: a promising fluorescent probe for in vivo imaging applications, K. Hasna, S. Sasanka Kumar, Manoj Komath, Manoj Raama Varma, M. K. Jayaraj and K. Rajeev Kumar, <i>Phys.Chem. Chem. Phys.</i> , 2013,15, 8106.
3.	Room temperature deposited transparent p-channel CuO thin film transistors, K. C. Sanal, L. S. Vikas, M. K. Jayaraj, <i>Applied Surface Science</i> , 297, 153 (2014)
4.	Development of p-type amorphous Cu _{1-x} BxO ₂ thin films and fabrication of pn hetero junction, K. C. Sanal and M. K. Jayaraj, <i>Materials Science and Engineering B</i> , 185 (2014)
5.	Annealing induced low coercivity, nanocrystalline Co-Fe-Si thin films exhibiting inverse cosine angular variation, T. Hysen, Salim Al-Harhi, I. A. Al-Omari, P. Geetha, R. Lisha, R. V. Ramanujan, D. Sakthikumar, M. R. Anantharaman, <i>Journal of Magnetism and Magnetic Materials</i> (article in press)
6.	A microwave absorber based on strontium ferrite- carbon black-nitrile rubber for S and X – band applications S. Vinayasree, M. A. Solomon, Vijutha Sunny, P. Mohanan, Philip Kurian, M. R. Anantharaman, <i>Composites Science and Technology</i> , (article in press)
7.	On the synthesis, magnetic and magneto optical properties of Nickel ferrofluid: Evidence for low temperature magnetic ordering in nickel nanoparticles, A. P. Reena mary, T. N. Narayanan, E. M. A. Jamal, P. M. Sudeep, M. R. Anantharaman, (conference publication: 13 th International Conference on magnetic fluids, 7-11 January, New Delhi)
8.	Thermodynamics and spectroscopy of Schwarzschild black hole surrounded by Quintessence, R. Tharanath and V. C. Kuriakose, <i>Mod. Phys. Lett. A</i> , 28, 1350003 (2013)
9.	Modification of the optoelectronic properties of sprayed In ₂ S ₃ thin films by indium diffusion for application as buffer layer in CZTS based solar cell V. G. Rajeshmon, N. Poornima, C. Sudha Kartha, K. P. Vijayakumar <i>Journal of alloys and compounds</i> , 553 (2013) 239-244.
10.	Reliable and Damage-Free Estimation of Resistivity of ZnO Thin Films for Photovoltaic Applications Using Photoluminescence Technique. N. Poornima, T. V. Vimalkumar, V. G. Rajeshmon, C. Sudha Kartha, and K. P. Vijayakumar <i>International Journal of Photoenergy</i> Volume 2013, Article ID 105796, 9 pages http://dx.doi.org/10.1155/2013/105796
11.	Phase transition, Quasinormal modes and Hawking radiation of Schwarzschild black hole in Quintessence field, R. Tharanath, Nijo Varghese and V. C. Kuriakose, <i>Mod. Phys. Lett. A</i> .(to appear).



Sl. No.	Name of Paper
12.	Detection of massive gravitational waves using spherical antenna, P. Prasia and V. C. Kuriakose, Int. J. Mod. Phys. D. (To appear).
13.	Thermodynamics and thermodynamic geometry of Park black hole, Jishnu Suresh, Tharanath R., Nijo Varghese and V. C. Kuriakose, Eur. Phys. J. C, 74, 2819 (2014).
14.	Dirac quasinormal modes of MSW black holes, Saneesh Sebastian and V. C. Kuriakose, Mod. Phys. Lett. A, 29, 1450019 (2014).
15.	Scattering of Scalar field around an Extended black hole in $F(R)$ gravity, Saneesh Sebastian and V. C. Kuriakose, Mod. Phys. Lett. A, 29, 1450005 (2014).
16.	Scalar field evolution and area spectrum for Lovelock-AdS black hole, C. B. Prasobh and V. C. Kuriakose, Gen. Relativ. Gravit. 45, 2441(2013)
17.	Thermodynamics and quasinormal modes of Park black hole in Hořava gravity, Jishnu Suresh and V. C. Kuriakose, Eur. Phys. J. C, 73, 2613(2013)
18.	Spectroscopy and thermodynamics of MSW black hole Saneesh Sebastian and V. C. Kuriakose, Mod. Phys. Lett. A, 33, 13501(2013)
19.	Study of young stellar objects and associated filamentary structures in the inner Galaxy, B. Bhavya, Annapurni Subramaniam and V. C. Kuriakose MNRAS, 435, 663–678 (2013).
20.	Area spectrum and thermodynamics of KS black holes in Hořava gravity, Jishnu Suresh and V. C. Kuriakose, Gen. Relativ. Gravit. 45, 1877(2013)
21.	Thermodynamics and spectroscopy of charged dilaton black holes, R. Tharanath and V. C. Kuriakose, Gen. Relativ. Gravit. 45, 1761(2013)
22.	Room temperature deposited transparent p-channel CuO thin film transistors, K. C. Sanal, L. S. Vikas, M. K. Jayaraj, Applied Surface Science, 297, 153 (2014)
23.	Development of p-type amorphous $Cu_xB_xO_2$ thin films and fabrication of pn hetero junction, K. C. Sanal and M. K. Jayaraj, Materials Science and Engineering B, 185 (2014)
24.	Growth and characterisation of tin oxide thin films and fabrication of transparent p-SnO/n-ZnO transparent p-n hetero junction, K. C. Sanal, M. K. Jayaraj, Materials Science and Engineering B, 178, 816 (2013)
25.	Influence of indium concentration and growth temperature on the structural and optoelectronic properties of indium selenide thin films" (2012), R. Sreekumar, T. H. Sajeesh, T. Abe, Y. Kashiwaba, C. Sudha Kartha, and K. P. Vijayakumar, Phys. Status Solidi B, 25095–102, January 20131–8.
26.	Modification of the optoelectronic properties of sprayed In_2S_3 thin films by indium diffusion for application as buffer layer in CZTS based solar cell V.G. Rajeshmon, N. Poornima, C. Sudha Kartha, K. P. Vijayakumar Journal of alloys and compounds, 553 (2013) 239-244.



Sl. No.	Name of Paper
27.	Modified holographic Ricci dark energy model and statefinder diagnosis in flat universe. -, Titus K. Mathew, Jishnu suresh and Divya Divakaran, International Journal of Modern Physics D, Vol. 22, page-1350056, 2013
28.	Cosmological Horizon entropy and generalised second law in flat universe., Titus K. Mathew, Aiswarya R. and Vidya K. Soman, Eur. Phys. J. Vol. 73, Page-2619, 2013.
29.	Interacting Modified Holographic dark energy model and statefinder diagnosis in flat universe., Praseetha P. and Titus K. Mathew, International Journal of Modern Physics D Vol- 23, Page-1450024, 2014.
30.	Holographic dark energy and generalised second law, Titus K Mathew and Praseetha P, Modern Physics Letters A, Vol-29, Page-1450023, 2014.
31.	Enhanced linear and nonlinear optical properties of thermally stable ZnO/poly(styrene)-poly(methyl methacrylate) nanocomposite films, P. P. Jeeju, S. Jayalekshmi , K. Chandrasekharan, P. Sudheesh, Thin Solid Films 531 (2013) 378-384.
32.	Highly luminescent and biocompatible, L-citrulline-capped ZnS:Mn nanocrystals for rapid screening of metal accumulating Lysinibacillus fusiformis bacteria, Augustine M. Sajimol, Alex Roselin, V. G. Sreevalsa, G. D. Deepa, G. Bhat Sarita and S. Jayalekshmi, Luminescence 2013.
33.	Size-dependent optical properties of bio-compatible ZnS:Mn nanocrystals and their application in the immobilization of trypsin, M. Sajimol Augustine, P. P. Manzur Ali, K. Sapna, K. K. Elyas , S. Jayalekshmi, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 108 (2013) 223-228
34.	Structural Studies And Valence Band Splitting Parameters In Ordered Vacancy Compound AgGa ₇ Se ₁₂ . Rajani Jacob, R. Geethu, T. Shripathi, V. Ganesan, U. P. Deshpande , Shilpa Tripathi, B. Pradeep and Rachel Reena Philip. Journal of Inorganic and Organometallic Polymers and Material, Vol.23, p.424- 431(2013)
35.	Structural, optical, electrical and low temperature thermoelectric properties of degenerate polycrystalline Cu ₇ Se ₄ thin films. K. S. Urmila, T. Namitha Asokan, R. R. Philip, V. Ganesan, G. S. Okram, and B. Pradeep. Physica Status Solidi (b) (2013) (In press)
36.	A study on optical and electrical properties and phonon drag effect in low temperature TEP measurements of reactive evaporated AgSbSe thin films. T. Namitha Asokan, K. S. Urmila , Rajani Jacob, Rachel Reena Philip, G. S. Okram, V. Ganesan and B. Pradeep Journal of Semiconductors (2014)
37.	"Exceptionally good, transparent and flexible FeS ₂ /PVP and FeS ₂ /PVA nanocomposite thin films with excellent UV-shielding properties", M. Sajimol; P. B. Anand; K. M. Anil Kumar; S. Jayalekshmi Polymer International Volume 62, Issue 4, pages 670-675, April 2013.
38.	A. Santhosh Kumar, N. Chandra Wickramasinghe, Godfrey Louis, "A Comparative Study of Trentepohlia and Red rain cells" <i>International Journal of Recent Scientific Research</i> . Vol. 4, pp. 1205-1209, (2013).



Sl. No.	Name of Paper
39.	Godfrey Louis and A. Santhosh Kumar, "Autofluorescence characteristics of the red rain cells" <i>Proc. SPIE</i> 8865, Instruments, Methods, and Missions for Astrobiology XVI, vol. 88650I pp. 88650I-88650I-10, (2013).
40.	Magnetic and topographical modifications of amorphous Co-Fe thin films induced by high energy Ag ⁷⁺ ion irradiation, G. Pookat, T. Hysen, S. H. Al-Harhi, I. A. Al-Omari, R. Lisha, D. K. Avasthi, M. R. Anantharaman, <i>Nuclear Instruments and Methods in Physics Research B</i> 310 (2013)
41.	Covalently Interconnected Three Dimensional Graphene Oxide Solids, Parambath M. Sudeep, Tharangattu N. Narayanan, Aswathi Ganesan, Manikoth M. Shaijumon, Hyunseung Yang, Sehmus Ozden, Prabir K. Patra, Matteo Pasquali, Robert Vajtai, Sabyasachi Ganguli, Ajit K. Roy, Maliemadom R. Anantharaman, Pulickel M. Ajayan, <i>ACS Nano</i> , DOI: 10.1021/nn402272u
42.	Lead free heterogeneous multilayers with giant magneto electric coupling for microelectronics/micro electro mechanical systems applications, Swapna S. Nair, G. Pookat, Venkata Saravanan, and M. R. Anantharaman, <i>Journal of Applied Physics</i> , DOI: 10.1063/1.4818411.
43.	Evolution of structural and magnetic properties of Co-Fe based metallic glass thin Films with thermal annealing, G. Pookat, H. Thomas, S. Thomas, S. H. Al-Harhi, L. Raghavan, I. A. Al-Omari, D. Sakthikumar, R. V. Ramanujan and M.R. Anantharaman, <i>Surface & Coatings Technology</i> (2013) -18904
44.	Fluorinated graphene based electrodes for high performance primary lithium batteries, D. Damien, P. M. Sudeep, T. N. Narayanan, M. R. Anantharaman, P. M. Ajayan and M. M. Shaijumon, <i>RSC Advances</i> , 2013. doi: 10.1039/C3RA45377D
45.	Contact potential induced enhancement of magnetization in polyaniline coated nanomagnetic iron oxides by plasma polymerization, N. Sethulakshmi, V. Sooraj, U. S. Sajeev, Swapna S. Nair, T. N. Narayanan, Lija K. Joy, P. A. Joy, P. M. Ajayan, and M. R. Anantharaman, <i>APPLIED PHYSICS LETTERS</i> 103, 162414 (2013)
46.	Structural, topographical and magnetic evolution of RF sputtered FE-Ni alloy based thin films with thermal annealing, R. Lisha, T. Hysen, P. Geetha, D. K. Avasthi, R. V. Ramanujan & M. R. Anantharaman, <i>Material Research Express</i> 1(2014) 015707
47.	Near fifty percent sodium substituted Lanthanum manganites-a potential magnetic refrigerant for room temperature applications, N. Sethulakshmi, I. A. Al-Omari, K. G. Suresh & M. R. Anantharaman, <i>APPLIED PHYSICS LETTERS</i> 104, 092407 (2014)
48.	Large enhanced dielectric permittivity in polyaniline passivated core shell nano magnetic iron oxide by plasma polymerization, Lija K. Joy, V. Sooraj, U. S. Sajeev, Swapna S. Nair, T. N. Narayanan, N. Sethulakshmi, P. M. Ajayan & M. R. Anantharaman, <i>APPLIED PHYSICS LETTERS</i> 104, 121603 (2014)

**Conference Papers**

Sl. No.	Name of Paper
1	Effect of variation in indium concentration on chlorine doped $\text{-In}_2\text{S}_3$ thin films for photovoltaic application Angel Susan Cherian, C. Sudha Kartha, K. P. Vijayakumar Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2013) held at Cochin; 3-5 January 2013
2	Effect of Molarity on Properties of Spray pyrolysed $\text{SnO}_2:\text{F}$ Thinfilms D. R. Deepu, C. Sudha Kartha, K. P. Vijayakumar Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2013) held at Cochin; 3-5 January 2013
3	Sprayed ZnO As Effective Window Layer For CIS/CdS Solar Cell M. S. Sreejith, D. R. Deepu, C. Sudha Kartha and K. P. Vijayakumar Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2013) held at Cochin; 3-5 January 2013
4	Improvement in Properties of Window Layer of Sprayed $\text{CuInS}_2/\text{In}_2\text{S}_3$ Solar Cell by Optimization of Tin Doping M. V. Santhosh, M. S. Sreejith, C. Sudha Kartha and K. P. Vijayakumar Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2013) held at Cochin; 3-5 January 2013
5	Defect analysis of CZTS thin films using photoluminescence technique N. Poornima, V. G. Rajeshmon, C. Sudha Kartha, and K. P. Vijayakumar SOLID STATE PHYSICS: Proceedings of the 57th DAE Solid State Physics Symposium 2012 AIP Conf. Proc. 1512, 464-465 (2013); doi: 10.1063/1.4791112
6	Aqueous and hydrocarbon ferrofluids of Manganese Zinc ferrite: Study on surfactant mediated Inter Particle interactions effect on the magnetic properties, A. P. Reena Mary, Imad Al Omari, T. N. Narayanan, P. M. Sudeep, M. R. Anantharaman, (conference publication :13 th International Conference on magnetic fluids, 7-11 Jan, New Delhi)
7	Evidence for existence of spin glass state in single phase polycrystalline $\text{gd}_{0.99}\text{sr}_{0.01}\text{mno}_3$ through structural and magnetic properties, Lija K. Joy (conference publication: National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals, PUBSMINE)
8	Unusual spinglass behaviour in multiferroic Yttrium bismuth manganite Sivaraj K. S. (conference publication: National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals PUBSMINE)
9	Towards a field effect device using multiferroic rare earth manganites Sethulakshmi N. (conference publication: National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals PUBSMINE)



Sl. No.	Name of Paper
10	Fabrication of nanocrystalline thin film based on Iron Nickel for MEMS applications- An initial study Lisha Raghavan, Geetha P., Hysen Thomas (conference publication: Indo- Israel Meeting on Material science and Nanoscience, IIMMN 2013)
11	Effect of thermal annealing on the optical properties of silver silica nanocomposites Beena mol, Lija K. Joy, Hysen Thomas (conference publication: Indo- Israel Meeting on Material science and Nanoscience, IIMMN 2013)
12	Microactuation and mechanical studies of magneto rheological elastomers based on Nd Fe B natural rubber composites, P. M. Sudeep, M. P. Vasudevan Nambudiry (conference publication: National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals PUBSMINE)
13	On the synthesis, magnetic and magneto optical properties of Nickel ferrofluid: Evidence for low temperature magnetic ordering in nickel nanoparticles, A. P. Reena mary, T. N. Narayanan, E. M. A. Jamal, P. M. Sudeep, M. R. Anantharaman, (conference publication: 13 th International Conference on magnetic fluids, 7-11 January, New Delhi)

b. Books

Sl. No.	Name of Book
1	Co-authored a book - Investigations on the nanomagnetic materials and ferrofluids; Ferrofluids and Magnetic Nanocomposites- Swapna Nair, M. R. Anantharaman, LAP Lambert Academic Publishing, 2012

14. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Subha P. P.	Nano India 2013	Paper presentation
Vikas L. S.	Nano India 2013	Paper presentation
Shijeesh M. R.	Nano India 2013	Participant
Vikas L. S.	India-Israel Meeting on Material Science and Nanoscience	Participant
Shijeesh M. R.	India-Israel Meeting on Material Science and Nanoscience	Participant
B. Pradeep	OMTAT2013	Organizer
B. Pradeep	National Science Day	Organizer



Name of Participant	Name of Seminar/Conference/Workshop	Role
Vinayasree S., Lisha Ragahavan, Lija K. joy, Geetha P., M. P. Vasudevan Nambudiry, Hysen Thomas, Sivraj K. S., Aravind P. B., Sudeep P. M.	International conference on Optoelectronic Materials and Thin films for Advanced Technology (OMTAT 2013), Dept. of Physics, CUSAT January 3-5,2013	Participants
Prof. M. R. Anantharaman	International conference on Optoelectronic Materials and Thin films for Advanced Technology OMTAT, Dept. of Physics, CUSAT January 3-5,2013	Chaired a session
Vinayasree S., Prof. M. R. Anantharaman	International Conference on magnetic fluids, ICMF-13, January 7-11,2013, NPL Delhi	Presented papers
Sethulakshmi N.	Visited TU Chemnitz, Germany (6 th December 2012- 30 th January 2013)	Visited Institute of Physics under DST DAAD PPP exchange program between CUSAT and Technical University of Chemnitz, Germany undertaken by Prof. M. R. Anantharaman
Sudeep P. M.	Nano India-2013, NIIST, Thiruvananthapuram	Participant
Lisha Ragahvan, Lija K. Joy, Aravind P. B., Geetha P., Sivraj K. S.	Indo- Israel Meeting on Material science and Nanoscience, IIMMN- 2013, 31 January- 1 st February 2013, MG University, Kottayam	Participants
Prof. M. R. Anantharaman	Indo- Israel Meeting on Material science and Nanoscience, IIMMN- 2013, 31 January- 1 st February 2013, MG University, Kottayam	Delivered an invited talk
Sudeep P. M.	Indo – US workshop, C-MET, Thrissur, March 8- 11,2013	Participant
Vinayasree S., Geetha P., M. P. Vasudevan Nambudiry, Hysen Thomas, Aravind P. B.	National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals (PUBSMINE) March 1-2, 2013, Cochin	Participants



Name of Participant	Name of Seminar/Conference/Workshop	Role
Sudeep P. M., Sivraj K. S., Lija K. Joy, Sethulakshmi N.	National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals (PUBSMINE) March 1-2, 2013, Cochin	Presented papers
Prof. M. R. Anantharaman	National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals (PUBSMINE) March 1-2, 2013, Cochin	Delivered an invited talk
Prof. M. R. Anantharaman	International Conference on Nanomaterials, ICN, MG University, Kottayam	Delivered an invited talk
Prof. M. R. Anantharaman	National Seminar, Govt. College, Nattakam, Kottayam	Plenary talk
Prof. M. R. Anantharaman	125 year celebration National Seminar, Victoria College, Palghat,	Plenary talk
Prof. M. R. Anantharaman	SASTRA, Program for School children-Talk by eminent scientists: Champion School,	Invited talk
Prof. M. R. Anantharaman	National Seminar, NSS Hindu college, Changanassery	Plenary lecture
Prof. M. R. Anantharaman	National Seminar Marthoma college, Thiruvalla	Invited talk
Dr. M. Junaid Bushiri	Refresher course (Nano Sciences)	Participant
Dr. M. Junaid Bushiri	Interaction Programme for Ph.D. Research Scholars (Science)	Resource person
Dr. M. Junaid Bushiri	Sajan P., Vinod R., K. R. Nithin Raj and Junaid Bushiri Grain Size Engineering of ZnS Quantum Dots Prepared Via Molarity Variation by Chemical Method Nano India 2013, Feb. 19-20, 2013, NIIST, Thiruvananthapuram, Kerala, India.	Poster Presentation
Deepu	Effect of Molarity on Properties of Spray pyrolysed SnO ₂ :F Thinfilms D. R. Deepu, C. Sudha Kartha, K. P. Vijayakumar Department of Physics, Cochin University of Science and Technology, Cochin – 682022, India	Presentation
Sreejith	Sprayed ZnO As Effective Window Layer For CIS/CdS Solar Cell M. S. Sreejith, D. R. Deepu, C. Sudha Kartha and K. P. Vijayakumar Department of Physics, Cochin University of Science and Technology, Cochin-22, Kerala, India.	Presentation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Rajeshmon	Effect of variation of tin concentration on the properties of Cu ₂ ZnSnS ₄ thin films deposited using chemical spray pyrolysis V. G. Rajeshmon, Abin Kuriakose, C. Sudha Kartha, and K. P. Vijayakumar SOLID STATE PHYSICS: Proceedings of the 57th DAE Solid State Physics Symposium 2012 AIP Conf. Proc. 1512, 1206-1207 (2013); doi: 10.1063/1.4791483	Presentation
Poornima	Defect analysis of CZTS thin films using photoluminescence technique, N. Poornima, V. G. Rajeshmon, C. Sudha Kartha, and K. P. Vijayakumar SOLID STATE PHYSICS: Proceedings of the 57th DAE Solid State Physics Symposium 2012 AIP Conf. Proc. 1512, 464-465 (2013); doi: 10.1063/1.4791112	Presentation
Rajesh C. S.	Reflection mode holographic recording in methylene blue sensitized poly(vinyl) alcohol acrylamide(MBPVA/AA) films C. S. Rajesh 1, R. Anjana 2, S. S.SreeRoop 1, C. Sudha Kartha NLS-21	Presentation
Angel Susan Cherian	Effect of variation in indium concentration on chlorine doped -In ₂ S ₃ thin films for photovoltaic application Angel Susan Cherian, C. Sudha Kartha, K. P. Vijayakumar Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2013) held at Cochin; 3-5 January 2013	Presentation
Anshad A.	National Laser Symposium-21	Participant
Aswathy G.	National Laser Symposium-21	Participant
Jisha J. Pillai	National Laser Symposium-21	Participant
Prof. K. P. Vijayakumar	One day workshop on Solar Energy sponsored by KSCSTE held at MAFAST, Thiruvalla [2012]	Invited Lecture
T. H. Sajeesh	57 th DAE	Oral presentation
Rajesh Menon M. R.	38 th IEEE-PVSC	Poster presentation
Angel Susan Cherian	OMTAT-2013	Poster presentation
Rajeshmon V. G.	57 th DAE	Poster presentation
Santhosh M. V.	OMTAT-2013	Poster presentation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. S. Jayalekshmi	1. Second International Conference on "Optoelectronic Materials and Thin Films for Advanced Technology- OMTAT, January 2013 in Cochin	Part of the Organising Committee
Praseetha P.	Workshop on frontier research, IIST, Thiruvananthapuram - 2013	Oral presentation.
Dr. Titus K. Mathew	Frontiers of Applied Physics, Govt. College, Madapally, Vadakara – March-2014.	Invited talk.
Prof.S.Jayalekshmi	2. International Conference on Optoelectronics, Photonics and Applied Physics-OPAP 2013, held in Singapore, February 2013	Research paper presentation/ discussion
Mr. Anand Puthirath Balan	4. Fifth edition of International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (ISRS 2013) 13-15 December 2013, IIT Madras, India.	Research paper presentation
Mr. Anand Puthirath Balan	5. 2nd International conference on Optoelectronic Materials and Thin films for Advanced Technology (OMTAT 2013), 3-5 January 2013, Kochi, India.	Research paper presentation
Mr. Anand Puthirath Balan	6. Annual International Conference on Optoelectronics, Photonics & Applied Physics (OPAP 2013), 4-5 February 2013, Singapore.	Research paper presentation
Smt. Sajimol Augustine M.	8. Annual International Conference on Optoelectronics, Photonics & Applied Physics (OPAP 2013), 4-5 February 2013, Singapore.	Research paper presentation
Smt.Sajimol Augustine M.	9. International Conference on Optoelectronics, Photonics and Applied Physics-OPAP 2013, held in Singapore, February 2013	Research paper presentation
Mr. Anand Puthirath Balan	10.57th DAE Solid State Physics Symposium, 3-7 December 2013, IIT Bombay, Mumbai, India.	Participant/ Discussion
Mr. Anand Puthirath Balan	11.2 Day Seminar on Nanotechnology for Energy, Environment and Health Organized by PSG Institute of Advanced Studies, PSG College of Technology, 15th and 16th October 2012.	Participant/ Discussion



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Titus K. Mathew	Workshop on Recent Trends in Apollege, Madappally, Vadakara, March 28, 2014.	Invited Talk
Dr. Godfrey Louis	SPIE Conference - Instruments, Methods, and Missions for Astrobiology XVI, August 2013, San Diego, USA.	Author, Invited Speaker, Program Committee Member.
Lisha Raghavan	International conference on ion beams in material science, ICNIB, Oct 20-25, Jaipur	Presented poster
Lisha Raghavan, Lija K. Joy, Sivaraj K. S.	International conference on magnetic materials and applications, MagMA 2013, IIT Guwahati, Dec 5-7, 2013	Presented poster
Sethulakshmi N., Vinayasree S.	ICAFM 2014, Feb 19-21, 2014	Presented poster
Lija K. Joy	Visited TU Chemnitz, Germany (3 rd July-10 th September 2013)	Visited Institute of Physics, Technical University of Chemnitz, Germany
Lisha Raghavan, Lija K. Joy, Sethulakshmi N., Aravind P. B.	National seminar on frontiers of nanotechnology, SSV college, Perumbavoor, March 6-7, 2014	Presented paper
Sudeep P. M.	National seminar on conducting polymers and polymer nanostructures, August 29-31, 2013	Presented paper
M. R. Anantharaman	National Seminar on Advanced Materials (NSAM) 07-02-2014 Vimala College	Delivered invited talk
M. R. Anantharaman	National seminar on frontiers of nanotechnology, SSV college, Perumbavoor, March 6-7, 2014	Delivered invited talk

15. Role of Faculty in International/National organizations/Institutions/Editorial Boards

Name of Faculty	Name of Organization	Role
Prof. Ramesh Babu T.	Fermi Lab, U.S.A.	Collaborator in Neutrino Project
Prof. M. K. Jayaraj	1) Journal of Spectroscopy and dynamics 2) International Journal of Basic and applied chemical sciences.	Referee of these journals
Dr. Titus K. Mathew	Canadian Journal of Physics	Referee



16. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
V.Pramitha	Best thesis award	DAE-BRNS
M. Sajimol Augustine	Best Poster Presentation Award (second prize)	International Conference on Nanotechnology at the Bio-Medical Interface
Sethulakshmi N.	Third best Poster in National Conference on Emerging Technologies for Processing and Utilization of Beach Sand Minerals, March 1-2, 2013, Cochin	Rare Earth Association of India (REAI) and IRE Retired Employees Organization (IREREO)
Prof. S. Jayalekshmi	Best Research Paper Award at the international conference OPAP in Singapore, February 2013	Global Science and Technology Forum
Mr. Anand Puthirath Balan	Best Student Paper Award at the international conference OPAP in Singapore, February 2013	Global Science and Technology Forum
Smt.Sajimol Augustine M.	Best Poster Presentation Award at the 2nd International conference on Optoelectronic Materials and Thin films for Advanced Technology (OMTAT 2013) held from the 3rd to the 5th of January, 2013 in Kochi, India.	OMTAT 2013 Organizing Committee
Sethulakshmi N.	Best Oral Presentation National seminar on Frontiers of nanotechnology	SSV College, Perumbavoor
Dr. M. Junaid Bushiri	Best Oral Presentation National Conference on Nanophotonics	School of Physics Bharathidasan University Thiruchirappally

17. Sponsored Research Projects

Name of PI/Co-PI	Name of Project	Duration	Total Amount Rs.	Sponsoring Agency
Prof. V. C. Kuriakose Prof. Ramesh Babu T.	Black Holes, Information Loss and Entanglement	2010-2013	Ongoing	UGC



Name of PI/Co-PI	Name of Project	Duration	Total Amount Rs.	Sponsoring Agency
Prof. K. P. Vijaya kumar (PI), Prof. C. Sudha Kartha (Co-PI) and Dr. Rajeevkumar (Co-PI), Dept.of Instrmntn.	Development of stable and low cost thin film solar cells using automated spray technique	2011-2014	Rs. 2,23,86,000	MNRE
Prof. K. P. Vijaya kumar (PI), Prof. C. Sudha Kartha (Co-PI)	Fabrication of ZnO nanorods/ polymer heterojunctions for solar cell application (collaborating project with Bharathiyar University)	2011-2014	Rs. 18,12,200/-	DST
Prof. K. P. Vijaya kumar (PI) Prof. C. Sudha Kartha (Co-Investigator)	Development of tin based p-n junctions deposited using the indigenously fabricated automated spray coating machine for thin film solar cells	2013-2015	Rs. 11,40,000/-	KSCSTE
Prof. Ramesh Babu T.	Collaboration by Indian Physicists on Neutrino Projects" at Fermilab (USA).	2012 - 2015	Rs.224 lakhs	DST
Prof. S. Jaya lekshmi, Prof. M. K. Jayaraj	Development of solid state, flexible andenvironmentally friendly, polymer based thin film lithium ion cellswith improved specific capacity and cyclability	2012 - 2013	19.8 lakhs	BRNS
M. R. Anantha raman	Tailoring magnetic characteristics and possible patterning of Fe-Ni alloy thin films using SHI	2011-2014	Rs. 6,00,000/-	IUAC, New Delhi
M. R. Anantha raman	Investigations on Multiferroic materials based on rare earth manganites	2011-2014	Rs. 24,73,000/-	BRNS
M. R. Anantha raman	Fabrication of magnetic nanostructures employing oblique angle vapour deposition and investigation on their structural and magnetic properties	2012-2015	Rs. 45,00,000/-	DST Nano Mission



18. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Nanostructured materials	Prof. M. K. Jayaraj
2.	Ferroelectric materials	
3.	Electroluminescent Devices	
4.	Energy storage materials	Prof. S. Jayalekshmi, Prof. M. K. Jayaraj
5.	Polymer based light	Prof. S. Jayalekshmi, Dr. M. Prathapan
6.	Emitting devices Nanophotonics and bionanophotonics	Prof. S. Jayalekshmi, Dr. Saritha G. Bhat

19. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Second International conference on optoelectronic materials and thin films for advanced Technology (OMTAT 2013)	January 3 to 5, 2013	Prof. M. K. Jayaraj	DST, BRFST, KSCSTE, AICTE, DBT, ISRO, VSSC, DST-JSPS
2	Workshop on Physics : Scope and Awareness, for school children	(April 01-06, 2013-	Dr. M. Junaid Bushiri	
3	National Science Day Conference	One day on the 28 th of February 2013	Prof .S. Jayalekshmi	DST-PURSE

20. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Development of Absorber Layer of Earth Abundant Kesterite CZTS ($\text{Cu}_2\text{ZnS-nS}_4$) and Non-toxic, Cadmium-free Buffer Layers using Chemical Spray Pyrolysis (CSP) technique for Thin Film Photovoltaic Applications	Prof. K. P. Vijayakumar	BHEL





DEPARTMENT OF PHYSICAL OCEANOGRAPHY

1. Brief History of the Department:

Oceanography is a subject of past, recent and future, aimed at exploring the horizons of knowledge pertaining to the hydro environment of this planet – as we also attempt to search extra terrestrial bodies, probing for H₂O. As a course designed for graduates, teaching and research commenced way back nearly 50 years ago in erstwhile Kerala University (in 1965) and evolved to mature into a full-fledged program of this department. The master's program now covers topics on air-sea interaction, coastal and estuarine oceanography, coastal zone management, sea-state analysis, modelling, environmental oceanography, ocean remote sensing, ocean impact assessment etc. Placements are at NIO, CESS, NPOL, NIOT, IISc, IIT, SAC, NRSA and so on, while some find positions abroad and private. The M. Tech. Ocean Technology program further supports in-depth studies in such frontier areas of Oceanography like acoustics, dynamics, coastal structures, instrumentation and so on, aimed to mould skilled candidates in this realm. The department also gives emphasis to doctoral programs in the thrust areas of oceanography and the recent awardees have theses in the topics like pollution routing, estuarine waste load allocation, coastal zone management and GIS, open ocean processes and so on.

This department has a dedicated lifeline of highly qualified decorated scientists and researchers serving the nation in varied capacities. Also, time in and out, valued projects from DoES, DST, MHRD, AICTE, MEF and UGC have been executed by the faculty attached to this department. Members have often associated themselves with international bodies/scientists & teachers from foreign countries in their pursuit for academic excellence. A number of students have qualified the NET – CSIR – UGC test to secure positions in national laboratories/institutions. The department houses sophisticated instruments like ocean current meters, automatic sedimentation analyzer, bathythermograph, echo sounder, tide cum wave gauges, ship borne data acquisition systems, CTD etc.

2. Programmes of Study/Research

- a. M.Sc. Oceanography
- b. M.Tech. Ocean Technology
- c. Ph.D. Programme in Oceanography



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. A. N. Balchand	Professor and Head of the Department	M.Sc. (CUSAT) Ph.D. (CUSAT)	Environmental Oceanography
2	Dr. R. Sajeev	Associate Professor	M. Sc (CUSAT) Ph.D (CUSAT)	Coastal Oceanography
3	Sri P. K. Saji	Assistant Professor	M.Sc. (CUSAT)	Ocean Atmosphere Interaction

4. Emeritus Professor/Scientist (if any) : Nil

5. Visiting Faculty (If any) : Nil

6. Research Staff/Project Staff : Nil

7. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Saji P. K.	Faculty Member-Part Time	Dr. A. N. Balchand	Air-Sea Interaction
2	Maya L. Pai	Part Time-Amrita Vidya Peedom	Dr. A. N. Balchand	Maritime Climatology & Indian Monsoons
3	Phiros Shah	DPO, CUSAT	Dr. R. Sajeev	Circulation Dynamics of Arabian Sea
4	Salini T. C.	Part Time CMLRE, MoES	Dr. R. Sajeev	Physical Processes and its Influence on the Biological Productivity of the Andaman Sea
5	P. Chandrasekharan	DPO, Part Time	Dr. R. Sajeev	Ocean Atmospheric Coupling in the Arabian Sea
6	Sudha A. K.	DPO, Part Time	Dr. R. Sajeev/ Dr. Prasada Rao	Studies on the Indian Ocean Circulation
7	Gopika N.	DPO, CUSAT	Dr. R. Sajeev	Heat budget of the Indian Ocean



Sl. No.	Name	Funding Agency	Guide	Area of Work
8	Muhammed Shafeeque	SAC, Full Time	Dr. A. N. Balchand	South Eastern Arabian Sea Studies based on Satellite Oceanography
9	E. K. Simon	DPO, CUSAT	Dr. R. Sajeev	Air Sea Interaction in the Tropical Indian Ocean and its influence on Monsoon over Southern Peninsular India
10	Vimal Kumar K. G.	DPO, CUSAT	Dr. R. Sajeev	Oceanic Mesoscale features in the Bay of Bengal

8. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant Section Officer	1
3	Typist/Stenographer	1(Vacant) -Reported
4	Peon	1

9. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Lab Technician	1 (Vacant) - Reported

10. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc Oceanography II Sem	4	8	12
2	M.Sc Oceanography IV Sem	4	7	11
3.	M Tech Ocean Technology II Sem	-	10	10
4.	M Tech Ocean Technology IV Sem	1	6	7



11. Research Facilities

a. Laboratories (List out Major equipments available)

Ocean current meter
Ocean current meter
Salinometer and bathy thermograph
Electronic balance
Marine navigation system G.P.S. receiver
Digital water analyzer
U V visible spectrometer
Lux Meter
Current meter
3 D ACM Current Meter
Van Dorn Water Samplers
Portable Echo Sounder
Wave Cum Tide Guage
Dumpy Level
GPS
CTD
Mapping device
Anaroid barometer
Horizontal Water Sampler
Shallow Water ADCP

b. Library - Please see details available under School of Marine Sciences

c. Others - Computer Laboratory equipped for Modelling and Remote Sensing Ocean Applications

12. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. Arun Chakraborty	IIT, Kharagpur	Hands on training program on ROMS-Modelling
2	Dr. N. P. Kurian	Director, Centre of Earth Science Studies, Trivandrum.	General Discussion on Academic matters

**13. Ph.D.s Awarded : Nil****14. Publications**

Sl. No.	Name of Paper
1	Teena N. V., Sanil Kumar V., Sudheesh K. and Sajeev R., Statistical Analysis on extreme wave height. Natural Hazards, Dec. 2011.
2.	Lix, K. Rasheed, R. Sajeev and A. N. Balchand, 2013. Computation of Suspended Sediment Budget at Cochin Estuarine Harbour J. K. Proceedings of HYDRO 2013 INTERNATIONAL 4-6 Dec 2013, IIT Madras, Chennai, INDIA
3.	Phiros Shah, R. Sajeev, and N. Gopika, 2014. Study of Upwelling along the West Coast of India—A Climatological Approach. Paper Accepted in Journal of Coastal Research.
4.	Saji P. K, A. N. Balchand and R. Sajeev, 2014. Seasonal warming trend in Indian Ocean. Paper presented in National Seminar on Climate Change and Marine Ecosystems (CCME-2014) 20-21 March 2014. Organized by the Department of Marine Biology, Microbiology and Biochemistry, CUSAT
5.	Saji P. K., and A. N. Balchand 2014 Investigation on the warming trends of Indian Ocean Warm Pool., Proceedings of 28 th Kerala Science Congress, Wayanad: 28-31 Jan 2014, 1781-1787 (in absentia)
6.	Saji P. K., A. N. Balchand and M. R. Ramesh Kumar (2013) On some aspects of Indian Ocean warm pool., IJMS (Accepted)
7.	Chiranjivi Jayaram, Ajith Joseph K. and Balchand A. N., 2013. Interannual variability of chlorophyll-a concentration along the southwest coast of India. International Journal of Remote Sensing, International Journal of Remote Sensing, 34 (11), 3820 – 3831, DOI: 10.1080/01431161.2012.762482
8.	Nair S. M., Balchand A. N., Prashob Peter K. J. and Shaiju R., 2013. Mobilization of trace metals in a tropical turbid estuary influenced monsoon season. Environmental Earth Science, DOI 10.1007/ S12665 – D12 – 2170-5.
9.	Nair S. M., Balchand A. N., Prashob Peter K. J. and Anu Gopinath, 2013. Phenomenal changes in the forms of nitrogen: results from a coastal zone of south west India. Chemical Speciation and Bioavailability, 25 (2), 89 - 96.
10.	Swain J., Panigrahi J. K., Umesh P. A., Baba M., Murthy, A. S. N. and Balchand A. N., 2013. WAM validation studies in the north Indian Ocean using NCMRWF analysed wind fields, International Journal of Oceans and Oceanography, 7 (1), 9 – 13.
11.	Swain J., Umesh P. A., Panigrahi, J. K. and Balchand A. N., 2013. Observed thermal inversions and associated oceanographic features in the coastal waters off North East coast of India, International Journal of Oceans and Oceanography, 7 (1), 33 – 46.



b. Books : Nil

15. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

1. Seminar/Conferences Attended by Dr.R.Sajeev, Associate Professor during 2013 – 2014

Workshop on Atmosphere-Ocean Interaction organized by the Dept. of Atmospheric Sciences, CUSAT during 12-14 August, 2013.

National Seminar on Climate Change and Marine Ecosystems (CCME-2014) 20-21 March 2014. Organized by the Department of Marine Biology, Microbiology and Biochemistry, CUSAT.

Mud Banks of Kerala: The known and the Unknown- Brain storming Workshop, CSIR-National Institute of Oceanography, India, Kochi, 20-21 January 2014.

2. Seminar/Conferences attended by Sri. P. K. Saji, Asst. Professor.

Attended “ UGC sponsored Refresher Course in Environmental Sciences” at Academic Staff College, University of Kerala during 16.01.2014 to 05.02.2014.

Attended “National Seminar on Climate Change and Marine Ecosystems-CCME 2014” conducted by Department of Marine Biology, Microbiology and Biochemistry, CUSAT during 20-21, March 2014.

16. Role of Faculty in International/National Organization/Institutions/Editorial Boards : Nil

17. Awards/Honours/Fellowships etc. received : Nil

18. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount lakhs	Investigator(s)
1	INCOIS-INDOMOD Project- Dynamics of the Coastal Waters of the South West Coast of India and its impact on fisheries.	INCOIS-MoES	27 Lakhs	Dr. R. Sajeev (PI) and Dr. Pankajakshan, NIO (Co-PI)
2	SALT – SEAS: Project on application of Saral Altika remote sensing satellite data for study of processes in south eastern Arabian Sea	S A C	24.5 Lakhs	A. N. Balchand (PI) and Ajith Joseph (Co-PI)
3	SAC Project – Modelling Coastal Sediment Transport and its impact on Coastal environment	SAC	26.15 Lakhs	Dr. R. Sajeev (PI) and Ratheesh Ramakrishnan, SAC (Co-PI)

**19. Research Programmes and Activities**

Sl.No.	Problems/Topics	Investigator(s)
1	Satellite Altimetry	Muhammad Shafeeque, Ajith K. Joseph and A. N. Balchand
3	Indian Monsoon and ANN	Maya L. Pai, Pramod K. V. and A. N. Balchand
4	Heat Budget of Indian Ocean	P. K. Saji and A. N. Balchand
5	Coastal Zone Management	A. N. Balchand
6	Indian Ocean and Climate Change	A. N. Balchand in collaboration with NERCI (India) and NANSEN (Norway)
7	Circulation Dynamics of the Arabian Sea	Phiros Shah and R. Sajeev
8	Physical Processes and its Influence on the Biological Productivity	Salini T. C. and R. Sajeev
9	Ocean Atmospheric Coupling	P. Chandrasekharan & R. Sajeev
10	Indian Ocean Circulation	Sudha A. K., C. V. K. Prasada Rao and R. Sajeev
11	Heat budget	Gopika N. and R. Sajeev
12	Air Sea Interaction in the Tropical Indian Ocean and its influence on Monsoon over Southern Peninsular India	E. K. Simon and Dr. R. Sajeev
13	Oceanic Mesoscale features in the Bay of Bengal	Vimal Kumar K. G. and Dr. R. Sajeev

20. Seminar/Conference/Workshop/Refresher Courses conducted by the Department : Nil

21. Consultancy Work : Nil





DEPARTMENT OF POLYMER SCIENCE AND RUBBER TECHNOLOGY

1. Brief History of the Department

The Department of Polymer Science and Rubber Technology (P.S. & R.T.) established in 1971 is one of the pioneers in the area of education and research in Polymer Science and Engineering. In collaboration with the Rubber Research Institute of India the B.Tech. Programme was started in the year 1972. The starting of the M.Tech. Programme in the year 1985 was a major milestone in the growth of the Department.

The highly motivated faculty members with experience in Universities outside India have to their credit about 600 research publications in internationally reputed journals. More than 78 students have already taken their Ph.D. Degrees from the Department. The Department organises International Symposia on Advances in Polymer Technology (APT) once in two years to bring the polymer scientists, technologists, and engineers working in academic institutions, industry and research organizations to a common platform. Almost 100% placement of the B.Tech. and M.Tech. students, mainly through campus selection, in major tyre companies, polymer manufacturing/processing industries, and research institutions has been the tradition of the Department. Alumni of the Department are in senior positions in major polymer based industries in India, and in multi national corporations.

The B. Tech programme in Polymer Science and Rubber Technology was restructured to an eight-semester post +2 pattern in 2002 in collaboration with the Eindhoven University of Technology, The Netherlands under the MHO programme. It was then thoroughly revamped in 2009 and designated as B. Tech in Polymer Science and Engineering. The revised curriculum has been designed to equip students in basic science and engineering skills, and to provide them up-to-date knowledge, and skills in the production, characterization, processing, and testing of polymers and polymer products. Practical training sessions at the Rubber Research Institute of India, Kottayam, Central Institute of Plastic Engineering and Technology, Chennai and other research institutions, and in-plant training in Tyre/Polymer Industries are the highlights of this course.

Teaching and research are intertwined in the four semester M.Tech. Programme in Polymer Technology. The first two semesters of the programme comprises of lectures, laboratory work, and seminars. The students spend the third and fourth semesters in a research project either in a research institution/industry R & D division or in the University.

The Department has a very active research community. The Department successfully completed international collaborations which include the sandwich Ph.D. programmes with the Eindhoven University of Technology (TUE), and the Twente University of the Netherlands. Modification of rubber products using electron beam (BARC), Conducting polymers for



developing pressure sensors (ISRO), Use of carbon nano-tubes for improved mechanical and electrical properties (DST), Modification of natural rubber (AICTE), Specialty composites (UGC- SAP), and Bio-degradable polymers are some of the completed projects.

Major facilities in the Department include basic rubber/plastic processing equipments, Windsor Injection Moulding Machine, Shimadzu Autograph Universal Testing Machines (50 kN and 10kN), Alpha Technologies RPA2000 Rubber Process Analyser, TA Dynamic Mechanical Analyser Q800, TA DSC Q100, TA TGA Q50, Hitachi U-V Visible NIR Spectrophotometer, Bruker Tensor 27 FTIR, Zwick Impact Tester, Atago Abbe Refractometer, Keithley2182 Nano Voltmeter, Waters 515 HPLC, Brookfield Viscometer, Carl Zeiss Stereo Microscope, Thermo Haake (Rheomix) Poly Lab System, Buchi Parallel evaporator, Buchi Rotavapor, Ektron Mooney Viscometer, Ektron Flexometer, Particle Size Analyzer and Impedance Analyzer.

2. Programmes of Study/Research

- a) B.Tech Course in Polymer Science & Engineering
- b) M.Tech Course in Polymer Technology
- c) Ph.D. Programme in Polymer Technology

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Sunil K. Narayanankutty	Professor & Head	M.Tech & Ph.D	Polymer Science/ Technology
2	Dr. Thomas Kurian	Professor	B.Sc., B.Tech., M.Tech., Ph.D. (IIT Kgp), M.B.A., PGDTRM. (Former JSPS Post-Doctoral Fellow and JSPS BRIDGE Fellow, Yamagata University, Japan)	Polymer Science/ Technology
3	Smt. Jayalatha Gopalakrishnan G.	Assistant Professor	B.Tech., M.Tech, Ph.D.	Blends and Composites

4. EmeritusProfessor/Scientist (if any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Rani Joseph	Professor	M. Sc., B.Tech., Ph.D	Polymer Science/ Technology



5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Sindhu M. K. (PT)	-	Prof. Thomas Kurian	
2	Abitha K. (PT)	-	Prof. Thomas Kurian	
3	Divya Jose	CSIR	Prof. Rani Joseph (co-guide)	
4	Neethu P. M.	CSIR	Prof. Rani Joseph	
5	Soumya C. C.	UGC	Prof. K. E. George	
6	Neena George	UGC	Prof. Thomas Kurian	
7	Praseetha P. Nair (PT)		Prof. K. E. George	
8	Resmi V. C.	BSR	Dr. Sunil K. Naryanankutty	Polymer Synthesis
9	Julie Chandra (PT)	-	Dr. Sunil K. Naryanankutty	Polymer Technology
10	Sobha A. (PT)	-	Dr. Sunil K. Naryanankutty	Conducting polymers
11	Jayesh G. (PT)	-	Dr. Sunil K. Naryanankutty	Polymer Technology
12	Jabin T. (PT)	-	Dr. Sunil K. Naryanankutty	Conducting polymers
13	Ayswarya E. P.	BSR	Dr. Eby Thomas Thachil	
14	Asha Krishnan K.	e-grantz	Dr. K. E. George	
15	Shadiya M. A.	KCSTE	Dr. K. E. George	
16	Sona Narayanan	BSR	Dr. Rani Joseph (co-guide)	
17	Renju V. S.	BSR	Dr. Eby Thomas Thachil	
18	Sreejesh P. R.	CSIR	Dr. Rani Joseph	
19	Neena George (PT)		Dr. Rani Joseph (co-guide)	
20	Nisha Nadakumar	DST-PURSE	Dr. Philip Kurian	
21	Jolly V. Antony	FIP	Dr. K. E. George	
22.	Bhagyesh V. B.	CSIR	Dr. Rani Joseph	
23.	Nishad K. M.	CSIR	Dr. Philip Kurian	
24	Remya Suresh	CSIR	Dr. Philip Kurian	
25.	Abhilash G.		Dr. Rani Joseph	
26	Jisha J. Pillai (PT)		Dr. Rani Joseph (co-guide)	
27	Anjana R. (PT)		Dr. K. E. George	
28	Sreedevi P. G. (PT)		Dr. Philip Kurian	
29	Jose Sebastian (PT)		Dr. Eby Thomas Thachil	
30	Dennymol P. V. (PT)		Dr. Rani Joseph (co-guide)	
31	Jasmine T. P. (PT)		Dr. K. E. George	



32	Jenish Paul (PT)		Dr. Eby Thomas Thachil	
33	Pratheesh Albert (PT)		Dr. Rani Joseph	
34	Muraleedharan M. N. (PT)		Dr. Thomas Kurian	
35	Molice Thomas (PT)		Dr. Thomas Kurian	
36	Preetha Nair K. (PT)		Dr. Rani Joseph	
37	Tresa Sunitha George (PT)		Dr. K. E. George	
38	Venugopal B. (PT)		Dr. Philip Kurian	
39	Sona Stanly (PT)		Dr. Philip Kurian	
40	Teena Thomas		Dr. Eby Thomas Thachil	
41	Gean A.Varghese (PT)		Dr. Eby Thomas Thachil	
42	Bipinbal		Dr. Sunil K. Narayanankutty	
43	Ajalesh B. Nair	BSR	Dr. Rani Joseph (Co-guide)	
45	Anju V. P.		Dr. Thomas Kurian	

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistant Section Officer	1
3.	Typist	1
4.	Assistant	1
5.	Peon	1
6.	Sweeper-cum-cleaner	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Store Keeper	1
2.	Technician	1
3.	Workshop Attender	1
4.	Assistant Librarian	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech	16	6	22
2	M.Tech	7	3	10
3	Ph.D	0	2	2



9. Research Facilities :

a. Laboratories (List out Major equipments available)

Sl. No.	Instrument	Make	Funding
1	Abrasion Tester	Zwick, Germany	DST
2	Ageing Oven	Tempo Instruments	CUSAT
3	Ball Mill	Mini Metals	CUSAT
4	Blow Moulding	Plasto Engineering	CUSAT
5	De Mattia Flex Tester	Prolific India	CUSAT
6	Differential Scanning Calorimetry	TA Instruments	MHO, The Netherlands
7	Dynamic Mechanical Analyser	TA Instruments	DST(FIST)
8	Elastograph	Goettfert, Germany	UGC
9	Gel Permeation Chromatography	Waters	MHO, The Netherlands
10	Hardness Tester	Zwick, Germany	CUSAT
11	Heat Buildup Tester	Prolific India	CUSAT
12	Heat Distortion Temperature Tester	Prolific India	CUSAT
13	Hobart Mixer	Sc Dey and Co	CUSAT
14	Hydraulic Press	Santhosh, India	DST
15	Hydraulic Press	Santhosh, India	AICTE
16	Hydraulic Press	Santhosh, India	DST
17	Impact Tester	Santhosh, India	DST
18	Injection Moulding -Automatic	Windsor, India	CUSAT
19	Injection Moulding-Manual	Texair, India	CUSAT
20	FTIR	Bruker	MHO, The Netherlands
21	Lathe	PSG, India	DST
22	Mechanical Stability Tester	Klaxon	CUSAT
23	Melt Flow Index Tester	SC Dey and Co	CUSAT
24	Mixing Mill	Santhosh, India	AICTE
25	Muffle Furnace	Therlec, India	CUSAT
26	Nanovolts Meter	Keithley	MHO
27	Optical Microscope	Carl Zeiss	DST
28	Plasticorder-Mini	Brabender, Germany	Humboldt, Germany



29	Rheocord	Thermo Haake	MHO, The Netherlands
30	Plastic Extruder	Plasto Engineering	CUSAT
31	Rebound Resilience Tester	Modex	CUSAT
32	Ross Flex Tester	Prolific, India	CUSAT
33	Rubber Extruder	Indian Expeller	
34	Rubber Processing Analyser	Alpha Technologies	DST (FIST)
35	Stereo Microscope	Carl Zeiss, Germany	MHO, The Netherlands
36	Thermo Gravimetric Analyser	TA Instruments	MHO, The Netherlands
37	Universal Testing Machine with Rheology	Shimadzu	MHO, The Netherlands
38	Universal Testing Machine	Shimadzu	MHO, The Netherlands
39	UV-VIS Spectrophotometer	Hitachi	DST
40	Vaccum Oven	Lab Line	CUSAT
41	Viscometer	Brookfield	DST
42	Impedance Analyzer	Agilent	DST
43	Partile Size Analyzer	Microtrac	DST

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 3945 Journals : 110	Books : 22 Journals : Nil

c. Others**10. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Simkinson Scott	North Carolina State Science and Technology University	Delivered a lecture on Faculty Improvement programme and open course (MOOCS)



11. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Ionomer Compatibilized Low Density Polyethylene – Tapioca Starch Blends <i>Biodegradability and Photodegradability</i>	Zeena P. Hamza October 18, 2012 August 12, 2013	Dr. Thoams Kurian
2.	Linear low density polyethylene - Biodegradability using bacteria from marine benthic environment and photodegradability using ultraviolet light	Anna Dilfi K. F. April 12, 2012.	Dr. Thomas Kurian
3	Synthesis, Characterization and properties of conductive elastomeric composites based on polypyrrole and short Nylon-6 fiber	D. S. Pramila Devi	Dr. Sunil K. Narayanankutty
4	Preparation and characterization micro and nano fiber reinforced Natural rubber composites by latex stage processing	Bibinbal P. K.	Dr. Sunil K. Narayanankutty
5		Ajalesh B Nair	Dr. Philip Kurian

12. Publications

a. Papers : Dr. Thoams Kurian

Sl. No.	Name of Paper	Impact Factor, if any
1.	HAF/Silica/Nanoclay “Ternary” Masterbatch and HAF/Silica Binary Masterbatch from Fresh Natural Rubber Latex.” Sasidharan Krishnan, Rosamma Alex, and Thomas Kurian; Rubber Chemistry and Technology (in press).	
2.	Carbon Black Masterbatch Using Diferent Forms of Natural Rubber Latex, K. K. Sasidharan, Rosamma Alex and Thomas Kurian, Rubber Science, 26 (1): 158 – 165, 2013.	
3.	Studies on non-regulated safe binary accelerator system for efficient vulcanization of natural rubber, K. Abhitha, Philip Kurian, Thomas Kurian and L. Jayabalan, Progress in Rubber, Plastics and Recycling Technology. 29: (2) 99- 108, 2013.	
4.	Effect of iron oxide on the photodegradation of linear low density polyethylene-dextrin blend, Anna Dilfi K. F, Raghul Subin S., Thomas Kurian and Saritha G. Bhat., IPI Journal, Volume 18, Issue 4, October/ November, 2013, p. 16 – 20.	



Sl. No.	Name of Paper	Impact Factor, if any
5.	Safe Vulcanisation System for Heat Resistant Natural Rubber Products for Engineering Applications, Abhitha K. and Thomas Kurian, American Journal of Engineering Research, 2013, pp -08 - 13 (e-ISSN- : 2320-0847, p-ISSN : 2320-0936)	
6.	Black/Silica Master Batch From Fresh Natural Rubber Latex, K. K. Sasidharan, Rosamma Alex, James Jacob, Thomas Kurian and Arup K. Chandra, Rubber India, Vol. L XIV, No. 3, March 2012.	
7.	Polyethylene – Breaking new grounds, Thomas Kurian and Anna Dilfi K. F., Recycle Now, Volume 2, Number 1, January 2012.	
8.	A new process for making master batch from NR latex, Arup Chandra, James Jacob, Rosamma Alex, K. K. Sasidharan, and Thomas Kurian, Rubber Asia, May – June 2012 (pages 94 – 97).	
9.	Safe Vulcanisation System for Heat Resistant Natural Rubber Products for Engineering Applications, Abhitha K., and Thomas Kurian, American Journal of Engineering Research, 2013, pp -08- 13 (e-ISSN- : 2320-0847, p-ISSN : 2320-0936)	
10.	Dr. Jayalatha Gopalkrishnan Short Nylon-6 Fibre Reinforced Polystyrene/Natural Rubber blends: Effect of Maleated-Polystyrene compatibiliser; <i>Polymers and Polymer Composites</i> 2013; 21:533-541.0.309	
11.	Dr. Sunil K. Narayanankutty Enhanced electrical conductivity of polypyrrole/polypyrrole coated short nylon fiber/natural rubber composites prepared by in situ polymerization in latex, Pramila Devi D. S., Bipinbal P. K., Jabin T., Sunil K. N. Kutty, <i>Materials and Design</i> , 43, 337-347, 2013	
12.	Synthesis characterization of conducting composites of polypyrrole / polypyrrole –coated short nylon fiber and natural rubber, Pramila Devi D. S., Jabin Thekkedath, Sunil K. Narayanankutty, <i>Polymer-Plastics Technology and Engineering</i> , 51, 823-831, 2012	
13.	Mechanical Thermal and microwave properties of conducting composites of polypyrrole/ polypyrrole coated short nylon fiber with acrylonitrile butadiene rubber, D. S. Pramila Devi, Ajalesh B. Nair, T. Jabin, Sunil K. N. Kutty, <i>J. of Appl., Polym. Sci.</i> , 126, 1965-76, 2012	



13. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Thomas Kurian	<ol style="list-style-type: none"> 1. International Conference on Rubber, and Rubber-like Materials (ICRRM-2013), March 6-9, 2013, IIT Kharagpur, India. 2. New Age Science and Technology for Sustainable Development and 3rd Annual Conference of Indian JSPS Alumni Association, CSIR-National Environmental Engineering Research Institute (NEERI), Nagpur, India, August 6-7, 2012. 3. National Seminar on Green Materials, Bishop Moore College, Mavelikara, India, Thomas Kurian, Industrial Applications of Natural Rubber, February 27 – March 01, 2013. 4. Green Chemistry: Frontiers and Challenges Department of Chemistry, NIT Calicut, India 17– 21 June, 2013. 5. Biopolymers and Green Composites- Emerging Science & Technology (BPGC 2013)”; September 27, 2013, Centre for Biopolymer Science & Technology (CBPST – a unit of CIPET), Kochi, Kerala. 6. National Seminar on Advances in Nanomaterials and Polymers and Polymers, Department of Chemistry, Bharath Matha College, Thrikkakara, Kochi, Kerala state, India. 	
Dr. Jayalatha Gopalakrishnan	<p>International Conference on Materials for the Future-Innovative Materials, Processes, Products and Applications (Nov 2013) organized by Govt. Engineering College, Thrissur.</p> <p>National Seminar on '<i>Advances in Nanomaterials and Polymers</i>' held at Bharat Mata College, Thrikkakara, Kerala (March 11 & 12, 2014)</p> <p>National Conference on '<i>Recent trends in Materials Science and Technology</i>' organized by, Department of Chemistry, Indian Institute of Space Science and Technology, Thiruvananthapuram (July 10-12, 2013).</p>	<p>Paper presentation</p> <p>Participation</p> <p>Participation</p>



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Sunil K. Narayanankutty	National Seminar on Recycling of plastics, CIPET.	Invited Lecture
Dr. Sunil K. Narayanankutty	International Conference on Advances in Material Science, ICAMS 2013, Sree Sankara College, Kalady	Invited Lecture
Dr. Sunil K. Narayanankutty	National Seminar on Advances in spectroscopy, TKM college, Kodungallur	Invited Lecture

14. Role of Faculty in International/National organizations/Institutions/Editorial Board

Name of Faculty	Name of Organization	Role
Dr. Thomas Kurian	Board of Studies (Polymer Chemistry), University of Kerala	Chairman

15. Awards/Honours/Fellowships etc Received

Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
Dr. Thomas Kurian	<ol style="list-style-type: none">1. Best Technical Paper Award – 2012 (for the research group: Prof. Thomas Kurian, Rosamma Alex and Sasidharan K. K.) at the 21st Rubber Conference of the Indian Rubber Manufacturers Research Association (Govt. of India affiliated) held at Imperial Palace, Mumbai, during 20-21 January, 2012.2. 12th Prof. K. V. Thomas Endowment National Award - 2013 (for the research group: Prof. Thomas Kurian, Abhitha K.) at the National Seminar on Novel Concepts in Computational and Supramolecular Chemistry (11 to 12 December, 2013), Sacred-Heart College, Thevara, Kochi, India.	

**16. Sponsored Research Project :**

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Reliability Studies on Sonar Transducer Encapsulant Materials	NPOL	9.85 lakhs	Dr. Rani Joseph Dr. Asha Gopalakrishnan

17. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1	Conducting Polymer nano composites	Dr. Sunil K. Narayanankutty
2	Photorefractive polymers	Dr. Rani Joseph
3	Biodegradation	Dr. Thomas Kurian
4	Polymer composites	Dr. Sunil and Dr. Rani

18. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Preparation of master batch	Dr. Rani Joseph	CEAT Tyres





DEPARTMENT OF SHIP TECHNOLOGY

1. Brief History of the Department

The Department of Ship Technology is one of the pioneers in the field of Naval Architecture education in this country. The Department was established with an aim to create a new and dynamic generation of Naval Architects to meet the requirements of Indian Shipbuilding Industry, Ship classification Societies, R&D organisations, Indian Navy and related institutions. With this in view, a B. Tech course in Naval Architecture and Ship building was started in 1975. This department maintains active collaboration and interaction with IITs, foreign universities, shipyards and other industries. These institutions have been generous in extending their facilities and expertise to impart training to our students. The fruitful collaboration with Rostock University, Germany dates back to 1978 and remains an important milestone in the growth of this department. Currently the Department has entered into collaboration with School of Aerospace and Naval Architecture, Chosun University, Korea, for exchange of students and research scholars and for cooperative research programmes. The B. Tech course was accredited by the Royal Institution of Naval Architects, London, for five years from 1994. The Ministry of Surface Transport, Govt. of India approved this course for the M.O.T. Certificate Examination, thus enabling our graduates to venture into the field of Marine Engineering also. Indian Navy has recognised the department as a centre for the higher education of their officers.

The curriculum was drawn up and updated in consultation with experts from various walks of the field. This has brought the course curriculum in conformity with international standards. The department has a highly qualified and dedicated faculty, an excellent library, computer centre, laboratories and workshops. The quality of education imparted and the resulting professional competence of the graduates enabled the department to achieve a unique record of 100% placement to its graduates in India and abroad.

The intake of students, based on the Common Admission Test (CAT), is limited to 41 (of which 12 seats are reserved for cadets from Indian Navy) and one seat for sports quota. An M. Tech. Degree programme in Computer Aided Structural Analysis and Design, having a very promising employment potential, was started in 1995 with an intake of 10 students later increased to 18 students. This department also offers Ph.D. programmes in Naval Architecture, Ocean Engineering and related fields.

2. Programmes of Study/Research

- | | |
|---------------------------|--|
| 1. Bachelor of Technology | (Naval Architecture and Ship Building) |
| 2. Master of Technology | (Computer Aided Structural Analysis & Design) |
| 3. Doctor of Philosophy | (Hydrodynamics, Structural Analysis, Strength of Materials, Ship design, Offshore Structures, Ship Motions, Ship & Submarine Controllability, Resistance and Propulsion, Stability, Ship Production, CAD/ CAM) |



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Dileep K. Krishnan	Associate Professor	B.Tech (Hons) N. A. IIT Kharagpur M. E. Ocean Engg (Stevens Tech USA) Ph.D. (Southampton) UK	Ship Controllability Ship Maneuverability Computer Simulation
2	Dr. K. P. Narayanan	Associate Professor	B.Tech (NA & SB) CUSAT Dr. Ing. (Rostock Univ. Germany)	Ship Structures and Strength
3	Dr. S. K. Pyarilal	Associate Professor	B.Tech (NA & SB) CUSAT Dr. Ing. (Rostock Univ. Germany)	Ship Design, Marine Hydrodynamics
4	Dr. C. G. Nandakumar	Associate Professor	B.Tech (Civil Engg.) M.Tech. (Ocean Engg., IIT Madras) Ph.D. (IIT Madras)	Strength of Ships, Finite element method
5	Dr. K. Roby	Associate Professor	B.Tech Naval Architecture (CUSAT) M.Tech. (Comp. Science IIT Madras) Ph.D. (Osaka Prefecture University, Japan)	Naval Architecture Computer Science
6	Mr. James Joseph Kattady	Associate Professor	B.Sc. Engg. Mech. Dip. Ing (Rostock Germany) MBA (CUSAT)	Marine Engineering Thermodynamics



7	Mrs. Mariamma Chacko	Associate Professor	B.Tech (Elect. Engg.) M.Tech. (Electronics)	Fault tolerant CPU architecture
8	Dr. Mathiazhagan A.	Associate Professor	M.Sc. (Applied Chemistry Guindy) M. E. (Metallurgy REC, Trichy. Ph.D. (CUSAT)	Material Science and Corrosion Engineering
9	Dr. Sudheer C. B. (on deputation)	Assistant Professor	B.Tech Naval Architecture (CUSAT) Dr. Ing. (Rostock University Germany)	Production Engg. Ship Production CAD/CAM
10	Dr. Sivaprasad K.	Associate Professor	B.Tech Naval Architecture (CUSAT) M.Sc. (Ship production technology Strathclyde University Glasgow), Ph.D. (CUSAT)	Ship Building Technology

4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Shiju S.		Dr. Sivaprasad K.	Green Ships
2	Ajit Nair		Dr. Sivaprasad K.	Structural Analysis of ships
3	Justin Koshy		Dr. Sivaprasad K.	Recycling of Boats
4	Vinida V.		Mrs. Mariamma Chacko	Power Electronics Based Low Voltage Energy Harvesting
5	Bindumol T. V.	UGC-JRF	Dr. C. G. Nandakumar	Stochastic Finite Element Analysis of Plates
6	Vikas V. Shenoy		Dr. C. G. Nandakumar	Investigation on Analysis Design & Construction Management of Port And Harbor Structure



Sl. No.	Name	Funding Agency	Guide	Area of Work
7	Prabha C.		Dr. C. G. Nandakumar	Analysis of Stiffened Cylindrical shell with Openings
8	Elias George		Dr. Mathiazhagan A.	Investigation on Naval Polymer based Anti corrosive coating for marine application
9	Thajudheen A. K.		Dr. Mathiazhagan A.	Repair welding of mild Steel, Corrosion, Mechanical and Structural Properties
10	Cdr P. K. Satheesh Babu		Dr. Mathiazhagan A.	Corrosion Assessment of Ships
11	Baiju Sasidharan		Dr. C. G. Nandakumar	Numerical Investigation on Strategy and performance of welded joints
12	Manoj G. Tharian		Dr. C. G. Nandakumar	Structural Analysis of Container Ships
13	Kavitha P. E.		Dr. K. P Narayanan	Structural Engg. Soil Structure interaction of Ship birthing Structures
14	Deepu V. S.		Dr. K. P. Narayanan	Structural Analysis of Liquefied natural gas carriers
15	Lathi Karthi		Dr. E. M. S. Nair	Buckling of Corrugated plates
16	Jayaram S.		Dr. K. Sivaprasad	Design of Ships And Offshore Structure
17	Manju Dominic		Dr. C. G. Nandakumar	Investigations on Strength of Non metallic compositor hull
18	Smitha K. K.		Dr. C. G. Nandakumar	Failure Investigations on Composite shells
19	Prasanth K.		Dr. K. Sivaprasad	Analysis of Fluid Structure Interaction effects on Shiphull

**5. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistants	3
3	Typists	2, one post transferred to the Hostel office
4	Peon	2 (1 vacant)
5	Asst. Librarian	1
6	Professional Assistant	1
7	Store Keeper	1
8	Sweeper	2 (1 vacant)

6. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Officer Gr. I	1
2	Technical Assistant Gr.II	1(on leave)
3	Technician Gr.II	4 (3 Vacant)
4	Lab. Assistant	1
5	Ammonia Print-cum-Photocopier operator	1

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech (NA & SB)	40	Nil	40
2	M.Tech (CASAD)	9	9	18

8. Research Facilities**a. Laboratories**

Electro chemical workstation for corrosion studies, universal testing machine, Brinell & Rockwell hardness tester, Impact testing machine, ARC,GAS,TIG,MIG & submerged arc welding machines, Lathe, shaping & ,milling machine and all major workshop equipments, computer lab with ship design soft wares

b. Major equipments

**c. Library**

No. of books and journals as on 31st March of the Previous Year	Additions during the current year
Books: 9576 Journals: Foreign - 8	74

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	P. M. Johri	CGM (HR&A), GOA SHIPYARD LTD	
2	A. J. Das	General Manager (Design) MAZAGON DOCK LIMITED	
3	Naoki Ueda	Mitsubishi Heavy Industries	
4	Cmde A. S. Mitra	Principal Director Naval Design , Naval head Quarters, Indian Navy, New Delhi	
5	Dr. Abdhul Rahim	Director Board Member, ClassNK, London	
6	Mr. Shihabuddin	General Manager, Engineering, Damen Shipyard, Sharjah, UAE	
7	Joe Joe C. S.	Director, Operation, Great Waters, Dubai	
8	Tommy T.	Naval Architect, NAPA, Finland	
9	Prateek Jain	Dy. G. M., HR, Pipavav Shipyard, Gujrath	
10	Sundera Rajan Varadan	Director, Aerospace, SENER India, Banguluru	

10. Ph.D's Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	"Numerical Simulation of Two Part Underwater Towing System"	P. P. Lalu	Dr. K. P. Narayanan
2	"Acoustic -Structure Interaction For Floating Structure Under Moving Load"	Cdr Nitin Agarwala	Dr. E. M. S. Nair
3	"Multi-objective assembly Job Shop Scheduling using Genetic Algorithm and Tabu Search"	Dilip Lal J.	Dr. K. P. Narayanan

**11. Publications****a. Papers**

Sl. No.	Name of Paper	Impact Factor, if any
1.	Sivaprasad K. 1. 'Workshop and Laboratory Practices In Naval Architecture and Shipbuilding Academic Curriculum': Teaching Enhancement Using In-House Models and Shipyard Internship Programmes', Education & Professional Development Of Engineers In The Marine Industry,15-16 April 2014, Busan, South Korea. 2. Sivaprasad K. and C. G. Nandakumar, "Design for Ship Recycling", Ships and Offshore Structures, Vol.8, No.2, ISSN 1744-5302, April 2013 3. Saurabh Tripathi, K. Sivaprasad, Use of Solar Power to build Eco-friendly Zero Port Emission Ships, Annual International Conference on Emerging Research Areas (AICERA), Amal Jyothi College of Engineering, Kanjirappilli, Kerala, June 4-6, 2013	
2.	C. G. Nandakumar 1. Smitha K. K and C. G.Nandakumar, "Developments in structural analysis of composites for subsea shells", American Journal of Engineering Research, ISSN: 2320-0936, 2013, pp 42-46 2. Prabha C. and C. G. Nandakumar, "Structural Analysis of Sandwich Submarine Structures", American Journal of Engineering Research, ISSN: 2320-0936, 2013, pp 1-7 3. Smitha. K. K. and C. G. Nandakumar, "Finite Element Analysis of Autonomous Underwater Glider", International Journal of Applied Engineering Research and Development, ISSN 2250-1584, Vol.3, issue 5, December 2013 pp 1-6 4. G. T. Manoj and C. G. Nandakumar , "Orthotropic Plate Model of Hat Stiffened Plate", Journal of Engineering for Maritime Environment, 2013 5. Emil Mathews, and C. G. Nandakumar, " Fatigue life estimation of ship structure", International Journal of Scientific and Engineering Research, ISSN 2229-5518,Volume 4, Issue 5, May,2013 pp 217-219 6. Lathi Karthi and C. G. Nandakumar, "Investigation on Elastic Behaviour of Corrugates Plates", International Journal of Scientific and Engineering Research, ISSN 2229-5518,Volume 4, Issue 5, May,2013 pp 127-130 7. Sivaprasad K. and C. G. Nandakumar, "Design for Ship Recycling", Ships and Offshore Structures, Vol.8, No.2, ISSN 1744-5302, April 2013	



12. Participation in Seminar/Conference/Refresher Course etc by Faculty /Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
K Sivaprasad	<p>Faculty Development Programme on Aerospace Engineering, Sree Chithira Thirunal College of Engg. Papanamcode, Trivandrum, Nov 2013.</p> <p>STTP on Advancements in Concrete Technology and Special Concretes, Civil engineering Division, School of Engineering, Cochin University, February 2014</p> <p>STTP on Industrial Safety and Material Handling, Safety and Fire Engineering Division, School of Engineering, Cochin University, December-2013</p>	
C. G. Nandakumar	<p>Short Term Training Programme on "Safety in Construction and Material Handling", Division of Safety and Fire Engineering, School of Engineering, CUSAT, 10th to 14th February, 2014.</p> <p>Short Term Course on "Applications of Advanced Composite Materials in Engineering", Department of Civil Engineering, College of Engineering, Trivandrum, Thiruvananthapuram, 5th to 7th December, 2013</p> <p>Short Term Training Programme on "Advancements in Concrete Technology and Special Concretes", Division of Civil Engineering, School of Engineering, CUSAT, 25th to 29th November, 2013</p>	

13. Role of Faculty in International/National organizations/Institutions/Editorial Boards

Name of Faculty	Name of Organization	Role
K. Sivaprasad	Journal of Shipping and Ocean Engineering, David Publishing Company, California, USA	Editorial Board Member
K. Sivaprasad	Member of expert panel, Indian Maritime University, Govt. of India	Affiliation/recognition, assessment Panel member
K. Sivaprasad	Department of ports, Govt. of Kerala	Member selection Board for chief surveyor of Boats

**14. Awards/Honours/Fellowships etc. received**

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Sreenath M. Joseph, Praful. T. Sourabh Tripathi, Harikrishnan U.	Best Final Year Ship Project 2013	Class NK, Tokyo

15. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator (s)
1.	Bindumol T. V., Strength Estimation of Corroded Plates using Finite Element Method , 02.02.2005	C. G. Nandakumar
2	Vikas V. Sheno, Development of Decision Support System for Ports Planning, 24.11.2005	C. G. Nandakumar
3	C. Prabha, Finite Element Analysis of Cylindrical Sandwich Subsea Shell, 19.08.2006	C. G. Nandakumar
4	Manoj G. Tharian, Strength Predictions of Hat Stiffened Plates using Finite Element Method, 29.08.2008	C. G. Nandakumar
5	Lathi Karthi, Finite Element Analysis of Corrugated Plates,1.08.2008	C. G. Nandakumar
6	Smitha K. K., Structural Analysis of Laminated Composite Subsea Shells, 03.09.2010	C. G. Nandakumar
7	Manju Domic, Investigations on the Strength of Nonmetallic Composites Ship Hulls, 03.09.2010	C. G. Nandakumar
8	Shiju S., Forensic Approach in Structural Analysis of Green Ships	Dr. Sivaprasad K.
9	Ajit Nair, FRP of ships	Dr. Sivaprasad K.
10	Justin Koshy, Recycling of Boats	Dr. Sivaprasad K.
11	Jayaram S., Strategic Planning of Ship Recycling Processes	Dr. Sivaprasad K.
12	Prasanth K., Analysis of Fluid Structure Interaction effects on Shiphull	Dr. Sivaprasad K.
13	Kerala Inland Water Ways Development	Dr. Dileep K. Krishnan Dr. K. Sivaprasad



16. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Design of Ammonia Barge for Fertilizers and Chemicals, Travancore, Kochi, (FACT), Govt. of India.	K. Sivaprasad	FACT
2	Design of Coastal Bulk Carrier for Inland water authority of India, Government of India	K. Sivaprasad	Cochin Shipyard Limited
3.	Consultancy Research on Ship Recycling	K. Sivaprasad	Class N K, Mumbai
4	Government Consultancy for implementation of Kerala Inland Vessel Act 2010, Kerala Ports Department, Govt. of Kerala.	K. Sivaprasad	Various Kerala Government offices and Departments, Central Govt. Offices and Departments, Private agencies and Companies.
5	Design of Solar Powered Ferry for Kerala State Water Transport Department, Govt. of Kerala	K. Sivaprasad	Kerala Government
6.	Inspection of Construction of Tourism Cruiser (FRP Boat) for Kerala Tourism Dept., Government of Kerala	K. Sivaprasad	Tourism Dept., Kerala Government
7.	Design Fisheries Research Boat for School of Industrial Fisheries, Cochin University of Science and Technology, Kochi	K. Sivaprasad	Cochin University of Science and Technology
8	"Study of Hydrodynamic Performance and Structural Analysis of Underwater Towed System", (NPOL, KOCHI, DRDO)	C. G. Nandakumar	NPOL, Kochi, DRDO
9	"Strength Assessment and Renovation of the Pier at Valiyathura", Department of Ports, Kerala State	C. G. Nandakumar	Department of Ports, Kerala State
10	Study of Hydrodynamic Performance and Structural Analysis of Underwater Towed System", (NPOL, KOCHI, DRDO)	Dr. Dileep Krishnan K.	NPOL, Kochi, DRDO
11	"Strength Assessment and Renovation of the Pier at Valiyathura", Department of Ports, Kerala State	Dr. Dileep Krishnan K.	Department of Ports, Kerala State



Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
12	Development for Infrastructure and implementation of Sea Plane Project	Dr. Dileep Krishnan K.	Kerala Government
13	Design of Ammonia Barge for Fertilizers and Chemicals, Travancore, Kochi, (FACT), Government Of India.		FACT
14	Design of Coastal Bulk Carrier for Inland water authority of India, Government of India		Cochin Shipyard Limited
15	Design of Solar Powered Ferry for Kerala State Water Transport Department, Government of Kerala		Kerala Government

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DEPARTMENT OF STATISTICS

1. Brief History of the Department:

The Department of Statistics was established in 1996 by bifurcation of the School of Mathematical Science. The Department offers a four semester M.Sc programme in Statistics and an M.Tech in Engineering Statistics besides research programme leading to Ph.D degree. The thrust areas of research in the department include Distribution Theory, Bayesian Inference, Time Series Analysis, Inference in Stochastic Process, Reliability Modeling and Information Theory.

The M.Sc course is intended to provide a platform for talented students to undergo higher studies in the subject as well as to train them to suit for the needs of society.

The M.Tech course is intended to provide a vehicle for interaction between the modern approaches to quality and reliability engineering, statistical methodology and industrial engineering aspects, thereby facilitating integration of appropriate techniques.

The Students of the Department have found place in UGC - JRF, NET, ISS, RBI as Statistical Officers, University/College/ISI teachers, Research Associates, Scientists National Research Lab and software companies as data analysts. They regularly achieve prizes in National level Essay writing competition conducted by Ministry of Statistics and Programme Implementation. Govt. of India and Project competitions held by National Organizations.

The Department has been identified as a Centre for organizing refresher course for College/ University teachers since 1993. The departmental library has about 2800 books and is presently subscribing to 17 journals. The department has two well-equipped computer labs with internet facility. The department has acquired the latest computer software such as MINI TAB SPSS, MATLAB MATHEMATICA, SYSTAT, and SAS so as to meet the needs of the students. In addition, a well-equipped engineering laboratory with metrological instruments is set up for the use of the M.Tech students. To enhance academic pursuits in socially relevant and scientifically interesting fields a Centre for Population studies has been established in the Department.

The UGC has recognized the department under the Special Assistance Programme at DRS level. An amount of Rs.32.00 lakhs has been sanctioned at the first phase to develop research facilities. Presently the second phase of the SAP-UGC-DRS II programme is ongoing with a Financial support of Rs.44,00,000/- for the next five years w.e.f. 01/04/2010. The Department has been identified by the DST for the FIST programme. Under this programme DST has sanctioned an amount of Rs.19.5 lakhs for infrastructural development at the first phase. Presently the second phase of the FIST is ongoing with a financial support of Rs. 30 Lakhs.



Four UGC sponsored minor research projects have already been completed and three major research project sponsored by DST is completed. One major project sponsored by NPOL, Govt. of India has also been completed in collaboration with the Department of Polymer Science and Rubber Technology, CUSAT. The department has so far conducted a number of International Seminars and Workshops at International level besides several national conferences. Some were in collaboration with International associations like ISI, Netherlands.

A two day International workshop on Statistical Analysis of Time Series data with applications has been held on 14-16, January 2013 in the Department for the benefit of teachers, research scholars and the students. Also a three day international Workshop on Reliability Theory and Survival Analysis was conducted from December 31, 2013 to January 2, 2014 as the part of celebration of the International year of Statistics.

2. Programmes of Study/Research:

1. M.Sc Statistics
2. M.Tech Engineering Statistics
3. Ph.D

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. V. K. Ramachandran Nair	Professor	M.Sc., Ph.D	Queuing theory, Probability distributions, Stochastic Processes, Multivariate Analysis.
2	Dr. N. Balakrishna	Professor	M.Sc., M.Phil Ph.D.	Stochastic Processes & Inference, Time Series Models, Chaos & Nonlinear Time Series
3	Dr. K. C. James	Professor	M.Tech, Ph.D	Industrial Engineering, TQM, Reliability Simulation Modelling.
4	Dr. Asha Gopalakrishnan	Professor	M.Sc, M.Phil Ph.D.	Distribution theory, Discrete Reliability theory
5	Dr. P. G. Sankaran	Professor	M.Sc, Ph.D	Distribution Theory, Reliability Theory, Data Analysis
6	Dr. S. M. Sunoj	Associate Professor	M.Sc, Ph.D.	Distribution Theory, Reliability Theory, Data Analysis
7	Dr. B. Vineshkumar	Lecturer on deputation	M.Sc.,Ph.D.	Distribution Theory, Reliability Theory, Data Analysis



4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Rejani P. P.	NA	Dr. P. G. Sankaran	Survival Analysis
2	Prasad S.	NA	Dr. P. G. Sankaran	Survival Analysis
3	Linu M. N.	NA	Dr. S. M. Sunoj	Reliability Theory
4	Preetha Kumari P. V.	NA	Dr. P. G. Sankaran	Survival Analysis
5	Sreelakshmi N.	KSCSTE, Kerala Govt.	Dr. K. R. Muraleedharan Nair	Distribution Theory
6	Anjana S.	DST INSPRE	Dr. P. G. Sankaran	Survival Analysis
7	Sri. Ranganath C. G.	DST PURSE	Dr. N. Balakrishna	Time Series
8	Muhammed Anvar P.	UGC MANF	Dr. N. Balakrishna	Time Series
9	Shiji K.	DST PURSE	Dr. N. Balakrishna	Time Series
10	A. Vincent Raja	NA	Dr. Asha Gopalakrishnan	Reliability Modelling
11	Preethi John	DST INSPRE	Dr. P. G. Sankaran	Distribution Theory
12	Nimitha John	KSCSTE, Kerala Govt.	Dr. N. Balakrishna	Time Series
13	Rakhi Chandran	KSCSTE, Kerala Govt.	Dr. N. Balakrishna	Time Series
14	Nidhi P. Ramesh	KSCSTE, Kerala Govt.	Dr. P. G. Sankaran	Reliability Theory
15	Rasin R. S.	NA	Dr. S. M. Sunoj	Reliability theory
16	B. Ummadevi	NA	Dr. Asha Gopalakrishnan	Reliability Theory
17	C. G. Joshy	NA	Dr. N. Balakrishna	Time Series
18	Rahul T.	NA	Dr. N. Balakrishna	Time Series
19	Sreejith T. B.	NA	Dr. S. M. Sunoj	Reliability Theory
20	Midhu N. N.	NA	Dr. P. G. Sankaran	Reliability Theory

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistants	2
3.	Professional Asst. Gr.I	1
4.	U.D. Typist	1(Vacant)
5.	Peon	1
6.	Sweeper-cum-Cleaner	1

**6. Student Enrollment**

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. Statistics	2	15	17
2	M.Tech Engineering Statistics	No admission in 2013		
3	Ph.D.	2	3	5

7 Research Facilities

- a. Laboratories** : Computer Labs-2 and Metrology Lab
- b. Major Equipments** : CNC Trainer, CMM Machine, Other sophisticated metrological instruments, Statistical software SAS, SPSS, Minitab etc.
- c. Library**

No. of books and journals as on 31st march of the previous year	Additions during the current year
Books : 2963 Journals : 8	Books : 68 Journals : Nil

c. Others**8. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1	Prof. Bovas Abraham	University of Waterloo, Canada.	
2	Prof. A. J. Lawrance	University of Warwick, UK.	
3	Prof. J. D. Kalbfleisch	University of Michigan, USA	
4	Dr. M. V. Asokan	Memorial university of New foundland, Canada	
5	Prof. S. Ramasubramanyan	ISI Bangalore	
6	Prof. M. I. Beg	University of Hyderabad.	
7	Prof. Kanchan Jain	University of Punjab	

9. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Reliability concepts in quantile-based analysis of lifetime data	Dr. B. Vinesh kumar	Dr. N. Unnikrishnan Nair



10. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1	Nanda A. K., Sankaran P. G. and Sunoj S. M. (2014): Residual Renyi's entropy: A quantile approach, <i>Statistics and Probability Letters</i> , USA, 85, 114-121, ISSN 0167-7152	.678
2	Sunoj S. M., Sreejith T. B. and Navarro J.: Characterizations of some bivariate models using reciprocal coordinate subtangents, <i>Statistica</i> , Italy, ISSN 1973-2201 (to appear).	
3	G. Asha and Jagathnathkrishna K. M. (2012) Inequality measures for bivariate distributions with load sharing dependence. <i>Calcutta Statistical Association Bulletin</i> . Vol 64, No 253-54.	
4	G. Asha, I. Elbatal and C. J. Rejeesh (2013), Further Results On Discrete Mean Past Life time. <i>Communications in Statistics, Theory and Methods</i> . (To appear).	.298
5	N. Unnikrishnan Nair and P. G. Sankaran : Some new applications of the total time on test transforms. <i>Statistical Methodology</i> , 10, 93-102,2013.	.765
6	P. G. Sankaran and Debasis Kundu: A bivariate Pareto distribution, <i>Statistics</i> , 2014 (to appear).	.724
7	N. Midhu, P. G. Sankaran and N. Unnikrishnan Nair: A class of distributions with linear hazard quantile function, <i>Communications in Statistics-Theory & Methods</i> , 2014 (to appear).	.298
8	N. Unnikrishnan Nair, P. G. Sankaran and S. M. Sunoj : Quantile based stop-loss transform and its applications, <i>Statistical Methods and Applications</i> , 22, 167-182, 2013.	.298
9	P. G. Sankaran, Isha Dewan and Anisha P.: On testing independence of failure time and cause of failure using sub-quantiles, <i>Journal of Statistical Theory and Practice</i> , 7, 24-32, 2013.	.207
10	S. M. Sunoj, P. G. Sankaran and Asok Nanda: Quantile based entropy function in past lifetime, <i>Statistics and Probability Letters</i> , 83, 366-372, 2013.	.678
11	N. Unnikrishnan Nair, P. G. Sankaran and S. M. Sunoj: Quantile based reliability aspects of partial moments, <i>Journal of Korean Statistical Society</i> , 42, 329-342. 2013.	.505
12	E. P. Sreedevi and P. G. Sankaran: Analysis of Competing Risks Data Using Neural Network Models, <i>International Journal of Statistics and Applications</i> , 3(4), 123-131.	



Sl. No.	Name of Paper	Impact Factor, if any
13	Nair and P. G. Sankaran: Characterization of Distributions by Properties of Truncated Gini Index and Mean Difference, <i>Metron</i> , 2014 (to appear).	.339
14	N. Unnikrishnan Nair and P .G. Sankaran: Characterizations and time-dependent association measures for bivariate schur-constant distributions, <i>Brazilian Journal of Probability and Statistics</i> , 2014 (to appear).	.146
15	Midhu N. P. G. Sankaran and N. Unnikrishnan Nair: A class of distributions with linear mean residual quantile function, <i>Statistical Methodology</i> , 2013 (to appear).	.765
16	N. Unnikrishnan Nair and P. G. Sankaran: A family of bivariate exponential distributions and their copulas, <i>Sankhya B</i> , 2013.	.156
17	N. Unnikrishnan Nair and P. G. Sankaran: Characterizations of discrete distributions by reliability concepts in reversed time, <i>Statistics and Probability Letters</i> , 1939-1945, 2013.	.678
18	Sreedevi. E.P, P.G.Sankaran and P.Dhanavanthan: A nonparametric test for comparing cumulative incidence functions of current status competing risks data, <i>Journal of Statistical Theory and Practice</i> , 2013(to appear).	.207
19	Asokan Mulayathvariya and P. G. Sankaran : Parametric regression models using reversed hazard rates, <i>Journal of Probability and Statistics</i> , 2014, http://dx.doi.org/10.1155/2014/645719 .	.151
20	Midhu N., P. G. Sankaran and N. Unnikrishnan Nair: A new quantile function with applications to reliability analysis, <i>Communications in Statistics- Simulation and Computation</i> , 2014 (to appear)	.402
21	Asok K. Nanda, P. G. Sankaran and S. M. Sunoj: Renyi's residual entropy: A quantile approach, <i>Statistics and Probability Letters</i> , 11-121, 2014.	.678
22	P. G. Sankaran and Prasaad S. : Weibull regression model for analysis of middle censored lifetime data, <i>Journal of Statistics & Management Systems.</i> , 2014 (to appear).	
23	Midhu N. N. nad P. G. Sankaran: A class of distributions defined by quantile density function, <i>Bulletin of Calcutta Statistical Association</i> , 2014 (to appear).	
24	P. G. Sankaran and Sreedevi E. P. : A proportional hazards model for the analysis of doubly censored competing risks data, <i>Communications in Statistics- Theory and Methods</i> , 2014 (to appear).	.298



Sl. No.	Name of Paper	Impact Factor, if any
25	Bijamma Thomas, Midhu N. N. and P. G. Sankaran: A software reliability model using quantile function, <i>Journal of Probability and Statistics</i> , 2014 (to appear).	.151
26	N. Balakrishna and T. Rahul (2013) Inverse Gaussian Distribution for modelling conditional durations in Finance, To appear in <i>Communications in Statistics, Simulation</i> . (To appear)	.402
27	N. Balakrishna and K. Shiji (2013). Extreme Value Autoregressive Model and its applications. To appear in <i>Journal of Statistical Theory and Practice</i> . (To appear)	.207
28	N. Balakrishna and K. Shiji (2013). Stochastic Volatility Models Generated by Gumbel extreme value Autoregressive model. To appear in <i>Journal of Indian Statistical Association</i> . (To appear)	
29	N. Balakrishna and Angel Mathew (2014). Nonparametric Estimation of the Interval Reliability. <i>Journal of Statistical Theory and Applications</i> .	
30	N. Balakrishna and K. Shiji (2014). On a class of Bivariate Exponential Distributions. <i>Statistics and Probability letters</i> . (Appear)	.678
31	James K. C., Conceptual Modeling for Domains: Case of Logistic Terminals, <i>Journal of Production Research & Management</i> , Volume 3 Issue 3, 2013 (online).	

b. Books

Sl. No.	Name of Book
1	N. Unnikrishnan Nair, P. G. Sankaran and N. Balakrishnan : <i>Quantile based Reliability Analysis</i> , Published by Springer- Birkhauser, New York, 2013

11. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. V. K. Ramachandran	1. Participated international Workshop on Reliability Nair Theory and Survival Analysis, CUSAT, December 31, 2013- January 2, 2014.	
Prof. N. Balakrishna	1. Served as resource person in the UGC sponsored National Seminar on "Advances in Statistical Theory and Computational Applications" at Newman College, Thodupuzha, 29 – 30, August 2013.	



Name of Participant	Name of Seminar/Conference/Workshop	Role
	<ol style="list-style-type: none">2. Served as resource person on Business Statistics for Short term Courses for Managers at ISI Bangalore during 14 June and 26, September, 2013.3. Served as resource person on Basic Time Series for the Internship program for M.Sc students organized by the ISI Chennai, 17 – 19, June 2013.4. Served as a resource person for the Workshop on Random Processes and Applications at College of Engineering, Karunagappally, September, 10, 2013.5. Served as resource person in the UGC sponsored National Seminar on “Process Capability Studies with Special Emphasis on Computational Techniques and Recent Trends in Statistics” at Nirmala College, Muvattupuzha, 3-5, October 2013.6. Served as Resource person in a Workshop on Financial Modeling and Analysis, Department of Management Studies, IIT Chennai, 5-9, November 2013.7. Organized and Chaired a session on Time Series Analysis in the International Conference on “Recent Advances in Statistics and Their Applications” at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, December 26-28, 2013.8. Attended Workshop on Reliability Theory and Survival Analysis, CUSAT, December 31 – January 2, 2014.9. Participated in the International conference on Stochastic Modeling & the Annual Conference of Kerala Statistical Association, St. Thomas College, Pala, 3-4, January 2014.10. Presented a Key Note Lecture on Modeling of Stochastic Volatility in Financial Time Series at a National Conference on “Recent Advances in Statistics” Osmania University, Hyderabad, 21 – 22, February, 2014.11. Presented an invited talk on SARIMA models for forecasting emergency telephone calls at National Conference on Statistics for Twenty-first century, University of Kerala, 20– 22, March, 2013.	



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. C. James	Attended Training Programme on Official Statistics for HODs, 29 July to 02 August, 2013 at NASA, NTRAINING PROGRAMME ON OFFICIAL STATISTICS FOR HODs during 29 July to 02 August, 2013 at NASA, New Delhi	
Dr. P. G. Sankaran	<ol style="list-style-type: none"> 1. Served as a resource person for the Workshop on Random Processes and Applications at College of Engineering, Karunagappally, September, 10, 2013. 2. Served as resource person in the UGC sponsored National Seminar on "Process Capability Studies with Special Emphasis on Computational Techniques and Recent Trends in Statistics" at Nirmala College, Muvattupuzha, 3-5, October, 2013. 3. Delivered a talk in International Conference on Role of Statistics in the Advancement of Science and Technology, University of Pune, December 16-18, 2013 4. Attended international Workshop on Reliability Theory and Survival Analysis, CUSAT, December 31, 2013- January 2, 2014 5. Delivered a talk in International Conference on Stochastic Modeling, St. Thomas College, Pala, January 3-5, 2014. 	
Dr. Asha Gopalakrishnan	<ol style="list-style-type: none"> 1. Attended International workshop on Reliability Theory and Survival Analysis (IWRS 2013) organized By Department of Statistics, Cochin University of Science and Technology, Cochin 682 022, Kerala, India, December 31, 2013 – January 2, 2014. 2. Invited speaker at the National Seminar on Modern Statistical Tools in Fisheries", School of Industrial Fisheries, Cochin University of science & Technology. Mar, 7-9, 2013. 3. Attended the Workshop on "Statistical Analysis of Time Series Data with Applications" held at the Dept of Statistics, Cochin University of Science & Technology. Jan 14-16, 2013. 	

**12. Role of Faculty in International/National Organizations/Editorial Boards**

Name of Faculty	Name of Seminar/Conference/Workshop	Role
Dr. N. Balakrishna	<ol style="list-style-type: none"> Doing editorial work as an Associated Editor of the international Journals <ol style="list-style-type: none"> Communications in Statistics – Theory & Methods Communications in Statistics - simulation & computation Working as Reviewers for Institute of Mathematical Sciences Referee work for International Journals – <ol style="list-style-type: none"> Statistics and Probability Letters Environmental and Ecological Statistics 	Associated Editor and Reviewer
Asha Gopalakrishnan	<ol style="list-style-type: none"> Resource Person for UGC Sponsored Refresher course External expert for Ph.D evaluation University of Mysore Reviewer for International Journal - IEEE transaction in Reliability prob. Stat. forum. Journal of Indian Statistical Association. Co-Investigator in NPOL projects “Reliability of Encapsulants” 	Resource Person, Reviewer Co-Investigator
Dr. S. M. Sunoj	Reviewer work In the Journal of publishing and Statistical Science, Statistics and Probability letters	Reviewer

13. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. N. Balakrishna	<ol style="list-style-type: none"> Visiting Professor, University of waterloo, Canada, 2006, 2009 Post Doctoral Fellow, Technical University, Germany, 2003-2004 UKIERI – Fellowship, University of Warwick, UK, 2007. Elected Member of International Statistical Institute. Alumni networking travel support by British Council 	



Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. P. G. Sankaran	1. Visiting Scientist, ISI, Kolkata, 2004. 2. Visiting Scientist, ISI New Delhi, 2008. 3. Elected member of International Statistical Institute. 4. IISA Young research Scientist Award, 2009	
Dr. Asha Gopalakrishnan	Elected Member of International Statistical Institute	

14. Sponsored Research Projects/

Sl. No.	Title	Sponsoring Agency	Amount in Lakhs	Investigator(s)
1.	Modelling and Analysis of Financial Time Series	DST	18.8 (for 3 years)	Dr. N. Balakrishna
2.	Reliability Studies on Sonar Transducer Encapsulated Materials	NPOL, Govt. of India	9.4	Dr. Asha Gopala krishnan(Co-P-I)
3	FIST (II Phase)	DST	30 (for 5 years)	Head of the Department
4	SAP (II Phase): Stochastic Modeling and analysis of Lifetime and Time Series Data	UGC	44 (for 5 years)	Dr. N. Balakrishna (Co-ordinator)

15. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.UGC-SAP DRS-II	Stochastic modeling and analysis for life and time series	1. Dr. V. K. Ramachandran Nair 2. Dr. N. Balakrishna 3. Dr. K. C. James 4. Dr. Asha Gopalakrishnan 5. Dr. P. G. Sankaran 6. Dr. S. M. Sunoj

16. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	International Workshop on Reliability Theory and Survival Analysis, CUSAT,	3 days from 31 st December 2013 to 2 nd January 2, 2014	Dr. P. G. Sankaran	CSIR NBHM RBI UGC





SCHOOL OF ENGINEERING

1. Brief History of the Department:

School of Engineering was established in 1979 as School of Technology for offering Part-time M.Tech. in Civil, Mechanical, Electrical and Chemical Engineering for helping practicing engineers in and around Kochi. Research activities were started from 1981 with Ph.D. Programme in Civil Engineering. This School introduced B.Tech Programme in the 5 major disciplines viz Civil, Mechanical, Electronics, Computer Science and Information Technology on cost sharing basis in 1995 which played a significant role in the development of the School. Considering the increased demand of student community, the School introduced B.Tech in Safety & Fire Engineering in 1996, Marine Engineering in 2001 and Electrical & Electronics Engineering in 2003. The Division of Marine Engineering has become an independent Department in June 2007. M.Tech. (Full-time) Courses were started in Civil and Mechanical Engineering branches in 2012.

Currently Doctoral Programme is offered under Civil Engineering, Computer Science and Engineering, Mechanical Engineering, Safety & Fire Engineering, Electrical and Electronics Engineering and Electronics & Communication Engineering. At present this School has a strength of 208 Doctoral, 4 Master of Engineering (By Research), 235 M.Tech. and nearly 2400 B.Tech students making it the largest academic unit of the University in the campus which forms 75% of the student community.

The School functions through its Civil, Mechanical, Electrical, Electronics, Computer Science, Safety & Fire, Information Technology and Applied Sciences and Humanities divisions.

School of Engineering has been well accepted as a research center and a major consultancy center. A number of research projects have been sanctioned to the School by agencies like DST, ISRO, AICTE, UGC, Coir Board etc.

2. Programmes of Study/Research:

B.Tech M.Tech. (Part-Time and Full-Time) Ph.D

3. Faculty Members

Branch : Civil Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Benny Mathews Abraham	Head & Professor	Ph.D	Geotechnical Engineering
2	Dr. K. S. Beena	Professor	Ph.D	Geotechnical Engineering



3	Dr. Sobha Cyrus	Professor	Ph.D	Geotechnical Engineering
4	Dr. Bindu C. S.	Associate Professor	M.Tech	Transportation Engineering
5	Dr. Abdurahiman K. U.	Associate Professor	Ph.D	Water Resources Engineering
6	Dr. Deepa Balakrishnan	Associate Professor	Ph.D	Structural Engineering
7	Dr. Glory Joseph	Associate Professor	Ph.D	Structural Engineering
8	Mr. Narasimha D. S.	Assistant Professor	M.Tech	Structural Engineering
9	Mr. Ramadass S.	Assistant Professor	M. E.	Structural Engineering
10	Dr. Job Thomas	Associate Professor	Ph.D	Structural Engineering
11	Dr. Subha V.	Associate Professor	Ph.D	Habitat Technology
12	Dr. Renu Pawels	Associate Professor	Ph.D	Environmental Engineering
13	Dr. Deepa G. Nair	Associate Professor	Ph.D	Costal Effective building materials and housing
14	Mr. Arun Kumar T.	Assistant Professor	M. E.	Environmental Engineering
15	Dr. Roy M. Thomas	Associate Professor	Ph.D	Environmental Engineering

Branch : Computer Science and Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Sheena Mathew	Professor	Ph.D	ME Computer Science
2	Dr. David Peter	Professor	Ph.D	Computer Science & Engineering
3	Dr.Latha R. Nair	Assistant Professor	Ph.D	Computer Science
4	Ms.Ancy Zachariah	Associate Professor	M.Tech	Computer Science
5	Ms. Sheena S.	Assistant Professor	M.Tech	Software Engineering



6	Mr. Pramod Pavithran	Associate Professor	M.Tech	Computer Science
7	Mr. Damodaran V.	Associate Professor	MTech	Computer Science
8	Mr. Vinod Kumar P. P.	Assistant Professor	M.Tech	Computer Science
9	Mr. Sudheep Elayidom	Assistant Professor	Ph.D	Computer Science
10	Ms. Preetha S.	Assistant Professor	M.Tech	Computer Science

Branch : Electronics & Communication Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. R. Gopikakumari	Professor	Ph.D	Neural Network & Image Processing Signal processing
2	Dr. Rekha K. James	Associate Professor	Ph.D	Micro Electronics
3	Dr. P. Mythili	Associate Professor	Ph.D	Microwave, Genetic Algorithm & Signal processing
4	Dr. S. Mridula	Associate Professor	Ph.D	Microwave, Metamaterials
5	Dr. Binu Paul	Associate Professor	Ph.D	Microwave, CEm
6	Mr. Unni A. M.	Associate Professor	M.Tech	Electronics Design
7	Dr. Abdulla P.	Associate Professor	Ph.D	Microwave Electronics
8	Dr. Jibukumar M. G.	Associate Professor	Ph.D	Wireless Technology
9	Mr. Premkumar C. V.	Assistant Professor	M.Tech	Electronics and Communication
10	Ms. Anju Pradeep	Associate Professor	M.Tech	Electronics and Communication
11	Dr. Shahana T. K.	Assistant Professor	Ph.D	Micro Electronics
12	Ms. Deepa Sankar	Assistant Professor	Ph.D	Image Processing
13	Dr. Babitha Roslind Jose	Assistant Professor	Ph.D	Micro Electronics



Branch : Electrical & Electronics Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. C. A. Babu	Professor	B.Tech, M.Tech Ph.D	Power & Energy Systems
2	Dr. Asha Elizebeth Daniel	Associate Professor	B.Tech, M.Tech Ph.D	Communication Engineering
3	Dr. Usha Nair	Associate Professor	B.Tech, M.Tech Ph.D	Control Systems
4	Smt. P. G. Latha	Associate Professor	B.Tech, M.Tech	Power & Energy Systems
5	Smt. Sheena K. M.	Associate Professor	B.Tech, M.Tech	Electrical Machines

Branch : Information Technology

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Varghese Paul	Associate Professor	M.Tech, Ph.D	Computer Science
2	Dr. Philip Samuel	Associate Professor	M.Tech, Ph.D	Computer Science
3	Mr. Santhosh Kumar M. B.	Assistant Professor	M.Tech	Computer Science
4	Mr. Shelbi Joseph	Assistant Professor	M.Tech	Computer Science
5	Ms. Renumol V. G.	Assistant Professor	M.Tech	Computer Science
6	Ms. Binsu C. Kovoov	Assistant Professor	M.Tech	Computer Science
7	Ms. Sariga Raj	Assistant Professor	M.Tech	Computer Science
8	Ms. Daleesha M. V.	Assistant Professor	M.Tech	Computer Science

Branch : Mechanical Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Sreejith P. S.	Associate Professor	Ph.D	Manufacturing
2	Mr. K. P. S. Nair	Associate Professor	M.Tech	Production Engineering/ Management



3	Dr. G. Ajith Kumar	Associate Professor	Ph.D.	Mechanical Engg (Industrial Engg.)
4	Mr. A. B. Bhasi	Assistant Professor	M.Tech	Production Engg./ Management
5	Dr. Biju N.	Associate Professor	Ph.D.	Production Engg.,NDE
6	Mr. Franklin R. John	Associate Professor	M.Tech	Mechanical Engg.
7	Mr. Gireesh Kumaran Thampi	Associate Professor	M.Tech	Propulsion Engg. (Thermal Stream)
8	Dr. Jayadas N. H.	Associate Professor	Ph.D	Thermal Sciences
9	Dr. James Varghese	Assistant Professor	Ph.D	Thermal Sciences
10	Mr. P. J. Joshy	Associate Professor	M.Tech	Fluid Mechanics
11	Dr .V. N. Narayanan Namboothiri	Associate Professor	Ph.D	Manufacturing
12	Dr. M. R. Radhakrishna Panicker	Associate Professor	Ph.D	Machine Design
13	Dr. Saju K. K.	Associate Professor	Ph.D	Material Science and Technology
14	Dr. Tide P. S.	Associate Professor	Ph.D.	Propulsion Engg (Thermal & Fluid Engineering)
15	Mr .Jacob Elias	Associate Professor	M.Tech	Refrigeration and Cryogenics Engg.
16	Mr. Roy. V. Paul (Work arrangement)	Associate Professor	M.Tech	Mechanical Engg

Branch : Safety & Fire Engineering

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. G. Madhu	Professor & Principal	Ph.D	Process Safety Engineering, Environmental Engineering
2	Dr. M. N. Vinodkumar	Professor	Ph.D	Safety Management Engineering Design
3	Dr. Dipakkumar Sahoo	Professor	Ph.D	Structural Engineering, Fire Engineering Construction Management & Safety



4	Dr. George Mathew	Associate Professor	Ph.D	Fire Engineering Structural Safety
5	Sri. A. Nirmal Job	Associate Professor	M.Tech	Engineering Safety Manufacturing Engg.
6	Dr. V. R. Renjith	Associate Professor	Ph.D	Industrial Safety Engg.

Branch : Applied Sciences & Humanities

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Johnson T. P.	Associate Professor	Ph.D	Mathematics
2	Dr. Sasi Gopalan	Associate Professor	Ph.D	Mathematics
3	Dr. Dhannia T.	Assistant Professor	Ph.D.	Chemistry

4. Visiting Faculty (If any)

Name of Expert	Expert's Organization	City	Topic of Lecturer	Date of Visit from
Mr. Reji Zacharia	SR Consultants	Kochi	Modern software tools	29/07/2013
Shri Antony Prince	Centre for innovation Singapore	Singapore	Membrane Technology	14/08/2013
Shri. M. S. Unnikrishnan	Themax Systems	Pune	Thermal energy and Industries	25/10/2013
Dr. John C. Mathew	M G University - School of Environmental Science	Kottayam	GIS, Remote Sensing and GPS Application in Engineering	5/11/2013
Shri. Sumith Sudheendran	M G University - School of Environmental Science	Kottayam	GIS, Remote Sensing and GPS Application in Engineering	5/11/2013
Dr. A. R. R. Menon	Retd. Scientist, Kerala Forest Research Institute	Thrissur	Digital Image Processing	5/11/2013
Dr. Rama Rao	IIST Trivandrum	Trivandrum	Recent advances in Remote Sensing and future trends in the application of LiDAR	5/11/2013



Er. Satheesh Gopi	Deputy Chief Hydrographer, Kerala Port Department	Kochi	GNSS and Hydrographic Surveying	6/11/2013
Er. Vasanth K. C.	Nest Infosystems Pvt.Lmtd	Kochi	Application of Geo-spatial tools in various Engineering problems	6/11/2013
Smt. T. R. Hemalatha	GM, Sales and Design, HMT, Kochi Unit	Kochi	Introduction to FMS- An Industrial approach	12/12/2013
Shri. Jebin Singh	Training & Application Engineer M-DAB Engg pvt Lmd	Chennai	Insight to Mechatronics and Robotics	12/12/2013
Shri. Abhinandan	EDS Technologies Bangalore	Bangalore	Orientation on Digital Manufacturing	12/12/2013
Prof. P. Paramasivam	Dept of Civil Engg, National Uty of Singapore	Singapore	Innovative Structural Applications of Ferrocement in Singapore	13/12/2013
Prof. N. Ganesan	Professor of Civil Engg, NIT Calicut	Calicut	Strength and behaviour of hybrid fibre reinforced high performance concrete	13/12/2013
Shri. K. R. S. Narayan	General Manager, Reliance Industries LTD	Kochi	Sustainable and smart fiber reinforced concrete-A WALK TO EXCELLENCE	13/12/2013
Prof. Ananth Ramaswamy	Dept of CE, IISc, Bangalore	Bangalore	Behaviour of concrete under thermal and mechanical loads	13/12/2013
Prof. Narayanan Neithalath	School of Sustainable Engg and the built envmnt	Arizona Uty	Sustainable concrete structures for the future: Role of novel materials science and Technology	14/12/2013
Prof. Narayanan S. P.	Dept of CE, University tecnology PETRONAS	Tronoh	Load and Resistance factor Design	14/12/2013
Prof. K. P. Jaya	Structural Engg Div, Dept of CE, Anna Uty, Chenna	Chennai	Seismic Behaviour of precast connections	14/12/2013



Prof. Faruque Ali	Asst Prof, Dept of applied mechanics, IIT Madras	Chennai	Vibration energy harvesting: A review of recent activities	15/12/2013
Anil Joseph	Geo structurals (P.Ltd), Cochin	Cochin	Challenges in the addition and alteration of monumental structures - case of bible tower at Trichur	15/12/2013
Prof. Subha Rao	JNTUK, Uty college of engg, kakinada	Andhra Pradesh	Prototype testing model ofr strength, stability and serviceability assessment of building under lateral loads	15/12/2013
Prof. Sree Mahadevan Pillai	NSS college of Engineering, Palakkad	Palakkad	earth quake resistant design and construction	15/12/2013
Prof. Faisal Khan	Prof & Chair, Process Safety Engg, Memorial Uty	Canada	Advanced Research & Development activities in the area of Risk Assessment and Reliability Engineering	16/12/2013

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Meril George		Dr. Beena K. S.	Geo – Environmental Engg.
2	Anil K. R.		Dr. Beena K. S.	Coir Geotextiles
3	Unni Kartha G.		Dr. Beena K. S.	Geotechnical Earthquake Engg.
4	Sangeetha S.		Dr. Beena K. S.	Geo-Synthetics
5	Sabu Paul Mulerikal		Dr. Beena K. S.	Landslides Stablisation
6	Santhosh G.		Dr. Beena K. S.	Ground Improvements
7	Rani Tenison		Dr. Abdu Rahiman K. U. Dr. Subha V. (Co- guide)	Water Resources
8	Sindhu H.		Dr. Abdu Rahiman K. U. Dr. Subha V. (Co-guide)	Water Resources
9	Asha P. Tom		Dr. Renu Pawels	Sustainable Technology for solid waste management



10	Anna Joseph		Dr. Renu Pawels	Biological nutrient removal for wastewater
11	Sanju Sreedharan		Dr. Renu Pawels	Membrane bioprocess for wastewater treatment
12	Reji K. P.		Dr. Renu Pawels	Modeling and Control of Environmental Hazards
13	Athira Ravi		Dr. Subha V.	Environmental Management
14	Ramadass S.		Dr. Job Thomas	Structural Engineering
15	Harilal B.		Dr. Job Thomas	Sustainable Construction Materials
16	Asha Joseph		Dr. Glory Joseph	Effect of Earthquake acceleration on structures
17	Simi Sebastian		Dr. Glory Joseph	Study on shell structures
18	Biju P. N.		Dr. Glory Joseph	Effect of earthquake on dams
19	Rani V		Dr. Sobha Cyrus	Specialisation Geotechnical Engg.
20	Anitha G. Pillai		Dr. Benny Mathews Abraham	Stabilisation of Marine Clays
21	Subramannia Prasad C. K.		Dr. Benny Mathews Abraham	Use of Plastic Wastes in Masonry Blocks
22	Cyriac Davies		Dr. Benny Mathews Abraham	Prediction of Pile Capacity
23	Sreedevi B. G.		Dr. Benny Mathews Abraham	Performance of flexible pavements under soil sub grades
24	Robert V. Thomas		Dr. Deepa G. Nair	Building Materials
25	Jiji Antony		Dr. Deepa G. Nair	Building Materials
26	Santhosh John		Dr. Deepa G. Nair	Sustainable Housing
27	Joseph John		Dr. Deepa G. Nair	Sustainable Housing
28	Jabir K. V. T.		Dr. David Peter S.	
29	Siyamol Chirakkarottu		Dr. Sheena Mathew	
30	Tomsy Paul		Dr. Sheena Mathew	
31	Baby Paul		Dr. P. Mythili	Genetic algorithms & Image Processing



32	Shanavas K. T.		Dr. P. Mythili	Genetic algorithms & Image Processing
33	Agnes Jacob		Dr. P. Mythili	Emotional analysis using GA
34	Philip Cherian		Dr. P. Mythili	All optical digital filters/ optical logic devices for optical signal processing
35	Premkumar C. V.		Dr. R. Gopikakumari	Intelligent Processing
36	Biju V. G.		Dr. P. Mythili	Genomic signal processing
37	Vijayakumari C. K.		Dr. P. Mythili	Automated design of digital and analog circuits
38	Anju Pradeep		Dr. S. Mridula	
39	Archana R.		Dr. R. Gopikakumari	
40	Anilkumar C. V.		Dr. Binu Paul	
41	Hari V. S.		Dr. Jagathy Raj V. P. Dr. R. Gopikakumari	
42	Anantha Narayanan S.		Dr. Jagathy Raj V. P.	
43	Sumi M.		Dr. S. Mridula	
44	Mini P. R.		Dr. S. Mridula	
45	Bindu C. J.		Dr. S. Mridula	
46	Saira Joseph		Dr. Binu Paul	
47	Rabiya Rasheed		Dr. Saju K. K.	
48	Shemi P. M.		Dr. Abdulla P.	
49	Ajimsha Maideen		Dr. Abdulla P.	
50	Jasmine P. M.		Dr. Abdulla P.	
51	Raphika P. M.		Dr. Abdulla P.	
52	Ratheesh P. M.		Dr. R. Gopika Kumari	
53	Preetha Basu		Dr. R. Gopukakumari	
54	Manju B.		Dr. R. Gopukakumari	
55	Jaya V. L.		Dr. R. Gopukakumari	
56	Shelbi Joseph		Dr. Jagathy Raj V. P.	
57	Deepa P.		Dr. Rekha K. James	
58	Manikandan K.		Dr. Jibukumar M. G.	
59	Rajesh Mohan R.		Dr. S. Mridula	



60	Unni A. M.		Dr. Jibukumar M. G.	
61	Latha K. N.		Dr. Jibukumar M. G.	
62	Tripti C.		Dr. Jibukumar M. G.	
63	Shamla B.		Dr. Jibukumar M. G.	
64	Bindu P. (Palakkal)		Dr. Jibukumar M. G.	
65	Chikku Abraham		Dr. Babita Roslind Jose	
66	Biju K. S.		Dr. Jibukumar M. G.	
67	Jaison Jacob		Dr. Babita Roslind Jose	
68	Bindumol E. K.		Dr. C. A. Babu	Power System
69	Suresh Kumar M. G.		Dr. C. A. Babu	Power System
70	Vineetha C. P		Dr. C. A. Babu	Power System
71	R.Rajesh Babu		Dr. C. A. Babu	Power System
72	Bindu S. J.		Dr. C. A. Babu	Power System
73	Deepa Sankar		Dr. C. A. Babu	
74	Anand S. R.		Dr. C. A. Babu Dr. Jagathy Raj V. P.	
75	Joseph K. D.		Dr. Asha Elizebeth Daniel	
76	Athira M.		Dr. Asha Elizebeth Daniel	
77	Shaija P. J.		Dr. Asha Elizebeth Daniel	
78	Arun Prasad K. M.		Dr. Usha Nair	
79	Rajani S. H.		Dr. Usha Nair	
80	Shanu N.		Dr. Usha Nair	
81	Leena T. Timothy		Dr. Usha Nair	
82	Rajeevan A. K.		Dr. Usha Nair	
83	Surya Susan Alex		Dr. Asha Elizebeth Daniel	Communication Engineering
84	Parvathy R.		Dr. Asha Elizebeth Daniel	Communication Engineering
85	Latha P. G.		Dr. P. S. Sreejith	Impact of energy conservation measures on power quality
86	Sunil Kumar G.		Dr. P. S. Sreejith	Investigation of crash worthiness of Honey comb core
87	V. Vijayachandran Nair		Dr. V. N. Narayanan Nampoothiri Prof. M. R. Anantharaman	Application of Magneto Rheological Materials for Disaster Management



88	Oommen Thomas		Dr. V. N. N. Namboothiri	Modelling & Analysis of sheet fed offset printing machine
89	Mubarak A. K.		Dr. Tide P. S.	
90	Jyothisankar P. R.		Dr. Tide P. S.	
91	Bindu M. D.		Dr. Tide P. S.	
92	Sandhya M.		Dr. Tide P. S.	
93	Jiji K. S.		Dr. Jayadas N. H.	
94	Manoj George		Dr. Jayadas N. H., Dr. K. E. George	
95	Mahipal D.		Dr. Jayadas N. H.	Enhancement of Lubricating properties of vegetable oils using raw particles
96	Tom Zacharia		Dr. Jayadas N. H.	
97	Bijesh Paul		Dr. Jayadas N. H.	
98	Salaji S.		Dr. Jayadas N. H.	
99	James K J		Dr. M. Bhasi Dr. V. N. N. Nampoothiri	
100	Jiby Varghese		Dr. P. S. Sreejith	
101	Sreenivas P.		Dr. P. S. Sreejith	
102	Prameela Kumari K.		Dr. P. S. Sreejith Dr. Jagathy Raj V. P.	
103	Jayadeep Kumar J.		Dr. James Varghese	
104	Santhosh Kumar S.		Dr. James Varghese	
105	Sunil A. S.		Dr. Tide P. S.	
106	Ramesh A.		Dr. G. Madhu	Energy Management
107	Mahesa Rangaraj R.		Dr. M.N. Vinodkumar	Human factors Engg.
108	Ushakumary E R		Dr. G. Madhu	Waste water treatment
109	Georgekutty C. K.		Dr. George Mathew	Construction Management
110	Binu P. P.		Dr. M. N. Vinodkumar, Dr. K. E. George	Nano-polymer composites
111	Prince Mathew		Dr. George Mathew	Structural Engg.
112	Bindhu B. K.		Dr. G. Madhu	Waste water treatment
113	Nirmal Job A.		Dr. K. E. George, Dr. G. Madhu	Polymer composites
114	Ambilikumar C. K.		Dr. M. Bhasi	Supply chain management



115	Binu M. Issac		Dr. George Mathew	Concrete structures
116	Suresh Babu N.		Dr. George Mathew	Concrete structures
117	Anilkumar K. R.		Dr. M. N. Vinodkumar	Supply chain management
118	Thomas T.		Dr. M. N. Vinodkumar	Safety management
119	Sajeena Beevi B.		Dr. G. Madhu, Dr. D. K. Sahoo	Solid waste management
120	Fasnabi P. A.		Dr. G. Madhu	Advanced oxidation processes
121	Benny Joseph		Dr. George Mathew	Concrete technology
122	Thomas Paul		Dr. D. K. Sahoo, Dr. Glory Joseph	Structural Engineering
123	Praveen Mathew		Dr. D. K. Sahoo, Dr. Glory Joseph	Structural Engineering
124	Jayasree P. Kuttamassery Mana		Dr. G. Madhu, Dr. D. K. Sahoo	Biological Waste water treatment
125	Thajudeen H.		Dr. M. N. Vinodkumar	
126	Padmavathy K. S.		Dr. G. Madhu, Dr. D. K. Sahoo	Nanotechnology for waste water treatment
127	Haseena P. V.		Dr. G. Madhu, Dr. D. K. Sahoo	Nitrate removal from water and wastewater
128	Jesna Anwar		Dr. Abdulla P.	
129	Geeja K. George		Dr. Subha V. & Dr. Abdu Rahiman K. U.	An Investigation to Manual Sandmining from Periyar River
130	Lekshmi M. S.		Dr. Subha V. & Dr. Deepa G. Nair	Use of Natural Fibres in Building Construction
131	Neena Sunny		Dr. Roy M. Thomas	Environmental issues in fish industries
132	Usha S.		Dr. Deepa G. Nair & Dr. Subha V.	Geopolymer Composites as a sustainable alternative
133	Varghese K. O.		Dr. Deepa G. Nair	Application of waste materials in Construction
134	Veena V.		Dr. Sobha Cyrus	Volume change Behaviour of Liner Soils
135	Babu P. Kuriakose		Dr. M. N. Vinodkumar	Intelligent Lighting Control System based on ergonomic research



136	Manoj N.		Prof. G. Madhu & Dr. K. E.George	Weldline behavior of Polymer blends and composites.
137	Femina T. B.		Dr. Shahana T. K.	A study on the application/ use of Data Mining Techniques in the field of Medicine
138	Sheena S.		Dr. Sheena Mathew	Application on Image Processing.
139	Preethi Sebastian		Dr. Usha Nair & Dr. M. R. Radhakrishna Panicker	Modelling and Control of renewable energy systems
140	Anjit T. A.		Dr. P. Mythili	Microwave Image for Breast Tumor Detection
141	Anu A. R.		Dr. Abdulla P.	Improved coupling of dielectric resonator antenna fed by planar slots
142	Anuradha P. V.		Dr. Babita Roslind Jose	Intelligent Medical Image Processing Techniques and Analysis
143	Jayakrishnan K. R.		Dr. Shahana T. K.	Performance improvement of delta- sigma data converters
144	Jilu George		Dr. Babita Roslind Jose	Medical Image registration for the diagnosis of tumors
145	Jithendra K. B.		Dr. Shahana T. K.	Hardware efficient embedded secure communication system
146	Mahesh V. V.		Dr. Shahana T. K.	VLSI Signal Processing Systems
147	Mohamed Salih K. K.		Dr. Binu Paul & Dr. Rekha K. James	
148	Paul Ansel V.		Dr. Babita Roslind Jose	System Level Analysis and design of Re- configurable sigma Delta Analogue to Digital Converters
149	Purushothaman K. G.		Dr. Rekha K. James	VLSI Communication
150	Rema N. R.		Dr. P. Mythili	Transformation Techniques for Image Processing



151	Sabarinath G.		Dr. Babita Roslind Jose	Non-linearity analysis of Programmable oversampled Sigma Delta Modulator for 4G Wireless Receivers
152	Arun C.		Dr. Biju N.	
153	D. Prekasan		Dr. K. K. Saju	Characterisation of Synovial Fluid
154	Jayashree K. S.		Dr. K. C. James & Dr.V. N. Narayanan Nampoothiri	Optimizing strategy for production, distribution and supply chain of certain industrial Scenarion
155	Jibi Job		Dr. Biju N.	Design and analysis of an innovative pick-and-place robotic manipulator
156	Manu M. John		Dr. James Varghese	A study on Consumer Awareness in Energy Efficiency Standards
157	Gopalakrishna Pillai M.		Dr. Sreejith P. S.	A study on Microstructure, Fracture toughness Fatigue Properties and Effect of Post weld Heat Treatment of Titanium Alloy – Ti6Al 4V welds.
158	Rejeesh C. R.		Dr. K. K. Saju	A study into the development of coconut fibre based composite Boards.
159	Reghuraj A. R.		Dr. K. K. Saju	Black Oxide Coating on Surgical Stainless Steel
160	Sanchu S.		Dr. Biju N.	Study and Analysis of Cryogenic Treated Cutting Tools
161	Thilakan T. B.		Dr. P. S. Sreejith	Sustainable Manufacturing
162	Sushil Cherian		Dr. James Varghese	Dynamical Simulation and modeling of ultra supercritical thermal power plants.



163	B. Indulakshmi		Dr. G. Madhu	
164	Basil J. Paul		Dr.S.Mridula	Application of Metamaterials in Planar Microwave devices.
165	Able Alias		Dr. Glory Joseph	
166	Aneesh P. C.		Dr. Roy M. Thomas	
167	Biju P. Varghese		Dr. Dipak Kumar Sahoo	
168	Bindu Sebastian		Dr. Sobha Cyrus	
169	Binu P.		Dr. Deepa Balakrishnan S.	
170	Gadha Venugopal		Dr. Job Thomas	
171	James C. J.		Dr. Dipak Kumar Sahoo	
172	Jayanthi M. U.		Dr. Abdu Rahiman K. U.	
173	Joone Joy		Dr. G. Madhu & Dr. Roy M. Thomas	
174	Muhammed Koya N. K.		Dr. Deepa G. Nair	
175	Sekhar A. C.		Dr. Benny Mathews Abraham	
176	Soumyan K.		Dr. Deepa Balakrishnan S.	
177	Sreekumar M. G.		Dr. Deepa G. Nair	
178	Thomas John V.		Dr. Roy M. Thomas	
179	Askkar Ali P.		Dr. Ajithkumar G.	
180	Deepak Alexander Chacko		Dr. Ajithkumar G.	
181	E.Sivakumar		Dr. K. K. Saju	
182	Eldho Jacob Joy		Dr. Biju N.	
183	Harish T. V.		Dr. Ajithkumar G.	
184	Kiran Christopher		Dr. M. R. Radhakrishna Panicker & Dr. Sunil Kumar N., CUCEK	
185	Rajesh Kumar R.		Dr. M. N. Vinodkumar	
186	Ritwik A.		Dr. K. K. Saju	
187	Sanju J. Thomas		Dr. Ajithkumar G.	
188	S. Krishnanunni		Dr. Ajithkumar G.	



189	Sojan P. Antony		Dr. M. R. Radhakrishna Panicker & Dr. Mathiyazhakan, Ship Technology	
190	Srijith Rajeev		Dr. Biju N.	
191	Vinod Kumar E.		Dr. M. R. Radhakrishna Panicker	
192	Anil Kumar K. N.		Dr. James Varghese & Dr. Tide P. S.	
193	Manoj P. K.		Dr. Vinodkumar M. N.	
194	Raghu R.		Dr. P. S. Sreejith	
195	Roy V.Paul		Dr. Biju N. & Dr. Tide P. S.	
196	Sabu Kurian		Dr. Tide P. S. & Dr. Biju N.	
197	Jose Prakash A. V.		Dr. Babitha Roslind Jose	
198	Prameela B.		Dr. Asha Elizabeth Daniel	
199	Harikrishnan A. I.		Dr. Mridula S.	
200	Rekha T.K.		Dr. P. Abdulla	
201	Baby Kavitha M. V.		Dr. Babitha Roslind Jose & Dr. Asha Elizabeth Daniel	
202	Leena N.		Dr. K. K. Saju	
203	Mangala Devi K. T.		Dr. Asha Elizabeth Daniel	
204	Nikhila T. Bhuvan		Dr. Sudeep Elayidom M.	
205	Vini Vijayan		Dr. Sudeep Elayidom M.	
206	Remesh Babu K. R.		Dr. Philip Samuel	
207	Lila Bhai T. S.		Dr. G. Madhu	
208	Sananth H. Menon		Dr. G. Madhu	
209	Lija Mohan		Dr. Sudeep Elayidom M.	

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Joint Registrar	1
2	Section Officers	3
3	Assistants	9



4	Peons	7
5	Pool Officer	1
6	Typist	4
7	Duplicator operator	1
8	Librarian	-
9	Professional Assistant	1
10	Library Assistant	2
11	Sweeper Cum Cleaner	2
12	Assistant Librarian	1
13	Junior Librarian	1
14	Clerical Assistant	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Assistant - Grade III	5
2	Technical Assistant - Grade II	11
3	-do- Grade I	3
4	Technician - Grade I	8
5	Technician Grade-II	13
6	Lab Attendant	4
7	HDV Driver	2
8	LDV Driver	1
9	Bus Conductor	2
10	Store Keeper	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Ph.D	33	13	46
2	M.Tech (PT)			
	i. Civil Engineering	8	7	15
	ii. Chemical Engineering	13	-	13
	iii. Electrical Engineering	10	5	15
	iv. Mechanical Engineering	18	-	18
3	M.Tech (FT)			
	i. Civil Engineering	5	13	18



	ii. Mechanical Engineering	18	-	18
	iii. Electronics & Communication Engineering	7	10	17
	iv. Information Technology	2	16	18
4	B.Tech (Civil)	72	29	101
5	B.Tech (CS)	74	26	100
6	B.Tech (EC)	80	19	99
7	B.Tech (EEE)	58	9	67
8	B.Tech (IT)	71	28	99
9	B.Tech (ME)	99	1	100
10	B.Tech (SE)	66	1	67
	Total	634	177	811

9. Research Facilities

a. Laboratories

Details of Major Equipments

Name of the laboratory/ workshop	Major equipment
Civil Engineering	
Strength of materials lab	UTM, Fatigue testing Machine, Machines for Hardness testing , Shake Table for vibration analysis
Construction Engineering Lab	Compression testing machine, Bending Testing Machines
Geotechnical Engineering lab	Unconfined compression testing m/c, Direct shear Testing m/c, Consolidation Testing m/c and Triaxial Testing Machine
Survey lab	Total station, Theodolites, Levels
Highway Engineering lab	Marshall Equipment, Centrifuge Extractor for Vituminous Mixes, Losangeles Abrasion Testing Machine.
Computer Lab	PC, Laptop, LCD Projector, Laser Printer, Software's – Plaxis 3D, Software for GIS, STAAD, AutoCAD etc.
Environmental Engg. Lab	Spectrophotometers, Flame Photometer, BOD Incubator, COD Analyser, Electronics Analytical Balances, Muffle Furnace, Oven.
Mechanical Engineering	
CAD lab	CNC trainer latheRobotic arm
Computer programming lab	ANSYS AutoCAD
Fluid Mechanics lab	Hydraulic ram



Machine shop	Lathes, Milling machine
Metrology measure met lab	Profito meters
Thermal lab	Computerised 4s 4 Cylinder Petrol Engine, 3 Cylinder 4s Petrol Engine, 4s Single Cylinder Diesel Engine (2 Nos), Single Stage Single Cylinder Air Compressor , Multi Stage Single Cylinder Air Compressor
Heat and mass transfer lab	R&A/c Equipments
Electronics & Communication Engineering	
Microprocessor lab	Microprocessor kitMicro controller kit
Circuit lab	CRO, Function generator, signal generator
Communication lab	Digital storage oscilloscope, RF signal generator
Advanced digital lab	Logic Analyzer, Spectrum analyzer
Advanced Computer lab	Computer server, Printer
VLSI Lab & Advanced Communication Lab 13GHz , RS ZVB8 – 8GHz.	Cadence - VLSI tools· LABView and USB DAQ unit· i7 computers· Network Analysor - ZVL 13 - Antenna Pattern measurement – turn table setup· Altium Designer Tools and FPGA Boards
Information Technology	
Multimedia lab	36 nodes Core 2 Duo Machines, 1GHz 64MB Ram creative multimedia kits digital camera + Scanner + Server 2 HP net servers L3640
Hardware lab	Motherboards, Processors, RAM cards, Display Cards, Monitor, SMPS
Internet Lab	50nodes, Intel,core duo processor, Laser Printer one, Line Printer one, Server two nos
DBMS lab	Set up of 1 server + 40 nodes under processing
Computer Science & Engineering	
Networks lab	50nodes, Intel core duo processor, Laser Printer one, Line Printer one, Server 2nos
Project lab	36 nodes Pentium II 1GHz 64MB Ram creative multimedia kits digital camera + Scanner + Server 2 HP net servers L3640
Data structure lab	50nodes, Intel core duo processor, Laser Printer one, Line Printer one
Microprocessor lab	Microprocessor kitMicro controller kit
Safety & Fire Engineering	
Industrial Hygiene lab	Spirometer, Audiometry, HC analyzer, Multigas detector, Heat Stress apparatus, High volume sampler, Stack monitoring kit



Electrical & Electronics Engineering	
Electrical Machine Lab	3 phase transformers, Single Phase transformers, Auto phase transformers, Motor Generator set, Synchronous motor, Alternator, DC Motor, DC Generator, Rectifiers, Induction Motors
Measurements Lab	Wheatstones bridge, Kelvins double Bridge, Potentiometer, Maxwell's bridge, Function Generator, CRO, Rheostatic loader, Inductiver loads, Measuring Equipments
Power Electronics lab	Microcontroller based systems, SCR controlled drives, Measuring Equipments
Advanced Electrical Engineering Lab	Computers
Microprocessor Lab	Microprocessor Kits, CRO, Power supply.

b. Library

No. of books and journals as on 31st March of the Previous Year	Additions during the current year
Books: 34585 Journals: 44	Books: 808 Journals: 0

10. Distinguished Visitors

Name of Expert	Expert's Organization	City	Topic of Lecturer	Date of Visit from
Mr. Reji Zacharia	SR Consultants	Kochi	Modern software tools	29/07/2013
Shri. Antony prince	Centre for innovation Singapore	Singapore	Membrane Technology	14/08/2013
M. S. Unnikrishnan	Themax Systems	Pune	Thermal energy and Industries	25/10/2013
Dr. John C. Mathew	M G University - School of Environmental Science	Kottayam	GIS, Remote Sensing and GPS Application in Engineering	5/11/2013
Mr. Sumith Sudheendran	M G University - School of Environmental Science	Kottayam	GIS, Remote Sensing and GPS Application in Engineering	5/11/2013
Dr. A. R. R. Menon	Retd. Scientist, Kerala Forest Research Institute	Thrissur	Digital Image Processing	5/11/2013



Dr. Rama Rao	IIST Trivandrum	Trivandrum	Recent advances in Remote Sensing and future trends in the application of LiDAR	5/11/2013
Er. Satheesh Gopi	Deputy Chief Hydrographer, Kerala Port Department	Kochi	GNSS and Hydrographic Surveying	6/11/2013
Er. Vasanth K. C.	Nest Infosystems Pvt.Ltd	Kochi	Application of Geospatial tools in various Engineering problems	6/11/2013
Smt. T. R. Hemalatha	GM, Sales and Design, HMT, Kochi Unit	Kochi	Introduction to FMS- An Industrial approach	12/12/2013
Shri. Jebin Singh	Training & Application Engineer M-DAB Engg pvt Lmd	Chennai	Insight to Mechatronics and Robotics	12/12/2013
Shri. Abhinandan	EDS Technologies Bangalore	Bangalore	Orientation on Digital Manufacturing	12/12/2013
Prof. P. Paramasivam	Dept of Civil Engg, National Uty of Singapore	Singapore	Innovative Structural Applications of Ferrocement in Singapore	13/12/2013
N. Ganesan	Professor of Civil Engg, NIT Calicut	Calicut	Strength and behaviour of hybrid fibre reinforced high performance concrete	13/12/2013
K. R. S. Narayan	General Manager, Reliance Industries LTD	Kochi	Sustainable and smart fiber reinforced concrete-A WALK TO EXCELLENCE	13/12/2013
Prof. Ananth Ramaswamy	Dept of CE, IISc, Bangalore	Bangalore	Behaviour of concrete under thermal and mechanical loads	13/12/2013
Prof. Narayanan Neithalath	School of Sustainable Engg and the built envmnt	Arizona Uty	Sustainable concrete structures for the future: Role of novel materials science and Technology	14/12/2013
Prof. Narayanan S. P.	Dept of CE, University technology PETRONAS	Tronoh	Load and Resistance factor Design	14/12/2013



Prof. K. P. Jaya	Structural Engg Div, Dept of CE, Anna Uty, Chennai	Chennai	Seismic Behaviour of precast connections	14/12/2013
Prof. Faruque Ali	Asst Prof, Dept of applied mechanics, IIT Madras	Chennai	Vibration energy harvesting: A review of recent activities	15/12/2013
Anil Joseph	Geo structurals (P.Ltd), Cochin	Cochin	Challenges in the addition and alteration of monumental structures - case of bible tower at Trichur	15/12/2013
Prof. Subha Rao	JNTUK, Uty college of engg, kakinada	Andhra Pradesh	Prototype testing model ofr strength, stability and serviceability assessment of building under lateral loads	15/12/2013
Prof. Sree Mahadevan Pillai	NSS college of Engineering, Palakkad	Palakkad	earth quake resistant design and construction	15/12/2013
Prof. Faisal Khan	Prof & Chair, Process Safety Engg, Memorial Uty	Canada	Advanced Research & Development activities in the area of Risk Assessment and Reliability Engineering	16/12/2013
Mr. Afsal	UST Global		Talk on Industry Audit organized by ECSA	
G. Shankar	Architect, Habitat, 20-03-2013			
Gopu R. Potty	Department of Ocean Engineering University of Rhode Island, Narragam Sett, RI 02882, 10-01-2013			
Dr. Radhakrishna G. Pillai	Department of Civil Engineering, Assistant Professor, Indian Institute of Technology Madras, Chennai, TN 600036			



Prof. S. R. Gandhi	IIT Madras, 28-09-2013			
Mr. Pietro Rimoldi	International, Geosynthetic Specialist, 27-09-2013			
S. Rathish	Department of Civil Engineering, Kerala Water Authority 27-9-2013			
Prof. Manu Santhanam	IIT Madras, 25-11-2013			
Scientist Antony Prince	R&D Scientist, NGEE-ANN Polytechnic, Centre for Innovation in Environmental and Water Technology, 14-08-2013			

11. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Modelling of work-related musculoskeletal disorders in chemical process industry in india	Praveensal C. J.	Dr. G. Madhu
2	Influence of forecasting planning and controlling on the performance of small and medium enterprises.	Biju Augustine P.	Dr. M. Bhasi Dr. G. Madhu
3.	Characterization of human and instrument related measurement errors	Vinodkumar Jacob	Dr. M. Bhasi Dr. R. Gopikakumari
4.	Service quality and reliability assessment of mobile communication infrastructure	Sunil Kumar K.	Dr. P. S. Sreejith Dr. Jayadas N. H.
5.	Design, development and realization of quadratic volterra filters for selected applications	Hari V. S.	Dr. Jagathyraj V. P. Dr. R. Gopikakumari
6.	Development and evaluation of soft computing techniques for sensorless vector control of ac drives	Bindu V.	Dr. R. Gopikakumari Dr. A. Unnikrishnan (NPOL)



12. Publications

a. Papers

International Journal

Department	Title of Paper	International Journal	Volume No.	Page No.	ISSN/ISB/ ACCN No.	Author/s
Computer Science & Engineering	A novel decision tree algorithm for numeric datasets - C 4.5*STAT	International Journal of Advanced Computing	Volume 36(1)	PP 1120-1123		Sudheep Elayidom M
Mechanical Engineering	Optimum frequency variations with coil geometry and defects in	British Institute of Non-Destructive Testing INSIGHT	Volume 55, Number 9	PP. 504-509		Biju N., Ganesan N., Krishnamurthy, C. V., Krishnan Balasubramaniam
Electrical & Electronics Engineering	Regulation of Settling Chamber Pressure in a Hypersonic Wind Tunnel using LQR Controller	International Journal of Electronics Communication and Computer Engineering	2-Apr	PP 466-469		Rajani S. H., Bindu M. Krishna, Usha Nair
Electrical & Electronics Engineering	Modifies Chattering Free Sliding Mode Control of DC Motor	Modern Engineering Research (May-June 2013)	3	3		Arun Prasad, Bindu M. Krishna, Usha Nair,
Mechanical Engineering	A Generalised Algorithm for the Demand Prediction of a Short Life Cycle Product Supply Chain and its Implementation in a Baked Product	International Journal of Mechanical Engineering & Technology (IJMET)	4 (1)	PP 44-53		Bijesh P., And Jayadas N. H.
Mechanical Engineering	Cross recurrence quantification analysis of input and output signals for the detection of chatter in turning	International Journal of Production Technology and Management (IJPTM)	Vol 1, No 1	PP 56-64		Jacob Elias V. N. Narayanan Namboothiri



Department	Title of Paper	International Journal	Volume No.	Page No.	ISSN/ISBN/ ACCN No.	Author/s
Computer Science & Engineering	Text classification for authorship attribution analysis	Advanced Computing: An International Journal (ACIJ)	Vol 4(5)	PP 1-10		Sudheep Elayidom, Chinju Jose, Anitta Puthussery, Neenu K. Sasi
Safety and Fire Engineering	Energy audit of thermal utilities in a cement plant	International Journal of Mechanical Engineering	2 issue 2			A. Ramesh, Leo A. J. And G. Madhu
Safety and Fire Engineering	influence of organic loading rates on aerobic granulation process for the treatment of wastewater	Journal of Clean energy Technologies	Vol.1, No.2			B. K. Bindhu And G. Madhu
Safety and Fire Engineering	Decision support tool for lean product and process development	Production Planning & Control,	Vol.24, No.6			Thankachan T. Pullan, M. Bhasi And G. Madhu
Electrical & Electronics Engineering	Commercial Impact and Optimum Capacity Determination of Pumped Storage Power Plant for a practical Power System	International Journal of Emerging Electric Power Systems	Volume 14, Issue 3	pp. 245-254		P. G. Latha, S. R. Anand, Imthias Ahamed
Mechanical Engineering	Optimum frequency variations with coil geometry and defects in tone burst eddy current thermography (TBET)	British Institute of Non-Destructive Testing	Volume 55, Number 9	pp. 504-509		Biju N. Ganesan, N. Krishna murthy, C.V. Krishnan Balasubramaniam



Department	Title of Paper	International Journal	Volume No.	Page No.	ISSN/ISBN/ ACCN No.	Author/s
Safety and Fire Engineering	Efficiency factors of recycled aggregate concrete bottle-shaped struts	Magazine of Concrete Research	65(14)	878-887	0965-0911	Singh B., Sahoo D. K., Nobi Mathew Jacob
Electrical & Electronics Engineering	A Reliability Based Model for Wind Turbine Selection	Int. Journal of Renewable Energy Development	2	69-74		Rajeevan A. K. P. V. Shouri, Usha Nair
Electrical & Electronics Engineering	Performance Comparison of H-infinity and LQR Controllers for the Pressure Regulation of a Hypersonic Wind Tunnel	International Journal of Modern Engineering Research (IJMER)	3	Pp 1623-1629		Usha Nair, Rajani S. H.
Mechanical Engineering	Cross-recurrence plot quantification analysis of input and output signals for the detection of chatter in turning	Non linear dynamics				Jacob Elias V. N. Narayanan Namboodiri
Mechanical Engineering	A Generalised Algorithm for the Demand Prediction of a Short Life Cycle Product Supply Chain and its Implementation in a Baked Product	International Journal of Mechanical Engineering & Technology (IJMET)	4(1)	44 - 53		Jayadas N. H., Bijesh P.
Information Technology	Cognitive Characteristics that Influence Effectiveness of Students during Computer Programming Process	International Journal of Engineering Research & Technology (IJERT)	Vol. 2 Issue 12	1270-1285	1270-1285	V. G. Renumol, D. Janakiram, S. Jayaprakash



Department	Title of Paper	International Journal	Volume No.	Page No.	ISSN/ISBN/ ACCN No.	Author/s
Safety and Fire Engineering	Chitosan coated surface modified polypropylene fabric for the removal of Cd(II) and Zn(II) ions from aqueous solution	International Journal of Innovative Research in Science, Engineering and Technology	Vol.2, Issue 7			Adarsh K. J., G. Madhu

Papers of Civil Engineering Division

Sl. No.	Name of Paper
1.	Abraham B. M., Kumar T. G. S., Sridharan A. and Jose B. T. 2013 'Strength improvement of Loose sandy soils through cement Grouting', Indian Geotechnical Journal, ISSN 0971-9555, DOI 10, 1007/S 40098-013-0073-3
2.	Benny Mathews Abraham, Beshy Kuriakose, A. Sridharan, Babu T. Jose (2014) 'A critical review of Liquid limit – Plasticity index relationships' International Journal of Emerging Technology and Advanced Engineering, ISSN 2250-2459, Vol.4, Issue 2, February 2014, pp 565-568
3	K. S. Beena, (2013), Studies on Strength Characteristics of Soil Mixed with Bio-waste, Indian Geotechnical Conference, December 22-24,2013, Roorkee, Page 1 of 5
4	Bindu C. S. Beena, K. S. (2013), Comparison of shear strength characteristics of Stone Matrix Asphalt mixture with waste plastics and polypropylene, International Journal of Structural. & Civil Engineering Research, Vol. 2, No. 4, 13 – 21
5	Noufiamol K. A., Deepa B. S., 'Study on seismic strengthening of RC structures with steel shearwall using FEM' Proceedings of the 2 nd International conference on modelling and simulation in Civil Engineering, ICMSC, TKM college of Engineering, Kollam, Kerala, Dec 13-14, 2013
6	Deepa Balakrishnan S., Paulose K. C., 'Workability and strength characteristics of self compacting concrete containing fly ash and dolomite powder' American Journal of Engineering Research, e-ISSN:2320-0847,p—ISSN:2320-0936, pp43-47, Open Access www.ajer.org
7	Deepa Balakrishnan S., Thomas John V., Job Thomas., 'Properties of fly ash based geo-polymer concrete', Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013, December 13-15, 2013, Kochi, Kerala, India,



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8	Deepa Balakrishnan S., Paulose K. C., 'Workability and strength characteristics of self compacting concrete containing fly ash and dolomite powder' Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013, December 13-15, 2013, Kochi, Kerala, India,
9	Deepa Balakrishnan S., Thomas John V., Job Thomas., 'Properties of fly ash based geo-polymer concrete', American Journal of Engineering Research, e-ISSN:2320-0847, p-ISSN:2320-0936, pp21-25, Open Access www.ajer.org
10	Shiji P. V., Suresh S. and Glory Joseph, Effect of Soil Structure Interaction in Seismic Loads of Framed Structures, Proceedings of <i>International Conference on Innovations in Civil Engineering</i> , (May 9-10, 2013), SCMS School of Engineering and Technology, Kerala, India, Kerala.
11	Asha Joseph and Glory Joseph, Influence of Vertical Acceleration on Seismic Response of End-bearing Pile Foundations", Proceedings of National conference on Recent Advances in Structural Engineering (RASE 2013), CUSAT, Cochin, India
12	Asha Joseph and Glory Joseph , (2013), Influence of Vertical Acceleration on Seismic Response of End-bearing Pile Foundations", (2013) American Journal of Engineering Research, e-ISSN : 2320-0847 p-ISSN : 2320-0936, 33-41
13	Ramadass S. and Job Thomas (2014), Experimental investigation on the shear strength of concrete beams longitudinally reinforced with GFRP bars, International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622, pp 83-86, January 2014, Open access http://www.ijera.com/special_issue/Trace/IJERA%202014.pdf
14	Ramadass S. and Job Thomas (2013), Shear strength prediction of concrete beams reinforced with FRP bars using IS: 456-2000, American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-1 pp-43-48, December 2013, Open Access www.ajer.org
15	Muhammed Yoosaf K. T., Ramadass S and Jayasree Ramanujan (2013), Finite element analysis and parametric study of grid floor slab, American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-3 pp-20-27, Dec 2013, Open Access www.ajer.org
16	Ashique Jose, Ramadass S. and Jayasree Ramanujan, (2013) Parametric study on the structural forces and the moments of cylindrical shell roof using ANSYS, American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-3 pp-50-61, Dec 2013, Open Access www.ajer.org
17	Ramadass S. and Jayasree Ramanujan (2013), Parametric study on the shear strength of concrete deep beam using ANSYS Nerin K. Antony, American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-4 pp-51-59, dec 2013, Open Access www.ajer.org



Sl. No.	Name of Paper
18	Achuthankutty A., Ramadass S., Job Thomas(2013), Shear strength of RC beams containing hybrid steel fibers American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-2 pp-48-52, Dec 2013, Open Access www.ajer.org
19	Sunilkumar K. A., Ramadass S. and Job Thomas (2013), Mechanical properties of high strength mortar for repair works American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-4 pp-11-16, Dec 2013,Open Access www.ajer.org
20	Tibu Chacko, Ramadass S. and Jayasree Ramanujan (2013), Parametric study on the transverse and longitudinal moments of trough type folded plate roofs using ANSYS , American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-4 pp-22-28, dec 2013, Open Access www.ajer.org
21	Ramadass S. and Job Thomas (2013), FRP bar reinforced concrete beams in shear, Proceedings of the 2 nd International conference on modelling and simulation in Civil Engineering, ICMSC, TKM college of Engineering, Kollam, Kerala, Dec 13-14, 2013 pp 260-265
22	Ramadass S. and Job Thomas (2014), Experimental investigation on the shear strength of concrete beams longitudinally reinforced with GFRP bars, Proceedings of the National conference on Trends and Recent Advances in Civil Engineering, TRACE- 2014, 24th-25th January 2014, SNGCE, Ernakulam, Paper No: T 208
23	Ramadass S. and Job Thomas (2013), Role of FRP as sustainable construction material-An overview, Proceedings of the National seminar on Green Environment, Theme: Waste management, Toc H institute of Science and Technology, Ernakulam, Dec 17-18, 2013,p 120
24	Ramadass S. and Job Thomas (2013), Shear strength prediction of concrete beams reinforced with FRP bars using IS: 456-2000, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013, December 13-15, 2013, Kochi, Kerala, India, Paper ID: 13
25	Ashique Jose, Ramadass S. and Jayasree Ramanujan, (2013) Parametric study on the structural forces and the moments of cylindrical shell roof using ANSYS, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, Paper ID: 32
26	Achuthankutty A., Ramadass S., Job Thomas (2013), Shear strength of RC beams containing hybrid steel fibers, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, Paper ID: 34



Sl. No.	Name of Paper
27	Sunilkumar K. A., Ramadass S. and Job Thomas (2013), Mechanical properties of high strength mortar for repair works, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, Paper ID: 41
28	Tibu Chacko, Ramadass S. and Jayasree Ramanujan (2013), Parametric study on the transverse and longitudinal moments of trough type folded plate roofs using ANSYS, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, Paper ID: 43
29	Muhammed Yoosaf K. T., Ramadass S and Jayasree Ramanujan (2013), Finite element analysis and parametric study of grid floor slab , Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, Paper ID: 10
30	Reji K. P., Renu Pawels, Review on Marine Oil Spill Trajectory Modeling and ESI Mapping with a focus on the Kerala Coastal environment, IOSR Journal of Engineering (IOSRJEN), IOSR Journal of Engineering (IOSRJEN) ,e-ISSN: 2250-3021, p-ISSN: 2278-8719, Vol. 3, Issue 11 (November. 2013), V3 PP 56-61 2013
31	Athira Ravi, Subha V., (2013), Ecological Footprint Analysis – An Overview, American Journal of Engineering Research (AJER), e-ISSN : 2320-0847 p-ISSN: 2320-0936, pp-12-19.
32	Krishnakumar S., Anju Sam, Jayasree S., and Job Thomas (2013), Bond strength of concrete containing crushed concrete aggregate (CCA), Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013, Volume1, December 13-15, 2013, Kochi, Kerala, India, pp 01-05, Open Access www.ajer.org
33	Harilal B., and Job Thomas, (2013) Concrete made using cold bonded artificial aggregate, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 20-25, Volume1, Open Access www.ajer.org
34	Ramadass S., and Job Thomas, (2013) Shear strength prediction of concrete beams reinforced with FRP bars using IS: 456-2000, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 43-48, Volume1, Open Access www.ajer.org
35	Sureshbabu N., Job Thomas, (2013) Bond characteristic of rebar in concrete with manufactured sand as fine aggregate, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 54-58, Volume1, Open Access www.ajer.org



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36	Krishnakumar S., Asif Abdul Vahab, Akhil Raj S. R., Jayasree S., Job Thomas (2013), Effect of silica fume on the resistance to chloride ion penetration in high performance concrete, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 01-05, Volume 2, Open Access www.ajer.org
37	Job Thomas, Wilson P. M. (2013), Construction waste management in India, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 06-09, Volume 2, Open Access www.ajer.org
38	Anu Joy, Harilal B., Mathews M. Paul, Job Thomas (2013), Effect of aggregate ratio on strength of cold bonded fly ash aggregate concrete subjected to high temperatures, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 10-15, Volume 2, Open Access www.ajer.org
39	Neethu Joseph, Harilal B., Mathews M. Paul, Job Thomas (2013), Strength of cold bonded quarry dust aggregate concrete subjected to high temperatures, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 16-20, Volume 2, Open Access www.ajer.org
40	Deepa Balakrishnan S., Thomas John V., Job Thomas (2013), Properties of fly ash based geo-polymer concrete, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 21-25, Volume 2, Open Access www.ajer.org
41	Beena B. R., Shashikala A. P., Job Thomas, Somasudaran T. P. (2013), Effect of slit geometry on the performance of shear wall for resisting lateral loads, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 32-38, Volume 2, Open Access www.ajer.org
42	Achuthankutty A., Ramadass S., Job Thomas (2013), Shear strength of RC beams containing hybrid steel fibers, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 48-52, Volume 2, Open Access www.ajer.org
43	Deepa G. Nair, K. Sivaraman, and Job Thomas (2013), Mechanical Properties of Rice Husk Ash (RHA) - High strength Concrete, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 14-19, Volume 3, Open Access www.ajer.org



Sl. No.	Name of Paper
44	Sunilkumar K. A., Ramadass S. and Job Thomas, (2013), Mechanical properties of high strength mortar for repair works, Proceedings of the CUSAT National Conference on Recent Advances in Structural Engineering RASE 2013 December 13-15, 2013, Kochi, Kerala, India, pp 11-16, Volume 4, Open Access www.ajer.org
45	N. K. Muhammed Koya & Deepa G. Nair , (2013)Sustainable building blocks from Rice husk ash, International Journal of Engineering Research and Science & Technology, Vol.2, No.2, 137-'142
46	M. G. Sreekumar & Deepa G. Nair , (2013) Stabilized lateritic blocks reinforced with fibrous coir wastes, International Journal of Sustainable Construction Engineering & Technology, 5/11/2013, Vol.4, No.2, ISSN: 2180-3242
47	Deepa G. Nair, K. Sivaraman, Job Thomas Mechanical properties of RHA-High strength concrete, American Journal of Engineering Research/RASE 2013 Conference proceedings, Vol.3, 14-19, e-ISSN : 2320-0847 p-ISSN : 2320-0936,

Papers of Division of Electronics and Communication Engineering

Sl. No.	Name of Paper	Impact Factor, if any
1.	P. V. Anila, K. K. Indhu, M. Nijas, R. Sujith, S. Mridula, P. Mohanan, "A Planar compact Metamaterial inspired Broadband Antenna, Microwave and Optical Technology Letters, Vol. 56, No. 3, March 2014, pp.610-613.	
2.	Saira Joseph, Binu Paul, S. Mridula and P. Mohanan, "A Novel Planar Fractal Antenna with CPW Feed for Multiband applications," Radio Engineering Journal., Vol.22, No.4, Dec 2013, pp.1262-1266	
3.	Anju Pradeep, S. Mridula and P. Mohanan, "Metamaterial based all purpose sensor antenna", International journal of communications, Antenna and Propagation (IRE Cap), Vol.3, No.3, June 2013, ISSN: 2039 -5086, pp.181-184.	
4.	Sarin V. Pushpakaran, Rohith K. Raj, Anju Pradeep, Lindo Ouseph, Mridula Hari, Aanandan Chandroth, Mohanan Pezholil and Vasudevan Kesavath, "An experimental verification of metamaterial coupled enhanced transmission for antenna applications ," Applied Physics Letters 104, 064102 (2014).	
5.	Sumi M., Dinesh R., Nijas C. M., S. Mridula and P. Mohanan, "Frequency coded chipless RFID tag using spurline resonators," Radio Engineering Journal.	



Sl. No.	Name of Paper	Impact Factor, if any
6.	Bindu C. J. and S. Mridula, "Folded SIR with CSRRs for Ultra Wide Band Applications," Proc. ISED 2013, NTU Singapore, pp.182-185, 12-13 December 2013. 978-0-7695-5143-2/13 \$26.00 © 2013 IEEE DOI 10.1109/ISED.2013.43	
7.	R. Rajesh Mohan, Binu Paul, S. Mridula and P.Mohanan, "ANN Model for Material Characterization", Proc. ICAFM 2014, Trivandrum, Feb 19-21, 2014, pp.112-113.	
8.	Sumi M., Nijas C. M., Dinesh R., S. Mridula, "Compact Chipless RFID tag using coplanar multiresonators," Proc. 4th National Technological Congress, Kerala (NATCON-2014), Government Engineering College, Wayanad, February 20-21, 2014, pp.5-8.	
9.	Anju Pradeep, S. Mridula and P. Mohanan, "Spiral Embedded Transmission Line Filter," Proc. 4th National Technological Congress, Kerala (NATCON-2014), Government Engineering College, Wayanad, February 20-21, 2014, pp.9-14.	
10.	Lakshmi Priya R., Midhu S. Valsan, Mohammed Anas M., Neethu Mohan, Nidhiya Shaji, Rajesh Mohan R. and S. Mridula, "Microwave Sensing of Soil Properties," Proc. 4th National Technological Congress, Kerala (NATCON-2014), Government Engineering College, Wayanad, February 20-21, 2014, pp.168-173.	
11.	M. S. Anish Kumar, Rajesh Cherian Roy, R. Gopikakumari, A Hybrid Coder for Grayscale Images using 4x4 and 8x8 MRT, AEU - International Journal of Electronics and Communications, under review.	
12.	M. S. Anish Kumar, Preetha Basu, R. Gopikakumari, UMRT based Criteria for Quad-tree partitioning of Images, is accepted in "ACEEE International Journal on Signal & Image Processing"	
13.	V. S. Hari, V. P. Jagathy Raj, R. Gopikakumari, Unsharp masking using quadratic filter for the enhancement of fingerprints in noisy background, Pattern Recognition, 46, pp.3198-3207, 2013.	
14.	M. S. Anish Kumar, Preetha Basu, R. Gopikakumari, UMRT based Adaptive Block Size Transform Coder for Images Using Quad-tree partitioning, International Journal of Scientific & Engineering Research, ISSN 2229-5518, Volume 4, Issue 12, December-2013.	
15.	Jaya V. L., R. Gopikakumari, IEM: A New Image Enhancement Metric for Contrast and Sharpness Measurements, International Journal of Computer Applications (0975 8887) Volume 79 - No. 9, October 2013.	



Sl. No.	Name of Paper	Impact Factor, if any
16.	Jaya V. L., R. Gopikakumari, Automatic Enhancement of Low Contrast Images using SMRT, International Journal of Scientific & Engineering Research, ISSN 2229 - 5518, Volume 4, Issue 9, September 2013.	
17.	Preetha Basu, R. Gopikakumari, Sparse Matrix based Computational Overhead Reduction in UMRT for N a power of 2, International Journal of Computer Applications (0975 – 8887), Volume 75, No.8, August 2013.	
18.	C. V. Anil Kumar, Bency Varghese and Binu Paul, "A novel printed antenna for WLAN applications at 2.45GHz", International Journal of Scientific & Engineering Research, Vol. 4, Issue 8, August 2013, ISSN 2229-5518	1.4
19.	S. Joseph, B. Paul, S. Mridula, P. Mohanan, "A Novel Planar Fractal Antenna with CPW-Feed for Multiband applications", Radio Engineering Journal, Vol 22, No 4, December (2013), pp 1262-1266	0.687
20.	Jayakrishnan K. R. and Shahana T. K., "Excess loop Delay Mitigation Techniques in Wideband Continuous time Delta-Sigma Modulators", Proc. Of International Conference on Emerging Trends in Engineering, organized by NMAM Institute of Technology, Karnataka, India, May 15-16, 2013, pp. 258-261. ISBN: 978-93-82880-29-5	
21.	Jaison Jacob, Babita Roslind Jose, Jimson Mathew: Cellular Automata Approach for a Low Power Fusion Center to Evaluate Spectrum Status and Coverage Area in Cognitive Radios. Journal of Low Power Electronics 9(3): 332-339 (2013).	
22.	Jos Prakash A. V., Babita Roslind Jose "ADC Bottleneck: Past, Present and Future" Third International Conference on Advances in Computing and Communications (ICACC-2013), 29-31 August 2013, Kochi.	
23.	Jaison Jacob, Babita R. Jose "Decision Fusion in Co-Operative Spectrum Sensing: A Fuzzy Based Approach" Third International Conference on Advances in Computing and Communications (ICACC-2013), 29-31 August 2013, Kochi.	
24.	Jos Prakash, Babita R. Jose, Jimson Mathew, "A TDM BASED 3RD ORDER CT INCREMENTAL $\Sigma\Delta$ MODULATOR FOR LOW FREQUENCY ADC APPLICATION." Accepted in ICNGCCT 2014, Dubai.	
25.	Vijayakumari C. K., Mythili P., Rekha K. James," A modified technique for the optimal design of combinational digital circuits with multiplexers using genetic algorithm ", International Conference on Computational Intelligence & Information Technology, CIIT 2013, Oct18-19,2013	



Sl. No.	Name of Paper	Impact Factor, if any
26.	Bandwidth optimization of a coplanar UWB patch antenna	
27.	Faster techniques to evolve wavelet coefficients for better fingerprint image compression	
28.	Vijayakumari C. K., Mythili P., Rekha K. James, "An improved design of combinational Digital Circuits with Multiplexers using Genetic Algorithm" International Conference on Microelectronics, Communication and Renewable Energy (ICMiCR-2013)	

Conference Papers

Department	Title of Paper	International Journal	Page No.	Author/s
Electrical & Electronics Engineering	Application of Reinforcement Learning to Short term Hydrothermal Scheduling	National Conference on Recent Innovations in Power system Operation and Control '13	Page 54-59	P. G. Latha, T. P. Imthias Ahamed, P. S. Sreejith, G. Madhu
Safety and Fire Engineering	Efficiency factors of recycled concrete bottle-shaped struts	Proceedings of the ICE – Construction Materials	1747-650X	Singh B., Sahoo D. K., Bhargava P.
Electrical & Electronics Engineering	Identification of Reliability of Wind Power Generation and its Mathematical Modeling	IEEE International Conference on Microelectronics, Communication and Renewable Energy (ICMiCR-2013)	Page 1-5	Rajeevan A. K., P. V. Shouri, Usha Nair
Electrical & Electronics Engineering	Design and Analysis of a Nonlinear Controller for a Hypersonic Wind Tunnel	IEEE International Congress on ICCIC		Rajani S. H., Usha Nair
Information Technology	A Pragmatic Approach to develop Computational Thinking Skills in Novices in Computing Education	IEEE International Conference on MOOC, Innovations and Technology in Education (MITE 2013)		Renumol V. G., Mintu Philip, Gopeekrishnan R.

**13. Participation in Seminar/Conference/Refresher Course etc by Faculty/Students**

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Abdu Rahiman K. U.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Dr. Abdu Rahiman K. U.	Short term course in GIS, Remote Sensing & GPS Applications in engineering, 4-10 Nov 2013	Participant
Mr. Arun Kumar T.	One day Workshop on “ Indigenous Advanced Automation System for Drinking Water Treatment Plants”, 22 nd February 2013	Participant
Mr. Arun Kumar T.	Short term training programme -Guru Kashi University , Punjab, 17 th -22 nd June 2013	Participant
Mr. Arun Kumar T.	One week Short term course on “Video Lecture generation and distribution using social network” 15-07-13 to 19-07-13, NITTTTR, Chandigarh	Participant
Mr. Arun Kumar T.	International Conference on “ Technologies for Sustainable Waste Management in Developing Countries”, 23 rd & 24 th August 2013	Participant
Mr. Arun Kumar T.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Mr. Arun Kumar T.	Short term course on “Advances in Waste water treatment and Energy Generation”, 30 th September -04 th October 2013, SV NIT, Surat	Participant
Mr. Arun Kumar T.	Short term course in Safety in Construction and Material Handling, 10-14 February 2014	Participant
Mr. Arun Kumar T.	2 days training on Environmental Impact Assessment organized by SCMS in Association with Cochin Municipal Corporation on 21 st and 22 nd Feb 2014 at SCMS	Participant
Mr. Arun Kumar T.	Training Programme on “Water Resources Management” March 12-14,2014	Participant
Dr. K. S. Beena	Advanced course on Computational Geotechnics, IIT, Madras, 18-20 September 2013	Participant
Dr. K. S. Beena	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Convener



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. S. Beena	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Organizing Chair
Dr. K. S. Beena	Short term course in Safety in Construction and Material Handling, 10-14 February 2014	Participant
Dr. Bindu C. S.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Co-Chair and Participation
Dr. Bindu C. S.	Short term course in GIS, Remote Sensing & GPS Applications in engineering, 4-10 Nov 2013	Participant
Dr. Bindu C. S.	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Dr. Bindu C. S.	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Participant
Dr. Bindu C. S.	National Conference in Trends and Recent Advances in Civil Engineering, 24-25 January 2014	Participant
Dr. Deepa Balakrishnan S.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Dr. Deepa Balakrishnan S.	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Co-ordinator
Dr. Deepa Balakrishnan S.	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Co-chair, Participant
Dr. Deepa Balakrishnan S.	Seminar on "Engineering AS A CAREER OPTION" Vidhodaya School, Thevakkal	Resource Person
Dr. Glory Joseph	National Conference on Technological Trends (NCTT), 2013, August 30-31, College of Engineering, Trivandrum	Reviewer
Dr. Deepa G. Nair	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Dr. Deepa G. Nair	Short term course in GIS, Remote Sensing & GPS Applications in engineering, 4-10 Nov 2013	Participant
Dr. Deepa G. Nair	3 rd International Conference on Materials for the future (ICMF 2013), 6-8 November 2013.	Reviewer



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Deepa G. Nair	National Conference in Trends and Recent Advances in Civil Engineering, 24-25 January 2014	Chairing the Session
Dr. Glory Joseph	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Co-Chair and Participation
Dr. Glory Joseph	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Co-ordinator
Dr. Glory Joseph	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Co-chair of a session, Co-author of a paper & participant
Dr. Job Thomas	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Organizing Secretary
Dr. Job Thomas	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Joint Secretary
Dr. Job Thomas	Short term course in Safety in Construction and Material Handling, 10-14 February 2014	Participant
Dr. Job Thomas	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Mr. Narasimha D. S.	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Participant
Mr. Narasimha D. S.	National Conference in Trends and Recent Advances in Civil Engineering, 24-25 January 2014	Participant
Mr. Narasimha D. S.	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Mr. Narasimha D. S.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Mr. Ramdass S.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Joint Secretary



Name of Participant	Name of Seminar/Conference/Workshop	Role
Mr. Ramdass S.	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Mr. Ramdass S.	Short term course in Safety in Construction and Material Handling, 10-14 February 2014	Participant
Dr. Renu Pawels	Short term course in GIS, Remote Sensing & GPS Applications in engineering, 4-10 Nov 2013	Coordinator
Dr. Renu Pawels	Short Term Course on " Environment, Disaster and risk reduction " IIT Madras, 27-1-2014 to 31-1-2014	Participant
Dr. Renu Pawels	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Participant
Dr. Roy M. Thomas	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Subha V.	Recent Advances in Structural Engineering, 13-15 December 2013, CUSAT, National Conference	Participant and Co-Chair in Session
Subha V.	3 rd International Conference on Materials for the future (ICMF 2013), 6-8 November 2013.	Reviewer
Subha V.	National Conference in Trends and Recent Advances in Civil Engineering, 24-25 January 2014	Chairing the Session
Subha V.	Short term course in Advancement in Concrete Technology and Special concrete, 25-29 November 2013	Participant
Subha V.	Short term course in GIS, Remote Sensing & GPS Applications in engineering, 4-10 Nov 2013	Participant
Subha V.	National Workshop in Modern Techniques in Geotechnical and Construction Engineering, 27 Sep 2013	Co-Chair and Participation
Dr. S. Mridula	1. 10 th meeting of Research Council for Engineering & Technology Programme (RCETP), KSCSTE, Tvm, 13 th August 2013. 2. Management Development Programme on Project Planning, Implementation, Monitoring and Evaluation, IIM-K, Kochi Campus, August 26-28, 2013.	Project Presentation Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
	<p>3. STTP on “GIS, Remote Sensing and GPS Applications in Engineering”, under TEQIP (Phase II) organized by Division of Civil Engineering, School of Engineering, CUSAT, November 4-10, 2013.</p> <p>4. International Symposium on Electronic System Design, ISED 2013, NTU Singapore, Dec 12-13 2013.</p> <p>5. DRTC Assessment Board, NPOL Kochi, Jan 30, 2014.</p> <p>6. 4th National Technological Congress, NATCON-2014, GEC Wayanad, February 20-21, 2014.</p>	<p>Participant</p> <p>Paper Presentation</p> <p>Subject Expert Session Chair</p>
Dr. R. Gopikakumari	<p>Participated in the Management Development Program on “Timeless Leadership” at Indian Institute of Management, Kozhikode, during November 27-29, 2013.</p> <p>Participated in the short term training program on “Imaging Techniques (ImTec’13)”, held during June 17-21, 2013 under TEQIP phase II, organized by the division of Electronics Engineering, SoE, CUSAT</p>	<p>Participant</p> <p>Participant</p>
Dr. Rekha K. James	Workshop on “Capacity Building for Women Managers in Higher education: Sensitivity-Awareness-Motivation” Women’s Studies Centre, CUSAT, 21-01-2013 to 25-01-2013	Participant
Dr. Rekha K. James	STTP under TEQIP-II on “Emerging Trends in embedded Systems and applications” Division of Computer Engineering, SOE, CUSAT, 18-02-2013 to 22-02-2013	Participant
Dr. Rekha K. James	National Level Workshop on “CMOS IC Design flow using Mentor Graphics EDA tools” Department of Electronics, Dr. NGP Institute of Technology, 15-03-2013 to 17-03-2013	Participant
Dr. Rekha K. James	STTP under TEQIP-II on “DSP Hardware” Division of Electronics Engineering, SOE, CUSAT, 22-04-2013 to 26-04-2013	Participant
Dr. Rekha K. James	STTP under TEQIP-II on “Imaging Techniques (Im-Tec ’13)” Division of Electronics Engineering, SOE, CUSAT, 17-06-2013 to 21-06-2013	Participant
Dr. Rekha K. James	MDP on “Self Management and crisis Management” at IIM Kozhikode 15-07-2013 to 17-07-2013	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Rekha K. James	International Symposium on Ocean Electronics SYMPOL 2013, Department of Electronics, CUSAT 23-10-2013 to 25-10-2013	Participant
Dr. Rekha K. James	STTP under TEQIP-II on "GIS, Remote sensing and GPS applications in Engineering" Division of Civil Engineering, SOE, CUSAT, 04-11-2013 to 10-11-2013	Participant
Dr. Binu Paul	"A novel planar fractal multiband UWB antenna", Participated and presented at Fourth National Technology Congress (NATCON), Kerala, at Wayanad Engineering College, 20.2.2014-21.2.2014(Paper presented by BTech students)	Participant
Dr. Binu Paul	AICTE-FDP on 'Recent trends and Developments in Microwave Engineering and Communication', Model Engineering College, May 20-June 2, 2013 National Seminar on 'Latest Innovations in RF and VLSI Engineering', organized by SCMS School; of Engineering and Technology on 26th July 2013. Invited talk on 6th Feb 2014, at Second SERB School on "Fundamentals of Radar for Atmospheric Research", by the Advanced Centre for Atmospheric Radar Research (ACARR), Cochin University of Science and Technology, February 05-28, 2014.	Participant Resource person
Dr. Shahana T. K.	STTP on 'Emerging Trends in Embedded Systems and Applications', organized by Division of Computer Engineering, School of Engineering, CUSAT, under TEQIP Phase II from 18 th to 22 nd February 2013.	Participant
Dr. Shahana T. K.	National Seminar on 'Current Advances in RF and VLSI Engineering', organized by Division of Electronics Engineering, School of Engineering, CUSAT, under UGC seminar grant scheme during 1-2 March 2013.	Participant
Dr. Shahana T. K.	Hands on Training Programme on 'DSP Hardware', organized by Division of Electronics Engineering, School of Engineering, CUSAT, under TEQIP Phase-II from 22 nd to 26 th April 2013.	Participant
Dr. Shahana T. K.	Workshop on 'Electronic Design Tools and its Applications', organized by Division of Electronics Engineering, School of Engineering, CUSAT, under TEQIP Phase-II from 27 th to 31 st May 2013.	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Shahana T. K.	Management Development Program on 'Project Planning, Implementation, Monitoring and Evaluation: A Project Leadership Program for High Performing Projects' at IIM Kozhikode, Kochi campus, August 26-28, 2013.	Participant
Dr. Abdulla P.	Recent trends in Emerging field of Electronics	Invited talk
Dr. Jibukumar	STTP on Imaging Techniques	Participant
	STTP on DSP Hardware	Participant
Anju Pradeep	STTP on Emerging Trends in Embedded Systems and Applications, 18-22 Feb, 2013	participant
	STTP on Tex Based Applications, GEC, Thrissur 25-27 April, 2013	participant
	AICTE sponsored FDP on Recent Trends in Microwave Engineering and Communication, MEC, 20 th May-2 nd June, 2013	Participant and Faculty
	FDP on Imaging Techniques-ImTec'13 - June 17-21, 2013	Co ordinator
	NATCON2014, National Conference, GEC, Wayanad 20-21 Feb, 2014	Paper presentation
Unni A. M.	STTP under TEQIP Phase II on 'Advanced Engineering materials and their applications, Division of Mechanical Engineering, SOE, CUSAT, 21.01.2013 -25.01.2013.	Participant
	STTP under TEQIP Phase II on 'Emerging trends in Embedded systems and applications, Division of Computer Science Engineering, SOE, CUSAT, 18.02.2013 -22.02.2013.	
	National Seminar 'Current advances in RF and VLSI Engineering' organised by Division of Electronics Engineering, SOE, CUSAT, 01-03-2013 to 02-03-2013	
	STTP under TEQIP Phase II on 'DSP hardware', Division of Electronics Engineering, SOE, CUSAT, 22.04.2013 -26.04.2013.	
	STTP under TEQIP Phase II on 'Imaging Techniques ImTec'13', Division of Electronics	



Name of Participant	Name of Seminar/Conference/Workshop	Role
	<p>Engineering, SOE,CUSAT, 17.06.2013 -21.06.2013.</p> <p>STTP under TEQIP Phase II on 'GIS, Remote sensing & GPS Applications in Engineering, Division of Civil Engineering, SOE,CUSAT, 4.11.2013 -10.11.2013.</p> <p>MDP on 'Entrepreneurship and New Ventures', Indian Institute of Management Kozhikode, 24.06.2013-28.06.2013.</p>	
Dr. Deepa Sankar	<p>AICTE Sponsored FDP on Frontiers of Biomedical Engineering, Organized by the Department of Biomedical Engineering, Govt Model Engg College Kochi, on 29 April 2013</p> <p>Management Development Programme on Project Planning, Implementation, Monitoring and Evaluation: A Project Leadership Program for High Performance Projects at IIM Kozhikode, Kochi Campus ,August 26-28,2013</p> <p>Workshop on 'Electronics Design Tools and its Applications', organized by the Division of Electronics Engg, School of Engg, under TEQIP Phase-II from 27 to 31 May 2013.</p> <p>Five day Hands on Training Programme on "DSP Hardware" organized by the Division of Electronics Engg, School of Engg, under TEQIP Phase-II from 22 to 26 April 2013</p> <p>STTP on "Advanced Engineering Materials and their Applications", organized by the Division of Mechanical Engg, School of Engg, under Participant TEQIP Phase-II during 21-25 January 2013</p> <p>TEQIP sponsored training programme on Digital Image Processing-Application and Advancements organized by Dept. Of Electronics, Cherthala held from 22/05/2013 to 25/05/2013</p> <p>STTP on "Imaging Techniques" organized by the Division of Electronics Engg, School of Engg, under TEQIP Phase-II from 17 to 21 June 2013</p>	<p>Resource person</p> <p>Participant</p> <p>Participant</p> <p>Participant</p> <p>Participant</p> <p>Resource person</p> <p>Co-ordinator and Participant</p>



Name of Participant	Name of Seminar/Conference/Workshop	Role
Premkumar C. V.	Emerging Trends in Embedded Systems and Applications. Innovations and open Source Tools in Information Technology.	Participant
	Hands on Training program on DSP Hardware. Imaging Techniques	Coordinator
Lakshmi Priya R., Neethu Mohan, Midhu Valsan, Balakrishnan, Amit Upadhyay, Boaz Israel Joseph, Pathma Priyaa, Leo Pauly	4 th National Technological Congress, NATCON-2014, GEC Wayanad, February 20-21, 2014.	Paper Presentation
Nithin Vasanth Vaseem Mehran A.	IEEE Quiz, AISAT	Winner

14. Role of faculty in International/National Organizations/Institutions/ Editorial Board

Name of Faculty	Name of Organization	Role
Dr. Rekha K. James	IETE	Executive Member
Dr. Binu Paul	IEEE CUSAT SB, WIE	Staff Advisor
Dr. Binu Paul	International Journal of Signal and Imaging Systems Engineering (IJSISE),	Reviewer
Dr. Binu Paul	Third International Conference on Digital information processing and Communications, ICDIPC 2013, Islamic Azad University Dubai UAE Jan30-Feb1, 2013	Reviewer

15. Sponsored Research Projects

Department	Project Title	Name of Principal Investigator	Sponsored by	Amount (in lakhs)
Civil Engineering	Bio Drying-a Sustainable Technology for Solid Waste Management	Dr. Renu Pawels	KSCSTE	12.81 Lakhs



Department	Project Title	Name of Principal Investigator	Sponsored by	Amount (in lakhs)
Electronics and Communication	Design and Development of Compact Planar Filters for RF/Microwave Applications	PI. Dr. S. Mridula Co-PI – Dr. Binu Paul, Mrs. Anju Pradeep	KSCSTE (2013-16)	15,33,334
	Miniaturised Band Pass Filters for Wireless Applications,	PI: Dr. S. Mridula	TEQIP, SOE (2013-14)	Rs.50,000
	Microwave Sensing of Soil Properties	PI: Dr. S. Mridula	CERD (2013-14)	Rs.19,000
	MoM Analysis and Experiments of Wave guide fed DRAs for millimeter wave applications.	Dr. Abdulla P.	DST	25.92 lakhs
	System-level Analysis and Design of Reconfigurable multi-standard sigma-delta ADC for next generation of Wireless Receivers	Dr. Babita Roslind Jose (PI) Dr. Shahana T/ K. Dr. Rekha K. James (Co-investigators)	KSCSTE	Rs. 9.48 lakhs
	Near field UHF/microwave RFID tag with security	Anju Pradeep	TEQIP	50,000
Safety and Fire Engineering	An investigation of the imitability of course recycled concrete aggregate for structural concrete	Dr. Dipak Kumar Sahoo	State Govt. Body	10.50.500
Mechanical Engineering	MODROBS-Modernization of Metrology Lab	Dr. Biju N.	Central Govt. Body	18,00,000

16. Research Programmes and Activities

Sl.No.	Problems/Topics	Investigator(s)
1.	Submitted a project proposal RPS © to AICTE "Design and development of new generation RFID tags using chipless technology"	PI Dr. S. Mridula Co-PI: Dr. Binu Paul, Mrs. Anju Pradeep

**17. Seminar/Conference/Workshop/Refresher Courses conducted by the Department**

Item	Title	Department	Date From	Date To
Conference	National Conference on Recent Advances in Structural Engineering	Civil Engineering	13/12/2013	15/12/2013
Workshop	National Workshop on Environmental Management- New Paradigm for water, sanitation and sustainability	Civil Engineering	23/01/2014	23/01/2014
Conference	National Conference on Recent Trends in Knowledge Management	Information Technology	7/2/2014	8/2/2014
Workshop	One day Workshop on IPv6 Innovation Challenge	Information Technology	8/1/2014	8/1/2014
Workshop	Two day workshop on Computational Tools for power system Applications	Electrical & Electronics Engineering	18/12/2013	19/12/2013
Workshop	Three Day Workshop on Applying Matlab for Research	Civil Engineering	18/11/2013	20/11/2013
Seminar	One day Seminar on Modern software tools	Computer Science & Engineering	29/07/2013	29/07/2013
Seminar	One day Seminar on Emerging Membrane based destination Technologies	Civil Engineering	14/08/2013	14/08/2013
Seminar	One day Seminar on Thermax	Mechanical Engineering	12/10/2013	12/10/2013
Workshop	One day workshop on Flexible Manufacturing Systems and Digital Manufacturing	Mechanical Engineering	12/12/2013	12/12/2013
Workshop	Research workshop on Risk Assessment and Reliability Engineering	Safety and Fire Engineering	16/12/2013	16/12/2013
Seminar	National Seminar on Corrosion of Marine Installations	Safety and Fire Engineering	21/02/2014	22/02/2014
Workshop	Two Day Workshop on Dspace Open Source Software for building digital repositories/ libraries	Computer Science Engineering	22/03/2014	23/03/2014



Item	Title	Department	Date From	Date To
Seminar	One day National Seminar on Finite Element Analysis using Plaxis 3D In Association with Asiapac & Ram Caddsys Pvt Ltd	Civil Engineering	14/02/2014	14/02/2014
Short-term course	Advancement in Concrete Technology and Special concrete	Civil Engineering	25.11.2013	29.11.2013
Short term course	"GIS, Remote Sensing & GPS Applications in Engineering" CUSAT	Civil Engineering	4.11.2013	10.11.2013
Workshop	"Modern Techniques in Geotechnical and Construction Engineering" on CUSAT	Civil Engineering	27.9.2013	27.09.2013
Workshop	"Solid Waste Management" CUSAT	Civil Engineering	23.01.2014	23.01.2014
Seminar	National Seminar on "Current Advances in RF and VLSI Engineering (CARVE-2013)	Electronics & Communication Engineering	01.03.2013	02.03.2013
Workshop	Workshop on Electronic Design tools and its Applications	Electronics & Communication Engineering	27.05.2013	31.05.2013
Conference	ALCHEMIN 2014	Electronics & Communication Engineering	01.03.2014	02.03.2014
Training Programme	Hands on Training Program on DSP Hardware	Electronics & Communication Engineering	22.04.2013	26.04.2013
Training Programme	STTP on "Imaging Techniques"	Electronics & Communication Engineering	17.06.2013	21.06.2013

**18. Consultancy Work**

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	Soil Investigation of Kannur International Airport	Dr. Beena K. S.	Cochin International Airport Limited
2.	Testing of Soil	Dr. Beena K. S., Dr. Sobha Cyrus	Various Agencies
3.	Testing of Water Samples	Dr. Renu Pawels, Mr. Arunkumar T. Dr. Roy M. Thomas	Various Agencies
4.	Testing of Highway materials.Mix design of Bituminous mixes.	Bindu C. S.	Delhi Metro Rail Corporation Ltd. , Kitco Ltd. Hindustan Petroleum Company Ltd and other various agencies
5.	Testing of Various Building Materials & Concrete Mix design	Dr. Deepa Balakrishnan S., Dr. Glory Joseph, Dr. Job Thomas, Mr. Ramadass S.	Naval Base , PWD, CPWD and Various Private agencies
6.	Scrutiny of Structural design of proposed army welfare housing Organization (AWHO) turnkey project – Vaduthala	Dr. Job Thomas	Indian Army
7.	Performance of Prefabricated timber I-Joist	Dr. Job Thomas	Safe Systems, Nochima
8.	Strength and Behavior of Prestressed Electric poles to use as prefabricated beams	Dr. Job Thomas	Habitat Construction





SCHOOL OF ENVIRONMENTAL STUDIES

1. Brief History of the Department

School of Environmental Studies was established in the year 1980 with an objective to serve as a center imparting high quality environmental education. M.Sc. Degree course in Environmental Studies was started in 1986. This course was discontinued in 1999. Starting from 1999, the School offers M.Sc. Degree Course in Environmental Technology with two distinct streams: Stream 1: Environmental Engineering & Stream 2: Environmental Biotechnology. The School enjoyed academic collaboration with the Technical University of Delft, The Netherlands for five years from 1999 to 2004. The National Centre for Aquatic Animal Health, co-ordinated by Dr. I.S. Bright Singh developed as a constituent organization of the School. The Centre is involved in active research and extension activities. It has been sanctioned with an M.Tech. programme in Marine Biotechnology by Department of Biotechnology, Government of India. The School offers Ph.D. program in related areas. The School has also achieved grant of Rs. 75 lakhs under FIST programme. The School also is assisted under the UGC SAP program..

2. Programmes of Study/Research

1. M.Sc. Environmental Technology: Stream 1: Environmental Engineering
Stream 2: Environmental Biotechnology
2. M.Tech. Marine Biotechnology (Sponsored by DBT)
3. Ph.D. Program

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Suguna Yesodharan	Associate Professor	M.Sc., Ph.D.	Environmental Chemistry
2.	Dr. I. S. Bright Singh	Professor	M.Sc., Ph.D.	Environmental (Marine) Microbiology & Biotechnology and Aquatic Animal Health
3	Dr. Ammini Joseph	Professor & Director	M.Sc., Ph.D.	Algology/ Environmental Biology
4	Dr. M. V. Harindranathan Nair	Asst. Professor	M.Sc., Ph.D	Meteorology, Air Pollution Environmental Management



Sl. No.	Name	Designation	Qualification	Specialization
5	Dr. S. Rajathy	Associate Professor	M.Sc., Ph.D	Environmental Toxicology
6	Dr. V. Sivanandan Achari	Asst. Professor	M.Sc., Ph.D	Environmental Chemistry
7	Sri. M. Anand	Asst. Professor	M.Sc, M.Phil	Environmental Biotechnology
8	Dr. Valsamma Joseph (NCAAH)	Asst. Professor	M.Sc., Ph. D.	Marine Biotechnology
9	Dr. T. P. Sajeevan (NCAAH)	Asst. Professor	M.Sc. Ph. D	Marine Biotechnology

4. Emeritus Professor/Scientist (if any)

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. A. Mohan Das	Emeritus Professor	M.Sc., Ph.D.	Marine Biology
2	Dr. E. P. Yesodharan	Emeritus Professor	M.Sc., Ph.D.	Chemistry

5. Visiting Faculty (If any) :

Sl. No.	Name	Designation	Qualification	Specialization
1	Mr. G. Sivaprakash	Guest Faculty	M.Tech	Chemical Engineering
2	Mr. K. P. Balagopalan	Guest Faculty	M.Tech	Chemical Engineering
3	Smt. Lalitha R. Varma	Guest Faculty	M.Tech.	Electrical Engineering
4	Mr. Kannan P. K.	Guest Faculty	M.Tech	Mechanical Engineering

6. Research/Project Staff :**7. Research Scholars**

Sl. No.	Name	Supporting Agency	Guide	Area of Work
1	Deepesh V.	Self	Dr. I. S. Bright Singh	Microbiology
2	Anil Loveson	Self	Dr. S. Rajathy	Environmental Toxicology



Sl. No.	Name	Supporting Agency	Guide	Area of Work
3	Sherly Thomas	Self	Dr. Harindranathan Nair M. V.	Waste Management
4	Rose Mary Jose	NCAAH/ MOES	Dr. I. S. Bright Singh	Microbiology
5	Shyam Kumar R.	Self	Dr. S. Rajathy & Dr. A. Mohandas	Toxicology
6	Anand M.	Self	Dr. Ammini Joseph & Dr. I. S. Bright Singh	Environmental Biotechnology
7	Prem Gopinath	DST-PURSE	Dr. P. Natarajan & Dr. I. S. Bright Singh	Microbiology
8	Divya Sivaji	Self	Dr. Ammini Joseph	Environmental Biology
9	Ammu Thomas	DOD/MOES	Dr. Rob H. Reed & Dr. I. S. Bright Singh	Microbiology
10	Deepa G. D.	DST-PURSE	Dr. Dr. A. Mohandas & Dr. I. S. Bright Singh	Marine Biotechnology
11	Haneesh K. R.	CSIR	Dr. Harindranathan Nair M. V.	Environmental Management
12	Sareen Sarah John	CUSAT	Dr. Rob H. Reed & Dr. I. S. Bright Singh	Microbiology
13	Arun Augustine	CUSAT	Dr. P. Natarajan	Environmental Biotechnology
14	Deepa S. Nair	DST-PURSE	Dr. P. Natarajan	Microbiology
15	Mercy Thomas	Self	Dr. V. Sivanandan Achari	Environmental Chemistry
16	Smitha S. V.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
17	Bindia Ravindran	UGC-BSR	Dr. V. Sivanandan Achari	Environmental Chemistry
18	Rojith G.	UGC-BSR	Dr. I. S. Bright Singh	Microbiology
19	Shibin O. M.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
20	Rakesh V. B.	UGC-BSR	Dr. Ammini Joseph	Environmental Biology



Sl. No.	Name	Supporting Agency	Guide	Area of Work
21	Smitha Sebastian	DST-PURSE	Dr. Ammini Joseph	Environmental Biology
22	Anju S. G.	UGC-BSR	Dr. Suguna Yesodharan	Environmental Chemistry
23	Asha P.	CUSAT/DBT	Dr. I. S. Bright Singh	Microbiology
24	Amarnath A.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
25	Chithra S. V.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
26	Reji George T.	Self	Dr. V. Sivanandan Achari	Environmental Chemistry
27	Hema C. Nair	Self	Dr. D. Padmalal & Dr. Ammini Joseph	Environmental Biology
28	Sreekala M. S.	Self	Dr. S. Rajathy	Environmental Toxicology
29	Jayasree S.	UGC-SAP	Dr. V. Sivanandan Achari	Environmental Chemistry
30	Sanyo Sabu	CUSAT	Dr. A. Mohandas	Environmental Biology
31	Dhanya S.	UGC	Dr. Ammini Joseph	Environmental Biology
32	Preena P. G.	DST INSPIRE	Dr. I. S. Bright Singh	Microbiology
33	Rajalakshmy A. S.	CUSAT	Dr. V. Sivanandan Achari	Environmental Chemistry
34	Adhem Shahin	CUSAT	Dr. Ammini Joseph	Environmental Management
35	Ambili M. S.	SC/ST Welfare Fellowship	Dr. V. Sivanandan Achari	Environmental Chemistry
36	Anjana N. S.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
37	Ajitha V.	CUSAT	Dr. S. Rajathy	Environmental Toxicology



Sl. No.	Name	Supporting Agency	Guide	Area of Work
38	Deepa P.	UGC	Dr. V. Sivanandan Achari	Environmental Chemistry
39	Gayathri P. V.	UGC	Dr. Suguna Yesodharan	Environmental Chemistry
40	Hariprasad N.	CUSAT	Dr. Suguna Yesodharan	Environmental Chemistry
41	Lakshmi G.	KSCSTE	Dr. Ammini Joseph	Environmental Biology
42	Jyothi K. P.	UGC	Dr. Suguna Yesodharan	Environmental Chemistry
43	Veena Vijayan	CUSAT	Dr. Suguna Yesodharan	Environmental Chemistry
44	Vidyalakshmi K. P.	CSIR	Dr. Suguna Yesodharan	Environmental Chemistry
45	Deepthi John	Self	Dr. Suguna Yesodharan	Environmental Chemistry
46	Phonsy P. D.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
47	Kiran Surya K. T.	Self	Dr. S. Rajathy	Environmental Management
48	Rajeev B.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
49	Sindhu Joseph	Self	Dr. Suguna Yesodharan	Environmental Chemistry
50	Vineesh V.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
51	Jisha Kumaran	KSCSTE	Dr. Valsamma Joseph	Marine Biotechnology
52	Dhaneesha M.	KSCSTE	Dr. Sajeevan T. P.	Marine Biotechnology
53	Ramya R. Nair	CUSAT	Dr. Valsamma Joseph	Marine Biotechnology
54	Raichel Mary Lopez	UGC	Dr. Sivanandan Achari	Environmental Chemistry



Sl. No.	Name	Supporting Agency	Guide	Area of Work
55	Ambily C. B.	SC/ST Welfare Fellowship	Dr. A. Mohandas	Environmental Biology
56	Lekshmi N.	SC/ST Welfare Fellowship	Dr. Sajeevan T. P.	Marine Biotechnology
57	Sowmya P. Mohandas	Project fellow	Dr. I. S. Bright Singh	Marine Biotechnology
58	Linu Balan	Project fellow	Dr. I. S. Bright Singh	Marine Biotechnology
59	Boobal R.	Project fellow	Dr. I. S. Bright Singh	Marine Biotechnology
60	Sajith K. S.	Self	Dr. M. V. Harindranathan Nair	Environmental Management
61	Joshy Mathew	Self	Dr. S. Rajathy	Environmental Management

8. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant	2
3	Typist/Steno	1
4	Peon	1
5	Sweeper-cum-cleaner	1

9. Technical Personnel :

Sl. No.	Designation	No. of Posts
1	Laboratory Assistant	1
2	Technical Officer (Scientific Cadre)	2



10. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc.	4	13	17
2	M. Tech. Marine Biotechnology (conducted at NCAAH)	5	6	11
3	Ph.D.	20	41	61

11. Research Facilities

a) Laboratory:

- (1) Environmental Chemistry Research Laboratory – 1
- (2) Environmental Chemistry Research Laboratory – 2
- (3) Environmental Engineering Laboratory
- (4) Environmental Management(GIS) Laboratory
- (5) Environmental Microbiology Laboratory
- (6) Algal Biotechnology Laboratory
- (7) Environmental Toxicology Laboratory
- (8) Environmental Virology Laboratory
- (9) Environmental Biotechnology Laboratory
- (10) Molecular Biology Laboratory

b) Major Equipments Available:

1. At SES

- (1) Gas Chromatograph with FID and ECD
- (2) Cooling Centrifuge
- (3) UV-Visible Spectrophotometer
- (4) Tissue Homogeniser
- (5) Research Microscope
- (6) Laminar Airflow
- (7) High volume Air Sampler
- (8) TOC Analyzer
- (9) Rotary vaccum Evaporator
- (10) Spectrofluorimeter
- (11) Ultrasonic Cell Disruptor
- (12) KF Titrator
- (13) Electronic Balances

**2. At NCAAH**

- (1) Animal tissue culture
- (2) Immunodiagnostics
- (3) Molecular diagnostics
- (4) Virology
- (5) Bioprocess and fermentation
- (6) Bacteriology
- (7) Marine Biotechnology
- (8) Aquatic animal health assessment
- (9) Aquaculture medicine production unit
- (10) Aquatic animal bioassay unit
- (11) Environmental chemical analyses

c) Library:	No. of books on 31 st March 2014	: 2518
	Additions during the year 2013 – 14	: 15
	Journals	: 13

12. Distinguished Visitors : Nil**13. Ph.Ds. Awarded**

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Molecular approaches for charecterisation and determination of pathogenecity of vibrios with special reference to vibrio harveyi from P.monodon larval production systems.	B. Sreelakshmi	Dr. I. S. Bright Singh
2	Development of lymphoid cell culture system from P.monodon and molecular approaches for its transformation	Jayesh P.	Dr. I. S. Bright Singh
3	Assessment of water quality along coastal areas of Kerala:A study of the Tsunami impact on ground water.	Jaison C. A.	Dr. V. Sivanandan Achari
4	Vibrio harveyi phages: isolation, charecterisation and evaluation of their potential as phage therapeutics on v.harveyi in shrimp hatcheries.	Surekha Mol I. S.	Dr. I. S. Bright Singh
5	Development of zero water exchange shrimp culture system integrated with bioremediation of detritus and ammonia nitrogen	Haseeb M.	Dr. I. S. Bright Singh



Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
6	Spatio-temporal changes in the wetland ecosystem of Cochin city using remote sensing and GIS	Dipson P. T.	Dr. Harindranathan Nair
7	Solar photo-oxidative disinfection for generating potable water from natural sources	Ranjit K.	Dr. I. S. Bright Singh

14. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1	Dipson P. T. <i>et al.</i> . Spatial changes of estuary in Ernakulam district, southern India for last seven decades using multitemporal satellite data. <i>J. of Environmental Management (special issue on land use-land cover)</i> : In press	3.057
2	Smitha S. and Ammini J. 2013. Filamentous algae of a hill stream of Kerala, India. <i>IOSR Journal of Environmental Science, Toxicology and Food Technology</i>	1.325
3	Anju <i>et al.</i> .Investigation on Semiconductor Sonocatalysis for the removal of pathological microorganisms in water. <i>Desalination and Water Treatment</i> (In press)	0.852
4	Jyothi K. P., Suguna Yesodharan, and Yesodharan E. P. Ultrasound (US), ultravioletlight (UV) and combination (US+UV) assisted semiconductor catalyzed degradation of organic pollutants in water. Oscillation in the concentration of hydrogen peroxide formed insitu. <i>Ultrasonic Sonochemistry</i> (In press)	3.516
5	Jayesh P., Rosamma P., I. S. Bright Singh. 2014. Multifactorial interaction of growth factors on <i>Penaeus monodon</i> lymphoid cells and the impact of IGFs in DNA synthesis and metabolic activity in vitro. <i>Cytotechnology</i> , DOI 10.1007/s 10616 -04 – 9697-0.	1.6
6	Prabhakaran Priyaja, Puthumana Jayesh, Neil Scolastin Correya, Balachandran Sreelakshmi, Naduthalmuriparambil S. Sudheer, Rosamma Philip, Isaac Sarogeni Bright Singh. 2014. Antagonistic effect of <i>Pseudomonas aeruginosa</i> isolates from various ecological niches on <i>Vibrio</i> species pathogenic to crustaceans. <i>Journal of Coastal Life Medicine</i> . Doi:10.12980/JCLM.2.2014J30	



Sl. No.	Name of Paper	Impact Factor, if any
7	Surekhamol I. S., G. D. Deepa, S. Somnath Pai, B. Sreelakshmi, S. Varghese and I. S. Bright Singh (2014). Isolation and characterization of broad spectrum bacteriophages lytic to <i>Vibrio harveyi</i> from shrimp farms of Kerala, India. Letters in Applied Microbiology, DOI 10. 1111/lam.12175.	1.629
8	Viswanathan Karthik, Vijayan Kamalakannan, Ancy Thomas, Naduvilamuriparambu Saidumammed Sudheer., Issac S. Bright Singh, Rangarajan Badri Narayanan (2013) Functional Characterization of a c-type Lysozyme from Indian Shrimp <i>Fenneropenaeus indicus</i> . Probiotics & Antimicro. Proteins (Accepted) DOI 10.1007/s12602-013-9146-y.	1.41
9	Rejish Kumar V. J., Valsamma Joseph, Rosamma Philip and I. S. Bright Singh. 2013. Nitrification by Stringed Bed Suspended Bioreactors at Different Salinities and Substrate Concentrations (Ref: IJMS/MS 2099/2012). Indian Journal of Geo – marine Sciences. Accepted.	0.563
10	Divya Jose, P. Jayesh, Prem Gopinath, A. Mohandas & I. S. Bright Singh. 2013. Potential application of B-1,3 glucanase from an environmental isolate of <i>Pseudomonas aeruginosa</i> MCCB 123 in fungal DNA extraction. Indian Journal of Experimental Biology, 52:89 -98.	1.2
11	Rejish Kumar V. J., Vrinda Sukumaran, Cini Achuthan, Valsamma Joseph, Rosamma Philip, I. S. Bright Singh. 2013. Molecular characterization of the nitrifying bacterial consortia employed for the activation of bioreactors used in brackish and marine aquaculture systems. International Biodeterioration & Biodegradation, 78:74-81.	2.333
12	A., J. H. W. M. Rombout, I. S. B. Singh, N. S. Sudheer, J. M. V. lak, C. M. A. Caipang, M. F. Brinchmann, V. Kiron. 2013. Truncated VP28 as oral vaccine candidate against WSSV infection in shrimp: An uptake and processing study in the mid gut of <i>Penaeus monodon</i> . Fish and Shellfish Immunology, 34: 159 -166.	3.044
13	Mercy Thomas and V. Sivanandan Achari. Characterisation of Porous Materials using John Isotherm model, Proceedings of the 23 rd Swadeshi Science Congress [Chief Editor – Dr. K. Girishkumar] organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, PS-OPS, pp 831-835. Proceedings ISBN 978-81-928129-1-5, PS-OPS, pp 831-835.	



Sl. No.	Name of Paper	Impact Factor, if any
14	S. Jayasree and V. Sivanandan Achari, Preparation of activated carbon using Zn ²⁺ ; Determination of yield , porosity and surface area, Proceedings of the 23 rd Swadeshi Science Congress [Chief Editor – Dr. K. Girishkumar] organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, Proceedings ISBN 978-81-928129-1-5EV-OP14, pp 440-445	
15	R. Bindia and V. Sivanandan Achari, Porosity Development on Activated Carbon Using Ce 2+ ions, Proceedings of the 23 rd Swadeshi Science Congress [Chief Editor – Dr. K. Girishkumar] organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, EV-OP6, pp 405-409 Proceedings ISBN 978-81-928129-1-5, EV-OP6, pp 405-409	
16	M. S. Ambili, R. Bindia and V. Sivanandan Achari, Phospate Adsorption by black sand rich soils; Post tsunami evaluation of soil behavior, Proceedings of the 23 rd Swadeshi Science Congress [Chief Editor – Dr. K. Girishkumar] organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, EV-OP5, pp 405-409. Proceedings ISBN 978-81-928129-1-5, EV-OP5, pp 399-404 —	
17	V. Sivanandan Achari, Mayonic Science; Indian Wisdom in Search of God, Pleanary Sesssion : Talk / Article, , Proceedings of the 23 rd Swadeshi Science Congress [Chief Editor – Dr. K. Girishkumar] organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, pp 14-22. Proceedings ISBN 978-81-928129-1-5, Pleanary Sesssion: Talk / Article , pp 399-404	
18	S. Jayasree, A. S. Rajalakshmi & V. Sivananadan Achari, Determination of Surface Area of Activated Carbons using John-Sivanandan Achari Isotherm Plots, Proceedings of the 26 th Kerala Science Congress, [Chief Editor : Dr. V. N. Rajasekharan Pillai] organized by Kerala State Council for Science, Technology and Environment, Pookode, Wayanadu, 28-31 January, 2014, pp 1362-1371. Proceedings of the 26 th Kerala Science Congress organized by Kerala State Council for Science, Technology and Environment, Pookode, Wayanadu, 28-31 January, 2014, pp 1362-1371.	

b. Books : Nil



15. Participation in Seminar/Conference/Refresher Course etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Lakshmi G.	Kerala Science Congress	Participation
Lakshmi G., Bindia Ravindran Jayasree S. Rajalakshmi S. Mercy Thomas	Swadeshi Science Congress	Paper presentation Paper presentation Paper presentation Paper presentation
Lakshmi G.	Workshop on Western Ghat Biodiversity	Participant
Dhanya S.	Kerala Science Congress	Participation
Rakesh V. B.	Kerala Science Congress	Participation
Rakesh V. B.	Workshop on EIA at IITM-K	Participation
Rakesh V. B.	Environmental conference at CUK-Kasargod	Participation
Anju S. G. Jyothi K. P. Veena Vijayan Gayathri P. V. Hariprasad Narayan Rajeev B.	Workshop on material characterization at nanoscales, at Sophisticated Test and Instrumentation Centre, Kochi. from 19-20 march 2013	Participation Participation Participation Participation Participation
Anju S. G. Jyothi K. P. Rajeev B. Veena Vijayan Gayathri P. V.	First National Conference on Advanced Oxidation Processes-AOP 2013, at Department of Chemical Engineering and School of Energy & Environment, Thapar University, Patiala from 21-23 Nov. 2013	Paper presentation Paper presentation Participation Participation Participation
Anju S. G. Jyothi K. P. Phonsy P. D.	Third International Science Congress (ISCA-2013), at Karunya University, Coimbatore from 8-9 Dec.2013	Paper presentation Paper presentation Paper presentation
Hariprasad N.	Workshop on 14 th orientation programme on catalysis, at IIT Madras from 1-18 Dec. 2013	Participation
Vidya Lekshmi K. P.	International Research Conference on Advanced Techniques in Chemistry at St. Alberts College, Ernakulam on 9 th Jan. 2014	Participation
Jyothi K. P. Gayathri P. V. Vidya Lekshmi K. P. Phonsy P. D. Rajeev B.	International Seminar on Research Impact, Publishing & Profiling at School of Marine Sciences, CUSAT and Library Association Ernakulam on 3 rd Jan. 2014	Participation Participation Participation Participation Participation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Anju S. G. Jyothi K. P. Jayasree S. Rajalakshmi A. S.	26 th Kerala Science Congress, 2013 at Kerala Veterinary and Animal Science University, Pookode, Wayanad from 28-31 Jan. 2014	Paper presentation Paper presentation Participation Paper presentation
Jyothi K. P.	National Seminar on Advances in Nano materials and Polymers at apost Graduate Department of Chemistry and Research Centre, Bharath Mata College, Thrikkakkara from 11-12 Feb.2014	Participation
Dr. Suguna Yesodharan	International conference SPASEC-18 and AOTS-19 held in Santiago, California, USA during 17 – 21 Nov.2013	Paper presentation
Jayasree S. Rajalakshmi A. S. Deepa P., Ambili M. S.	Indian Analytical Science Congress 2013	Participation
Jayasree S. Rajalakshmi A. S.	Current Trends in chemistry , 28-31 January 2014	Participation Paper presentation
Anand M.	Green Technology and Sustainable Development – workshop March 18 – 22, 2013. SOE,CUSAT.	Participation
Anand M.	Workshop on 'The Energy Report – 100% renewable energy for Kerala by 2050' Organised by (WWF-India). Kochi – 16, Tuesday, 27 August 2013.	Participation
Anand M.	EnvironmentManagement: New Paradigm for waste, sanitationand sustainability', SOE, CUSAT,23 rd January 2014.	Participation
Anand M.	Training on EIA, Organised by CeHED, Cochin Corporation and SCMS Group of institutions at SCMS Muttom campus on Feb 21 – 22, 2014.	Participation
Dr. V. Sivanandan Achari	KEY NOTE ADDRESS on the topic “ Enviromental Protection and Sustainable Development” in the inaugural ceremony of the World Environmental Day celebration organized by the peoples Forum for Sustainable Development at the Jawahar Balabhavan Hass, Kottayam-1 on 06-06-2013.	Keynote address



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. V. Sivanandan Achari	INVITED TALK on Sustainable Development and National Environmental Policy at UGC sponsored National Seminar on Sustainable Development: Challenges and Opportunities organized by the Department of Political Science, Sree Narayana College, Chengannur on 20-08-2013	Invited Lecture
Dr. V. Sivanandan Achari	INVITED TALK Has given an invited talk on Sustainable Development and an Overview at the National seminar on Environmental Conservation and Sustainable Living on 11 th September, 2013 organised by Department of Chemistry, Deva Matha College, Kuruvilangad, Kottayam.	Invited lecture
Dr. V. Sivanandan Achari	National conference on Software Technology [NCSOFT] organized and held at Department of Computer Science, Cochin University of Science and Technology during August 13-14, 2013.	Participation
Dr. V. Sivanandan Achari	Refresher Course Resource Person on Environmental Modeling Concepts for Analytical Chemists and Chemical Engineers at Refresher Course in CHEMISTRY at Academic Staff College, University of Kerala on 22-03-2014 at 9.30- 12.30 session. Coordinator: Dr. T. S. ANIRUDHAN, Professor, Department of Chemistry, University of Kerala.	Resource Person
Dr. V. Sivanandan Achari	PLENARY TALK V. Sivanandan Achari, Mayonic Science; Indian Wisdom in Search of God, Plenary Session : Talk / Article, Proceedings of the 23 rd Swadeshi Science Congress organized by Swadeshi Science Movement – Kerala and Mahatma Gandhi University on 6-8 November 2013, ISBN 978-81-928129-1-5, pp 14-22	Plenary talk



16. Role of faculty in International/National Organizations/Institutions/ Editorial Board

Sl. No.	Name of Faculty	Name of Organisation	Role
1	Dr. V. Sivanandan Achari	Institute of information Technology and Management- KERALA, Technopark Campus, Thiruvananthapuram	Subject Expert Served as an expert External Examiner of M.Phil (Ecological Informatics) Project Evaluation and Viva voce conducted at the Indian Institute of information Technology and Management – KERALA, Technopark Campus, Thiruvananthapuram, on 27-08-2012.
2.	Dr. V. Sivanandan Achari	SOBHA ACADEMY, Vadakkencherry, Palakkad.	Chairman and subject expert Acted as a chairman and subject expert of the selection committee for recruiting teachers for the higher secondary school of SOBHA ACADEMY, Vadakkencherry, Palakkad on 22-04- 2013.
3.	Dr. V. Sivanandan Achari	Malayala Manorama, Kottayam	Expert of the Malayala Manorama Served as Expert of the NALLAPADAM – Environmental and Social Responsibility Program of Malayala Manorama for the year 2013- 2014 on February, 21, 22 & 23 , 2014 for the Ernalulam District.

17. Awards/Honours/Fellowships etc Received

Sl. No.	Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
1	Prof. I. S. Bright Singh	Fellow of National Academy of Agricultural Sciences	NAAS, ICAR
2	Jyothi K. P.	Best paper award in First National Conference on Advanced oxidation Processes- "AOP 2013" at Department of Chemical Engineering and School of Energy & Environment, Thapar University, Patiala from 21-23 Nov. 2013	Society of Environmental Chemistry and Allied Sciences (SECAS)

**18. Sponsored Research Projects**

Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
1	Selection and identification of immunocompetent early life stages of the giant fresh water prawn <i>Macrobrachium rosenbergii</i> based on differential mRNA expression.	Department of Science and Technology	43.67 Lakhs	Prof. I. S. Bright Singh
2	Detailed performance evaluation and accelerated commercialization of the nitrifying bioreactor technology in Indian market – Phase II.	Department of Biotechnology, Government of India, Under SBIRI Scheme.	15.0 Lakhs	Prof. I. S. Bright Singh
3	Polyhydroxy butyrate from marine microorganisms for biomedical and aquaculture applications.	Centre for Marine Living Resources and Ecology, Ministry of Earth Science, Government of India	87.0 Lakhs	Prof. I. S. Bright Singh
4	Immortalization of lymphoid cell culture from <i>Penaeus monodon</i> by transduction with oncogenes, ectopic expression of telomerase reverse transcriptase using shrimp specific expression vectors and hybridization with established cell lines. Period: 14-9-2012 to 13-9-2015	Department of Biotechnology, Government of India.	46.07 Lakhs	Prof. I. S. Bright Singh
5	Development and optimization of vaccine to protect shrimp from white spot syndrome virus Period	Department of Biotechnology	57.03 Lakhs	Prof. I. S. Bright Singh
6	Metagenomic approach to cloning and expression of endo and exo glucanase and α -1,4 glucosidase from soil water system.	Department of Biotechnology	40.02 Lakhs	Prof. I. S. Bright Singh
7	Development of Appropriate in vessel Composting systems for the treatment of food wastes at household and community level	DOECC, Govt. of Kerala	6.00	Mr. M. Anand
8	Zero Effluent Discharge Technology	UGC- SAP	37	Dr. I. S. Bright Singh and Dr. V. S. Achari



19. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1	Photochemistry	Dr. E. P. Yesodharan & Dr. Suguna Yesodharan
2	Environmental/Material Science/Ground water chemistry	Dr. Sivanandan Achari
3	Environmental Management –GIS based techniques	Dr. M. V. Harindranathan Nair
4	Ecotoxicology	Dr. S. Rajathy
5	Solid waste treatment	Mr. M. Anand
6	Environmental Microbiology	Dr. I. S. Bright Singh
7	Algology	Dr. Ammini Joseph

20. Seminar/Conference/Workshop/Refresher Courses conducted by the Department : Nil

21. Consultancy Work : Nil

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Analysis of MSW samples of Kochi Corporation	M. Anand	Inden Group, New Delhi.
2	The study of the cause of vapour condensation inside the newly built Parish Hall of St. Little Flower Church of Kulathur, Mallappally, Pathanamthitta.	Dr. V. Sivanandan Achari	M/s Hindalco Industries Limited, Kerala Region
3	Study the cause of Fungal issue leading to colour change and shading of the roofing sheets of a Baking and Food Processing Unit.	Dr. V. Sivanandan Achari	M/s Hindalco Industries Limited, Kerala Region
4	Water Samples from Vineyard Villas Project, Kangarapady, Cochin	Dr. V. Sivanandan Achari	Vineyard Villas Project, Kangarapady, Cochin
5	River sand analyses	Dr. V. Sivanandan Achari	Mr. Aggy Joseph





SCHOOL OF INDUSTRIAL FISHERIES

1. Brief History of the Department:

The School of Industrial Fisheries was established in 1976 as the Department of Industrial Fisheries under the erstwhile University of Cochin for post-graduate teaching and research on all aspects of fishery science and technology. The Department started offering the M.Sc. course in Industrial Fisheries in 1976 and Ph.D programme in 1979.

The Department was elevated to the status of the School since 1995 by recognizing the progress and achievements in teaching, research and outreach activities in various fields of Fisheries.

The various activities of the School are now carried out under five well defined division of (1) Aquaculture and Capture Fisheries (2) Fishing Craft and Gear Technology (3) Fish Processing Technology (4) Fisheries Economics and (5) Fisheries Management.

The M.Sc. course in Industrial Fisheries is a multi-disciplinary programme spread over four semesters designed to offer the students the needed scientific, technical and managerial skills to take up responsible positions in industry, administration and management in the fisheries sector of the country and abroad. Restructuring of the present M.Sc. programme into three specialized divisions viz, Aquaculture, Fish Processing Technology and Fisheries Management has been undertaken and the official approval of the programme is underway.

A new course- M.Phil Programme in Fisheries Science is approved by the University and the admission for the course will commence from the year 2008 onwards.

Another new course viz. Master of Fisheries Science (M.F.Sc) in Seafood Safety & Trade was started in 2012 under Innovative Programme of the University Grants Commission. It was officially launched by Sri.Hibi Eden, M.L.A. on 27th September, 2012. The Coordinator of the course is Prof.Dr.A.Ramachandran and the Deputy Coordinator is Prof.Dr.Saleena Mathew. The four semester course with an intake of 20 has been framed so as to provide manpower specialized in managerial skills and technical expertise in the field of seafood safety demanded by the trade and seafood safety standards, to provide training in areas related to seafood business at par with world class institutions. The course also aims at extending state of the art research opportunities in emerging vistas related to post harvest technology of fish, seafood trade, seafood quality assurance and international trade. In addition to School of Industrial Fisheries, National Institute for Fisheries Post Harvest Technology and Training (NIFPHATT) and Seafood Exporters Association of India are collaborating in the conduct of the programme.

The Ph.D. programme of the School extends to frontier areas of fisheries science and technology, including aquaculture, seafood quality assurance, economics and management.



The faculty of the School serves as experts/consultants in many national /international fisheries bodies and has organized/participated in many national/international symposia/workshops.

The School has, apart from bringing out several research reports and conference proceedings, produced a crop of outstanding research articles and books. The School is now recognized as a premier national institution for fishery science/technology education in the country attracting international student enrolment.

2. Programmes of Study/Research

1. M.Sc. Industrial Fisheries
2. M.F.Sc in Seafood Safety & Trade
3. M.Phil in Fishery Science
4. Ph.D. programme in
 - (a) Fishery Biology and Aquaculture
 - (b) Fishing Craft and Gear Technology
 - (c) Fish Processing Technology
 - (d) Fisheries Economics
 - (e) Fisheries Management

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Saleena Mathew	Professor	M.Sc., Ph.D.	Biochemistry and Fish Processing Technology
2	Dr. B. Madhusoodana Kurup	Professor On deputation as V.C, KUFOS	M.Sc., Ph.D.	Fishery Biology and Aquaculture
3	Dr. A. Ramachandran	Professor	M.Sc. Ph.D	Fisheries Management
4	Dr. K. T. Thomson	Professor	M.A, Ph.D.	Fisheries Economics
5	Dr. M. Harikrishnan	Associate Professor	M.Sc, Ph.D.	Industrial Fisheries and Fishery Biology
6	Dr. John Mohan	Assistant Professor	M.Sc. Ph.D.	Fish Processing Technology
7	Dr. Mini Sekharan	Assistant Professor	M.Sc, Ph.D.	Fisheries Management

**4. Visiting Faculty (if any)**

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Jose Joseph	UGC Visiting Professor	Ph.D	Freezing Technology & HACCP

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Abhilash S.	Nil	Dr. Saleena Mathew	Current status and future prospects of fish waste management in Cochin Corporation and Aroor Industrial Area.
2	Anil Kumar K. P.	Nil	Dr. M. Harikrishnan	Biodiversity, Taxonomy, Physiology & Life History – Traits of selected crustaceans inhabiting River Periyar.
3	Anjaleedevi C. A.	CUSAT	Dr. M. Harikrishnan	Biofloc studies on P.monodon Culture
4	Antony V. T.	CUSAT	Dr. Thomson	Economic and social impacts of fish migration in Kerala economy.
5	Anupama K. M.	STATE	Dr. M. Harikrishnan	Rearing of T. travancoricus
6	Anvar Ali P. H.	Nil	Dr. A. Ramachandran	Freshwater fish
7	Bijoy V. M.	FIP	Dr. M. Harikrishnan	Nutritional evaluation and Efficacy of Fish Ensilage incorporated feed in selected fish sp.
8	Diana Benjamin	Nil	Dr. B. Madhusoodana Kurup	Sharks of West coast of Kerala
9	Edwin Joseph	Nil	Dr. B. Madhusoodana Kurup	Marketing strategies in sea food products
10	Baiju K. K.	UGC	Dr. Thomson	Co management of marine fisheries in Kerala.
11	Greeshmam M. B.	Nil	Dr. M. Harikrishnan	Studies on Reproductive Biology and seed production of some caridean shrimps



Sl. No.	Name	Funding Agency	Guide	Area of Work
12	Jinoy V. G.	Nil	Dr. Thomson	Fisheries Management
13	Ligi Thomas	Nil	Dr. Saleena Mathew	Isolation and characterization of Bioactive compounds from crassostres readrasinis
14	Liya Jayalal	CUSAT	Dr. A. Ramachandran	Impact of certification on consumer preference and sustainability of ornamental fish from Kerala
15	Renjith Kumar C. R.	Nil	Dr. B. Madhusoodana Kurup	Fishery biology of G. thomassi.
16	Rosewine Joy	Nil	Dr. Thomson	Institutions and sustainable development of estuarine fisheries in Kerala.
17	Roshni K.	INSPIRE	Dr. B. Madhusoodana Kurup	Impact assessment of exotic fish invasion in indigenous fish biodiversity in Kerala.
18	Sindhu M. C.	STATE	Dr. A. Ramachandran	Comparison of Efficacy of Anesthetics for the transportation of Ornamental fishes
19	Soumya Subra De	CUSAT	Dr. A. Ramachandran	Quality management strategies for ornamental fish production
20	Subhasree Shankar	Nil	Dr. B. Madhusoodana Kurup	Laviculture of M. rosenbergii with reference to extrinsic factors
21	Treesa Varghese	Nil	Dr. Saleena Mathew	Role of autolytic enzymes on fish muscle protein during various processing conditions.
22	Venugopalan T. N.	Nil	Dr. A. Ramachandran	Ecolabelling as a tool for Sustainable Seafood Resource Management
23	Nidhin B.	University	Dr. M. Harikrishnan	Studies on the pattern of Recruitment of Marine fish larvae and juveniles to Cochin Estuary



Sl. No.	Name	Funding Agency	Guide	Area of Work
24	Deepak jose	University	Dr. M. Harikrishnan	A Molecular approach towards the characterization of hormones responsible for the chromatophore development in crustaceans and their silencing
25	Ajsa Parveen		Dr. Mini Sekharan	Food Safety Interventions for Fishery Based Microenterprises
26	Asha Raymond	University	Dr. A. Ramachandran	Seafood Safety Management with special reference to International Trade
27	Dana E. B.	University	Dr. Saleena Mathews	Process Optimization and Utilization of fish Protein Hydrolysate from various sources
28	Midhila Madhu		Dr. M. Harikrishnan	
29	Nashila Rahmaniya	University	Dr. Mini Sekharan	Study on Consumer Behaviour towards fish and fishery products marketed through selected Marketing Channels in India
30	Muhammed Rafeeqe K.T.		Dr. Mini Sekharan	Food Safety Management Systems in the Seafood Industry in India
31	Susan Sukanya		Dr. K. T. Thomson	Adaptive Management of Marine Fishes in Southwest Coast of India
32	Swapnil Chatterjee		Dr. A. Ramachandran	Property Rights Issues of Fishermen in Selected District of West Bengal
33	Pradeep K.		Dr. T. V. Shankar Dr. Saleena Mathew	Protein Characterization and Functionality studies of mesopelagic fishes from Arabian Sea
34	Judine John Chacko	University	Dr. Mini Sekharan	Comparative study of intensive Ornamental Culture in Recirculatory Aquaculture System with traditional System



6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Senior Grade Assistant	1
3	Assistant	1 vacant
4	Section Officer Typist	1
5	Typist	1 vacant
6	Office Attendant	1
7	Sweeper-cum-Cleaner	1
8	Assistant on Daily Wages	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Assistant Grade III	1
2	Laboratory Assistant	1
3	Net Maker	1 vacant
4	Hatchery Asst.-cum Syrang and Driver	1
5	Hatchery Assistant	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc.	6	13	19
2	M.F.Sc	10	10	20
3	M.Phil	0	10	10
4.	Ph.D	2	4	6

9. Research Facilities

- a. Laboratories** - Seafood safety lab for M FSc
Fish Processing Lab
Instrumentation Lab
- b. Major equipments** - Orbital Incubator Shaker, Moisture Analyzer
Rotary vacuum flash evaporator
Meat bone separator, Vacuum packaging machine
CHN Analyzer, Amino Acid Analyzer
Automatic Nitrogen/Protein Estimation System
Real time PCR, Gradient PCR, Gel Doc



c. Library: No separate library. Books bought by the School are kept in the library of Marine Sciences.

d. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 2322 Journals : 244	Books : 51 Journals : 50

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Studies on Biology Morphometrics and Biochemical composition of Ommastrephid squid of the south west coast of India	John Chembian	Dr. Saleena Mathew
2	Effect of spice oleoresins in microbial decontamination and their potential application in quality stabilization of tuna (<i>Euthynnus affinis</i>) during storage	Dhanya. P. R.	Dr. Saleena Mathew

11. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1	Quality evaluation of a battered and breaded Seafood product under chilled storage (Fishery Technology) 4.87(NAAS rating)	4.87 (NAAS rating)
2.	Physico-chemical and Textural Alternatives in Indian squid (<i>Loligo Duvaucelli</i>) mantle during frozen storage and cooking. (Journal of Aquatic Food Products Technology)0.737	0.737
3.	Benjamin, D., Rozario, J.V., Jose, D., Kurup, B.M. and M.Harikrishnan (2013) Rare batfish species, <i>Halicmetus ruber</i> Alcock, 1891 (Lophiiformes: Ogcocephalidae), from the Indian Exclusive Economic Zone. J.Appl.Ichthyol.(2013), 1-2 0.903	0.903
4.	Diana Benjamin, MadhusoodanaKurup B Jenson V Rozario, Jose Deepak, Prabakaran M.P and Harikrishnan M(2014)Plastic ingestion by Bigeye Thresher shark <i>Alopias superciliosus</i> off Ratnagiri southwest coast of India. <i>International journal of Environmental sciences</i> .(Accepted). 0.3286	0.3286



12. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Saleena Mathew	National Workshop on Seafood safety and trade 17-19 December 2013	Convener & Resource Person
K. T. Thomson	IASC 2013 Japan	Panel organizer
K. T. Thomson	ZMT Germany	Course coordinator and Expert on coastal area co management, Bremen Germany
Dr. John Mohan	National Workshop on Seafood safety and trade 17-19 December 2013	Member, Organizing committee & Resource person
Dr. John Mohan	International Symposium on Greening Fisheries- Towards Green Technologies in Fisheries 21-23 May, 2013	Member, Organizing committee
Dr. M. Harikrishnan	International Seminar on Aqua Aquaria 2013 8-10 February 2013 Vijayawada Organized by MPEDA	Participant
Dr. M. Harikrishnan	National Seminar on Emerging trends in Indian Aquaculture 21-23 March, 2013 University of Kerala Thiruvananthapuram	Participant

13. Role of Faculty in International/National organizations/Institutions/ Editorial Boards

Name of Faculty	Name of Organization	Role
Dr. John Mohan	Society of Fisheries Technologies (India)	Executive Committee Member
K. T. Thomson	IASC	Panel organizer

14. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. Saleena Mathew	Honoured for the services as former Vice President of Society of Fisheries Technologies (India)	SOFTI (India) at the International Symposium on Greening Fisheries- Towards Green Technologies in Fisheries

**15. Sponsored Research Projects**

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	ARTISTICCC	Ministry of Earth Science/ BELMONT	1, 47,000	K. T. Thomson
2	MoES funded research project Resource assessment and biology of deep sea crustaceans inhabiting continental slope of Arabian sea and Central Indian Ocean.	Ministry of Earth Sciences, Government of India	Rs.80 Lakhs	Dr. M. Harikrishnan

16. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1	Isolation & Characterization of bioactive substances like collagen & gelatin, Glycosaminoglycans, Fish protein hydrolysate and PUFA from fish and fish discards	Dr. Saleena Mathew
2	Preparation and storage stability of value added fishery products.	Dr. John Mohan
3	Efficacy of squilla ensilage in growth and survival of fin fishes and shell fishes	Bijoy V. M. and M. Harikrishnan
4	Studies on recruitment of selected fish larvae in to Cochin back water	Nidhin B. and M. Harikrishnan
5	Studies on biology of Carinotetraodon travancoricus	Anupama K. M. and M. Harikrishnan
6	Taxonomy and bionomics of Alpheid shrimps inhabiting Cochin backwater	Anilkumaar K. and M. Harikrishnan
7	Studies on the molecular phylogeny of Palaemonid prawns of Central Kerala	Deepak Jose and M.Harikrishnan

15. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	National Workshop on Seafood safety and Trade	3days From 17-19, December, 2013	Dr. Saleena Mathew	UGC and DST, Govt of India





SCHOOL OF LEGAL STUDIES

1. Brief History of the Department:

Established as the P.G. Department of Law of the Kerala University in 1962 under the leadership of the late Prof.(Dr.) A.T. Markose, an Internationally reputed jurist who was the founder Director of the Indian Law Institute, New Delhi and the Deputy judge of International Administrative Tribunals / the School of Legal Studies remains as a prestigious institution in the Campus. It's pioneering efforts in encouraging P.G. studies and research in the vital field of administrative law earned it name and fame.

Its commitment to social development has made it to develop teaching and research in socially relevant and nationally important emerging areas of law such as Constitutional Law, Criminal Law, Consumer Protection Law, Environmental Law, Human Rights, Commercial Law, Labour Law, Maritime Law and Intellectual Property Law. Its consistent dedication to social change has attracted the attention of the UGC and Govt of India. Its programmes in Human Rights and Intellectual Property Rights Law are now substantially supported by these agencies. The Library of the School has rich collections of study materials and books. This priced holding and exceptional services have helped it gain global recognition as a Nodal Centre for IPR studies. Its faculty is being consulted by various agencies including the Govt. of India for law reforms. The institution takes pride in having its alumni at different levels such as High Court Judges, District Judges, Senior Professors of leading Law Schools, Law Officers in various financial institutions and leading members of the Bar in almost all parts of India. The School has been organizing Seminars, Symposia both at national and local levels and Refresher programmes for law teachers to help the participants to update their knowledge in emerging areas of law. The Public Law Lecture series established by the School has already produced commendable works in law. The LL.B. programme, started in 1994 as an evening programme is now a Semesterised, full time day 5 year (Hons.) programme. The School has been fortunate to attract scholars having experience and education at different parts of the world to be part of its vibrant teaching faculty.

Thrust Areas of Research:

Criminal Law	Jurisprudence	Constitutional Law
Environmental Law	Consumer Law	Human Rights Law
Intellectual Property Rights		

2. Programmes of Study/Research : B.B.A.,LL.B.(Hons.), B.Com LL.B (Hons.), 3 year LL.B, LL.M. and Ph.D.

**3. Faculty Members**

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. V. S. Sebastian, Director upto 31 st May 2013	Associate Professor & Director	B.A., (Kerala), LL.B.(Raipur) LL.M. & Ph.D (Cochin)	Labour Law Commercial Law Commercial Law
2	Dr. N. S. Gopalakrishnan	Professor	LL.M., Ph.D. (Cochin)	Commercial Law Criminal Law Intellectual Property Law
3	Dr. N. S. Soman, Director from 1 st June 2013	Associate Professor	LL.M., Ph.D. (Cochin)	Human Rights
4	Dr. P. S. Seema	Assistant Professor	LL.M.(CUSAT), Ph.D (CUSAT)	Human Rights
5	Smt. Vani Kesari	Assistant Professor	LL.M.	Administrative Law
6	Prof. Sathyaseelan A.	Lecturer on contract basis	LL.M., NET	Criminal Law and Administrative Law
7	Smt. Joby Bhasker (Relieved w.e.f. 15.10.2013)	Lecturer on contract basis	LL.M., NET	Criminal Law and Constitutional Law
8	Smt. Lekshmi G. R.	Lecturer on contract basis	LL.M., UGC -NET	Constitutional Law & Criminal Law
9	Smt. Ashamol V.	Lecturer on contract basis	LL.M., UGC -NET	Criminal Law & Human Rights
10	Smt. Manasi Muralidharan	Lecturer on contract basis	LL.M., UGC -NET	Commercial Law
11	Sri. Anton Joseph (Relieved w.e.f. 20.09.2013)	Lecturer on contract basis	M.B.A., M.Com, UGC-NET, JRF	Commerce and Management
12	Smt. Priya R.	Lecturer on contract basis	LL.M., UGC -NET	Constitutional Law & Administrative Law
13	Smt. Uma Devi S.	Lecturer on contract basis	LL.M., UGC -NET	Constitutional Law & Administrative Law
14	Sri. Sandeep M. N. (Relieved w.e.f 21.02.2014)	Lecturer on contract basis	LL.M., UGC -NET	International Human Rights Law, Constitutional Law & Criminal Law



Sl. No.	Name	Designation	Qualification	Specialization
15	Smt. Jean Vinitha Peter (Relieved w.e.f 02.09.2013)	Lecturer on contract basis	LL.M., UGC -NET	Constitutional Law & Criminal Law
16	Smt. Aathira Raju	Lecturer on contract basis	LL.M., UGC -NET	Environmental Law, Human Rights

4. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1.	Sri. S. Bhaskar Iyer	“	MA, M.Phil	Legal Language & Legal Writing,
2.	Prof. P. Leelakrishnan	“	LL.M., Ph.D	Constitutional Law, Administrative Law and Environmental Law
3.	Dr. D. Rajeev	“	LLM, Ph.D	Constitutional Law
4.	Smt. Thara Prabhakar	“	LL.M, D.C.A.	Labour Law, Maritime Law and Environmental Law
5.	Smt. Veena Roshan Jose	“	LL.M	Human Rights and Environmental Law, Constitutional Law
6.	Dr. Mathew Jacob	“	M.Com, M.Phil, Ph.D	Management
7.	Smt. Renjitha Praveen	“	MCA	
8.	Prof. M.P. Joseph	“	M.A., PGDTE	
9.	Sri. Suresh Chandran R.	“	LL.M	
10.	Smt. Smitha Chathanarampath	“	LL.M.	Maritime Law
11.	Sri. Santhosh M. John	“	M.B.A	Marketing and HRM
12.	Smt. Ranjana Mary Varghese	“	M.B.A	HR and Marketing
13.	Smt. Smitha Kurian	“	LLM	Constitutional Law and Administrative Law
14.	Sri. Nithin Anirudhan	“	LLM	
15.	Sri. Dilip Cherian	“	Mechanical Engineering	Operation Research, Statistical quality control
16.	Sri. Vignesh Karthik	“	MBA	Marketing, Operations Management
17.	Smt. Divya C. K.	“	M.Com	Commerce



18.	Smt. Soumya. G.	“	M.A (Economics)	Economics
19.	Sri. Aravind M.	“	LLM	
20.	Smt. Regitha G.	“	LLM, NET	
21.	Dr. Austin Joseph	“	LLM, Ph.D	Labour Law
22.	Sri. Hamza V. K.	“	M.Com,MBA	
23	Sri. K. D. Zacharias	“	LLM	Banking Law
24.	Smt. Remya K. R.	“	LLM	Human Rights and Commercial Law
25.	Smt. Baby Ruby	“	B.Ed, MA, MBA	Management
26	Sri. Shyam Kumar V. M.	“	LLM,NET	Maritime Law, Administrative Law, Labour laws
27.	Adv. S. M. Prasanth		LLM	Commercial Law and Constitutional Law
28.	Prof. Paul Gomez		B.SC, LLM	Administrative Law
29.	Adv. Russel S.		LLM	IPR, Human Rights and duties education
30.	Prof. P. S. Gopi		B.Sc, LLM	Family Law
31	Prof. M. Marcus		BA,BL,ML	Criminal Law

5. Research Staff :

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Ajitha T. G.	Research Officer	LL.M, Ph.D	Intellectual Property Rights, Criminal Law & Commercial Law
2.	Smt. Prabha S. Nair	Research Associate	LL.M, Ph.D	Intellectual Property Rights & Environmental Law

7. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Vani Kesari. A (P.T)		Dr. N. S. Soman	Sanctity of Life in the context of Human Genetic Research
2	Sreeja R. L. (P.T)		Dr. G. Sadasivan Nair	Consumer Protection in online transaction.



3	Dinesh P. T. (P.T)		Dr. V. S. Sebastian	Money laundering Laws – A study with special relevance to prevention of Money laundering in India.
4	Binu Poornamodan Cholayil (P.T)		Dr. V. S. Sebastian	Intellectual Property Law
5	Ambily T. (P.T)		Dr. V. S. Sebastian	Labour Law - A legal and functional analysis of collective bargaining in Udyogamandal Industrial Area
6	Premsey P. N. (P.T)		Dr. V. S. Sebastian	State Responsibility and Corporate Accountability under the Human Rights Treaties
7	Regi Joseph (F.T) (F.I.P)		Dr. V. S. Sebastian	Service and Working Conditions of Employees of unaided Schools in Kerala – A Study (Labour Law)
8	Lekshmi G. R. (P.T)		Dr.V.S.Sebastian	Rights of minority under Indian Constitution
9	Pai Yogesh Anand (P.T)		Dr. T. G. Ajitha	International Technology Standardization Patent Competition Law Addressing Gaps in the International Frame work
10	Dayana M. K. (P.T)		Dr. A. M. Varkey	Land use Controls in Kerala
11	Dhnanalakshmy C. N. (P.T)		Dr. V. S. Sebastian	Regulation of Crime in Cyber Space : Issues and Challenges
12	Naveen S. (P.T.)		Dr. D. Rajeev	Towards a Legal regime on Global warming
13	Dileep C. A. (F.T.) (F.I.P)		Dr. D. Rajeev	Protection of Witness in Criminal Proceedings
14	Tina K. Stephen (P.T)		Dr. V. S. Sebastian	Changing concepts of Trade mark Law in the New Global Competitive Scenario
15	Anusree A. (F.T.) (F.I.P)		Dr. V. S. Sebastian	Emerging Role of Forensic Evidence in Criminal Justice System



16	Arya A. Kumar (P.T.)		Dr. D. Rajeev	Bioterrorism and the Right to Health – A study in the Human Rights Context
17	Joby Bhasker (P.T.)		Dr. D. Rajeev	Religious Practices under Indian Law
18	Harigovind P. C. (P.T.)		Dr. A. M. Varkey	Indian Law on Clinical Trials – A Human Rights Perspective
19	Krishnakumar N. K. (F.T.)	RGNF	Dr. D. Rajeev	Law of Conservation of rivers in Kerala with a special reference to sand dredging in Periyar River
20	Anju N. Pillai (F.T.)		Dr. A. M. Varkey	Corporate Managerial Accoutability Through Disclosure Regulations
21	Mamatha T. K. (F.T.)		Dr. N. S. Soman	Realization of Socio Economic Rights

7. Administrative Personnel

Sl. No.	Designation	No. of Posts
Office		
1	Section Officer (Hr. Grade)	1
2	Selection Grade Assistants	3
3	Office Superintendent	1
4	Senior Grade Assistant	1
5	LD Typist	1
6	Peons	2
7	Sweeper Cum Cleaner	1
Library		
1	Assistant Librarian (Sr. Grade)	1
2	Junior Librarian	1
3	Professional Asst. Gr. I	2
4	Library Assistants Gr. II	2



8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	LL.M.	7	29	36
2	BBA.LL.B (Hons.)	18	18	36
3	B.Com LL.B (Hons.)	19	17	36
4	3 Year LLB	47	5	52
5	Ph.D.	0	1	1

9 Research Facilities

a. Laboratories

b. Library

No. of books and journals as on 31st march of the previous year	Additions during the current year
Books : 2904	Books : 152

10. Ph.D.s Awarded : 3

11. Publications

a. Papers

Sl. No.	Name of Faculty	Name of Paper
1.	Dr. N. S. Gopalakrishnan	1. Compulsory License under the Indian Patent Law, along with Maduri Anand , Compulsory License, Max Plank Institute(2014 Forth coming). 2. Principles for Intellectual Property Provisions in Bilateral and Regional Agreements: Reflections on the ongoing negotiation of EU-Inda FTA, Journal of IIC 2013
2.	Dr. N. S. Soman	1. Dr.K.N.Chandrasekharan Pillai and Dr. N.S.Soman - Justice V. R. Krishna Iyer's contribution to Indian Criminal Justice System. In P.B.Sahasranaman Surfeit of Tribute to India's Greatest Living Judge - Justice V. R. Krishna Iyer – A Festschrift, Universal Law Publishing Co. Pvt.Ltd. 2014. 2. Dr. M. C. Pramodan, Dr. K. N. Chandrasekharan Pillai and Dr. N. S. Soman – Higher Education in Law : Adapting to the New Century in Jacob Chacko (Edr.) Higher Education in India New Perspectives, Manak Publications Pvt. Ltd., New Delhi (2013) P.51



Sl. No.	Name of Faculty	Name of Paper
3.	Dr. P. S. Seema	Protection of Intellectual Property and the Hindu Law
4.	Smt. Vani Kesari A.	"Sanctity of Human life : The Conceptual dilemma and practical consensus" Kerala University Journal of Legal Studies Volume 6 2013 pg.109

b. Books

Sl. No.	Name of Faculty	Name of Book
1.	Dr. N. S. Gopalakrishnan	"Principles of Intellectual Property ", along with Dr. T. G. Ajitha, Eastern Book Company second edition 2014

12. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. N. S. Gopalakrishnan	1. 27 th session of intergovernmental Committee on IP, Genetic Resources, traditional knowledge and folklore at Geneva, March 2014.	Member of Indian Delegation
	2. Diplomatic conference to finalise the treaty for the protection of persons with print and visual disabilities, Morocco June 2013	Member of Indian Delegation
	3. 25 th session of Intergovernmental committee on IP, Genetic Resources, Traditional Knowledge at Geneva July 2013	Member of Indian Delegation
	4. 24 th session of Intergovernmental committee on IP, Genetic Resources, Traditional Knowledge and folklore at Geneva	Member of Indian Delegation
	5. International Conference on TK, TCE and GR, Govt: of India	Speaker
Dr. N. S. Soman	1. Capital Punishment: Indian Scenario in the National Seminar held at Department of Law, S.K.University, Ananthapur, A.P. on 29 th March 2014.	Participated and presented a Paper
	2. Judicial Intervention in the field of Implication of Socio-Economic Rights in the National Seminar on – Socio-Economic Rights :	Presented a Paper



	Challenges for its Realisation held from 3 rd to 5 th of March 2014 at School of Legal Studies, CUSAT and organized by Justice V.R.Krishna Iyer Chair on Human Rights.	
Dr. P. S. Seema	1. Orientation course at Academic Staff College, Calicut.	Participants
	2. National Seminar on "Minimum age for marriage and Human Rights" at Calicut University.	Resource Person
	3. National Seminar on "Enforcement of Socio-Economic Rights – Challenges" at CUSAT.	Participant
	4. National Workshop on Women and the Law as part of Seethalayam Project at Thrissur	Resource Person
Smt. Vani Kesari A.	1. Attended a two day national work shop for training of trainers on challenges in Law teaching, Research and Administration in Govt. Law Colleges in Kerala (10 th & 11 th January 2014)	Participant
	2. Presented a paper on " Patenting of Human Genes and the concept of sanctity of Human Life: Conflicts and Gaps" in the National Work Shop conducted by Department of Law Kerala University and KCST, Kerala in March 2014	Resource Person

13. Role of Faculty in International/National Organizations/Editorial Boards

Name of Faculty	Name of Seminar/Conference/Workshop	Role
Dr. N. S. Gopalakrishnan	World Intellectual Property Organization, Geneva	Member of Editorial Board of Journal
Dr. P. S. Seema	Editor of Cochin University Law Review	Assistant Editor

14. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Chairman, Drafting Committee, Public Funded IPR, Bill, Department of Biotechnology	Professor N. S. Gopalakrishnan

**15. Seminar/Conference/Workshop/Refresher Courses conducted by the Department**

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Seminar on "Realisation of Socio-Economic Rights – Challenges for Law"	3 days	Dr. P. S. Seema	
2.	Smt. Vani Kesari A. -Seminar- Participated in the seminar on Socio Economic Rights: Challenges for its realization organised by Justice V. R Krishna Iyer, SLS, CUSAT			

16. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	Prof. N. S. Gopalakrishnan Tutor, World Wide Academy World Intellectual Property Organisation, Geneva	Tutor Distant Learning Programme	WIPO





SCHOOL OF MANAGEMENT STUDIES

1. Brief history of the Department:

The School of Management Studies was established in 1964 as part of an all India scheme of promoting management studies throughout the country. It is the major institution of its kind in Kerala offering post-graduate studies and research programmes in Business Administration, Commerce and related areas.

The School started functioning in October 1964 as part of the University of Kerala. With the formation of the University of Cochin in July, 1971 the School became a Department of the University.

2. Programmes of Study/Research

At present the School offers Master of Business Administration (MBA - Full-Time), Master of Business Administration (MBA - Part-Time), Master of Business Administration (International Business), Master of Business Administration (Travel & Tourism), M.Phil (Commerce) and Ph.D. programme.

Management Development programmes

Besides academic programmes, the School conducts Management Development Programmes and undertakes Management Consultancy. The management development programmes in general are aimed at inducting personnel into more recent developments in their own specialized or allied areas, so that they would be able to develop a wider perspective.

- | | | |
|----------------------|---|----------------|
| 1) MBA (FT) 2 years | : | Four semesters |
| 2) MBA (PT) 3 years | : | Six semesters |
| 3) MBA (IB) 2 years | : | Four semesters |
| 4) MBA (TT) 2 years | : | Four semesters |
| 5) M.Phil (Commerce) | : | Two semesters |
| 6) Ph.D. | | |

Master of Business Administration (Full Time – 2 Years – Four semesters)

This is a two-year full time post-graduate programme leading to the Degree of Master of Business Administration. Its aim is to provide the young aspirants with the opportunity to pursue a career in business, to acquire adequate knowledge, skills and attitudes which would constitute a foundation for their growth into competent and responsible business executives. The course has been so designed, as to enable the students to develop a thorough grasp of the basic concepts and techniques of management as well as the ability



to practice them under Indian conditions. Further, it aims at developing their analytical, decision making and communication skills.

Master of Business Administration (Part Time – 3 Years – Six semesters)

The part-time programme leading to the degree of Master of Business Administration is a three-year evening programme. Its objective is to give an opportunity to executives working in Government and business organizations to improve their managerial ability and performance.

Master of Business Administration (International Business) (Full Time – 2 Years – Four semester)

The post graduate programme in International Business is a 4 semester full time course. It gives emphasis to export policies, procedures & techniques.

Master of Business Administration (Travel & Tourism) Full Time 2 years – four semesters

MBA Travel & Tourism is the first academic programme in India which offers a post graduate management degree in Travel & Tourism. Set apart from normal management programmes, the course is designed with a view to create tailor made professionals suiting the high end hospitality industry.

The academic programme imparts learning from class room sessions as well as industry outings. Each semester comprises of one month in house training programme to be undergone in renowned travel & tourism companies. The students also undertake market research challenges as a part of the curriculum, seeking solutions to real time industry crisis.

The strenuous academic sessions are coupled with tours and visit to various tourists' destinations in India, completely designed and scheduled by the students themselves.

MBA Travel & Tourism lays equal importance to both the sectors. That's why the specialization offered to the students in the second year comes with the diverse choices to excel in both travel and tourism arena. The faculties chosen to guide represent talents from the industries. Senior managers and professionals are sought to guide the students with insights from their own experiences.

M.Phil. (Commerce)

One year (2-semester) Full time course in Master of Philosophy in Commerce for College Teachers and general category students.

Methods of instruction

The School employs different methods of instruction viz, lectures, case studies, seminars, role-plays, syndicates, field work etc. At the end of the third semester the students (F.T) are required to attach themselves to an organization for a period of eight weeks and prepare a project report on a problem related to the working of the organisation.



The unique programmes offered by the School aim at developing the personality of students and sharpening their oral and written communication skills.

Consultancy programmes

The School undertakes consultancy assignments to provide managerial and technical – services to various organizations. The School has been recognised by the Government of Kerala as an authorised centre to provide consultancy services to small scale industries in the State.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. M. Bhasi	Professor & Director	M.Tech., Ph.D.	Systems and Operations Management - Logistics, Supply Chain Management, IT Applications in Business and Management, Quality, Maintenance, Materials Management, Engineering and Technology Management.
2	Dr. James Manalel	Professor	M.B.M., Ph.D.	Finance Management, Banking, Management of Small Business
3	Dr. Jagathy Raj V. P.	Professor	M.Tech, M.B.A., DSADP, Ph.D.	Systems and Operations Management - Logistics, Supply Chain Management, IT Applications in Business and Management, ERP,MIS, Engineering and Technology Management.
4	Dr. Moli P. Koshy	Professor	M.Sc., M.B.A., Ph.D.	Marketing Management, Marketing Research, Consumer Behaviour, Strategic Marketing Entrepreneurship
5	Dr. Sebastian Rupert Mampilly	Professor	M.S.W., M.B.A., Ph.D.	HRM, Organisational Behaviour and Industrial Relations, Research Methodology
6	Dr. P. R. Wilson	Professor	M.Com., Ph.D.	Financial Management
7	Dr. K. Krishnan Nampoothiri	Associate Professor	M.Com., Ph.D.	Accounting, Banking, Co-operation, Business Communication, Finance



8	Dr. D. Mavoothu	Associate Professor	M.B.A., D.L.L., Ph.D.	HRM ,Industrial Relations and Business Ethics
9	Dr. Rajitha Kumar S.	Associate Professor	M.Com., M.Phil., Ph.D.	Finance and General Management
10.	Dr. Manoj Edward	Asst. Professor	B.Tech, M.B.A., Ph.D.	Operations and Service Management
11	Dr. Mohammed Aslam M. K.	Asst. Professor	M.Com., M.Phil., Ph.D	Finance Management and Accounting
12	Dr. Sam Thomas	Asst. Professor	B.Tech., M.B.A., Ph.D.	Systems and Finance
13	Dr. Zakkariya K. A. (On deputation from October 2013 onwards)	Associate Professor	M.A., M.B.A., P.G.D.I.B., Ph.D.	Organisational Behaviour, Marketing, & Sales Management, Managerial Skills Development

4. Visiting Faculty (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Adv. Jayaprakash 144 B, Sreyas Apartments Parinamum Road, Kaloor-17	Guest Faculty	LL.M.	International Business Law
2.	George V. Antony 35/949, North Janatha Road PalarivattomCochin-25	Guest Faculty	MBA, Ph.D	I.T.
3.	Dr. Dipu Varghese Madathikunnel House Kaloor P. O., Kochi-682 017	Guest Faculty	MBA, Ph.D.	Environment Management
4.	Shri. T. J. Jose Thhykoottathil House, 33/3175 A, Vennala P.O. Kochi – 28	Guest Faculty	MBA	H.R.
5.	Shri. Vignesh Karthik S. A. Balummal House, Thrikkakara North, CUSAT P. O.	Guest Faculty	MBA	E-Commerce, I.T.
6.	Smt. Winny A. X. Thhykoottathil House 33/3175 A, Vennala P. O. Kochi – 28	Guest Faculty	PGDM	Marketing
7.	Sri. Pradeep Kumar L. Poykayil, III/85-1Near K.S.R.T.C. Bus Depot, Irinjalakuda – 680 121	Guest Faculty	MBA	Operations, General MB A



8.	Shri. P. A. Abdul Salam Panadan House, H.M.T. Colony P.O., Kalamasserry	Guest Faculty	MBA	H.R.
9.	Smt. Ranjana Mary Varghese Thayil House, Opp.Gangothri Apartments,Library Road Aluva 683101	Guest Faculty	MBA	Marketing
10.	Ms. Vandana M. Chitra, Munduparamba, Malappuram	Guest Faculty	MBA Travel and Tourism	Travel and Tourism

5. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. George V. Antony	P.D.F. Scholar	Ph.D.	

6. Research Scholars

Sl. No.	Name of the Research Scholar	Name of the Research Guide	Topic
1.	Tessla Arakal	Dr. Sebastian Rupert Mampilly	Performance Management System for Research and Developemet and Employees
2.	Shelly Jose	Dr. Sebastian Rupert Mampilly	Industry Mindset and Organisational Performance
3.	Geetha Jose	Dr. Sebastian Rupert Mampilly	Impact of HRD Practices on Employee Engagement
4.	Neenu Wilson	Dr. Sebastian Rupert Mampilly	Organisational Human capital Management and work place performance
5.	George Joseph	Dr. Zakkariya K. A.	Stakeholder Conflit and Project delays in Construction Industries
6.	Deepthi Sankar	Dr. Zakkariya K. A.	Consumer Behaviour of Car buyers in Kerala
7.	Hamza V. K.	Dr. Zakkariya K. A.	Restructuring the concept of Consumer Statisfaction and Development of Consumer Satisfaction Index
8.	Smarty P. Mukundan	Dr. Zakkariya K. A.	Inclusive growth through the intevention of Kudumbasree.
9.	Chandra Vadhana R.	Dr. Zakkariya K. A.	Development of Tools for Assessing Managerial Softskills.



10.	Dhanya Menon	Dr. Zakkariya K. A.	Marketing Orientation in Non Profit Higher Education sector: Viewing student as Customer"
11.	Manoj Menon	Dr. C. A. Francis	Perceived Organisational support, job involvement and organisational attachment in service sector.
12.	Sandeep S.	Dr. C. A. Francis	A Framework for Adoption of Business Analytics in Supply Chain Firms.
13.	Suresh Kumar G.	Dr. D. Mavoothu	A study on the work - Life balance among Women Managers/Entrepreneurs in Kerala
14.	Lal V. Jose	Dr. D. Mavoothu	A Study of Achievement and Commercial innovation of IOC's
15.	Preetha V.	Dr. D. Mavoothu	Impact of National Rural Employment Garenty Act on Women Empowerment- A Study with Special Refference to Palakkad district of Kerala
16.	Ranjana Mary Varghese	Dr. D. Mavoothu	Human Resources Management in the Kudumbasree initiative for Solid waste Disposal
17.	Shyni V. K.	Dr. D. Mavoothu	GAP Analysis of Financial Inclusion Policy and Practices.
18.	Sangeetha K. L.	Dr. D. Mavoothu	A study on the Role of Social Media in Social Capital Development with Reference to Kerala.
19.	Saleena M.	Dr. D. Mavoothu	Re-entry of women managers and their career prospectus: An emerging issue of Indian organisations.
20.	Kesavan E.	Dr. K. B. Pavithran	An Evaluation of Coporate Social Responsibility Performance of Corprates in Kerala
21.	Sreekumar K.	Dr. K. B. Pavithran	Impact of Cost Accounting, Record Rules and Satutory Cost Audit on the Performance of the Selected Business Enterprises
22.	Krishnan M.	Dr. K. B. Pavithran	A Study on the Statergic Financial Management Practices in Small and Medium Enterprises in Kerala



23.	Dhanya Alex	Dr. K. B. Pavithran	Impact of Accounting Practices in Earnings Per Share of companies and importance of EPS in Company Valuation
24.	Neetha J. Eappen	Dr. K. B. Pavithran	Customer Switching Behavior in the Service Industry
25.	Suja Karthika	Dr. K. B. Pavithran	Strategic Financial Management in State level public Enterprises
26.	Raihanath M. P.	Dr. K. B. Pavithran	Financial inclusion Programmes of Nationalized Banks: A study with reference to Opportunities and constraints for both banks and the Target groups in Kerala.
27.	Anil Kumar P.	Dr. Jagathy Raj V. P.	Technology Risk Management in Banking
28.	Syam S.	Dr. Jagathy Raj V. P.	Information Management
29.	Varghese K. J.	Dr. Jagathy Raj V. P.	Engineering Management
30.	Soumya Varghese	Dr. Jagathy Raj V. P.	Environmental Management and Human Resource Management
31.	Joseph C. M.	Dr. James Manalel	Study in Factors leading to Entrepreneurial Success
32.	Deepa Babu K. G.	Dr. James Manalel	A study on the Development Strategies for women Entrepreneurs in the State of Kerala.
33.	Vinodan A.	Dr. James Manalel	Institutional Framework of Education in Kerala
34.	Ameer P. A.	Dr. James Manalel	Micro Finance
35.	Simon Jacob C.	Dr. James Manalel	Human Resource Practices - Professional and Organisational commitment in Service Quality. A study in Hospital Industry.
36.	Manu Melvin Joy	Dr. James Manalel	Multiple intelligence
37.	Nimmy A George	Dr. James Manalel	Impact of Corporate Social Responsibility
38.	Ayana Johny	Dr. M. Bhasi	Study on Information Technology Implementation
39.	Geo Baby	Dr. K. George Varghese	Transformational Leadership and Change Management



40.	Jose Varghese	Dr. Manoj Edward	Influence of Customer Relationship Management Practices of Sales Forces on Sales Effectiveness
41.	Shameer Salim	Dr. Manoj Edward	Private Labels and Kerala Retail Sector
42.	Remya R. Kumar	Dr. Manoj Edward	A study on the challenges and prospects of medical tourism in Kerala
43.	Sobha Menon	Dr. Manoj Edward	Travel intermediaries in Tourism Management in Kerala
44.	Joemon Pappachan	Dr. Moli P. Koshy	A Study on Airline Passengers
45.	Dhanya Babu V.	Dr. Moli P. Koshy	A Study on Information Technology Implementation
46.	Paul V. Mathew	Dr. Moli P. Koshy	A study on corporate social responsibility initiatives of private Sector Hospitals in Kerala.
47.	Preetha P. K.	Dr. Moli P. Koshy	A Study on Marketing channels.
48.	Sabira N.	Dr. Moli P. Koshy	Destination competitiveness of Kerala, Assessing tourism competitiveness of Kerala from Stakeholders and Tourists perspective
49.	Sreekumar B.	Dr. P. R. Wilson	A Study on the Purchase Behaviour for Purchase of Premium Speciality Goods by Upper Middle and High Income Class of Customers in Kerala
50.	Jackson D'Silva	Dr. P. R. Wilson	Mindfulness Meditation and Executive well being
51.	Rashmi M. B	Dr. P. R. Wilson	Personal Finance and Well being.
52.	Shabna M. Ilahi	Dr. P. R. Wilson	Influence of throw away culture in consumers.
53.	Razeena Rasheed	Dr. P. R. Wilson	A study of problem faced by temporary workers in Kerala.
54.	Biju John M.	Dr. Mary Joseph	Social Banking since reforms
55.	Jomy M. Thomas	Dr. Mary Joseph	Economics of Pineapple cultivation in Kerala.
56.	Suresh P. K.	Dr. Mary Joseph	Role of total Productive Maintenance (TPM) in lean manufacturing



57.	Sankaran U. M.	Dr. Rajitha Kumar S.	Financial Services of Indiapost - A Study of Kerala State
58.	Manesh N. A.	Dr. Rajitha Kumar S.	Role of Leisure Tourism for the Economic Development of Kerala
59.	Famina A. S.	Dr. Sarada S.	A Study on Corporate Culture of Public Sector Banking Kerala
60.	Rama L.	Dr. Sarada S.	Career Competence of Teachers in the Higher Educational Sector of Kerala.
61.	Jitha G. Nair	Dr. Sarada S.	Emotional Labour of Teachers in the Professional Colleges in Kerala
62.	Reena Alias	Dr. Sarada S.	Emotional Labour and Stress Management of Customer Interface Employees of the Private Sector Hospitals in Kerala
63.	Peter Thenankal	Dr. Sudarsanan Pillai P.	A Study on future Trading in Commodities with Special Reference to Rubber
64.	Milna Susan Joseph	Dr. Sam Thomas	Buying Behaviour in the Context of Organized Retailing.
65.	Veeva Mathew	Dr. Sam Thomas	A study among the cellular customers in Kerala
66.	Rajeev Mukundan	Dr. Sam Thomas	Innovation in IT Industry
67.	D. S. Nagesh	Dr. Sam Thomas	Performance Management System for Research and Development (R &D)
68.	Praveena K.	Dr. Sam Thomas	Technology acceptance in Organisations.
69.	Beena I. S.	Dr. Muhammed Aslam M. K.	A Study of Knowledge Management through HRM Initiative (Strategies) as Applicable in IT Sector.
70.	Farzana S. Hussain	Dr. Muhammed Aslam M.K.	A study on Teacher Effectiveness in Relation to Emotional Intelligence & Organizational Citizenship Behaviour
71.	Rafeeka Mol C. A.	Dr. Muhammed Aslam M.K.	Study on Flat Houses (A Study with special reference to the real estate scenario in Kerala)



72.	Ajith Kumar R.	Dr. Muhammed Aslam M.K.	Information & Communication Systems Management
73.	Thasleena K. P.	Dr. Muhammed Aslam M.K.	Practibility of Islamic Bank in Kerala's Economy
74.	Nishanth P.	Dr. Muhammed Aslam M. K.	Priority Sector lending by Commercial banks and its role on Micro & Small Enterprises. A Study with special reference to Kerala.
75.	Shiji Mohan N.	Dr. Muhammed Aslam M. K.	A critical study on the priority action of Tourism Destination in Kerala.
76.	Shiny C. M.	Dr. G. Antony	A Study on the Factors influencing Retail Store Choice Behaviour of Consumers with special Reference to Kerala Market.
77.	Sindu George	Dr. G. Antony	An Analysis of Emerging Perception of Indian Citizens and Financial Products as an Opportunity for Investment in the Global SED Economic, with special Emphasis on Mutual Funds
78.	Salini K	Dr. G. Antony	A study on the Role of Micro-Finance in Promoting Micro-Enterprises and in income generation among the Rural Poor
79.	Shahnas A.	Dr. James Manalel	A Study on investments of Retail investors in Indian Stock Market.
80.	Renuka V. V.	Dr. M. Bhasi	Family business Management in Kerala
81.	Pradeep Kumar L.	Dr. M. Bhasi	Some Simulation Based Studies of Logistics System
82.	Rijo Gratus	Dr. Manoj Edward	Relationship marketing and customer retention.
83.	Sunitha T. R.	Dr. Manoj Edward	Social Cause Marketing and its influence on consumer buying behaviour - An Indian context.
84.	Athena Joy	Dr. Moli P. Koshy	Reverse Socialisation in Consumption.
85.	Heerah Jose	Dr. Moli P. Koshy	Organis Market in Kerala



86.	Nimitha Aboobaker	Dr. P. R. Wilson	Religiousness and Executive well being
87.	Vijay Kuriakose	Dr. P. R. Wilson	Personal Conflict Resolution Strategy and well-being
88.	Anoopa Narayanan	Dr. Rajitha Kumar S.	Talent Management Activities and Organisational Performance.
89.	Rajish T	Dr. Rajitha Kumar S.	Innovative Products and services of new generation banks - an evaluative study in Kerala.
90.	Sajida.P.	Dr. Zakkariya K. A.	Capability Expansion and women development
91.	Meera Prathapan	Dr. Zakkariya K. A.	Online marketing of Tourism Destinations
92.	Divya P. Velayudhan	Dr. Sam Thomas	Project Management
93.	Rosin C. Jacob	Dr. K. Krishnan Nampoothiri	A Study of the Financial Performance of Primary Agricultural credit societies (PACS) in Kerala.
94.	Kavita Balan	Dr. K. Krishnan Nampoothiri	Management of Ports in India

7. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Professor & Director	1
2	Section Officer	1
3	Sel.Gr. Assistants	1
4	Assistants	2
5	Office Supdt.	1
6	Typists	2
7	Duplicator Operator	1
8	Computer Operator	1
9	Assistant Librarian	1
10	Professional Assistants	2
11	Library Assistant	1
12	Peons	3
13	Sweeper/Cleaner	2
14	Gardener	1

**8. Student Enrollment**

Sl. No.	Programme of Study	Men	Women	Total
1	MBA (FT)	34	27	61
2	MBA (IB)	29	32	61
3	MBA (Part Time)	10	0	10
4	MBA (Travel & Tourism)	29	16	45
4	M. Phil (Commerce)	1	5	6
5	Ph.D.	4	13	16

9. Research Facilities:**a. Laboratory:**

Computers	:	40
Printer	:	1
UPS	:	1
Scanner	:	1

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books :25802	353
Book Bank : 1061	66
	Total No. of books added during the year 419
Journals & Periodicals : 43	43
Gift	About 10 Journals

10. Ph.D.s Awarded 2013-2014

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide	Date
1	"A Study on International Marketing Strategy for Sri. Lankan Tea".	Mohamed Ismail Mujahid Hilal	Dr. G. Antony	10.4.2013
2	"Role of Social Pressure as a Key Contributor of Materialism and Related Status Consumption".	Saju Eapen Thomas	Dr. P. R. Wilson	18.07.2013
3	"Vocational Higher Secondary Education in Kerala : A Status Study of Students, Pass outs and Training Components".	Anil Kumar R.	Dr. K. George Varghese	31.10.2013
4	Managerial Performance - An Analysis of selected Antecedents and Mediators	Manoj Mathew	Dr. James Manalel	25.03.2014



11. Publications

a. Papers

Sl. No.	Name of Paper
1	<p>Dr. Sebastian Rupert Mampilly</p> <ol style="list-style-type: none"> 1. 'A Power based explanation for managerial effectiveness', International Journal of Business and Management Invention, #6, Vol. 2, June 2013 (Co-authored) 2. 'Psychological Empowerment as a predictor of Employee Engagement : An Empirical Attestation', Global Business Review, #1, Vol.15, Mrch 2014 (Co-authored)
2	<p>Dr. M. Bhasi</p> <ol style="list-style-type: none"> 1. Ayana Johny, Dr. M. Bhasi, A Study on factors affecting Information Technology implementation success with reference to Banks in India in the National Conference on Banking & Finance held at Bharata Mata Institute of Management, Kochi on 26th April 2013. 2. Srikrishnan, Dr. M. Bhasi, An Empirical Study of Industry Practice in Software Development Risk Management, International Journal of Scientific and Research Publications, vol.3, no. 6, 2013. 3. Srikrishnan, Dr. M. Bhasi, A Case Study on Risk Management Practice in Outsourced Software Migration Projects, International Journal of Computers & Technology, 11 (5). 4. C.K.Ambilikumar, M Bhasi,G Madhu, Supply chain Coordination:A review of Mechanisms and Methodologies, National seminar on "Career Opportunities in Logistics and Supply chain Management" at Vidya Bharathi Group of Institutions, Kochi on 5th April 2014. 5. Smiju Sudevan, M. Bhasi, K. V. Pramod, "Reinforcement of Stakeholder Management in Software Projects", International Conference Applied Information and Communication Technology, ICAICT2014, Elsevier, Muscat, Oman 6. Smiju Sudevan, M. Bhasi, K.V. Pramod, "A Typology of Stakeholder Identification Methods for Projects in Software Industry", International Conference Information Technology, MESM 2014, Eurosis, Muscat, Oman 7. Smiju Sudevan, M. Bhasi, K. V. Pramod, "Comparative Reassessment of Two Common Software Project Management Methodologies", International Journal of Business Intelligence and Management 8. Smiju Sudevan, M. Bhasi, K. V. Pramod, "Comparative Reassessment of Two Common Software Project Management Methodologies", Second International Conference on Economics, Business and Management, 2013, ICEBM, India



Sl. No.	Name of Paper
3	<p>Dr. K. A. Zakkariya</p> <ol style="list-style-type: none">1. Zakkariya K. A. and Nemat Sheereen S. (2014). An analysis of Decision Making With Special Reference to the Purchase of Bakery Products in Kerala. <i>Intercontinental Journal of Marketing Research Review</i>. Vol.2, Issue 3, P.85-95, ISSN:2347-1670 (March issue, Impact Factor Value: 0.612)2. George Joseph and Zakkariya K. A. (2014). Assessing Learning Practices, Maturity and Skill Gap in Indian Construction Industry. In Debashis Chatterjee et al (Edts.), <i>Let's Learn</i>, Bloomsbury India (March).3. Farzana S. Hussain; Zakkariya K. A. and Aslam M. K. M. (2014). Expectation and Perception of Learning Climate Factors among College Students. In Debashis Chatterjee et al (Edts.), <i>Let's Learn</i>, Bloomsbury India (March).4. Meera Prathapan; Manoj Edward and Zakkariya K. A. (2014). Kerala Tourism: A Snapshot. <i>KMan</i>, Kerala Management Association, July 2013-January20145. Dhanya Menon and Zakkariya K. A. (2013). Engineering Labour Market in Kerala: Quantity and Quality Issues, In Sabu Thomas, "Employability of Fresh Engineers: Issues and Challenges", MD publications, New Delhi6. Bincy Hashim and Zakkariya K. A. (2013). Role of Noodle Advertisements on the Eating Habits of Children. <i>EXCEL International Journal of Multidisciplinary Management Studies</i>. Vol.3 (10), October, p-139150, (ISSN: 2249-8834).7. Zakkariya K. A. and Chandra Vadhana R. (2013). Changing Scope of Organisational Behaviour- The Need for focusing on the Organisational Milieu and the Emerging Importance of Training in People Skills. <i>Asian Journal of Management</i>, Vol.04, Issue 3 July-Sept, 2013, ISSN 0976-495X8. Zakkariya K. A. (2013). Education for Sustainability: Status and Quality Issues in Higher Education. <i>Proceedings of the NAAC sponsored National Seminar on Education for Sustainability: Challenges and Opportunities</i>, organized by MES college Marampally on June 12th and 13th 2013 (ISBN: 978-81-923985-4-9)
4	<p>Dr. Sam Thomas</p> <ol style="list-style-type: none">1. Service Quality Perceptions, Customer Satisfaction And Behavioral Intentions In Organized Retailing" <i>Asia Pacific Journal of Marketing & Management Review</i> (ISSN 2319-2836) Vol.2 (12), DECEMBER (2013)2. "An Integrative Model Linking Risk, Risk Management and Project Performance: Support from Indian Software Projects", <i>Grand Successes and Failures in IT. Public and Private Sectors IFIP Advances in Information and Communication Technology</i> Volume 402, 2013, pp 326-342 published by Springer ISBN 978-3-642-38861-3



Sl. No.	Name of Paper
	3. "Linking Customer Loyalty To Customer Satisfaction And Store Image: A Structural Model For Retail Stores", <i>Decision: Journal of IIM Calcutta</i> (ISSN: 0304-0941, published by Springer), Nov2013, Vol. 40 Issue 1/2, p15-25.
5.	Dr. S. Rajitha Kumar <ol style="list-style-type: none"> 1. Sindhu K. P. and Rajitha Kumar, A Study on Influence of Investment Specific Attitudes of Investors on Investment Decisions, <i>Indian Journal of Commerce and Management Studies</i>, Vol. IV, Issue 3, September 2013, pp. 47-51. 2. Sindhu K. P. and Rajitha Kumar, Influence of Characteristics and Mutual Funds on Investment Decisions – A study, <i>International Journal of Management (IJM)</i> Vol. IV, Issue 5, September-October 2013 pp 103-108 3. Siraj K. K., Sudarsanan Pillai P., and Rajitha Kumar S., The Moderating Role of Bank Performance Indicators on Credit Risk of Indian Public Sector Banks, <i>Research Journal of Finance and Accounting</i>, Vol. IV, No. 17, 2013, pp. 219-226.
	Dr. D. Mavoothu <ol style="list-style-type: none"> 1. Shyni V. K. and Mavoothu D. (2014), "Financial Inclusion – The Ways Towards Inclusive Growth", <i>International Journal of Advanced Research</i>, Volume 2, Issue 2, pp.649-655, ISSN 2320-5407(Online). URL: http://journalijar.com/current-issue/?mn=02&yr=2014&Ln=upload 2. Shyni V. K. and Mavoothu D. (2013), "A Comparative Analysis of Global Trends in Financial Inclusion", <i>International Journal of Financial Economics and Econometrics</i>, Vol.5, No.2, July-December 2013, pp.81-95, ISSN:0975-2064. 3. Shyni V. K. and Mavoothu D. (2013), "A Study on the Financial Inclusion of Below Poverty Line Households of Kozhikode District", <i>Trade Wind (Annual Journal of the P.G. Dept. of Commerce, Newman College)</i>, Vol.8. No.1, December 2013, pp.76-84. ISSN:2320-5393. 4. Sangeetha K. L., and Mavoothu D. (2013), "The Effect of Facebook Intensity and Connection Strategies on Online Bridging Social Capital", <i>Trade Wind (Annual Journal of the P.G. Dept. of Commerce, Newman College)</i>, Vol.8. No.1, December 2013, pp.39-47. ISSN:2320-5393.
	Dr. James Manalel <ol style="list-style-type: none"> 1. Dr. James Manalel and Simon Jacob (2013) The Dynamic Relation Between Organizational and Professional commitment of Professionals in Health Care Sector and its Influence on Service Quality". <i>International Journal of Consumer & Business analytics – IJC & BA</i>, Vol. 1, No.2 July – Dec. pp. 44 - 67



Sl. No.	Name of Paper
	<p>Dr. Jagathy Raj</p> <p>International Journals</p> <ol style="list-style-type: none"><li>1. Hari V. S., Jagathy Raj V. P. and Gopikakumari R., (2013), "Unsharp Masking using Quadratic Filter for the Enhancement of Fingerprints in Noisy Background Pattern Recognition", International Journal Pattern Recognition, Vol. 46, pp 3198–3207<li>2. Deepak Prabhakar P. and Jagathy Raj V. P., (2013), A New Model for Reliability Centered Maintenance in Petroleum Refineries, International Journal Of Scientific & Technology Research Volume 2, Issue 5, May 2013, pp 56-64.<li>3. Sini Varghese and Jagathy Raj V. P., (2013), "3D View", International Journal of Engineering Research and Technology(ISSN: 2278-0181), Vol.2, Issue 2<li>4. Indu R. and Jagathy Raj V. P, (2013)," Marketing Practices, Perceptions and Problems of Organic Producers in Kerala". ELK Asia Pacific Journal of Marketing and Retail Management, Vol. 4, No. 4, October, pp 353-363 (ISSN 0976-7185)<li>5. Syam S. and Jagathy Raj V. P.(2013), "Airworthiness – Monitoring of Modification on Aircraft Engines and Components", International Journal of Operations and Quantitative Management, Vol. 19, No.3, September, pp 201-219 (ISSN 1082-1910) <p>National Journals</p> <ol style="list-style-type: none"><li>1. Deepthi S., Archana G. S., and Jagathy Raj V. P., (2013), Facial Expression Recognition using Artificial Neural Networks, Journal of Computer Engineering (ISSN: 2278-0661, ISBN 2278-8727), Vol. 8, Issue 4 (Jan-Feb), pp 1-6<li>2. Deepak Prabhakar P. and Jagathy Raj V. P., (2013), "Accelerated Reliability Centred Maintenance: A new Maintenance Strategy", Indian Journal of Applied Research (ISSN 229-555X), Vol. 3, issue 12, December, pp 1-5<li>3. Soumya Vargheese and Jagathy Raj V. P.,(2013) "Focus on Biodiversity Conservation for Tourism Growth : The need of Present Era", DEECE School Journal on Organization and Management, Vol V, Issue 1, PP 61-73<li>4. Menon, Balakrishnan and Jagathy Raj V.P., (2013), "Confirmatory Factor Modeling on Emerging Consumer Purchase Behaviour of Passenger Cars", Indian Journal of Marketing, ISSN 0973-8703, Volume 43, No. 2, February (Double Blind Peer Reviewed Refereed Journal with IC value = 5.09)



Sl. No.	Name of Paper
	<p>International Conferences</p> <ol style="list-style-type: none"> 1. Anantha Narayanan S., Jagathy Raj V. P, Subash Subramoniam S. and M. G. Resmi, (2013), "Re-Engineering Towed Arrays for Quality Enhancement- Network Based Towed Array", Proceedings of International Symposium on Ocean Electronics(SYMPOL - 2013) Organized by Dept. of Electronics, CUSAT, on October 23-25 2. Ajithkumar K. and Jagathy Raj V. P., (2013), "Integrated Sonar for littoral warfare - needs study and analysis", Proceedings of ICSTM – Aug'2013 3. Syam S. and Jagathy Raj V. P., (2013), "Management of applicability of Aircraft maintenance tasks, Airworthiness Directives & Service Bulletins - Software centric approach.", Proceedings of International Conference on Management and Information Systems to be held on September 22-24, 2013. 4. Syam S. and Jagathy Raj V. P., (2013)," Aircraft Reliability Control Program Management – Software Centric Approach", Proceedings of International Conference on Management and Information Systems to be held on September 22-24, 2013. 5. Syam S. and Jagathy Raj V. P., (2013),"Airworthiness Monitoring of Aircraft - a Rule Based Approach to Task Management", Proceedings of International Conference on Technology and Business Management, held at American University in the Emirates, Dubai, UAE, March 18-20, pp 717-728 <p>National Conference</p> <ol style="list-style-type: none"> 1. Deepak P. P. and Jagathy Raj V. P., (2013), "Roadmap for a Maintenance Revolution", Proceedings of the National Conference on Management Blueprint conducted on 19th September at Karpagam University, Coimbatore. 2. Prasanth S. P. and Jagathy Raj V. P., (2013), "Total Productive Maintenance (TPM) – An introduction as a Change Management Technology", Proceedings of the National Conference on Management Blueprint conducted on 19th September, 2013 at Karpagam University
	<p>Dr. M. K. Muhammed Aslam</p> <ol style="list-style-type: none"> 1. Micro, Small and Medium Enterprises: The New Way to Development 2. Validation of Personal Finance Schedule with Reference to Cross Cultural Differences 3. Financial Preferences of Investment Decisions in Micro, Small and Medium Enterprises 4. Emotional Intelligence and Its Role in Service Orientation Behaviour: A Study of Banking Sector.



Sl. No.	Name of Paper
	<p>Dr. Manoj Edward</p> <ol style="list-style-type: none">1. 2014 Annual conference of emerging markets conference organized by IIM Lucknow, in New Delhi Noida, on 99-21 Jan 2014 (Co authored)2. International conference in tourism and hospitality organized by Pondicherry university, on 18-21 Feb 2014 (Co authored)
	<p>Research Scholars</p> <p>Raihanath M. P. (Full- time Research Scholar) under the guidance of Dr. K. B. Pavithran</p> <ol style="list-style-type: none">1. Paper title- 'How corporate build competitive advantages' – Journal- "International Journal of Economics, Commerce and Research (IJECR)" ISSN 2250-0006 Vol. 3, Issue 2, Jun 2013, 37-56 © TJPRC Pvt. Ltd.2. Paper title- 'Inclusive growth at the bottom of the pyramid through Financial Inclusion'- Rajagiri Management Journal- ISSN 0972-9968 Vol.7, Issue 2, December 2013. RCBS.3. Financial Inclusion through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)- National Conference on Value creation in Services- Issues and Challenges July 18th and 19th 2013-at FISAT, Cochin.4. Inclusive growth at the bottom of the pyramid through Financial Inclusion-UGC Sponsored National conference on Inclusive innovation and sustainable growth: The Millennium Challenges at Rajagiri Valley Campus, Kakkanad, Kochi, as on AUGUST 30TH and 31ST 2013.5. Impact of Financial Inclusion programmes- A study with special reference to Road map villages of Kannur District in Kerala- International Conference on Public Policy and Governance in the Era of Globalisation- Department of Economics, CUK, Kasaragod, as on 11th, 12th and 13th February 2014. <p>Smt. Suja Karthika under the Guidance of Dr. K. B. Pavithran</p> <ol style="list-style-type: none">1. A Plausibility Evaluation of the Average Long term Achievable ROI as an apposite concept for indicating Wealth Acceleration "Trends and Challenges in Global Business and Management" PLACITUM 2013 held on 2013 November 22-23 in The Department of Management Studies, Sree Narayana Gurukulam College of Engineering, Kadayiruppu, Kolenchery. Trends and Challenges in Global Business and Management, PLACITUM 2013 with ISBN No: 978-93-82338-840

**b. Books**

Sl. No.	Name of Book
	Chapters in Edited Books Dr. Sebastian Rupert Mampilly
1.	'Relationship among Student Academic Optimism, Student Engagement and Student Satisfaction' in Chatterjee, Debashis et al. (eds.) Let's Learn, 2014 Bloomsbury : pp 188-200 (Co-authored)
2	Dr. K. A. Zakkariya 1. Zakkariya K. A. and Manoj Edward (2014). Perspectives on Emerging International Business Order. Directorate of Public Relation and Publications, CUSAT (2014, March) 2. Manoj Edward and Zakkariya K. A. (2014). Marketing Dynamics in Emerging Markets. Directorate of Public Relation and Publications, CUSAT (2014, March)

12. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. S. Rajitha Kumar	1. National Seminar on Emerging Trends in Factory held on 23 rd and 24 th January, 2014, organized by PG Department of Commerce and Management Studies, NSS College, Nenmara, Palakkad. Resource Person on the topic International Factoring and Growth Prospects of Factoring in India. Inauguration and Certificate distribution at the closing ceremony.	Resource Person/ Participation
Dr. Sebastian Rupert Mampilly	1. Social Science Research Methodology Workshop 2013, Centre for Public Policy Research, Cochin, May 23-25, 2013 2. AICTE sponsored National Seminar on Research Methodology and Statistical Analysis: New Trends, Rajagiri Centre for business Studies, Kakkanad, Cochin, July 16-18, 2013. 3. ICSSR Sponsored Workshop on Social Research Methods, Loyola College of Social Sciences, Sreekaryam, Thiruvananthapuram, Nov. 18-27, 2013.	Resource Person



Name of Participant	Name of Seminar/Conference/Workshop	Role
	<p>4. Syam S. and Jagathy Raj V. P., (2013), "Aircraft Reliability Control Program Management – Software Centric Approach", Proceedings of International Conference on Management and Information Systems to be held on September 22-24, 2013.</p> <p>5. Syam S. and Jagathy Raj V. P., (2013), "Airworthiness Monitoring of Aircraft - a Rule Based Approach to Task Management", Proceedings of International Conference on Technology and Business Management, held at American University in the Emirates, Dubai, UAE, March 18-20, pp 717-728</p> <p>National Conference</p> <p>1. Deepak P. P. and Jagathy Raj V. P., (2013), "Roadmap for a Maintenance Revolution", Proceedings of the National Conference on Management Blueprint conducted on 19th September at Karpagam University, Coimbatore.</p> <p>Prasanth S. P. and Jagathy Raj V. P., (2013), "Total Productive Maintenance(TPM) – An introduction as a Change Management Technology", Proceedings of the National Conference on Management Blueprint conducted on 19th September, 2013 at Karpagam University</p>	Paper Presentation and participation
Research Scholars		
Shobha Menon	International Conference In Tourism & Hospitality Theory, Practice and Pitfallsco hosted by Birmingham Univ. UK,Pondicherry Univ. & IITM on Feb.18 to 21,2014	Presented Paper on' Collaborative Destination Marketing - a case study of Kerala Travel mart'
	4th International Symposium in Service Management imperatives hosted by Marian International Institute of Management Kuttikanam in June 2013	Presented Paper on' An Exploratory Study on Exhibitors and Visitors' Motivations at a trade show



Name of Participant	Name of Seminar/Conference/Workshop	Role
Praveena K.	Doctoral Consortium - IFIP WG 8.6 Conference Bangalore (India), June 27-29, 2013	Participant
	International Conference on Cyber Crimes and Law: 2013, SMS, CUSAT, August 17, 2013	Participant
	International conference on Trends and Challenges in Global Business and Management, SNGCE, Nov 22-23, 2014	Paper presenter
	Workshop on Research Reporting and Reference Management tools, CUSAT, March 19, 2014	Participant
Sangeetha K. L.	National Conference on "Value Creation in Services: Issues and Challenges" 18th and 19th July, 2013 at FISAT Business School.	Paper Presenter
	International Conference on Cyber Crimes and Law: 2013, SMS, CUSAT, August 17, 2013	Participant
	National Conference on Excellence in Human Resource Practices, 26th August 2013 at Bharata Mata Institute of Management.	Paper Presenter
	International Conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering.	Paper Presenter
	International Seminar on Research Impact, Publishing & Profiling, 3rd January, 2014 at CUSAT	Participant
	Workshop on Research Reporting and Reference management Tools, 19th March, 2014 at CUSAT	Participant
Veeva Mathew	Doctoral Students Mentoring Programme (DSMP) Indian Institute of Management, Ahmedabad (India), December 12-13, 2013 organised by Indian Academy of Management (IAM)	Presenter
Shyni V. K.	International conference on Global Vision 2020, Organized by EAST, Palayamkottai, Tirunelveli, Tamil Nadu, 3rd and 4th May 2013	Presenter
	ICSSR Sponsored National conference on "Millennium Development Goals"(MDG)-Challenges and Futures, VELS university, Chennai, 13th and 14th March 2014	Presenter



Name of Participant	Name of Seminar/Conference/Workshop	Role
	One day seminar on companies Act 2013, Information technology and Taxation.24th October 2013, School of Management Studies, CUSAT, Kochi	Participant
	International seminar on Research Impact, Publishing and Profiling, 3rd January 2014, School of Marine Sciences, University Library and Kerala Library Association	Participant
	Workshop on research Reporting and Reference Management Tools, 19th March 2014, University Library, CUSAT, Kochi	Participant
Nishanth P.	National conference on " Value creation in services : Issues and challenges", 18th and 19th July, 2013 at FISAT Business School	Presenter
	International conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering, Kolenchery	Presenter
	UGC Sponsored National seminar on " Financial Inclusion and Rural Development : Challenges and Opportunities", 4th and 5th February, 2014 at Deva Matha College, Kuravilangad	Presenter
	International conference on " India's External Sector : Challenges and strategies", 5th and 6th February, 2014 at Kochi Business School	Participant
	Workshop on " Research Reporting and Reference Management Tool", 19th March, 2014 at Central Library, CUSAT	Participant
Geetha Jose	International Conference on Cyber Crimes and Law: 2013, SMS, CUSAT, August 17, 2013	Participant
	National Conference on Excellence in Human Resource Practices, 26th August 2013 at Bharata Mata Institute of Management.	Presenter
	International Conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering.	Presenter
	IIM K HR SUMMIT organized by Indian Institute of Management Kozhikode on 14-16th March 2014 at IIM K Kochi campus.	Presenter



Name of Participant	Name of Seminar/Conference/Workshop	Role
	Workshop on Research Reporting and Reference management Tools, 19th March, 2014 at CUSAT	Participant
Saleena M.	National Conference on" Excellence in Human Resource Practices", 26th August 2013 at Bharata Mata Institute of Management, Trikkakara, Kochi	Presenter
	One day seminar on companies Act 2013, Information technology and Taxation.24th October 2013, School of Management Studies, CUSAT	Participant
	International Conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering, Kolenchery	Presenter
	International Seminar on Research Impact, Publishing & Profiling, 3rd January, 2014 at CUSAT	Participant
	International Conference on "India External Sector: Challenges and Strategies"5th and 6th February 2014 at Kochi Business School	Participant
	Workshop on Research Reporting and Reference Management Tools, 19th March, 2014 at CUSAT	Participant
Suja Karthika	International Conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering.	Presenter
	Workshop on Research Reporting and Reference Management Tools, 19th March 2014, University Library, CUSAT, Kochi	Participant
Neenu Wilson	National Conference on Value Creation in Services: Issues and Challenges on July 18 & 19, 2013 at FISAT Business School	Presenter
	National Conference on Excellence in Human Resource Practices, 26th August 2013 at Bharata Mata Institute of Management.	Presenter
	International Conference on Cyber Crimes and Law: 2013, SMS, CUSAT, August 17, 2013	Participant
	IIM K HR SUMMIT organized by Indian Institute of Management Kozhikode on 14-16th March 2014 at IIM K Kochi campus.	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
	Workshop on Research Reporting and Reference Management Tools, 19th March 2014, University Library, CUSAT, Kochi	Participant
Tessla Arakal	International Conference on "Trends and Challenges in Global Business Management", 22nd and 23rd November, 2013 at Sree Narayana Gurukulam College of Engineering.	Paper presenter
Chandra Vadhana R.	Faculty Development Programme on "Structured Equation Modeling" Organised by IIM Kozhikode during August 9-10 2013	Participant
	Nypunyam Summit- International workshop on global skills, organised by Kerala Academy for Skills Excellence, Govt of Kerala at Trivandrum on Jan 20, 21st 2014	Participant and speaker
	One day Management Workshop on "Value Innovation" for Women Entrepreneuers, conducted by IIMK, Kochi Campus on March 6th, 2014	Special Invitee participant
Thasleena K. P.	International Conference on Global Vision 2020 organised by EAST, Tamilnadu, 3rd & 4th May	Presenter
	One day seminar on Companies Act 2013 Information Technology & Taxation, 24th October 2013, SMS CUSAT	Participant
	National Seminar on Rupee Depreciation Causes & Consequences Organised by MES AIMAT, 28th september 2013	Participant
	Workshop on Research Reporting and Reference Management Tool, University Library, CUSAT, 19th March 2013	
Joemon Pappachan	Workshop on Research Reporting and Reference management Tools, 19th March, 2014 at CUSAT	Participant
	Two day programme on Structural Equation Modeling (SEM) at IIM(K) during August 2013	Participant
Raihanath M. P.	Financial Inclusion through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)-National Conference on Value creation in Services- Issues and Challenges July 18th and 19th 2013-at FISAT, Cochin.	Paper Presenter



Name of Participant	Name of Seminar/Conference/Workshop	Role
	Inclusive growth at the bottom of the pyramid through Financial Inclusion-UGC Sponsored National conference on Inclusive innovation and sustainable growth: The Millennium Challenges at Rajagiri Valley Campus, Kakkanad, Kochi, as on August 30th and 31st 2013.	Paper Presenter
	Impact of Financial Inclusion programmes- A study with special reference to Road map Villages of Kannur District in Kerala- International Conference on Public Policy and Governance in the Era of Globalisation-Department of Economics, CUK, Kasaragod, as on 11th, 12th and 13th February 2014	Paper Presenter
	International conference on "India- External Sector Challenges and Strategies" at KBS Cochin 5th and 6th February 2014	Participant
	One day Seminar on Companies Act 2013 as on 24th October 2013 at SMS, CUSAT	Participant
	Work shop on Research Reporting and Reference Management Tools, Central Library, CUSAT as on 19th March 2014	Participant

13. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. Sebastian Rupert Mampilly	Outstanding Paper award at the Emerald Literati Network Awards for Excellence 2013.	Emerald Group Publishing Ltd.
Famina A. S.	ICSSR Fellowship	ICSSR
Manu Melwin Joy	Junior Research Fellowship	University
Praveena K.	Junior Research Fellowship	University
Nishanth P.	Junior Research Fellowship	UGC
Ameer P. A.	Junior Research Fellowship	UGC
Shyni V. K.	Senior Research Fellowship	UGC
Shameer Salim	Junior Research Fellowship	UGC
Sangeetha K. L.	Junior Research Fellowship	UGC
Paul V. Mathew	Junior Research Fellowship	University
Neenu Wilson	Junior Research Fellowship	UGC
Geetha Jose	Junior Research Fellowship	University
Saleena M.	Junior Research Fellowship	UGC
Shiji Mohan N.	Junior Research Fellowship	UGC



Razeena Rasheed	Junior Research Fellowship	University
George V. Antony	Post Doctoral Fellowship	University
Rama L.	Junior Research Fellowship	University
Jitha G. Nair	Junior Research Fellowship	UGC
Dhanya Babu.V.	Senior Research Fellowship	University
Suja Karthika	Junior Research Fellowship	University
Thasleena K. P.	Junior Research Fellowship	UGC

14. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1.	Village Tourism and Development of Women in Kerala	ICSSR, New Delhi,	Rs. 599,850/-	Dr. Moli P. Koshy
2.	From Earning for Mobility to Learning for Mobility: An Inquiry into the Dynamics in the Educational Exclusion of Muslims in Kerala	UGC	2,92,000/-	Dr. Zakkariya K. A.

15. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Seminar on Industry Institute-Interaction	1 day	Dr. M. Bhasi	CUSAT
2	International Conference on Cyber Crimes and Law	1 day	Dr. M. Bhasi	CUSAT
3	Companies Bill 2013, Information Technology and Taxation	1 day	Dr. K. A. Zakkariya & Dr. Manoj Edward	SICASA
4	Youth Empowerment Strategies for Entrepreneurship Development.	1 day	Dr. P. R. Wilson	Jointly organized by KFC and SMS

16. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	Study of scope of re-starting of ferry service and facilities to passengers	Dr. P. R. Wilson	Kerala State Inland Navigation Corporation Ltd.
2	Study on Branded Drugs Purchase and Distribution	Dr. V. P. Jagathiraj	KMSCL, Govt. of Kerala, Thiruvananthapuram.
3.	Consultancy work for KBPS	Dr. M. Bhasi	KBPS





KUNJALI MARAKKAR SCHOOL OF MARINE ENGINEERING

1. Brief History of the Department :

Marine Engineering Division was started under the School of Engineering of Cochin University in September 2003.

It was upgraded to an independent Department called Kunjali Marakkar School of Marine Engineering in July 2007. The school got ISO-9001:2000 Certificate in March, 2007 and shifted to the new Marine Engineering complex on 7th July, 2007.

The official inauguration of the building complex was conducted by the Hon. Chief Minister of Kerala Sri. V. S. Achuthanandan, on 28th November 2007.

Benchmarking of the School by Grading Organization 'CARE' was done on 05th March, 2012 and graded as CARE Grade I. "OUTSTANDING"

All passed students of I, II, III, IV & V batches successfully placed on board ships of various Shipping Companies 70% passed students of VIth batch (2009) placed on ships of various Shipping Companies

Approval from DGS was obtained for all faculty members and the Control System Lab work completed.

On-board Training in 'Ship-in-Campus' commenced.

Permanent approval for B.Tech. Course in Marine Engineering granted by D.G. Shipping along with increase of intake of students from 30 to 40 per year from 2010-11 onwards.

Ship-in-Campus was certified by D.G. Shipping for Afloat Training.

Annual intake increased from 40 to 80 students from 2012-13 onwards after obtaining approval from AICTE & DGS

M.Tech Programme in Marine Engineering will be commencing from 2014-15 onwards with an initial intake of 20 students per year.

2. Programmes of Study/Research:

1. Pre-sea Engineering – 4 year B.Tech in Marine Engineering.
2. Engine Room Simulator course of Operational and Management levels commenced for MEO Class IV and MEO class II candidates respectively.



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Prof. (Dr.) K. A. Simon	Director	B.Sc (Engg.),MBA; MS (Sweden),Extra First Class Marine Engineer.	Safe Watch Keeping Marpol
2	Prof. (Dr.) P. V. Sasikumar	Professor	B.Sc (Engg),L.L.B, M.L,M.Phil, Ph.D M.E.O. Class I (M)	Refrigeration Marine Machinery Design
3	Prof. N. G. Nair	Course-in-Charge	B.Sc (Engg.), M.E.O. Class I (M)	Marine Auxiliary Machinery, Gas turbines
4	Mr. R. Venugopal	Marine Engineering	B.Tech, MBA, M.E.O. Class I (M)	Marine Control Engineering & Automation
5	Mr. Roy V. Paul	Reader	M.Tech	Thermodynamics Machine Drawing
6	Mrs. Nisha Rani G. S.	Lecturer	B.Tech	Marine Electrical Technology, Marine Electronics
7	Mr. K. Vidyadharan	Lecturer	M.Tech.	Mechanical Engineering and Ocean Engineering
8	Mr. John T.	Lecturer	B.Tech	Mechanical Engineering
9	Mrs. Chinchu Grace Luckose	Lecturer	B.Tech	Electronics and Communications

4. Visiting Faculty (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1	Mr. Raman Menon	Guest Faculty	MSc. Chemistry	Chemistry
2	Mrs. Betsy Kurian	Guest Faculty	M.A. Economics	Economics & Commercial Geology
3	Prof. A. N. Sukesan	Guest Faculty	MSc. Physics	Physics
4	Mr. S. Krishnankutty	Guest Faculty	B.Sc, (Engg.)	M.O.T Ist class (Motor) & M.O.T Ist class (Steam)



Sl. No.	Name	Designation	Qualification	Specialization
5	Mrs. Serene	Guest Faculty	MSc.Mathematics	Mathematics
6	Neethu Thomas	Guest Faculty	M.Tech	Electricals
7	Radha Lakshmi S. A.	Guest Faculty	M.A, BEd	Technical Communication in English
8	Chinju Varghese	Guest Faculty	M.Tech,	Electronics and Instrumentation
9	Mrs. Shalini Sanil	Guest Faculty	B.Tech.	Computer Science
10	Mr. K. Neelambaran	Guest Faculty	BSc (Engg.);M.E.O.	ClassI Marine Engineering
11	Capt. Vinod Kumar	Guest Faculty	Master Mariner	Navigation
12	Mr. P. M. Sukumaran	Guest Faculty	B.Tech B.Sc (Engg.)	Naval Architecture
13	Mr. C. Reghunadhan Chettiar	Guest Faculty	BSc	Engineering
14	Mrs. Sonia Jijo	Guest Faculty	MSc	Maths
15	Mrs. Geethanjali C. D.	Guest Faculty	M A, M.Phil	English
16	Capt. Renjith	Guest Faculty	Master Mariner	Navigation

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Asst. Librarian	1
3	Assistant	3
4	Typist	2
5	Peon	2
6	Gardener	2

6. Students Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech Marine Engineering	73	1	74



7. Research Facilities

a. Laboratories

1. Mechanical Lab (Kinematic lab)
2. Instrumentation & Control Lab
3. Engine Simulator Lab
4. Ship-in-Campus
5. Machine overhauling Lab
6. Cut section Models Lab

Major equipments available

1. Morris single Girder ,EOT Crane.
2. Incinerator
3. Steam Turbine
4. Marine Auxiliary Water Tube, Boiler
5. Fresh Water Generator
6. Stearing Gear
7. Cargo Oil Pump
8. Refrigerator
9. Life boat (46 Persons) with complete kit. - 1 set
10. PLC Scada Training kit-
11. Hydraulic Circuit
12. Gas Turbine Model
13. Diesel Engine Model
14. Petrol Engine Model
15. Full Mission Engine Room Simulator
16. APL UPS for Engine Room Simulator

b. Library

No. of books and journals as on 31st march of the previous year	Additions during the current year
5083	Nil

8. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Shri. K. Babu	Hon. Minister for Fisheries, Ports and Excise, Govt of Kerala	Nil
2	Shri. L. B. Culas	Director, M/s Transworld Group of Companies, Dubai	Nil

**9. Participation in Seminar/Conference/Refresher Course etc by Faculty/Students**

Sl. No.	Name of Participant	Name of Seminar/Conference/Workshop	Role
1	Prof. (Dr.) K. A. Simon	<ol style="list-style-type: none">1. Technical paper attended on MLC-2006 at KMSME on 07.05.20132. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.20133. Technical paper on " Illegal Immigrants /stowys-Procedure and Security Concerns" at theone Daynational seminar conducted by M/s Eurotech Maritime Academy at Hotel Rennai, Cochin on 30.05.2013	
2	Prof. (Dr.) P. V. Sasikumar	<ol style="list-style-type: none">1. Technical paper presented on MLC-2006 at KMSME on 07.05.20132. Published a technical paper on "MLC-2006-Its impact and importance to shipping Industry", in the technical journal "Voyage" of Maritime Big T V.3. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.20134. Presented Technical paper on IT for Humanity at the International Seminar conducted by Aries Marine Camp on 06.04.20135. Presented Technical paper on "Illegal Immigrants / stowys-Procedure and Security Concerns" at theone daynational seminar conducted by M/s Eurotech Maritime Academy at Hotel Rennai, Cochin on 30.05.20136. Presented Technical talk on "Seafarers day" on 25.06.2013,Conducted by Kerala Merchant Navy officers Association at YMCA hall,Cochin.	
3	Prof. N. G. Nair	<ol style="list-style-type: none">1. Technical paper attended on MLC-2006 at KMSME on 07.05.20132. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.2013	



4	Shri. Roy V. Paul	1. Technical paper attended on MLC-2006 at KMSME on 07.05.2013 2. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.2013	
5	Shri. K. Vidyadharan	1. Technical paper attended on MLC-2006 at KMSME on 07.05.2013 2. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.2013	
6	Shri. John T.	1. Technical paper attended on MLC-2006 at KMSME on 07.05.2013 2. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.2013	
7	Mrs. Chinchu Grace Lukose	1. Technical paper attended on MLC-2006 at KMSME on 07.05.2013 2. Technical paper on "Maritime Training and Sustainable Developments-Training Institutes Perspective "in connection with the World Maritime Day, at KMSME, on 27.09.2013	

10. Seminar/Conference/Workshop/Refresher Courses Conducted by the Department

Title of the Seminar/	Event Date	National/ International	Funding Agency	Co-ordinator
Technical paper presented on MLC-2006 at KMSME	07.05.2013	National	University	Dr. P. V. Sasikumar

11. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Enquiry into Design and Construction of two tugs of Cochin Port Trust	Dr. K. A. Simon	Cochin Port Trust





INTERNATIONAL SCHOOL OF PHOTONICS

1. Brief History of the Department :

The International School of Photonics (ISP) at Cochin University of Science & Technology was inaugurated on the National Science Day, February 28th 1995. The nucleus of the ISP was formed by delinking the Laser laboratories along with faculty members of the Laser group from the Department of Physics of CUSAT. ISP has been carrying out pioneering work by way of Research and Development in Lasers and their applications as well as in Fiber Optical Technology. ISP offers a Four Semester M.Tech degree course in Optoelectronics and Laser Technology and Ph.D programme in all branches of Photonics/Optoelectronics. Research and Development work in frontline areas are being pursued and these include topics like laser induced plasmas, photo thermal and photo acoustic phenomena, nonlinear optics, nonlinear dynamics, photonic materials, laser material processing and fibre optic sensors as well as some defense related applications of lasers. Most of the research projects are being funded by the national funding agencies like Department of Science and Technology (Govt. of India as well as Govt. of Kerala) UGC, AICTE, DRDO, KSCSTE etc. ISP had an International collaboration with the Technical University of Eindhoven (TU/e) under the MHO programme funded by the Netherlands Organization for International co-operation in higher education during 1999-2004. A sub Pico second laser facility is now available in the laboratory under the CELOS programme which is being used as a national facility. Presently CELOS is attached to International School of Photonics.

2. Programmes of Study/Research

- 1 M.Tech (Opto-electronics and Laser Technology)
- 2 Ph.D (Photonics and related areas)
- 3 M.Sc (Photonics) - 5 year integrated

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. P. Radhakrishnan	Professor and Director	M.Sc, Ph.D	Laser Technology, Fiber Optics
2.	Dr. M. Kailasnath	Assistant Professor	M.Sc, M.Phil, M.Tech, Ph D	Polymer optical fibres & Laser Technology
3.	Dr. Sheenu Thomas	Assistant Professor	M Sc, Ph.D,	Experimental Solid State Physics



Sl. No.	Name	Designation	Qualification	Specialization
4.	Ms. Priyamvada P. C.	Lecturer on Contract basis	M Sc, M Tech	Fibre Optics
5.	Ms. Sreekumari P.	Lecturer on Contract basis	M.Sc , M.Phil	Physics
6.	Dr. Sithara Pavithran	Lecturer on Contract basis	M.Sc, Ph.D, B.Ed.	Liquid Crystal
7.	Dr. Nisha M. R.	Lecturer on Contract basis	M.Sc Ph.D	Physical Science
8.	Dr. Sreelekha G.	Lecturer on Contract basis	M.Sc , Ph.D,	Conjugated Polymers
9.	Ms. Nilam Phand	Lecturer on Contract basis	M.Tech	Opto Electronics & Laser Technology
10.	Ms. Ramina P.	Lecturer on Contract basis	M.Tech	Opto Electronics & Optical Communication
11.	Ms. Sarika C. S.	Lecturer on Contract basis	M.Tech	Opto Electronics & Laser Technology
12.	Mr. Aju John K. K.	Lecturer on Contract basis	M.Sc, M.Tech	Electronics

4. Emeritus Professor/Scientist

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr.C. P. Girijavallabhan	Emeritus Professor	M.Sc, Ph.D	Opto-electronics and Laser Spectroscopy
2.	Dr V. P. N. Nampoori	Emeritus Professor	M.Sc, Ph.D	Laser Spectroscopy, Non-linear Optics

5. Research/Project Staff

Sl. No.	Name	Designation	Qualification	Specialization
1.	Resmi T. R.	Project Assistant	M.Tech	Opto-electronics
2.	Anand V. R.	Project Assistant	M.Sc	Electronics



6. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
a. Full time Research Scholars				
1.	Suneetha Sebastian	UGC	Dr. M. Kailasnath	Fibre Optics
2.	Bini P. Pathrose	UGC	Dr. A. Mujeeb	Biophotonics
3.	Anju K. Augustine		Dr. M. Kailasnath	Non linear Optics
4.	Mathew S.	DST-PURSE	Dr. C. P. Girijavallabhan	Nanophotonics
5.	Bejoy Varghese	-	Dr. V. P. N. Nampoori	Non linear Dynamics
6.	Indu Sebastian	UGC	Dr. Sheenu Thomas	Chalcagenide glasses
7.	Aparna Thankappan	Nano Centre Project	Dr. V. P. N. Nampoori	NanoPhotonics
8.	Ratheesh R.	Uty.	Dr. A. Mujeeb	Speckle interferometry
9.	Divya S.	DST-INSPIRE	Dr. A. Mujeeb	Nanophotonics
10.	Bobby Mathews	UGC	Dr. P. Radhakrishnan	FO bio sensors
11.	Pradeep Chandran	Project	Dr. V. P. N. Nampoori	Bio Photonics
12.	Linslal C. L.	UGC	Dr. M. Kailasnath	Polymer fibre optics
13.	Jaison Peter	UGC	Dr. M. Kailasnath	Fibre Optics
14.	Nideep T. K.	Egrantz	Dr. M.Kailasnath	Non linear Optics
15.	Roopa Venkataraj	KSCSTE	Dr. M.Kailasnath	Fibre Optics Sensors
16.	Ajina C.	-	Dr. Sheenu Thomas	Chalcagenide glasses
17.	Boni Samuel	-	Dr. A. Mujeeb	
b. Part-time Research Scholars				
1.	Linesh J		Dr. V. P. N. Nampoori	Fiber Optics Sensors
2.	Libish T. M.	FIP	Dr. P. Radhakrishnan	Optical Signals & Image Processing
3.	Sreeja S.		Dr. P. Radhakrishnan	Laser matter interactions



Sl. No.	Name	Funding Agency	Guide	Area of Work
4.	K. J. Thomas		Dr. P. Radhakrishnan	Fabrication & characterisation of polymer fiber based devices
5.	Rejeena I.		Dr. P. Radhakrishnan	Laser matter interactions
6.	Manju Joseph		Dr. M. Kailasnath	
7.	Musfir P. N.		Dr. Sheenu Thomas	Chalcogenide glasses
8.	Sabitha P. V.		Dr V. P. N. Nampoori	Nanophotonics
9.	Misha Hari		Dr. P. Radhakrishnan	Photonic Materials

7. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Assistant	2
3.	Typist /Steno	1
4.	Office Attendant	1
5.	Sweeper cum Cleaner	1

8. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Store keeper Gr.III	1
2.	Instrument Technician	1
3.	Technical Assistant	1
4.	Sweeper cum Cleaner	1

9. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1.	M.Tech (OE & LT)	7	4	11
2.	M.Sc	11	9	20
3.	Ph.D	2	1	3

**10. Research Facilities:****a. Laboratories**

1. Laser lab
2. Fiber lab
3. Chemical lab
4. Computer lab
5. Electronics lab
6. Optics lab
7. Opto-Electronics lab

b. Major facilities available are:

- 12 W Argon ion Laser (Spectra Physics 171)
- Argon ion laser(Liconix 5000)
- Pulsed Nd:YAG lasers (Quanta Ray DCR – 11 and Quanta Ray GCR – 170)
- Optical Parametric Oscillator (Spectra Physics MOPO – 700)
- Ring Dye Laser (Spectra Physics 380)
- Pulsed Dye Laser (Quanta Ray PDL 2)
- Diode Pumped Solid State Lasers
- Low temperature solution growth unit
- UV–VIS–NIR Spectrophotometer (Jasco V-750)
- Optical time domain reflectometer (Anritsu MW 920 A)
- Photon counting system (Stanford research systems SR 400).
- High resolution CCD camera and accessories (Panasonic KR222).
- Boxcar Averager System.
- Fiber Drawing System
- High Vacuum Systems and accessories
- Optical Spectrum Analyser
- Optical Multi-channel Analyser
- Quadrant Detector
- Lock-in Amplifiers, Digital storage oscilloscopes
- Femtosecond Laser system (80 fs -100fs, 80 MHz, Spectra Physics, TSUNAMI)
- Splitfire Pro Ultrafast Ti:Sapphire Amplifier (2 mJ, 1 KHz)
- 100 ns, 1KHz, 30 W, 527 nm Q-switched DPSS(EMPOWER, Spectra Physics)
- 5W,532 nm DPSS (MILLENIUM, Spectra Physics)
- Fluorescence Spectrophotometer (CARY Eclipse, VARIAN)
- Fiber Optical Fusion Splicer (FUJIGAWA, JAPAN)
- High Resolution Fiber Optic Spectrometer (HR 4000 Ocean Optics)
- Optical Spectrum Analyzer (AQ 6319 YOKOGAWA)
- Broad band white light source (AQ 4305 YOKOGAWA)
- 1J, 8 ns, 10 Hz, Nd:YAG laser (quanta Ray, Spectra Physics)



- Tunable Semi Conductor laser (Sacher Lasertechnik Marburg)
- 1 GHz Digital Phosphor Oscilloscope (Techtronix)
- 15 W CO₂ laser
- Research Centrifuge
- SPIN 150 (Spin coater unit)
- Vacuum Oven (KEMI)
- Ceramic Tape Casting Machine

c. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
3486	117

d. Others : Subscribing to 7 Indian Journals published by Indian Academy of Science

11. Distinguished Visitors/Special seminars

Sl. No.	Name	Affiliation	Remarks
1	Dr. Robert Czaplicki	Indo-Finnish project	delivered a lecture on second order nonlinearity from Silicon Nitride thin films.
2.	Dr. Nakkeran Kaliyaperumal	University of Aberdeen	delivered a lecture on pulse propagation in optical fibers
3.	Prof. Prahlad Vadakkepat	UKIERI project	present an interesting talk on Robotics and to introduce frugal innovations to ISPIans
4.	Dr. Radhakrishnan Prabhu	Robert Gordon University in Aberdeen	presented a series of talks on optical communications

12. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Photonics based applications of substituted polyphenylenevinylene in solutions and free standing films.	Dr. Sreelekha G.	Prof. C. P. Girijavallabhan
2	Synthesis and characterization of Telluriumoxideglasses forphotonics applications	Dr. Roseleena Thomas	Dr. Sheenu Thomas

**13. Publications****a. Papers**

Sl. No.	Name of Paper
1.	Fabrication and photostability of rhodamine-6G gold nanoparticle doped polymer optical fiber, Suneetha S., Ajina C., Vallabhan C. P. G., Nampoori V. P. N., Radhakrishnan P., Kailasnath M., Chin. Phys. Lett., 30(11), 118101 (2013)
2.	Microring lasing from a dye-doped polymer-coated silica fiber, Jaison P., Vallabhan C. P. G., Radhakrishnan P., Nampoori V. P. N. and Kailasnath M., Laser Phys., 23, 115104, (2013)
3.	Study of regulation of anthocyanin production from confederate rose by spectroscopic method and their non linearoptical characterization, Ani A. J., Pranam P., Aparna T., Sheenu T., Nampoori V. P. N., I.J.S.N., 4(2), 294-298, (2013)
4.	A study on tuning of the face orientation of ZnO nano/micro crystals by a wet chemical method, Aparna T., Sheenu Thomas , Nampoori V. P. N., Chin. Opt. Lett., [in press]
5.	Pumping scheme dependent multimode laser emission from free-standing cylindrical microcavity, Jaison P., Rasool S., Ananthu S., Radhakrishnan P., Nampoori V P N, Girijavallabhan C P, Kailasnath M, Opt. Commun., 320, 125, (2014)
6.	Dynamics of tightly focused femtosecond laser pulses in water, S. Sreeja, ChLeela, Rakesh K. V., Suman B., Shuvan P. T., Radhakrishnan P., Surya P. T., Venugopal R. S., Prem P. K., Laser Phys., 23, 106002, (2013)
7.	Laser emission from the whispering gallery modes of a graded index fiber, Linslal C. L., Mathew S., Radhakrishnan P., Nampoori V. P. N., Vallabhan C. P. G, Kailasnath M., Opt. Lett., 38(17), 3261-63, (2013)
8.	Concentration tuned bandgap and corresponding nonlinear refractive index dispersion in Ga-Ge-Se nanocolloids, Indu S., Mathew S., Nampoori V. P. N., Radhakrishnan P., Sheenu T., J. Appl. Phys., 114, 053102, (2013)
9.	Studies of nonlinear optical properties of PicoGreen dye using Z-scan technique, Pradeep C., Mathew S., Nithyaja B., Radhakrishnan P., Nampoori V. P. N., Appl. Phys. A, [in press]
10.	Effect of marine derived deoxyribonucleic acid on nonlinear optical properties of PicoGreendye, Pradeep C., Mathew S., Nithyaja B., Radhakrishnan P., Nampoori V. P. N., Appl. Phys. B, 111(4), 611-615, (2013)
11.	Detection of adulteration in virgin olive oil using a fiber optic long period grating based sensor, Libish T. M., Bobby M. C., Linesh J., Mathew S., Pradeep C., Nampoori V. P. N., Biswas P., Bandyopadhyay S., Dasgupta S., Radhakrishnan P., Laser Phys., 23(4), 045112-045116, (2013)



Sl. No.	Name of Paper
12.	Optical spectroscopy and visible fluorescence of TeO ₂ - ZnO glasses, Rose L. T., Rejimole P. R., Nampoori V. P. N., Radhakrishnan P., Sheenu T., Optics and Photonics Journal, [in press]
13.	Solvent effect on the third order optical nonlinearity and optical limiting ability of betanin natural dye extracted from red beet root, Aparna T., Sheenu T., Nampoori V. P. N., Opt. Mater., [in press]
14.	Two photon fluorescence spectra from MEH-PPV/Polystyrene based film waveguides, Sreelekha G., Vidya G., Ebin M. S., Geetha K., Sreeja S., Rani J., Pratapan S., Radhakrishnan P., Vallabhan C. P. G., Nampoori V. P. N., J. Opt., 42(2), 101-105, (2013)
15.	Measurement of thermal diffusivity of MEH-PPV in different organic solvents using laser induced thermal lens technique, Sreelekha G., Vidya G., Radhakrishnan P., Vallabhan C. P. G., Nampoori V. P. N., Optik., 124(17), 31383141, (2013)
16.	Thermal diffusivity of nanofluids composed of rod-shaped silver nanoparticles, Misha H., Santhi A. J., Mathew S., Nithyaja B., Nampoori V. P. N., Radhakrishnan P., Int. J. Therm. Sci., 64, 188-194, (2013)
17.	The effect of annealing and temperature on transmission spectra of long period gratings written in hydrogen loaded standard single mode fiber, Libish T. M., Bobby M. C., Linesh J., Mathew S., Biswas P., Bandyopadhyay S., Dasgupta K., Radhakrishnan P., Optik., 124(20), 4345, (2013)
18.	A biosensor for the detection and estimation of cholesterol levels based on long period gratings, Bobby M. C., Libish T. M., Linesh J., Biswas P., Bandyopadhyay S., Dasgupta K., Radhakrishnan P., Sensors & Transducers Journal, 149(2), 83-88, (2013)
19.	Optical characterization of ZnO nanoplates embedded in polymeric matrices for optical limiting applications, Aparna T., Divya S., Sheenu T., Nampoori V. P. N., Opt. Laser Technol., 52, 37-42, (2013).
20.	Erratum to synthesis of monocrySTALLINE zinc oxide microrods by wet chemical method for light confinement applications, Aparna T., Misha H., Mathew S., Santhi A. J., Rolf E., Debajeet B., Artur B., Nampoori V. P. N., Physica E., 47 [Note(s): p. 46], (2013).
21.	Non resonant excitonic effects on the third order nonlinear properties of TiO ₂ : From amorphous to rutile phase, Divya S., Indu S., Nampoori V. P. N., Radhakrishnan P., Mujeeb A., Opt. Laser Technol., 56, 207-210, (2014)
22.	Multimode laser emission from dye doped hollow polymer optical fiber, Linslal C. L., Jaison P., Mathew S., Kailasnath M., Pramana, [in press]



Sl. No.	Name of Paper
23.	Evaluation of nonlinear optical parameters of TiN/PVA nanocomposite– A comparison between semi empirical relation and Z-Scan results, Divya S., Nampoori V. P. N., Radhakrishnan P., Mujeeb A., Current Applied Physics, 14(1), 93–98, (2014)
24.	Laser induced fluorescence in europium doped zinc tellurite glasses, Rose L. T., Nampoori V. .P N., Radhakrishnan P., Sheenu T., Optik., 124(22), 5840-5842, (2013)
25.	Optical studies on sol-gel derived lead chloride crystals, Rejeena I., Lillibai B., Nithyaja B., Nampoori V. P. N., Radhakrishnan P., Journal of Engineering, Computers & Applied Sciences,2(4), 5-9, (2013)
26.	Optical nonlinear studies on sol-gel derived lead chloride crystals using Z-scan technique, Rejeena I., Lillibai B., Roseleena T., Nithyaja B., Nampoori V. P. N., Radhakrishnan P, Opt. Commun., [in press]
27.	Multimode laser emission from free-standing cylindrical microcavities, Jaison P., Radhakrishnan P., Nampoori V. P. N., Kailasnath M., J. Lumin., 149, 204, (2014)
28.	Investigation of optical limiting properties of aluminum nanoparticles prepared by pulsed laser ablation in different carrier media, Rajamudilli K., Jyothi L., Prakash P., Mayank S. S., Durga M. P., Narayanan Rao T., J. Appl. Phys., 114(24), 243101, (2013)
29.	Indu Sebastian, V. P. N. Nampoori, Shri. P. Radhakrishnan and Sheenu Thomas, Journal of Material Science, (2014) 49: 3732 – 3735 "Experimental verification of localized defect states on GaGese nano colloidal solutions
30.	S. Divya, Aparna Thankappaan, C. P. G. Vallabhan, V. P. N. Nampoori, R. Radhakrishnan and Mujeeb, "Electrobyte/Photoanode engineered solar cells" 115 064501 – 5 2014 : JAP (Journal of applied Physics)"
31.	S. Sebastian, C. L. Linslal, C. P. G. Vallabhan, V. P. N. Namboori, P. Radhakrishnan and M. Kailasnath, "Random Lasing with enhanced Pphotostability of silver nanoparticle doped polymer optical fiber laser" Laser Phys.Letter (2014)
32.	R. Ratheesh, P. Radhakrishnan, Rakesh kumar singh, A. Mujeeb, " Thermal deformation analysis of aluminium hictsink using Electronic Spectlle Pattern interfermely " International Journal of advanced in engineering and Technology, (2014)
33.	C. L. Linslal, Jaisen Peter, S. Mathew, M. Kailasnath, "Multimode Laser emission from dye-dopet hollow polymer optical fiber" pramana, Vol – 82, issue – 2 (2014)



Sl. No.	Name of Paper
34.	Rose Leena Thomas, V. P. N. Nampoori, P. Radhakrishnan, Sheenu Thomas, Bandgap tuning in zinc tellurite glasses via thermal poling, Internatinal conference on - Functional Glasses 2013, ITALY
35.	Sreeja S., Nithyaja Balan, Debasis Swain, V. P. N Nampoori, P. Radhakrishnan and S. V. Rao.'UltrafastDynamics of Correlated Materials' to be conducted at the Abdus Salam International centrefor Theoretical Physics, Miramare, Trieste, Italy from ,2013.
36.	S. Divya, V. P. N. Nampoori, P. Radhakrishnan, and A. Mujeeb, "Qualitative effects of laser irradiation on Titanium nitride nanoparticles", International conference on materials for Advanced Technologies (ICMAT) Singapore (June 2013).
37.	Indu Sebastian, V. P. N. Nampoori, P Radhakrishnan, and Sheenu Thomas, "Defect State Annealing and Corresponding Variation in Optical Properties of Chalcogenide Glass Nanoclusters", 7th International Conference on Materials for Advanced Technologies (ICMAT 2013), Suntec, Singapore

14. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Indu Sebastian	1. International Conference on materials for advanced Technolgies (ICMAT – 2013), Suntec, Singapore 2. National Conference on advanced Materials and applications (NCAMA – 2013), Tichy	Poster Presentation
Divya S.	1. International conference on materials for advanced Technologies (ICMAT-2013) Suntec Singapore. 2. National Conference on Advanced materials and applications (NCAMA – 2013) Trichy.	Poster Presentation
Anju K. Augustine	1. International Conference on advan ec Polymeric material ICAPM – 2013, M.G. University, Kottayam, October 11-13 2. International Conference on Advanced Materials and Applications – 2014. Alphonsa College Pala- March 26-28 3. Swadeshi Science Congress (National) -2013, Nov.6-8, M.G.University, Kottayam 4. National Laser Symposium (NLS-2014), 2014 January 8-11, Manipal	Poster Presentation Oral Presentation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Suneetha Sebastian .S	1. National Conference on Advanced Materials and Applications (NCAMA- 2013) Trichy 2. National Seminar on Recent Trends in conducting Polymers and Polymer nano structures, Cochin.	Poster presentation
	1. Internationa Conference on Nano Materials: Science, Technology and Applications (ICNM -2013) Chennai 2. International conference on Optics & Optoelectronics (ICOL – 2014) Dehradun	Oral Presentation
Linslal C. L.	1. International conference on Optics & Optoelectronics (ICOL – 2014) Dehradun	Oral Presentation
	2. National Laser Symposium (NLS – 2014) Manipal	Poster presentation

15. Role of Faculty in International/National Organizations/Institutions/Editorial Boards

Name of Faculty	Name of Seminar/Conference/Workshop	Role
Dr. M. Kailasnath	Texas University, San Antonio, USA	Post Doctoral Fellowship

16. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Divya Sasi	Best Researcher Award	
Anjitha Viswanath	M.Tech I st rank with record grade	Photonics Society of India
Anjitha Viswanath	best M Tech project	Satish John Memorial
Ravi Nandan	C. V. Raman award	ISP
Ravi Nandan	M.Sc Photonics 1 st rank with record grade	Prof Leggat award 2013
Mary Ida Meloday	Nalanda Endowment award	
Arjun C. Vinod	Inter University photography	



17. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Establishment of new national MEMS design centres	ADA	11.16 lakhs	Dr. P. Radhakrishnan
2.	Development of photonic devices using biopolymers	CSIR	14.46m lakhs	Dr. V. P. N. Nampoori
3.	Nanomaterials for multipolar Non-linear optics	DST Indo-Finland scheme	27.26 lakhs	Dr. P. Radhakrishnan
4.	Design & Development of F O Devices	UGC – UKIERI Project	20 lakhs	Dr. P. Radhakrishnan
5.	Design and fabrication of biopolymer based biophotonic devices with special reference to organic LED	KSCSTE	5.75 lakhs	Dr V. P. N. Nampoori

18. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1	Fiber Optic Sensors	Dr. P. Radhakrishnan, Dr. V. P. N. Nampoori and students working in this area
2	Nanophotonics	Dr. P. Radhakrishnan, Dr. V. P. N. Nampoori, Dr. M. Kailasnath, Dr. C. P. Girijavallabhan, Dr. A. Mujeeb and students working in this area
3	Fabrication & characterisation of Chalcogenide materials	Dr. Sheenu Thomas and students
4	Bio Photonics	Dr. V. P. N. Nampoori, Dr. P. Radhakrishnan and students working in this area
5	Non-linear dynamics	Dr. V. M. Nandakumaran, Dr. V. P. N. Nampoori and students working in this area
6	Non-linear Optics	Dr. V. P. N. Nampoori, Dr. P. Radhakrishnan and students working in this area
7	Laser-matter interactions	Dr. P. Radhakrishnan, Dr. V. P. N. Nampoori and students working in this area

**19. Seminar/Conference/Workshop/Refresher Courses conducted by the Department**

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Optics Fair	2 days	Dr. P. Radhakrishnan	CELOS, ISP-SPIE
2.	Annual Photonics Workshop-2010	2 days	Sreekumari P.	UGC, CELOS, ISP-SPIE
3.	National Science day Celebration	1 day	Sreekumari P.	University Fund

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COCHIN UNIVERSITY COLLEGE OF ENGINEERING KUTTANAD

1. Brief History

Cochin University College of Engineering Kuttanad was instituted in 1999. It is the only campus of CUSAT functioning outside Ernakulam District. Six branches of B.Tech 4 year course students and three batches of MCA students are continuing their studies. All India Council for Technical Education had sent inspection teams on various occasions for assuring the infrastructure facilities and is satisfied with the facilities provided.

2. Programmes of Study/Research

B.Tech courses in Information Technology, Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering, Mechanical Engineering and Civil Engineering and MCA course.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization (Branch)
1	Anilkumar K, K,	Assistant Professor	M.Tech	EC
2	Harikrishnan D.	Assistant Professor	M.Tech	IT
3	Jabir K. V. T.	Assistant Professor	M.Tech	CS
4	Jayaprabha P.	Associate Professor	M.Tech	IT
5	Jesslette Sam	Assistant Professor	B.Tech	CS
6	Dr. P. A. Job	Associate Professor	PhD	ME
7	Dr. Josephkutty Jacob	Associate Professor	PhD	EEE
8	Kunhamu K.	Assistant Professor	M.Tech	EEE
9	Manoj Kumar P.	Assistant Professor	B.Tech	CS
10	Dr. Mathew Cherian	Professor and Principal	PhD	ME
11	Meera A. R.	Assistant Professor	M.Tech	CS
12	Minimole A.	Selection Grade Lecturer	M.Tech	CE
13	Dr. A. Mujeeb	Associate Professor	PhD	Physics
14	Preetha Mathew K.	Associate Professor	M.Tech	CS
15	Priya. R. Krishnan	Assistant Professor	M.Tech	EEE
16	Sajan Joseph	Assistant Professor	M.Tech	EEE
17	Salaji S.	Associate Professor	M.Tech	ME
18	Dr. Senthil Prakash M. N.	Associate Professor	PhD	ME



Sl. No.	Name	Designation	Qualification	Specialization (Branch)
19	Shiny Paul	Associate Professor	M.Tech	EEE
20	Dr. Shiyas C. R.	Assistant Professor	M.Tech	ME
21	Dr. Sunilkumar N.	Selection Grade Lecturer	PhD	CE
22	Thomas T.	Associate Professor	M.Tech	ME
23	Dr. R. Asaletha	Assistant Professor	Ph.D	Chemistry
24	Dr. Manoj V. J.	Associate Professor	PhD	EC
25	Bindu P. K.	Selection Grade Lecturer	M.Tech	CS

4. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Assistant Registrar	1
2	Section Officer	1
3	Asst. Librarian	1
4	Jr. Librarian	1
5	Professional Assistants	2
6	Assistants	5
7	Security Guard	5

5. Technical Personnel

Sl. No.	Designation	No. of Posts
1.	Technician Gr.II	1
2.	Lab Attendant	2

6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech – CS	205	52	239
	EC	182	60	242
	EE	198	48	246
	IT	138	54	192
	ME	254	2	256
	Civil	131	50	181
2	MCA	71	81	152



7. Research Facilities:

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
131227	0

8. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1	Dr. Job P. A. and Dr. Kamalanabhan T. J.: Assessing Institutions of Higher learning in India using EFQM instrument'. International Journal of Management Research and Business Strategy. Vol: 3 No.1 January 2014; Pp. 77 to 91	
2	Dr. Job P. A. Popy Umbrella Mart – A case of organizational Excellence in SMEs. International Journal of Management, Information Technology and Engineering Vol: 2 Issue: 3 March 2014; Pp. 19 to 28	
3	Shiyas C R and Madhusudanan Pillai V:A mathematical programming model for manufacturing cell formation to develop multiple configurations, Journal of Manufacturing Systems, Vol. 33, No 1, 2014, 149-158. (Elsevier)	1.8
4	Shiyas C R and Madhusudanan Pillai V: Cellular manufacturing system design using grouping efficacy based genetic algorithm, International Journal of Production Research, Vol. 52, No 12, 2014, pp 30504-3517. (Taylor and Francis)	1.3
5	Harikrishnan D: Wireless HART communication based protocol for petrochemical complex, IJRITCC, Vol 2, Issue 6, June 2014.	
6	Sangeetha Jose, Preetha Mathew K. and C. Pandu Rangan (2013). Strongly Secure Password Based Blind Signature for Real World Applications. Infocommunications Journal, co-sponsored by IEEE Communications Society and IEEE Hungary Section, Volume V, Number 3, Pages 22-29, September 2013, ISSN 2061-2079	
7	Preetha Mathew K., Dr. Mathew Cherian and Shibu V. Privacy Preserving Profile Searching Problems and its Management in Social Networks- A study International Journal of Engineering Research & Technology Website: www.ijert.org Volume/Issue: Vol.2 - Issue 12 (December - 2013)	
8	Preetha Mathew K. & Mathew Cherian in Management of confidentiality of Cryptosystems using linear codes- a Bird's eye view the journal International Journal of Computer Networks and Communications Security (IJCNCs) Volume 1, Issue 7	

**9. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students**

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Job P. A.	STTP on "Modern trends in Energy, Environment and green Technology"- April 21-25, 2014 at SOE, CUSAT	Participant
Dr. Manoj V. J.	STTP on Modern aspects in Digital signal Processing, 2014 November 13-26 at College of engineering Chertala	Participant
Bindu P. K.	STTP on Modern aspects in Digital signal Processing, 2014 November 13-26 at College of engineering Chertala	Participant
Jayaprabha P.	STTP on Modern aspects in Digital signal Processing, 2014 November 13-26 at College of engineering Chertala	Participant
Jabir K. V. T.	STTP on Modern aspects in Digital signal Processing, 2014 November 13-26 at College of engineering Chertala	Participant
Manoj Kumar P.	STTP on Modern aspects in Digital signal Processing, 2014 November 13-26 at College of engineering Chertala	Participant
Shiyas C. R.	International Conference on Advances in Industrial Engineering Applications, ICAIEA 2014, January 6-8, 2014, Anna University, Chennai, India	Author of one paper
Shiyas C. R.	International Conference on Advances in Manufacturing and Materials, ICAMME 2014, March 27-29, 2014, NITK, Surathkal, India.	Author of one paper
Harikrishnan D.	STTP on Research Avenues in operations management at ME department RIT Kottayam from 8-0714 to 14-07-14	Participant
Dr. Asshalatha	STTP on Research Avenues in operations management at ME department RIT Kottayam from 8-0714 to 14-07-14	Participant
Priya R. Krishnan	STTP on Research Avenues in operations management at ME department RIT Kottayam from 8-0714 to 14-07-14	Participant
Dr. Senthil Prakash M. N.	STTP on Research Avenues in operations management at ME department RIT Kottayam from 8-0714 to 14-07-14	Participant
Jabir	STTP on Machine intelligence and applications, SOE, Cs division, CUSAT, May 5-9, 2014	Participant
Harikrishnan D.	STTP on Machine intelligence and applications, SOE, Cs division, CUSAT, May 5-9, 2014	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
Harikrishnan D.	STTP on Machine intelligence and applications, SOE,Cs division ,CUSAT,May5-9,2014	Participant
Salaji S.	Pour point of vegetable oil based lubricants, effect of polymorphism. ,International conference on advances in nanotechnology Feb 21-24	Author of one paper
Preetha Mathew K.	A Privacy Preserving Profile Searching Protocol in Cloud Networks, Proceedings of International Conference on Cloud Security Management, ICCSM-2013, Centre forInformation Assurance and Cyber Security, University of Washington, Seattle, USA, October 17-18, Pages 99-105, 2013	Author of one paper
Preetha Mathew K.	A Provably Secure Signature and Signcryption Scheme using the hardness assumptions in coding theory, In International Conference on Information Security and Cryptology -16 th Conference, 2013	Author of one paper
Preetha Mathew K.	Efficient Code basedHybrid and Deterministic Encryptions in the Standard Model, In InternationalConference on Information Security and Cryptology -16 th Conference, 2013.	Author of one paper
Preetha Mathew K.	An Efficient Password Based Blind Signature for Real World Applications. Proceedings of Central European Conference on Cryptography, CECC'13, Telc, Czech Republic, June 26-28, Pages 42-51, 2013.	Author of one paper





CENTRAL OFFICE FOR UNIVERSITY HOSTELS

1. Brief History of the Department :

The following 10 hostels have been functioning under the supervision of the Central Office for University Hostels:

(i)	Hostel No. I	Sanathana (for boys)
(ii)	Hostel No. II	CUMS (Cochin University Marine Sciences) (for boys)
(iii)	Hostel No. III	Aiswarya (for girls)
(iv)	Hostel No. IV	Siberia (for boys)
(v)	Hostel No. V	Sarovar (for boys)
(vi)	Hostel No. VI	Athulya (for girls)
(vii)	Hostel No. VII	Anaswara (for girls)
(viii)	Hostel No. VIII	Sagar (Boys)
(ix)	Hostel No. IX	Anagha (Girls)
(x)	Hostel No. X	(Ananya)

Of the 10 hostels mentioned above Hostel No. VIII (Sagar), Hostel No. IX (Anagha) and Hostel No. X (Ananya) were Post Matric Hostels constructed and handed over to the University by the SC/ST Welfare Department, Government of Kerala. Further, a new hostel for OBC boys constructed by the District SC/ST Welfare Department is also started functioning in the campus under the Central Office for University Hostels w.e.f. March 2014.

100% seats of Athulya girls hostel and 60 seats of Sarovar boys hostel were earmarked for M.Phil. and Ph.D. students. Students of the School of Engineering belonging to SC/ST/OEC and OBC communities have been given admission in Sagar, Anagha, Ananya and new OBC boys hostels as per the following directions of the SC/ST Welfare Department as follows:

Hostel No. VIII - Sagar	:	60% seats for SC/ST/OEC students and 40% seats as per University rules
Hostel No. IX - Anagha	:	60% seats for SC/ST/OEC students and 40% seats as per University rules
Hostel No. X - Ananya	:	60% seats for OBC students, 20% seats for SC/ST/OEC students and 20% seats as per University rules
Hostel No. XI – OBC Boys	:	60% seats for OBC students, 20% seats for SC/ST/OEC students and 20% seats as per University rules

Further, the Standing Committee for the Welfare of SC/ST in its meeting held on 31.7.2008 resolved to give preference in the 40% seats to SC/ST/OEC students in the Sagar and Anagha hostels, if there were additional applications.



Students who wish to take admission in the University hostels may register their names online in the web site of the Central Office for University Hostels (<http://hostels.cusat.ac.in>) and submit the print out of the application in their respective Departments. The Head of the Department will forward the application to the Hostel Office after fixing priority of allotment.

Priority in allotment have been given for SC/ST/OEC and physically handicapped students.

In the 2013-14 academic year, admission to the above 10 hostels has been given as detailed below:

Sl. No.	Hostel	Students Strength
1	Sanathana	162
2	CUMS	48
3	Aiswarya	164
4	Siberia	106
5	Sarovar	256
6	Athulya	114
7	Anaswara	300
8	Sagar	88
9	Anagha	96
10	Ananya	86
11	OBC Boys	Allotment started and continuing

The Hostel Office was working with 38 staff members including 1 Warden, 10 Assistant Wardens, 20 Sweepers (on daily wages), 4 Matrons of hostels, 1 Section Officer, 1 Typist (on daily wages) and 1 Peon in the office having a budget allocation of Rs.45,47,000/-.

The staff position in the 2013-14 academic year was as follows:

I. Chief Warden:

Dr. S. Prathapan, Professor, Department of Applied Chemistry (Upto 7.1.2014)

Dr. Job Thomas, Associate Professor, School of Engineering (w.e.f. 1.8.2014)

II. Assistant Wardens:

1. Dr. V. Sivanandan Achari, Assistant Professor, School of Environmental Studies (Hostel No. I - Sanathana)

2. Dr. B. Lakshmi, Professor, Department of Mathematics (Hostel No. III - Aiswarya)



3. Mr. G. Santhoshkumar, Assistant Professor, Department of Computer Science (Hostel No. IV - Siberia)
4. Dr. P. Arunachalam, Professor, Department of Applied Economics (Hostel No. V - Sarovar)
5. Dr. K. Ajitha, Professor, Department of Hindi (Hostel No. VI - Athulya)
6. Ms. Malalathi S., Assistant Professor, Department of Computer Applications (Hostel No. VII - Anaswara)
7. Dr. Sasi Gopalan, Associate Professor in Mathematics, School of Engineering (Hostel No. VIII - Sagar) (Upto 31.1.2014)
8. Mr. Arunkumar T., Assistant Professor, School of Engineering (Hostel No. XI - Sagar and OBC Boys) (w.e.f. 1.4.2014)
9. Ms. K.M. Sheena, Associate Professor, Division of Electrical Engineering, School of Engineering (Hostel No. IX - Anagha)
10. Dr. Moli P. Koshi, Professor, School of Management Studies (Hostel No. X - Ananya)

A Hostel Advisory Committee with the following members had been constituted for the monitoring of the functioning of hostels:

- | | | |
|-------|-------------------------------|------------|
| (i) | The Registrar | (Convener) |
| (ii) | The Chief Warden | (Member) |
| (iii) | Assistant Wardens | (Members) |
| (iv) | The University Engineer | (Member) |
| (v) | The University Union Chairman | (Member) |

The other two hostels were under the supervision of various Departments as mentioned below:

- | | | |
|-----------------------|---|---|
| B.Tech. Hostel (Boys) | - | School of Engineering |
| Marine Engg. Hostel | - | Kunjali Marakkar School of Marine Engineering |





CENTRE FOR INFORMATION RESOURCE MANAGEMENT

1. Brief History of the Department

The Center for Information Resource Management (CIRM) conceived by the Department of Computer Science was established in 1998 with the help of the MHO-INFOCUS project of the Netherlands Government. CIRM has been functioning as an Independent Centre with full fledged Office under the umbrella of the School of Computer Science Studies.

The main objective of CIRM is to act as the nodal centre for all the information technology resources of the university. It involves design, installation and maintenance of the IT infrastructure including the network, software resources and IT enabled services and facilities. CIRM also provide staff training, user support and specialized consulting services to user departments and external clients on demand.

The campus network is seamlessly integrated to the internet through broad band connectivity available to the user community on 24x7 basis. The internet connectivity in the Main Campus has been upgraded to 30 Mbps during the year 2011-12. With this new connectivity the users in the main campus and lake side campus can experience much higher band width.

The domain name cusat.ac.in is registered with the National Centre for Software Technology (NCST) India. The portal www.cusat.ac.in serves as the single window access point to all the information resources and IT enabled services of CUSAT which is managed by CIRM.

The Facilities

The CUSAT portal acts as the single point for access to all the information resource services offered by CIRM. Some of them are:

Internet

The web server is hosted in house and internet facility is extended to all CUSAT community on 24x7 basis.

Email

The mail server is hosted in house and e-mail facility is extended to all teachers, staff, research fellows and post graduate students of the campus.

Others

Hosting FIS, Examination Servers under open ERP Platform.



Projects completed

- Connectivity upgradation from the existing bandwidth of 40 Mbps to 50 Mbps at the main campus and from 8 Mbps at the Lake side campus with dedicated fiber cable connectivity between the campuses.
- Extension works of the data (completed) and voice network to the new examination wing at administrative office and faculty /staff rooms of various departments/Centers/Sections of the University are undertaken by the Centre.
- Microsoft Open Value Subscription-Education Solution & MSDN

This subscription program is a package with multiple products that gives license rights to the complete campus for all Microsoft products including infrastructure applications. **Microsoft Developer Network** library is an essential resource for developers using Microsoft tools, products and technologies. It contains technical programming information, including sample code, documentation, technical articles and reference guides.

Proposals for the coming years

E-Governance

ICT center will provide a platform for the governing and administrative functions of the University. The various facilities of the center would facilitate effective and efficient management of day-to-day administration of the university, besides providing an opportunity to remain connected with national level agencies of higher education like UGC and AICTE and other regulatory, funding agencies. The center's role will assume greater significance against the back drop of UGCs plan to go on e-Governance mode during 12th plan period and the university will also become under a continuous connectivity with the state government agencies like KSCSTE, DTE etc.

Video-Conferencing

ICT center will provide all necessary infrastructures to facilitate video conferencing.

Content digitization services

A team at ICT center will act as e-content creators. All the digitization work including course materials and other knowledge generated from the university, orders, circulars, bulletins etc. will be done through the team.

E-Content Repository

ICT center will host a central server for gathering and disseminating e-Content. The repository will include e-books, course materials created by teachers, short learning objects, research papers, thesis generated from universities all over Kerala. SAN storage will be installed. Setting up of Virtual Class room is in the pipeline.

Fast Track Facility

ICT center can provide infrastructure to facilitate a fast track mechanism to obtain certificates and related things in very short span of time.



Short Courses to the Public Community

As part of commitment to the society ICT center can initiate with the help of teaching departments, short courses to the school teachers, entrepreneurs etc.

Software Repository

To encourage use of licensed software; a repository of commonly used software with campus license is required. Any department can install software from this repository on request.

E-Learning

There is support for E-learning to the CUSAT community through both the proprietary system of Blackboard and the open source platform Moodle, both maintained by CIRM.

Advanced Networking Lab

An advanced networking lab is another priority. This is required for conducting advanced research in the area of networking.

Internet Connectivity is upgrading to 100 mbps.

2. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Hon. Director	1
2	Assistant	1
3	Sweeper	1

3. Technical Personnel : 3 Nos (On working arrangement from Department of computer science)

10. Research Facilities :

a. Computing Labs (List of Major Equipments Available)

i) Computers, Servers, Printers & Network Components

Sl. No.	Item	Quantity
	Server	
1	IBM X3650	2
2	HPDL580G5, HP proliant	1
3	Keltron Q9550	3
4	Keltron Xeon E5405	5
5	Keltron Xeon E5520	5



Sl. No.	Item	Quantity
6	DELL Rack mountable server	8
7	PC	25
8	Laserjet Printer	2
9	Managed switches for networking	75
10	Digital paper copier Toshiba e- studio 165	2
11	UPS 40kva	2

ii) Voice Communication Systems (Upgraded)

EPABX System –Hipath 4000 (1000 Lines at the Main Campus
And 96 Lines at the Lake side Campus)





CENTRE FOR SCIENCE IN SOCIETY

1. Brief History of the Department

The Centre for Science in Society was established in 1991 under the UGC VIIIth Plan Development Assistance with financial aid from Cochin Refineries Limited. It is instituted as endowment CRL Chair in the University. The Centre conducts various programmes about science with a view to popularize science and technology among children. The centre has its own facilities like Library, Workshop, Computer lab, Science labs, Science-Park, Herbal Garden, and Science Pavilion etc. Some of the programmes offered by C-SiS are as follows: One Day Attachment Programme (ODAP) for batches of students from schools, Science Talent and Total Capacity Development Programme (STDP) an intensive programme meant for children with special attitude for science. This programme starts on first week of April and May every year and will continue for 4/5 weeks till the end of the month. In addition to these C-SiS undertakes various training programmes with financial aid from Government bodies.

2. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. K. G. Nair	Honorary Director	M.Sc. Ph.D.	Electronics, Microwave Antennas.
2.	Dr. P. Mohan	Hon. Asst. Director	M.Sc., Ph.D	Electronics
3.	Dr. V. P. N. Nampoori	Hon. Additional Director	M.Sc., Ph.D	Optoelectronics

3. Visiting Faculty (If any) : Occasional Guest Faculty are invited

4. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Assistant	1
2.	Typist	1 (Vacant)
3.	Peon	1
4.	Sweeper-cum-Cleaner	1 (Vacant)

**5. Students Enrollment**

Sl. No.	Programme of Study	Men	Women	Total
1	One Day Attachment Programme (ODAP)			1,72,451
2	Science Talent and Total Capacity Development Programme (STDP)			5,550

6. Research Facilities :**a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 10947 Journals : 12	Books : 795

7. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Ms. Renu Sobti	Deputy Advisor, Planning Commission, New Delhi.	07/11/2013
2.	Prof. Crista Arangala	Elon University, USA.	18/01/2014

8. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Prof. K. G. Nair	Fellow, National Academy of Sciences, India, Allahabad. Swadeshi Science Award.	

9. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	"Inter University Centre for Studies in Kerala Legacy in Astronomy and Mathematics	Govt. of Kerala	Rs. 25,000,00	Prof. V. P. N. Nampoori, Prof. K. G. Nair



10. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Science Education in School level	Prof. K. G. Nair Prof. V. P. N. Nampoori
2.	New Centre: <i>"Inter University Centre for Studies in Kerala Legacy in Astronomy and Mathematics"</i> sanctioned by Govt. of Kerala. Activities of the Centre is in progress.	Prof. K. G. Nair, Prof. V. P. N. Nampoori
3.	New project: "Enlightening of Scientific Spirit and Awareness among School Students and Teachers through a 'Two-in-One' project for the benefit of School Children and their teachers to develop scientific awareness and passion for knowledge through various learning processes using innovative science gadgets and books"	Dr. K. G. Nair Prof. V. P. N. Nampoori

11. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	"High school & Higher Secondary Teachers' Workshop"	8 th & 15 th February 2014	Dr. K. G. Nair	Plan Fund





UNIVERSITY EMPLOYMENT INFORMATION & GUIDANCE BUREAU

1. Brief History of the Department :

Joint Venture of Cochin University of Science and Technology & National Employment Department, Kerala State. From January 10, 1973.

2. Programmes of Study/Research :

Vocational Guidance, Collection of Occupational Information, Organizing Refresher Courses / Training.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. M. Bhasi	Chief of the Bureau & Director, SMS, CUSAT	M.Tech, M.B.A. Ph.D	Operations Research

4. Visiting Faculty (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Ravi Divakaran	Professor	M.Sc. Chemistry	Theoretical Chemistry
2.	Dr. P. T. Baburaj	Professor		
3.	Edwin Tomson	Asst. Professor	M.Sc. Mathematics	Calculus
4.	Rajesh Mon V. G.	Research Scholar	M.Sc. Physics	Mechanic
5.	Madhusoodanan Kartha N.V.	Asst. Professor	M.Com	

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Chief	1
2.	Deputy Chief	1
3.	Clerks	2 (1 vacant)
4.	Typist	1
5.	Peon	1



6. Research Faculties :

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
910	Nil

7. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
M. U. Paulose, Deputy Chief	1. One Day Career Seminar on 'How to Face Competitive Examinations and Personality Development	Co-ordination

8. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Coaching Class for various Banking - IBPS Competitive Exam 2013	16 Days	U E I & G B	U E I & G B
2.	Coaching Class for Various Banking - IBPS Competitive Exam 2013	18 Days	U E I & G B	U E I & G B
3.	Coaching Class for UGC-NET/JRF - Paper I	15 Days	U E I & G B	U E I & G B





UNIVERSITY LIBRARY

1. Brief History of the Department :

The Cochin University Library was established in 1977 as a central agency for meeting the information requirements of the academic community of the University. The University Library is fully automated and is one of the best scientific and technical libraries in the country. Being the information centre of the Technological University in the state, the library has built up a balanced and rich collection on all branches of science and technology. At the same time books of general interest in various subject fields are not neglected either.

Since the Library has to cater to the needs of a variety of users- Graduates, Post Graduates, Research Students, Administrative Staff, Teachers, Scientists working in Industries, R& D Institutions, wide range of subject fields are represented in our collection in the prime areas of Science and Technology.

About us:

As in any world class university Library, services in Cochin University of Science and Technology are the core of its academic services and the Central Library of CUSAT finds a unique place in Academic service centres. Besides Central Library, every academic department has its own departmental library which contains the core collection required by the students and faculty of the department.

The Central Library of CUSAT has a collection of more than 1,35,000 documents specially for Science and Technology. Besides conventional services, library offers e-services such as Institutional Repository- e-thesis (dyuthi.cusat.ac.in), online databases and journals, media repository (media.cusat.ac.in), bibliographic repository (yuj.cusat.ac.in) etc. The collection is strong in Science & Technology, however substantial quantity of information sources on humanities and social sciences are also available. The Library is open for bonafide members but non members are also welcome to utilize its resources. Databases are available through the campus wide networks to all users in the University. CUSAT Library is a member of various e-journal consortia such as UGC –INFONET, INDEST consortia, DELNET consortia etc.

The main emphasis of the Central Library is in providing digital information support which is carried out through 4 servers and more than 500 terminals. More than 1300 electronic journals are available through the campus wide network. The University Library has completed the digitization process of all theses produced by CUSAT and made available online through the institutional repository- DYUTHI and the UGC national repository – SHODHGANGA.

All the housekeeping and information management systems in the University Library are powered by open source software such as KOHA, DSpace, Bibapp and Media core.



University Library is conducting various sponsored research projects and workshops for knowledge discovery and knowledge management to meet the contemporary information needs of its clients.

2. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant	2
3	Typist	3
4	Peon	4
5	Sweeper / Cleaner	2
6	Photocopier / duplicating operator	1

3. Technical Personnel

Sl. No.	Designation	No. of Posts
1	University Librarian	1
2	Deputy Librarian	1
3	Assistant Librarian	9
4	Junior Librarian	4
5	Professional Assistants	10
6	Information Scientist	1

4. Students Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Membership	3100	3024	6124

5. Research Facilities :

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 1,35,000	1843
e-Books : 189	
Journals : 152	
Online Data Bases : 14	
Indian Journals : 51	
News Papers : 10	

**6. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1.	Prof. A. SreeMurugan	Prof.& Head Department of Library Science, Madura Kamraj University	
2.	Sri. V. Sriram	Chief Librarian, K. N. Raj Library, CDS, Thiruvananthapuram	
3.	Sri. Xavier	Associate Professor, PSG College, Coimbatore	

7. Publications**a. Papers**

Sl. No.	Name of Paper
1.	C. Beena P. K. Padmakumar and N. S. Archana (2014), "Institutional Repositories: an effective vehicle for Scientific Data Curation", ESS, ESS publishers.
2.	Archana S. N., Padmakumar P. K. and Beena C. (2014) "Catalogue Interfaces of Integrated Library Management Systems (ILMS): Experiences in a Proprietary and Open Source Software". DESIDOC journal of Library & Information Technology, 34 (I), pp.16-22. ISSN 0974-0643-
3.	Beena C., Padmakumar P. K. and Archana S. N. (2013) "Indigenous Knowledge Acquisition and Contemporary Innovation in Science and Technology". Proceedings of International Conference on Knowledge Modelling and Knowledge Management (ICKM 2013), Indian Statistical Institute, Karnataka. pp.153 -160.
4.	Susan Mathew K. (2014) "Open Access Repositories in Academic and Research Institutions in Kerala" Proceedings of DEMICT National Seminar 2014 Mangalore University 24-25 th January 2014.
5.	Archana S. N., (2013) "E-Resources in the Engineering College Libraries of Kerala: problems towards sustainable collection development". E-Infrastructures in Libraries. New Delhi, Kanishka Publishers, pp.93-100.

8. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Beena C.	International Conference on Knowledge Modelling and Knowledge Management (ICKM 2013), Indian Statistical Institute, Karnataka	Presented paper



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Beena C.	National ETD Project Shodhganga	University Co-ordinator
Dr. Beena C.	e-content creation for e-learning in Library and Information Science at Calicut University	Resource Person
Dr. Susan Mathew K.	National Seminar on "Changing trends in Reference Librarianship organized by Kerala Library Association, Thrissur, December 21, 2013	Participant
Dr. Susan Mathew K.	DEMICT National Seminar 2014 Mangalore University 24-25 th January, 2014	Presented paper
Dr. Susan Mathew K.	National workshop on "Social responsibility and Professional Ethics in Librarianship" February 6-7, 2014 Organized by Rajagiri College of Social Sciences, Kalamassery.	Participant
Dr. Susan Mathew K.	Refresher Course in LIS from 2 nd January 2014, 22 nd January 2014 by Academic staff college, University of Calicut.	Participant
Sivankutty V. S.	International Seminar on Research Impact, Publishing and profiling organized by School of Marine Sciences, CUSAT & KLA Ernakulam Region on 3 rd January 2014	Participant
Liny Varghese	NCSOFT 2013	Organizing Committee Member

9. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	"Research Reporting and Reference Management Tools"	19th March 2011 (One Day)	University Librarian	CUSAT





INTERNATIONAL RELATIONS AND ACADEMIC ADMISSIONS

1. An International Meet on Transnational Education was organized by the International Relations Group constituted by the Govt. of Kerala. This meet was attended by the nominated representatives from CUSAT.
2. As part of the MoU signed with Universidad Juarez Autonoma De Tabasco (UJAT), Mexico, students from Mexico paid an academic visit to CUSAT.
3. Reputed faculties from Universities in Finland, Italy etc visited CUSAT giving academic lectures, participating in workshops organized by the concerned Departments.
4. A team of academicians from Australia including the Trade Commissioner of Australian Trade Commission visited CUSAT, held a luncheon meeting with the Vice-Chancellor and other Statutory Officers. An interactive session was organized with the final year B.Tech students dealing with Higher Education Opportunities in Australia.
5. The Syndicate resolved to enter into a Memorandum of Understanding with the Ambo University, Ethiopia.
6. The Academic Exchange programme with the American College of Dubai was restarted.
7. For the academic year 2013-2014, we continue to receive Italian contribution from the Italian Ministry of Foreign Affairs towards the teaching of Italian Language in CUSAT.
8. For the academic year 2013-2014, three foreign students took admission in CUSAT for MBA, MCA & B.Tech programmes respectively and one student for M.Tech programme under the Children of Indian Gulf Workers category.
9. The CAT 2013 admission procedure was completed in the month of August 2013 and normally the next years notification (CAT 2014) was published in the month of January as in the case of previous years. CAT 2014 examination was conducted at 26 centres in all over India and also a centre at Middle East. A total amount of Rs. 3.87 crores was collected towards the cost of application/registration fee of CAT 2014.





PLANNING AND DEVELOPMENT DIVISION

Planning and Development Division is one of the main branches of the University. It co-ordinates the overall development of the University under the assistance of various funding agencies like UGC, MHRD, CSIR, AICTE, DOD, DST, DBT, etc. It also helps the Principal investigators of the University to get various projects implemented with the financial assistance of the above agencies. It helps the teaching departments and Central Library for the purchase of equipments, Books & Journal and consumables for the Lab/Library etc.

Planning Division arranges National and International Conferences, Seminars, Symposia, etc. with financial assistance of external funding agencies. It co-ordinates the travel of teachers in and outside the country to attend National and International Conferences. It helps the University to appoint Visiting Professors/Emeritus Fellow under various schemes. The Division also helps to provide financial assistance for the conduct of UGC sponsored refresher courses and to the teacher fellows of the FIP scheme. It also looks after the functioning of the STIC as well as various centers under the University. The Division is headed by the Planning and Development Officer. It also co-ordinates the ERUDITE programmes of Kerala State Higher Education Council and INCULCATE programme of Government of Kerala. The Planning Division also maintains a data bank about the University for providing information to Govt. of India/ State Govt agencies as and when required. The Division has 1 Assistant Registrar, 3 Section Officers, 1 Statistical Officer, 7 Assistants and 2 supporting staff. In addition to the on going projects, details of Seminars, Symposia and Refresher courses conducted during 2012-'13 are provided. Planning Division also prepares Annual plan proposals to the State Government and 5 year plan to UGC.

PLANNING (UGC) SECTION

Seminars/Conferences/Workshops/Symposia conducted during 2012-13

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	SYMPOL 2013 Department of Electronics	23-25 October 2013	Dr. Supriya M. H.	UGC/ KSCSTE/ DRDO/DST/ CSIR
2.	National Conference on Software Engineering (NC SOFT 2013) Department of Computer Science	13-14 August 2013	Dr. Sumam Mary Idicula	UGC



3.	National Workshop on "Recent Trends in Inter Disciplinary Research" Department of Physics	4-5 October 2013	Prof. S. Jayalekshmi	UGC
4.	National Seminar C-Tric-14 Department of Applied Chemistry	17-18 January 2014	Dr. P. M. Sabura Beegum	UGC/ KSCSTE/ DRDO/DAE
5.	National Workshop on "Seafood Safety for Trade" School of Industrial Fisheries	17-19 Dec 2013	Dr. A. Ramachandran	UGC
6.	International Workshop on "Reliability Theory and Survival Analysis" Department of Statistics	31 Dec 2013 to 02 Jan 2014	Dr. P. G. Sankaran	UGC/ KSCSTE/ CSIR/RBI Mumbai
7.	National Symposium on "Engineering Trends in Biotechnology" Department of Biotechnology	22-23 January 2014	Dr. Sarita G. Bhat	UGC/ KSCSTE
8.	NCILC-14 Department of Computer Applications	1-2 February	Dr. B. Kannan	UGC
9.	National Workshop on "Science, Communication & Reporting" Directorate of Public Relations and Publications	18-20 February 2014	Dr. S. Anilkumar	UGC/ KSCSTE
10.	Instructional Workshop on Semigroups & Applications and International Conference on Semi Groups, Algebras and Operator Theory (ICSAOT) Department of Mathematics	22-28 February 2014	Dr. P. G. Romeo	UGC KSCSTE/ DST/CSIR/ DAE/ KSCSTE
11.	National Workshop on "English as a Medium of Global Communication" Department of English & Foreign Languages	7-8 February 2014	Dr. Brinda Bala Sreenivasan	UGC
12.	National Seminar on "Climate Change and Marine Eco Systems" Department of Marine Biology, Microbiology and Biochemistry	20-21 March 2014	Dr. A. A. Mohammed Hatha	UGC



13.	Annual Photonics Workshop International School of Photonics	27-28 February 2014	Dr. P. Radhakrishnan	UGC
14.	International Seminar on Cyber Crimes and Law School of Management Studies	17 August 2013	Dr. M. Bhasi	UGC
15.	National Training Programme Oceanic Process and Air Sea Interaction with Special Emphasis on Indian Water Department of Atmospheric Science	12-14 August 2013	Dr. C. A. Babu	UGC
16.	"Samakalin Hindi Sahitya Ka Lokpath" Department of Hindi	3-4 February	Dr. R. Sasidharan	UGC
17.	Workshop on "Tool and Techniques in Molecular Biology and Bioinformatics" Department of Biotechnology	10-15 February	Dr. Padma Nambisan	KSCSTE
18.	National Instructional Workshop in Cryptology Department of Mathematics	6-10 May 2013	Dr. V. Vijayakumar	Indian Statistical Institute
19.	National Science Day Oration (NSD-14) Director, Public Relations and Publications	20 February 2014	Dr. S. Anil Kumar	KSCSTE

Details of Projects Implemented During the Financial Year 2013-14

Sl. No.	Principal Investigator	Funding Agency	Duration	Total Grant Sanctioned
1	Dr. K. T. Thomson	Ministry of Earth Science	4 Years	14,700,000
2	Dr. I. S. Bright Singh	Science and Engineering Research Board	3 Years	4,367,000
3	Dr. Sasi Gopalan	Science and Engineering Research Board	2 Years	780,000
4	Dr. Babita Roslind Jose	Kerala State Council for Science Technology & Environment	3 Years	948,000
5	Dr. Dipak Kumar Sahoo	Kerala State Council for Science Technology & Environment	3 Years	1,370,000



6	Dr. Manju Mary Joseph	Kerala State Council for Science Technology & Environment	3 Years	1,396,000
7	Dr. A. A. Mohammed Hatha	Space Application Centre	5 Years	5,242,000
8	Dr. S. Anil Kumar	Kerala State Council for Science Technology & Environment	1 Year	200,000
9	Dr. Renu Pawels	Kerala State Council for Science Technology & Environment	3 Years	1,281,000
10	Dr. Sujatha C. H.	Kerala State Council for Science Technology & Environment	3 Years	1,480,000
11	Dr. V. Madhu	Science and Engineering Research Board	4 Years	5,178,400
12	Dr. K. P. Vijayakumar	University Grants Commission	5 Years	10,950,000
13	Dr. C. A. Babu	University Grants Commission	6 Years	6,200,000
14	Dr. George Mathew	Kerala State Council for Science Technology & Environment	3 Years	1,480,400
15	Dr. Beneesh P. B.	Department of Science and Technology	5 Years	8,300,000
16	The Head, Dept of Physics	Department of Science and Technology	5 Years	17,600,000
17	Mr. Baby Chakrapani	Science and Engineering Research Board	3 Years	3,060,000
18	Head, Dept of Electronics	Department of Science and Technology	5 Years	5,000,000
19	Dr. Saritha Bhat	Kerala State Council for Science Technology & Environment	3 Years	1,740,600
20	Dr. Rani Joseph	UGC BSR Faculty Fellowship	3 Years	1,980,000
21	Dr. D. Rajasenan	Indian Council of Social Science Research	18 Months	700,000
22	Dr. D. Rajasenan	Indian Council of Social Science Research	2 Years	1,000,000



23	Dr. D. Rajasenan	Kerala State Higher Education Council	2 Years	100,000
24	Dr. C. S. Paulose	UGC BSR Faculty Fellowship	3 Years	1,980,000
25	Dr. K. V. Pramod	AICTE	1 Year	950,000
26	Dr. S. Mridula	Kerala State Council for Science Technology & Environment	3 Years	1,533,334





DIRECTORATE OF PUBLIC RELATIONS AND PUBLICATIONS

The Directorate of Public Relations and Publications, as in previous years, has done a commendable work during the period 2013 – 2014 and its activities helped the University to boost its image as a public organization committed to the cause of higher learning. During the period of report, the Directorate took all efforts to provide up-to-date information to other academic institutions, research scholars, students and to the general public regarding higher education and related opportunities. It also assisted various departments in organizing seminars, workshops and symposia by ensuring an excellent media coverage. Timely and effective briefing of the media by the Directorate of Public Relations provided a sustainable source of authentic information for all who were in pursuit of excellence in learning.

The staff of the Directorate took all efforts in clearing the doubts of the general public regarding various academic programmes of Cusat directly and over phone besides propagating the message of science and technology awareness / scientific temper among the public, as Science Communication is one of the thrust areas of the Directorate. Many of the dignitaries from India and abroad, who visited the University during the year were welcomed by the Directorate of Public Relations and Publications.

The Directorate was able to give wide publicity to the Common Admission Test 2014 through the media for which an overwhelming response was received. It took all efforts to bring out the University Diary in time with up-to-date information of the University and circulated to all concerned, besides the collection, compilation and publication of Annual Report of the University. More than 1000 press releases and relevant notifications and advertisements were issued through the Directorate to dailies in both Malayalam and English as well as the Electronic Media. The Directorate was able to give wide coverage of the national and international seminars conducted by the various departments. The Directorate won appreciation from all quarters for the excellent coverage it ensured for all University activities through the print and electronic Media.

The May 2013, September 2013 and January 2014 issues of the University Newsletter Tejus were successfully released and distributed by the Directorate. All issues received a great feedback from the readers.

The Directorate and its staff played an active role in the organizing activities related to the Foundation Stone Laying Ceremony for the new academic block at Lakeside campus and dedication of University Games Arena by Prof. K. V. Thomas, Hon'ble Union Minister for Food, Public Distribution & Consumer Affairs and Sri. V. K. Ebrahim Kunju, Hon'ble Minister for Public Works, Govt. of Kerala on 30th September 2013.

The Directorate of Public Relations and Publications in association with the Centre for Science Communication successfully conducted the 10th National Workshop on Science Communication and Science Journalism with the support of the Kerala State Council for



Science, Technology and Environment (KSCSTE), Government of Kerala. Sri. Thiruvanchoor Radhakrishnan, Hon'ble Minister for Forests, Environment and Transport, Govt. of Kerala inaugurated the workshop on 18th February 2014 and Dr. V. Ajit Prabhu (Joint Director, KSCSTE) delivered the keynote address. "Sastram Varunna Vazhikal", a book edited by Dr. S. Anil Kumar, Director, PR&P, was released on the occasion by the Hon'ble Minister. The 3-day workshop concluded on 20th February.

As part of the National Science Day Celebrations, a National Science Day Oration was organized by the Directorate where Dr. E. P. Yesodharan, former Executive Vice President, Kerala State Council for Science, Technology and Environment delivered a talk on "A World sans Nuclear Weapons" on 20th February 2014.

The prestigious State Science Journalism Award instituted by Kerala State Council for Science, Technology and Environment was bagged by Dr. S. Anil Kumar, Director, PR&P. The award was handed over by Sri. Oommen Chandy, Hon'ble Chief Minister of Kerala on 9th May, 2014 in the presence of Dr. V. N. Rajasekharan Pillai, Executive Vice President, KSCSTE.

Dr. Anil Kumar had also delivered an invited Plenary Talk on "Genesis and Evolution of Science writing in Malayalam" at the Swadeshi Science Congress organized at Kottayam by Mahatma Gandhi University on 6th November 2013.

The Directorate released January & June 2014 issue of the interdisciplinary journal "Science Communicator" with active support from the Centre for Science Communication.

The University had entrusted all publication activities with the Directorate a couple of years ago and the mandate was accomplished by the Directorate by releasing 7 books during the period of report. Many books were edited by the Director, Public Relations and Publications. The Directorate has published more than 100 books till date from its inception during the year 2005.

The books published during 2013-14 are listed below-

1. Proceedings of Sympol 2013. Editor: Dr. P.R.S. Pillai. ISBN No. 978-93-80095-45-5
2. Recent Trends in Knowledge Management – NCRTKM-2014. Editors: Dr. Pramod K.V., Dr. B. Kannan, Dr. Varghese Paul, M.B. Santosh Kumar, Dr. Renumol V.G., Sariga Raj. ISBN No. 978-93-80095-46-2
3. Proceedings of Emerging Trends In Biotechnology 2014. Editors: Dr. Sarita G. Bhatt, Dr. Padma Nambisan. ISBN No. 978-93-80095-47-9
4. Proceedings of National Conference on Indian Language Computing -2014. Editors: Dr. B. Kannan, Malathi S., Keerthy A.S., Rafida Rahiman K.A. ISBN No. 978-93-80095-48-6
5. Marketing Dynamics in Emerging markets. Editors: Dr. Zakkariya K.A., Dr. Manoj Edward. ISBN No.978-93-80095-49-3
6. Perspectives on Emerging International Business Order. Editors: Dr. Zakkariya K.A., Dr. Manoj Edward. ISBN No. 978-93-80095-50-9
7. Microbial Bi-products. Editors: Dr. Sarita G. Bhatt, Dr. Padma Nambisan.



CENTRE FOR SCIENCE COMMUNICATION

Cochin University of Science and Technology launched the Centre for Science Communication in early 2007 with the specific aim of popularizing Science and Technology among the masses of the country. Its fundamental task is to create scientific temper and the “spirit of inquiry and reform’ among the fellow citizens, as encoded in the Constitution of India under “Fundamental duties”.

The Centre for Science Communication is an independent academic entity of Cochin University with an interdisciplinary frame- work. Its main focus is on the acquisition and propagation of scientific and technological research output and to translate the same to the layman’s level with a view to making use of it for the overall development of the society. Special attention is being given to the development of Science Communication in the regional languages especially in Malayalam. Providing an academic framework to the realm of Science Communication and Science Journalism is another area of interest.

The Centre regularly conducts science orations and National Science Day programmes, besides round-table conferences and competitions aimed at popularization of science among students, media-persons as well as the general public. It also publishes popular science books and is actively engaged in empowering science writers/journalists through various National Workshops/programmes in association with reputed Government agencies like Vigyan Prasar, Govt. of India, IGCAR and Kerala State Council for Science, Technology and Environment (KSCSTE).

A project “Collection, Compilation, Verification, Editing, Digitalization and Popularization of Traditional Science and Wisdom” sponsored by KSCSTE was successfully completed by the Centre during the year under report. A Round Table Conference was also conducted for discussion with scientists, science communicators and journalists for collection of data and suggestions for the preparation of the book on Traditional Science and Wisdom.

The Centre collaborated with the Directorate of Public Relations and Publications in successfully conducting the 10th National Workshop on Science Communication and Science Journalism with the support of the Kerala State Council for Science, Technology and Environment (KSCSTE), Government of Kerala. Sri. Thiruvanchoor Radhakrishnan, Hon’ble Minister for Forests, Environment and Transport, Govt. of Kerala inaugurated the workshop on 18th February 2014 and Dr. V. Ajit Prabhu (Joint Director, KSCSTE) delivered the keynote address.

The Centre for Science Communication collaborated with the Directorate of Public Relations and Publications in organizing the National Science Day Oration as part of National Science Day celebrations with a talk on “A World sans Nuclear Weapons” by Dr. E. P. Yesodharan, former Executive Vice President, Kerala State Council for Science, Technology and Environment on 20th February 2014.



Dr. Anil Kumar delivered an invited Plenary Talk on “Genesis and Evolution of Science writing in Malayalam” at the Swadeshi Science congress organized at Kottayam by Mahatma Gandhi University and Swadeshi Science Movement on 6th November 2013.

The Centre for Science Communication published a book titled “Shastram Varunna Vazhikal” through the Directorate of Public Relations and Publications during the period of report. The Centre also worked as a facilitator for the popularization of science and science communication. Dr. S. Anil Kumar, Director (i/c) of the Centre participated in and facilitated various science communication programmes throughout the country intensively to inculcate scientific awareness and scientific temper.





SOPHISTICATED TEST AND INSTRUMENTATION CENTRE

1. Brief History of the Department :

The Sophisticated Test and Instrumentation Centre (STIC) is an autonomous institution sponsored jointly by the Kerala State Council for Science, Technology and Environment (KSCSTE) of the Government of Kerala and Cochin University of Science and Technology (CUSAT) was established in 1995.

2. Programmes of Study/Research : Objectives of STIC are :

1. Undertake research and development activities in the field of instrumentation and related areas, which are of relevance to industries in the state,
2. Provide advanced instrument facilities for analysis, testing, measurement and calibration to users from industries, R&D establishments and academic institutions,
3. Design and develop trainer kits, demonstration sets and scientific instruments needed for Engineering/Science Colleges,
4. Encourage taking up projects, which will motivate younger scientists for undertaking hardware generation in experimental research,
5. Co-operate with professionals and academic staff in frontier areas of instrumentation,
6. Undertake training and services for personnel from industries, R&D establishments and academic institutions.

STIC has established highly sophisticated test, measurement, analysis and research laboratories in the areas of instrumentation, quality evaluation/calibration, chemical analysis and testing. A good number of industrial organizations, academic institutions and research establishments have recognised STIC as a potential centre for the calibration of their instruments, product testing and chemical analysis. In addition to regular calibration, testing and analysis activities, the scientific personnel are also involved in research and development activities in instrumentation and allied areas.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Jacob Philip	Director	M.Sc., Ph.D	Analytical Instrumentation, Calibration, Testing
2.	Dr. J. Jagannath Bhat	Scientist E2	M.Sc, Ph.D	Calibration, Testing
3.	Mr. Paul V. John	Scientist E1	M.Tech	Calibration, Testing
4.	Ms. Sreeja V.	Scientist E1	B.Tech	Calibration, Testing
5.	Dr. Shibu M. Eappen	Scientist C	M.Sc, Ph.D	Analytical Instrumentation
6.	Mr. Adarsh K. J.	Scientist C	B.Tech	Analytical Instrumentation



4. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Bindu M. Krishna	Scientist (DST Project)	M.Sc., Ph.D	Nonlinear Dynamics

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Mr. Ginson T. J.	DST	Dr. Jacob Philip	Sensors and Instrumentation
1.	Jayalakshmy M. S.	DST/ CUSAT	Dr. Jacob Philip	Nanocomposite sensors
2.	Saumya H.	DST/ CUSAT	Dr. Jacob Philip	Photothermal Instrumentation
3.	Nizamuddeen Kunnath	CSIR	Dr. Jacob Philip	Polymer-piezoceramic nanocomposites
4.	Jiss Paul	N/A	Dr. Jacob Philip	Modelling IDT transducers

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer	1
2.	Personal Assistants	2
3.	Office Assistants	2
4.	Helpers	2
5.	Driver	1

7. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Officers	6
2	Technical Assistants	3

8. Research Facilities

a. Laboratories (List out Major Equipments Available)

STIC has set up the following facilities to carry out its activities.

A. Calibration laboratories

- (i) Electro-Technical
- (ii) Thermal
- (iii) Mechanical



- B. Testing laboratories
- C. Sophisticated Analytical Instrument Facility (SAIF)
- D. Incubation, Research and Development laboratory (IRDL)

Major equipment available are :

Sl.No.	Equipment	Sl.No.	Equipment
1	500 MHz Digital Storage Oscilloscope	30	Microbalance
2	150 MHz Digital Storage Oscilloscope	31	Impedance Analyzer
3	8½ digit Digital Multimeter	32	Various Plastics Testing equipment(a dozen in numbers)
4	True RMS 4½ digit Multimeter	33	Microbalance – Two Nos
5	Portable Pneumatic Pressure Source	34	High Temperature Furnace 1400°C
6	Portable Hydraulic Pressure Source	35	Teraohm Meter
7	High Temperature Bath	36	3f Power Analyser
8	7-Dial Decade Resistance Box		Instruments in SAIF
9	5-Dial Decade Resistance Box	1	GC Mass Spectrometer
10	Data Logger	2	ICP-AES Spectrometer
11	Universal Testing Machine	3	Thermal Analyser DSC
12	Standard Multi-parameter Source	4	Thermal Analyser DTA/ TGA
13	Standard Platinum Resistance Thermometer	5	UV-VIS-NIR Spectrophotometer with internal DRA
14	Standard S-type thermocouple	6	FT-IR Spectrometer
15	Low Temperature Bath	7	X-ray powder Diffractometer
16	Decade Capacitance Box	8	CHN Analyser
17	Decade Inductance Box	9	Ultrapure Water Distillation unit
18	Temperature/ humidity cyclic chamber	10	400 MHz FT-NMR Spectrometer
19	High Voltage Probes	11	Single Crystal X-Ray Diffractometer
20	High Temperature Furnace	12	SAXS Attachment for XRD
21	N Type Thermocouple	13	Mercury Analyzer
22	Set of Long Gauge blocks and Surface plate	14	Scanning Electron Microscope with EDS
23	Dead Weight Test Calibrator	15	TG/DTA with Autosampler
24	Thermocouples	16	Logic State Analyser
25	Portable Calibrator		Instruments brought under Projects
26	Multifunction Calibrator	1	Photoacoustic Spectrometer
27	Scale and Tape Calibration Unit	2	Ultrasonic Interferometer
28	High Voltage Tester	3	Photopyroelectric Spectrometer
29	Impedance Analyzer	4	Electrical Conductivity Measurement set up

In addition, a wide variety of minor instruments and facilities are available in STIC.

**b. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
1152	0

c. Others

(i) NABL Accreditation :

STIC is a Calibration laboratory accredited by NABL (National Accreditation Board for Calibration and Test Laboratories, Government of India) in the following areas

(i) Electro-Technical

(ii) Thermal

(iii) Mechanical

9. Ph.Ds Awarded : 1**10. Publications during the year (2013 - 14)****a. Papers in Peer-reviewed Journals**

Sl. No.	Name of Paper
1.	N. Vijayan, G. Bhagavannarayana, S. K. Halder, S. Verma, J. Philip, R. Philip and B. Rathi X-ray topography, photopyroelectric and two-photon absorption studies on solution grown benzimidazole single crystal Appl. Phys. A 110 (2013) 55–58
2.	G. Shanmugam, K. Thirupugalmani, R. Rakhikrishna, J. Philip and S. Brahadeeswaran Thermophysical, mechanical and dielectric studies on piperidinium p-hydroxybenzoate: A novel organic NLO single crystal J Therm Anal Calorimetry 112 (2013) 1245-54
3.	M. R. Nisha and J. Philip Thermal conduction in polymeric nanofluids under mean field approximation: role of interfacial adsorption layers Phys. Scr. 88 (2013) 015602-08
4.	B. Raneesh, H. Soumya, J. Philip and Nandakumar Kalarikkal Size-dependent thermal properties of multiferroic ErMnO ₃ nanoparticles using photopyroelectric technique J. of Alloys and Compounds 579 (2013) 243–248
5.	S. K. Jat, V. Narayanasamy, A. Krishna J. Philip S. Verma I. B. Singh, G. Bhagavannarayana and S. K. Halder Nucleation Kinetics, Growth, Mechanical, Thermal and Optical characterization of Sulphamic Acid single crystal Cryst Eng Commun. 15 (2013) 10034-42
6.	S. Uma and J. Philip Induction of electro-activity in polyvinyl alcohol with addition of nanocrystalline PZT ceramic Ind. J. Pure & Appl. Phys. 51 (2013) 717-23



Sl. No.	Name of Paper
7.	M. R. Nisha, M. S. Jayalakshmy and J. Philip Effective thermal conductivity of condensed polymeric nanofluids (nanosolids) controlled by diffusion and interfacial scattering <i>Pramana-J Phys.</i> 81 (2013) 849-64
8.	V. Kannan, R. Rakhikrishna, J. Philip and S. Brahadeeswaran Studies on thermophysical and mechanical properties of hydrazonium L-tartrate: A n organic nonlinear optical material <i>J Therm Anal Calorimetry</i> 116 (2014) 339-347
9.	M. S. Jayalakshmy and J. Philip Pyroelectric figures of merit and associated properties of LiTaO_3 / Poly vinylidene difluoride nanocomposites for thermal/ infrared sensing <i>Sensors and Actuators A: Physical</i> 206 (2014) 121-126
10	S. Uma and J. Philip Magneto-thermal conduction and phonon anomalies across magnetic transitions in multiferroic (poly and nanocrystalline) bismuth ferrite <i>Physica B: Cond. Matter</i> B437 (2014) 10-16
11	K. J. Adarsh and G. Madhu Chitosan coated surface modified polypropylene fabric for the removal of CD (II) and Zn (II) ions from aqueous solution, <i>IJRSET</i> , 2, 7, (2013)
12.	K. J. Adarsh and G. Madhu A comparative study on metal adsorption properties of different forms of chitosan <i>IJRSET</i> , 3, 2, (2014)
13.	B. R. Bijini, S. Prasanna, M. Deepa, C. M. K. Nair, S. M. Eapen, K. Rajendra Babu Crystal structure, spectral thermal and dielectric studies of a new barium complex of benzoic acid single crystal <i>Solid State Science</i> 50, (2013), 92-96
14	R. K. Balachandar, S. Kalainathan, P. G. Aravindan, Shibu M. Eappen and J. Podder. 4-[2-(4-Ethoxyphenyl)ethyl]-1-methylpyridinium naphthalene-2-sulfonate <i>Acta Cryst E</i> , 69 (2013), 722
15.	R. K. Balachandar, S. Kalanathan, Shibu M. Eapen, Jiban Podder. N-[4-(Dimethylamino) benzylidene]-4-methylaniline <i>Acta Cry E</i> 69 (2013); 6; 905;
16	R. K. Balachandar, S. Kalainathan, Shibu M. Eappen and Jiban Podderc . 4-Fluoro-N-[(E)-3,4,5-trimethoxybenzylidene]aniline <i>Acta Cryst. E</i> 69 (2013) 1234
17	V. S. Dhanya, M. R. Sudarsanakumar, S. Suma, M. R. Prathapachandra Kurup, Maheswaran Sithambaresan, Sunalya M. Roy, Shibu M. Eapen Spectral, thermal, structural and microhardness studies of Tetraaquabis (malonato) cadmium (II) copper (II): A new three-dimensional heterobimetallic framework system <i>Inorganica Chimica Acta</i> 409 (2014) 367-371



Conference Proceedings

Sl. No.	Name of Paper
1.	H. Soumya and J. Philip, Thermal Diffusion in thin Coatings and Plates under Dimension Control Proc. 25 Kerala Science Congress, Trivandrum (2013)
2.	N. Kunnath and J. Philip, Dielectric and Thermal Properties of Hydrothermally Synthesized Nanocrystalline Sodium Potassium Bismuth Titanate, Proc. 25 Kerala Science Congress, Trivandrum (2013)
3.	R. Rakhikrishna, J. Isaac and J. Philip, Dielectric Properties of NiFe ₂ O ₄ and Ni _{0.8} CO _{0.2} Fe ₂ O ₄ Nanoparticles Embedded in PVDF Polymer Matrix Proc. 25 Kerala Science Congress, Trivandrum (2013)
4.	M. S Jayalakshmy and J. Philip, LiTaO ₃ /PVDF Nanocomposites for Pyroelectric Infrared Detection Applications Proc. 25 Kerala Science Congress, Trivandrum (2013)

11. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Jacob Philip	SAIF Steering Committee meeting 12.03.2014. DST, New Delhi	Project presentation
Dr. Jacob Philip	Technical Committee for TDAP programme at KSCSTE - 22.03.2014 Expert Committee for S&T based skill development Institute at KSCSTE- 27.03.2014	Expert member
Dr. Jacob Philip	National conference on Nanotechnology at Thanjavur – 02.09.2013	Invited Keynote speaker
Dr. Jacob Philip	NAAC visit at Samanta Chandrasekhar Instt. Of Technology and Management, Orissa 21 – 24.10.2013	Assessor
Dr. Jacob Philip	Seminar at BPC College Piravom 24.06.2013 NSS College, Trivandrum 07.11.2013 IHRDE College of Engineering, Attingal 19.11.2013 Indo-German Conference on laser Applications and nanoscience, Trivandrum 07.12.2013 IAD Kasaragod 10.12.2013 SN College Kollam 19.12.2013 Iqbal College, Trivandrum 17.01.2014 PSMO College, Tirurangadi, Malappuram, - 19.03.2014	Invited speaker



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Jacob Philip	Kerala Science Congress during 27-30.01.2014 Wayanad	Session Chairman
Dr. Jacob Philip	National Conference on Nanophotonics (NCNP 2014) at Bharathidasan University, Tiruchirappally 06.03.2014	Resource person and to deliver a plenary talk

12. Awards/Honors/Fellowships etc. received

Kerala Academy of Sciences has conferred its Fellowship upon Dr. Jacob Philip, Director, STIC, along with about 20 Scientists in Kerala, in a function organized at Trivandrum on December 20, 2013. The Fellowship was awarded by the Chief Minister of Kerala.

16. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1.	"Nonlinear multivariate EEG analysis for early detection and differential classification of dementias and cognitive disorders"	Department of Science and Technology, Govt. of India	23.40 Lakhs	Dr. Bindu M. Krishna
2.	Investigations on Electro- active Polymeric Composites of Nano-structured piezoceramics	Department of Science and Technology, Govt. of India	29.79 Lakhs	Dr. Jacob Philip Dr. Johny Isaac (Dept. of Instrumentation)

13. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Pyroelectric figure of merit and associated properties of LiTaO_3 / Poly (vinylidene fluoride) nanocomposites for thermal/infrared sensing	M. S. Jayalakshmy and J. Philip
2.	Induction of electro-activity in polyvinyl alcohol with addition of nanocrystalline PZT ceramic	S. Uma, Jacob Philip
3.	Thermal diffusion in thin coatings and plates under dimension control	H. Soumya and J. Philip
4.	Thermo-physical properties of hydrothermally synthesized nanocrystalline Sodium Potassium Bismuth Titanate for possible piezoelectric applications	K. Nizamuddeen and J. Philip
5.	Properties of NiFe_2O_4 and $\text{Ni}_{0.8}\text{Co}_{0.2}\text{Fe}_2\text{O}_4$ nanoparticles embedded in PVDF polymer matrix for magneto-striction applications	R. Rakhikrishna, J. Isaac and J. Philip



Sl.No.	Problems/Topics	Investigator(s)
6.	Magneto-thermal conduction and phonon anomalies across phase transitions in multiferroic BiFeO ₃	S. Uma and J. Philip
7.	Nonlinear Multivariate EEG Analysis for early detection and differential classification of dementias and cognitive disorders	Bindu M. Krishna
8.	Novel techniques in calibration and testing	J. Jagannath Bhat, Paul V. John and V. Sreeja
9.	Value added services extended by SAIF to researchers	Jacob Philip, Shibu M. Eappen and Adarsh K. J.

14. Seminar/Conference/Workshop/Refresher Courses conducted by the Department

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Three day workshop on NMR & MS sponsored by SRIBS of KSCSTE	18 – 20 July 2013	Dr. Jacob Philip	KSCSTE
2.	DST Expert Committee for the project entitled "Demonstration of 1 MLD Desalination and 1 MW Biomass Power Plant in Kumbalanghi/Challanam Gramapanchayat in Kerala". meeting organized by STIC	01 – 02 November 2013	Dr. Jacob Philip	DST, Govt. of India
3.	Training program on "Laboratory Management and Internal Audit as per ISO/IEC 17025 : 2005".	19 – 22 February 2014	Dr. Jacob Philip	N/A
4.	ENVIS (Environment System management) Training program of KSCSTE	25.02.2014	Dr. Jacob Philip	KSCSTE

15. Consultancy Work

No. of Calibration and Testing work done	: 3241
No. of users (most are industries)	: 386
No. of Sample analysis done	: 20,001
No. of users (most are researchers)	: 1987





DEPARTMENT OF PHYSICAL EDUCATION

1. Brief History of the Department :

The Department of Physical Education, Cochin University of Science and Technology is promoting Physical Education and sports on par with regular academics. The University has well recognized the value of sports and physical activities as a means of developing personality promoting social harmony and discipline. The department provides ample opportunity to the students to utilize their leisure time with physical activities to reduce their stress in their day-to-day education system. The department believes in all round development of students and hence, apart from our success stories in the field of education, the University provides encouragement and support to sports in a big way. With this unconditional support, the sports department went on to bring glory to the University in several disciplines of sports. The department has evolved into a team, which is committed to producing sports persons of very high standards.

Sports & Games activities in the University Campus were very much active and alive during the year 2013-2014. The University is slowly but surely making a name for itself in the sports field. This year Department has organized Cochin University of Science and Technology Intercollegiate Track & Field And Games Meet and Senior State Chess Championship under the joint venture of State chess Association.

Faculty Member

- **Dr. Ajith Mohan K. R.** - Asst. Director & Head of the Department
- **Sri. Shameer C. M.** - Office Peon

Play Field Facilities

- Multipurpose Track and Field (outdoor), Football, Cricket.
- Indoor Stadium for Shuttle Badminton and Table Tennis.
- Basket ball court (out door-2 NOS)
- Volley ball court (out door-2 NOS)

Programmes of the Department

- 1) Sending various teams for the South Zone/ All India championship.
- 2) Conducting Adventure sports.
- 3) Conducting Cochin University of Science and Technology Intercollegiate Track and Field And Games Meet.



- 4) Conducting Coaching camps for various teams.
- 5) Organizing various championships, with the joint venture between university and other associations.

South Zone Inter University Competitions

- 1) Foot Ball tournament held at MG University, Kottayam
- 2) Cricket held at Pondichery University,
- 3) Basket Ball held at JNTU, Kakkinada, Andra Pradesh.
- 4) Volley Ball held at S.V University, Thirupathy, Andra Pradesh
- 5) Shuttle Badminton held at Manipal University secured third position and qualified to the All India Inter University.
- 6) Table Tennis held at JNTU, Kakkinada, Andra Pradesh
- 7) Chess Tournament held at SRM University, Chennai and attained fifth (5th) position.

All India Inter University Competitions

- 1) CUSAT Shuttle Badminton secured fourth position in the All India Inter University Shuttle Badminton Championship held at KIIT University, Bhubaneswar, Orissa.
- 2) CUSAT Taekwondo team participated in the All India Inter University Taekwondo Championship held at Satyabhama University, Chennai.
- 3) CUSAT Fencing team participated in the All India Inter University Fencing Championship held at Punjabi University, Patiala, Punjab and secured bronze medal in individual item.
- 4) CUSAT Best Physique team participated in the All India Inter University Best Physique Championship held at Andhra University, Vishakapatnam.
- 5) CUSAT Power lifting team participated in the All India Inter University Power lifting Championship held at Andhra University, Vishakapatnam.
- 6) CUSAT Aquatics team participated in the All India Inter University Aquatic Championship held at VTU, Belgaum.
- 7) CUSAT Air pistol shooting team participated in the All India Inter University Air pistol and 177 Air rifle peep sight shooting Championship held at Punjab University, Punjab.

Adventure Sports

- 1) Conducted four days Adventure Sports Activity for 30 boys & 30 girls separately at National Adventure Academy, Munnar under Kerala State Youth welfare board. Activities included River crossing, 100 mts height rock climbing, Trekking etc.

**31st CUSAT Inter-Collegiate Track & Field and Games MEET-2013-14**

The 31st CUSAT Inter-Collegiate Track & Field and Games MEET-2013-14 of University for the academic year 2013-14 was conducted with pomp and show from 23rd January to 05th February 2014. The vibrant and kaleidoscopic Meet was successfully organized with the active participation 3500 students from 27 affiliated colleges and various departments .

CUSAT Athletics meet was conducted with 17 events for boys, 12 events for girls and intercollegiate games in the following discipline.

- | | |
|--------------------------|-----------------------------|
| 1. Football (Men) | 2. Cricket (Men) |
| 3. Volleyball (Men) | 4. Basketball (Men/Women) |
| 5. Badminton (Men/Women) | 6. Table Tennis (Men/Women) |
| 7. Chess (Men/Women) | 8. Throwball (Women) |

Over all championship for Athletics as well as Games was bagged by School of Engineering, CUSAT. The Individual championship for Men section was won by Rishal, School of Engineering, CUSAT and for Women section was shared by Sheryl Thomas of College of Engineering, Kaloorppara and Navya Chandu of, School of Engineering, CUSAT .

Meet was commenced with Track and field meet .Opening ceremony was inaugurated by Pro-Vice Chancellor and Vice Chancellor in charge Dr. K. Paulose Jacob with the presence of Registrar Dr. Sajjan K., Finance Officer, Shri. Sabastian Ouseph, Dr. Bhasi, Controller of Examination and Dr. Madhu, Principal School of Engineering, CUSAT, with march past of athletes.

Prize distribution was done by Pro-Vice Chancellor and Vice Chancellor in charge Dr. K. Paulose Jacob with the presence of, Finance Officer, Shri. Sabastian Ouseph, Dr. Bhasi, Director SMS,CUSAT, Dr. Anil Kumar. Director PR&P, Sree hari Lekshmanan, Chairman, Students Union on 05th February 2014 at SMS Auditorium, CUSAT.

Achievements:

- CUSAT Shuttle Badminton team attained third position in the South zone Inter University Championship held at Manipal University and attained fourth position in the All India Inter University Championship held at KIIT University, Bhubaneswar, Orissa .
- CUSAT SHUTTLE BADMINTON TEAM HAS WON THE "REVELS CUP ALL INDIA INTER ENGINEERING SHUTTLE BADMINTON TOURNAMENT-2014" HELD AT MANIPAL UNIVERSITY, KARNATAKA.
- CUSAT Basket Ball (W) team attained first position in the Inter Engineering Colleges Games Championship held at NIT Kozhikode

The sportsmen of the University have done the University proud and with every passing year, we aim to reach closer to sporting excellence. Their efforts have not gone in vain as the University has always recognized them as invaluable assets and an integral part of this



premier University. The success of all the ventures of the Department of Physical Education owes its credit largely to the unparallel support rendered by the team of dedicated coaches and support staff.

New Constructions:

1. Multy Purpose sports Arena:- Three courts(Basket Ball, Volley Ball, Lawn Tennis) within a wire mesh boundary.
2. Ladies Health club
3. Renovation of Indoor Shuttle Court.

Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Ajith Mohan K.R	Assistant Director and Head	Ph.D	

Visiting Faculty (If any)

Sl. No.	Name	Designation	Qualification	Specialization
1	Shri. Mohana chandran N. J.	Badminton Coach, KSSC	NIS in Shuttle Badminton	Shuttle Badminton
2	Shri. Murukaraj	Foot Ball Coach, KSSC	M.Phil and NIS in Foot Ball	Foot Ball
3	Shri. Vipin Anto	Foot Ball Asst. Coach,		Foot Ball
4	Ms. Shreeja	Fencing Coach, KSSC	NIS in Fencing	Fencing
5	Shri. Xaviour Loius	Volley Ball Coach	NIS in Volley Ball	Volley Ball
6	Shri.Prajith Baskar	Basket Ball Coach		Basket Ball
7	Shri. Aneesh	Cricket Coach	M.Phil in Physical Education	Cricket
8	Shri. Arun Raj	Asst.Coach		Cricket
9.	Shri. Sujith S.	Team Manager for ShuttleBadminton (Asst.Prof in Phy. Edn TocH Inst of Sci and Tech)	M.Phil in Physical Education	Shuttle Badminton



Sl. No.	Name	Designation	Qualification	Specialization
10	Shri. Kannan K.	Team Manager for Volley Ball(Asst. Prof in Phy.Edn, KVM Eng.College, Cherthala)	M.Ped	Volley Ball
11	Shri. Saneesh S.	Team Manager for Foot Ball(Asst.Prof in Phy.Edn ,College of Eng. Kidangoor	M.Phil in Physical Education	Foot Ball

7. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Shri. Radha Krishnan P.	1 Section Officer
2.	Shri. Shameer C. M.	1 Office Attendant

8. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Play Ground Marker	1

9. Students Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Adventure Sports, Conducted at National Adventure Academy, Munnar	32	32	64(2011-12) 64(2013-14)

13. Publications**a. Papers**

Sl. No.	Name of Paper
1	"Burn out among Physical Education Teachers working in Upper Primary and Secondary schools of Government and Private sector in Kerala"-Quarterly International Journal of Physical Education and YogicSciences-ISSN-2231-1394,Vol:4,No;1 ,Jan-Mar 2014
2.	"Comparative Analysis of Mental health between male and female students of CUSAT"- Quarterly International Journal of Physical Education and YogicSciences-ISSN-2231-3265,Vol:11,No;1-July-Sept 2013



14. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Ajith Mohan K. R.	National Seminar on Applied Sports and Exercise Psychology, Conducted at Kannur University	Paper Presented "Building the Super Athlete- Gene Doping"
Dr. Ajith Mohan K. R.	National Conference of Sports Psychology Conducted at Christ College ,Irinjalakuda	Paper Presented "Comparative Analysis of Mental health between male and female students of CUSAT"
Dr. Ajith Mohan K. R.	National Seminar on Prevention of Life style Diseases through participation in Physical activity, Conducted at All Saints College ,Thiruvananthapuram	Chaired and Paper Presented "Occupational stress; Status of Physical Education Teachers in Ernakulum District"
Dr. Ajith Mohan K. R.	Attended International Workshop on Strength and Conditioning ,Organized by Sports Authority of India, Thiruvananthapuram	Participant
Dr. Ajith Mohan K. R.	Attended International Workshop on Sports Management, Organized by, SAI-LNCPE, Thiruvananthapuram	Participant

14. Role Faculty in International/National organizations/Institutions/Editorials Boards

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Ajith Mohan K. R.	vpm Judo Association	Vice President
Dr. Ajith Mohan K. R.	Kerala Cricket Association-International Match	Organizing Committee member
Dr. Ajith Mohan K. R.	National Games	Technical Committee member
Dr. Ajith Mohan K. R.	Kerala College Games	Vice Chairman Technical Committee





DEPARTMENT OF YOUTH WELFARE

1. Brief History of the Department

Department of Youth Welfare is a formal platform in the University to design and implement youth policy which includes the issues related to motivation, participation, promotion and socio-economic and cultural settings within which young people grow up. The Department is acting as a supporting force for the students and youth community to epitomize their academic excellence through doing and learning.

The Department was established with an aim to promote cultural and social life among the university community from the beginning of the University, under the headship of the Director. A full-time Director, Students Welfare was appointed in 1990 with independent charge of the Department of Youth Welfare. The present Director, Dr. P.K Baby assumed charge on 09th July, 2009.

Vision

To create sense of values and social life among students of the University through doing and learning and inculcate positive thinking for physical and mental health.

Mission

1. Organizing training / orientation programmes / motivation sessions / camps.
2. Conducting extension / outreach services.
3. Provide advocacy services for students.
4. Coordinate students activities.
5. Facilitate both tangible and intangible welfare programmes and procedures.

2. Programmes of Study/Research

The Department is conducting short-term training programmes in the areas of arts, soft skills and personality development with an objective of achieving 5 C's – Competence, Creativity, Confidence and Compassion and Communication.

3. Head

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. P. K. Baby	Director, Students Welfare	M.A. (Economics); M.B.A; M.Phil; Ph.D	Finance / General Management



4. Distinguished Visitors :

Sl. No.	Name	Affiliation	Remarks
1.	Padmabhushan T. N Krishnan	Violinist	Violin concert and interaction with students as part of Green room IV
2.	Ojas S. V.	Theatre Artist, Pune	Skill Development Training
3.	Dr. K. Babu Joseph	Science Writer and former Vice Chancellor, CUSAT	Seminar on scientific thinking and rationalism
4.	Sri. Ravichandran	University College, Trivandrum	
5.	Dr. K. M. Sheeba	Sree Sankaracharya University, Kalady	Seminar on scientific thinking and rationalism
6.	Dr. Sunil P. Ilayidom	Sree Sankaracharya University, Kalady	Seminar on scientific thinking and rationalism
7.	Dr. Jeevan Job Thomas	NIT, Calicut	Seminar on scientific thinking and rationalism
8.	Prof. M. K Prasad	Former Pro Vice Chancellor	Seminar on scientific thinking and rationalism
9.	Mr. Joshy Mathew	Film Director	REEL EARTH
10.	Dr. Thomas Varughese	Onchologist	Cancer Awareness Programme

5. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. P. K. Baby	National Seminar on "Contemporary Developments in Management", at Jawaharlal College of Engineering and Technology, Jawaharlal Business School, Lakkidi, Mangalam, Palakkad on 05th April, 2013.	Co-Author
Dr. P. K. Baby	National Seminar on "Contemporary Developments in Management", at Jawaharlal College of Engineering and Technology, Jawaharlal Business School, Lakkidi, Mangalam, Palakkad on 05th April, 2013.	Session Chair

**6. Seminar/Conference/Workshop/Refresher Courses conducted by the Department**

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Scientific Thinking and Rationalism	1 day, 06.07.2013	Dr. P. K. Baby	University
2.	Green Room IV; Cultivating Crativity	3 days 17-19, Jan., 2014	Dr. P. K. Baby	University

7. Other Programmes / Activities

Sl. No.	Title	Duration
1.	I Love my Campus; I Love my Planet	As part of its move towards the green campus, Department of youth Welfare, Cochin University of Science and Technology has initiated a programme titled <i>I love my campus, I love my planet</i> from 05 th may 2013.
2.	24th CUSAT International Rated Chess Tournament	<p>The 24th CUSAT International Rating Chess Tournament, jointly organized by the CUSAT Chess club, Department of Youth Welfare, Cochin University of Science and Technology, Department of Physical Education, Cochin University of Science and Technology and Cochin University Union held at university open air auditorium from 09.05.2013 to 13.05.2013.</p> <p>International Master V. A. V. Rajesh, and FIDE Masters Srinivasa Rao M., Maheswaran P., Muraledharan M. B. and Ram Aravind L. N. have participated in the five day-long event. A total of 325, including 234 FIDE rated players and one International Master from different parts of the country participated in the event.</p>
3.	One day Seminar on Scientific thinking and rationalism	A one-day seminar on "Scientific Thinking and Rationalism" was organised by the Department of Youth Welfare, Cochin University of Science and Technology to promote scientific thinking among the students and youth in the Campus. Dr. Ramachandran Thekkedath, Honorable Vice Chancellor of the University inaugurated the seminar.



4.	Monsoon Madness: Experiencing Nature	<p>“Monsoon Madness” - monsoon camps organized by the Department of Youth Welfare in association with Department of Forests and Wildlife Government of Kerala. The primary goal of the camp is to provide the students with an opportunity to immerse themselves into nature and get a better sense of understanding and appreciation about the resources and deep beauty of nature.</p> <p>The Monsoon Madness 3.1 was at Chinnar Wild life Sanctuary on 26th July 2013.</p> <p>The first team of 36 persons started off the trip to Chinnar on 26th July. There were two dormitories in the camp site on the riverside. Mr. Shaji, Forester, Chinnar Wildlife Sanctuary handled the first session and gave a description about the geography, flora and fauna of Chinnar.</p>
5.	REEL EARTH: Environmental Film Festival of CUSAT	<p>To create awareness on key environmental issues, the Department of Youth Welfare, Cochin University of Science and Technology, organised ‘Reel Earth: Environmental Film Festival of CUSAT’ (Reel Earth: EFFC-2013), a festival of environment related documentary films from 07th to 11th October 2013.</p>
6.	I Love my mom: Cancer Awareness Programme	<p>The Department of Youth Welfare in association with Cochin University Women’s Welfare Organization has organized an awareness programme, ‘I love my mom’ for the students and staff of the University at 01.30 PM on 05.12.2013, Thursday. Dr. Thomas Varughese MS, FICS (Onco) FACS, Director Cancer Division, Senior Consultant & Head of Department of Surgical Oncology & Reconstructive Surgery, Renai Medicity Hospital, lead the awareness programme. Dr. Ramachandran Thekkedath, Honourable Vice Chancellor presided over the function.</p>
7.	UNIFEST: South Zone Inter University Youth Festival 2013-14	<p>The cultural team from Cochin University of Science and Technology bagged overall runners up trophy in the 29th South Zone Inter University Youth Festival held at Bangalore University, Karnataka from 19th to 23rd December 2013. The team bagged six first prizes, one second prize and four third prizes including event runners up in literary events and fine arts. More than 30 Universities from Kerala, Tamil Nadu, Karnataka and Andhra Pradesh participated in the South Zone Inter University Youth Festival.</p>



8.	Green room IV: Cultivating Creativity	<p>Department of Youth Welfare, Cochin University of Science and Technology organized Green Room IV- Cultivating Creativity, an innovative camp for learning various skills through theatre from 17th to 19th January, 2014. The programme aimed at improving the quality of life through empowering students to enhance their creativity by challenging stereotypes and discrimination. 40 students from various departments/ colleges participated in the camp.</p> <p>The camp began with the introductory session by Dr. P. K. Baby, Director Students Welfare and Ms. Ojas S. V. at 3 PM on 17.01.2014 at Hindi auditorium. The programme was officially inaugurated by the violin concert by Padmabhushan T. N. Krishnan, world renowned violist at 06.30 PM on 17.01.2013 at SMS Auditorium. Sri. Thrippunithura Radhakrishnan accompanied on ghatam and Sri. L. Vaidhyathan accompanied on mridangam.</p>
9.	All India Inter University Youth Festival	<p>The cultural team from Cochin University of Science and Technology, under the leadership of Department of Youth Welfare, bagged many prizes in the 29th All India Inter University Youth Festival held at Kurukshetra University, Kurukshetra, Haryana from 18th to 22nd February 2014. The team bagged two first prizes, two second prizes, one third prize and one fourth prize and became the top scorer among the Universities from Kerala. More than 70 Universities from all states of the country participated in the All India Inter University Youth Festival.</p>
10.	Walk with a Scholar	<p>Walk with a Scholar (WWS) scheme proposes to arrange specialized mentoring programs for students in under Graduate Programs in Arts, Science and Commerce and to provide guidance for their future. The scheme introduces the idea of mentoring and builds on the concept of mentor as a 'Guide' and 'Friend'.</p>



		<p>The mentoring scheme for students will be purely voluntary in nature. It will be open for all students entering the first year of the Under Graduate Programme of Study. The Scheme aims at giving necessary orientation to needy students, to prepare them for employment and give them necessary guidance, motivation and necessary mental support to identify appropriate areas for higher study as well as employment.</p>
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CENTRE FOR THE STUDY OF SOCIAL EXCLUSION AND INCLUSIVE POLICY (CSSEIP)

1. Brief History of the Department: The Centre for the Study of Social Exclusion and Inclusive Policy (CSSEIP) has, since the commencement of its formal work in February 2009, engaged itself in building the intellectual infrastructure required for furthering research in the broad agenda of social exclusion. Following the general approach to social exclusion research, the Centre examines social exclusion as both '*a Process and a Status*'. Developing on this scheme of examining social exclusion, the Centre advocates the inclusion of the 'Process-Status-Process' approach in its research which incorporates identification and examination of the process that has led to social exclusion, evaluation of the present status/magnitude of social exclusion and charting out of processes to achieve the desired level of social inclusion.

2. Programmes of Study/Research: The topics which the Centre has identified as its core 'research themes' are a) Educational and Digital Exclusion b) Housing and Basic Amenities Exclusion c) Socio-cultural and Structural Determinants of Exclusion, d) Spatial Exclusion and e) Demographic dimensions of exclusion. The primary 'contexts' of the Centre's research are a) Tribal Communities in Kerala b) Resource Based Industries in Kerala c) Rural Population in Kerala d) Workers in Unorganized Sectors in Kerala e) Exclusion of the Elderly in Kerala etc.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. D. Rajasenan	Hon: Director	Ph.D Economics	Economics

4. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Bijith George Abraham*	Research Associate	M.B.E.	Economics
2	Sunitha A. S.**	Research Associate	M. Phil	Economics
3	Rajeev B#	Research Assistant	M.A.	Economics
4	Nikitha Manoj P. M.##	Research Assistant	M. Phil	Economics

* Relieved from the duties of Research Assistant on 30/06/2013 A.N. to join as Research Associate from 01/07/2013 F.N; ** Joined on 01/02/2014 F.N; #. Joined on 16/07/2013 F.N; ##. Joined on 16/07/2013 F.N. and relieved on 09/01/2014 A.N.



5. Research Facilities

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 464	Books : 80

6. Distinguished visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. Varghese Manaloor	John P. Tandberg Chair in Economics and Management and Associate Professor at, University of Alberta, Canada	Research discussions
2	Prof. Dr. Carolina López C	Office of the Vice-Chancellor, University of Malaya-50603 Kuala Lumpur	Research discussions

7. Publications

a. Paper/Working Papers

Sl. No.	Name of Paper	Impact Factor, if any
1.	Rajasen D. (2014), "Gender Bias and Caste Exclusion in Engineering Admission Inferences from the Engineering Entrance Examination in Kerala", "Higher Education 2.0", Higher Education for the Future, Kerala State Higher Education Council, Thiruvananthapuram, Sage Publication 1(1); (January 2014).	
2.	Rajasen D., Bijith George Abraham and Rajeev B. (2014) "Migration-Induced Exclusion of the Elderly in Kerala", CSSEIP Working Paper Series Vol.3, No.4, CUSAT, 2014.	
3.	Rajasen D. with Suresh P. R. (2014), "Education as Choices and Capabilities: An Analysis of the Level of Exclusion of the Tribes in Kerala", accepted for publication in International Journal of Economic Issues, Serial Publications, (Jan 2014).	
4.	Rajasen D., Rajeev B. and Bijith George Abraham (2013), "Dimensions of Consumer Exploitation and Worth of Institutional Mechanisms in Kerala", International Journal of Economic Issues, Serials Publications, New Delhi; Vol.6, No.2; July-December 2013.	
5.	M. S. Jayakumar, Bijith George Abraham and Rajeev B. (2013), "Educational Exclusion and Livelihood Deprivation: The Situation of Tribes in Kerala", Kerala Sociologist, Kerala Sociological Society, Thiruvananthapuram, Volume 41, Number 3, December 2013.	



6.	Rajasen D., Bijith George Abraham and Rajeev B. (2013), "Health, Education and Employment in a Forward-Backward Dichotomy based on Standard of Living Index for the Tribes in Kerala", Journal of Economics and Sustainable Development, Vol 3, No 6, IISTE, New York, 2013.	
7.	Rajasen D. (2013), "Consumption, Education and Exploitation: A Probe into the Consumer Exclusion in Kerala", April-June issue, Indian Institute of Public Administration, New Delhi, 2013.	
8.	Rajasen D. and Bijith George Abraham (2013) "Socio-Economic Situation of Tribes in Wayanad: A Distinct Case of Underdevelopment", CSSEIP Working Paper Series Vol.1, No.3, CUSAT, 2013.	
9.	Rajasen D. and Rajeev B. (2013) Development Dynamics Involved in Tribal Sub Plan", CSSEIP Working Paper Series, Vol.1, No.1, CUSAT, 2013.	
10.	Rajasen D. and Nikitha P. M. (2013), "Land Alienation and Housing Segregation of the Tribes in Kerala", CSSEIP Working Paper Series Vol.1, No.2, CUSAT, 2013.	

b. Books

Sl. No.	Name of Book
1.	Tribal Development: Desires, Discrepancies and Delusions – A Tale Untold from Kerala, Rajasen D., Himalaya Publishers, New Delhi, India (forthcoming).

8. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Students

Name of Participant	Name of Seminar/Conference/Workshop	Role
D. Rajasen	Gender Bias and Caste Exclusion in Engineering Admission: Inferences from the Engineering Entrance Examination in Kerala Organised by Santhigiri Social Research Institute (SSRI) on 21.11.2013.	Paper Presented
D. Rajasen	"Is India in Crisis?" organised by E. Balanandan Research Foundation on 10.09.2013 at Ernakulam.	Paper Presented
D. Rajasen	Global Economic Crisis and Marginalised Communities, organised by Centre of Science and Technology for Rural Development, Thrissur.	Paper Presented
M S Jayakumar	Migration and Elderly Left Behind: The Situation in Kerala, All India Sociological Conference, Mysore, 27-29 December 2013.	Paper Presented



Rajeev B.	Research Methodology Workshop on Social Exclusion and Discrimination, jointly organised by Indian Institute of Dalit Studies (IIDS), New Delhi and Centre for the Study of Social Exclusion and Inclusive Policy (CSSEIP), National Law School of India University (NLSIU), Bangalore, from 24 th -26 th June 2013 at Jawaharlal Nehru University (JNU), New Delhi.	Participant
Nikitha Manoj P. M.	Research Methodology Workshop on Social Exclusion and Discrimination, jointly organised by IIDS, New Delhi and CSSEIP, NLSIU, Bangalore, from 24 th -26 th June 2013 at JNU, New Delhi.	Participant

9. Sponsored Research Projects :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Self-financing Engineering Education in Kerala: The Situation of Dropout and Employment Exclusion of SC/ST Students (ongoing)	KSHEC	Rs. 1,95,800/-	Dr. D. Rajasenan
2	Residential Segregation and Social Exclusion among the Scheduled Castes (SC) and Scheduled Tribes (ST) of Kerala (ongoing)	ICSSR	Rs. 10,00,000/-	Dr. D. Rajasenan
3	Self-Financing Regime and Educational Exclusion: An Inquiry into the Professional Education in Kerala (ongoing)	ICSSR	Rs. 7,00,000/-	Dr. D. Rajasenan
4	Community Participation in Eco-tourism and Inclusive Development in Kerala (ongoing)	UGC	Rs. 5,89,000/-	Dr. D. Rajasenan
5	Exclusion on the Edge: A Study on Emigration-induced of Elderly in Kerala (completed)	ICSSR	Rs. 5,09,550/-	Dr. M. S. Jayakumar (Principal Investigator)/ Dr. D. Rajasenan (Co-investigator)

10. Consultancy Work

Sl.No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Study on Policy Determinants of Household Economic Development (PDHED) at Meenangadi, Wayanad in Kerala	Dr. D. Rajasenan	MSSRF





INTERNATIONAL CENTRE FOR ECONOMIC POLICY AND ANALYSIS (ICEPA)

ABOUT ICEPA

The International Centre for Economic Policy and Analysis (ICEPA) was an off-shoot of the international collaboration the Department of Applied Economics had in the 1990s and 2000s. The original request for the development of this Centre came from the international collaborators so as to sustain the system with continuous linkage.

ICEPA was established in April 2004 in the Department of Applied Economics, CUSAT for analyzing the economic issues and giving guidelines to authorities for taking policy decisions. The Centre was allocated with an annual budget of Rs. 10,000/- till 2007-08 budget years. The ICEPA has been working with zero budget since 2008-09, following a cut in the financial allocations made to all centres. The Centre is functioning with the Director [Prof. D. Rajasenan] and an Advisory Board. Currently, the Centre is conducting seminars/workshops with external assistance, carrying out research projects from national and international agencies and also developmental dialogues with national and international NGO's as well as with industries and Government.

Since its inception, ICEPA has been entrusted with the following studies by various international and national agencies:

STUDIES UNDERTAKEN BY ICEPA

- ❖ Economic Feasibility on the Movement of Containers Through Waterways of Southern Kerala, funded by Kerala Shipping and Inland Navigation Corporation Ltd. (2012).
- ❖ Evaluation of Coconut Palm Insurance Scheme (CPIS), funded by the Coconut Development Board, Ministry of Agriculture, Government of India (2011).
- ❖ Status Report on Livelihood and Employment of Workers in Rubber and Spice Plantations—Funded by Ministry of Plantation, Government of India (through Centre for Development Studies, Trivandrum) (2010-11).
- ❖ A four-country (Italy, Netherlands, India and Bangladesh) collaborative research study in “Global Commodity Chain” under Asia-Link Scheme funded by European Union (2008).
- ❖ Corporate Social Responsibility in Kerala: An Investigation into the Insides-The Royal Netherlands Embassy, Press and Culture Affairs, New Delhi (2007).



- ❖ Market Survey Feasibility Study for Micro Enterprises under the SGSY Scheme, District Rural Development Agency- Ernakulam, Government of Kerala, (2007-08).
- ❖ Industrial Potential Study in Ernakulam District, District Industrial Centre- Ernakulam, Government of Kerala (2007).
- ❖ Private sector competitiveness in Kerala: Strategies for development-Study undertaken for Development Research Institute, The Netherlands (2004-05).
- ❖ Strengthening NGO capacity to improving the living conditions of the poor in Kuttanadu, Kerala – study undertaken with Tillburg University Assistance (2004).
- ❖ Cost of compliance survey of prawn peeling sheds-study undertaken for World Bank (2004).

SEMINARS/WORKSHOPS CONDUCTED BY THE ICEPA

1. Workshop on Regional Economic Cooperation in South Asia with a focus on India-Sri Lanka Trade, jointly organized with CUTS Centre for International Trade, Economics and Environment (CUTS CITTEE), Jaipur and Fried Ebert Stiftung, New Delhi, 2008.
2. International Seminar on Corporate Social Responsibility: Current Issue and Future Trends sponsored by The Royal Netherlands University, New Delhi, 2006.
3. International seminar on WTO and the Agreement on Agriculture (AOA): opportunities, threats and its implications on the Coconut Economy, 2005.
4. Validation Workshop on Sustainable Commodity Chains of the European Union held at International University of Business Agriculture and Technology (IUBAT), Dhaka, Bangladesh, August 2005.
5. International Workshop - Case Analysis II: Sustainable Commodity Chains of the Developing Countries, Cochin University of Science and Technology (CUSAT), May 2005.
6. International Workshop - Case Analysis I: Sustainable Commodity Chains of the Developed Countries, University of Bari, Italy, January 2005.
7. Sustainable Commodity Chains Workshop of the European Union held at University Van Tilburg, the Netherlands, September 2004.

BOOKS PUBLISHED BY ICEPA

1. Rajasenan D. (ed): Corporate Social Responsibility- An Investigation into the Insides, Directorate of Publication and Public Relations, CUSAT (2008).
2. Rajasenan D. & Gerard de Groot (ed): Industrial Economy of Kerala- Nodes and Linkages Directorate of Publication and Public Relations, CUSAT (2006).



3. Rajasenan D. & Gerard de Groot (ed): Kerala Economy: Trajectories, Challenges and Implications, Directorate of Public Relations and publication, CUSAT (2005).
4. Rajasenan D. (ed): Resource Based Industries in Kerala, Directorate of Public Relations and publication, CUSAT (2005).
5. Rajasenan D. (ed): WTO and Agreement on Agriculture: Opportunities, Threats and Implications for the Coconut Economy, Coconut Development Board, Government of India and International Centre for Economic Policy and Analysis, Cochin (2005).

SEMINAR PRESENTATIONS, PAPERS AND ARTICLES

1. Article titled "Economics of Barge-Based Inland Container Transportation: The Case of Southern Kerala", Journal of Institute of Public Enterprise, Institute of Public Enterprise, India, Vol. 36, No. 1 & 2, Jan-June 2013.
2. Article titled "Coconut Yield Estimation Survey in Kerala and its Inferences: An Inter-spatial Analysis", accepted by SAJOSPS.
3. Article titled "Stakeholder's Perception of Coconut Palm Insurance Scheme: An Empirical Evaluation", Indian Coconut Journal, Coconut Development Board (CDB), Ministry of Agriculture, Govt. of India, Kochi, 2012.
4. Article titled "Marine Product Exports of Kerala in the ASEAN India Free Trade Area: Possibilities and Challenges", Journal of Economics and Sustainable Development, Vol.3, No.7, 2012, IISTE, New York., 2012.
5. "Food Security Challenges and Food Security Bill 2011: the Inferences and imperatives" in the National Colloquium on the draft National Food Security Bill 2011 organised by the Centre for Law and Agriculture under the National University of Advanced Legal Studies (NUALS), Kerala, 29.10.2011.
6. "Ethical dilemmas of Corporates: a methodological framework for managerial decision making" in the International workshop on Corporate Social Responsibility at University of Bari, Italy, August 22-27, 2005.
7. "Corporate Social Responsibilities of Kerala Companies: A Profile", Corporate Social Responsibility in Kerala at Sustainable Commodity Chains Workshop of the European Union held at University Van Tilburg, the Netherlands, September 20-25, 2004.
8. "Prioritizing Stakeholders Claims: Some Food for Thought from the Academia to the Practitioners", (Ed. D. Rajasenan), Corporate Social Responsibility- An Investigation Into the Insides, Directorate of Publications and Public Relations, Cochin University of Science and Technology.
9. "The Kerala Model of Fisheries Development and Indigenous Fishers Response: Regulation, Exigency and Sustainability", Indian Journal of Millennium Development Studies, Vol, 1, No, 2, pp 187-200, September.



10. "Liberalised Trade, WTO and Developing Countries", Paper presented at the Congress 2004- Social Sciences and Humanities Convention of Canada, University of Manitoba, Winnipeg, Canada, June 3, 2004.

AREAS IDENTIFIED FOR FUTURE RESEARCH

The Centre proposes to carry out its research activities in the following identified core research themes:

- Globalization and development of emerging economies
- Globalization and Ecotourism
- Fisheries Economics
- Industrial Clusters
- Economic Development
- WTO and Global Supply Chain

WORKING PAPERS

The Centre also proposes to develop Working Paper Series in the abovementioned five thematic areas of research.

INTERNATIONAL COLLABORATION IN RESEARCH

1. Social Science and Humanities Research Board of Canada through collaboration with University of Alberta, Canada.
2. Through The Shastri Indo-Canadian Institute in collaboration with St. Mary's University, Halifax.
3. Through Netherlands Embassy, New Delhi in collaboration with the Tilburg University, The Netherlands.

PROPOSED PROJECTS/PUBLICATIONS/OTHERS

A. Research Projects/Collaborative Research Proposals

1. Globalisation and Ecotourism: A comparative case of Canada and Kerala, through collaboration with University of Alberta, Canada.
2. Cost of Cultivation of Coconut in Kerala: Issues and Opportunities, through Ministry of Agriculture, Government of India.
3. Possibilities and Challenges of Marine Product Exports from Kerala, through collaboration with University of Bremen, Germany.



B. Articles/Working Papers

1. Importance of Coconut Palm Insurance: A Case of Coastal States in India (forthcoming Working Paper).
2. An Estimation of Coconut Production in Kerala: The Case of Kollam, Ernakulam and Kozhikode (forthcoming Working Paper).

C. Seminars/Workshops/Discussions

Quantitative and Qualitative Research Methodology: A Statistical Package approach, ICSSR, New Delhi.





CENTRE FOR ADVANCED MATERIALS

1. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	M. K. Jayaraj	Professor	MSc, PhD	Nanophotonic and Optoelectronic Materials
2	K. Rajeev Kumar	Associate Professor	MSc, PhD	Vacuum Technology, Material Science
3	S. Jayalekshmi	Professor	MSc, PhD	Advanced Materials

2. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Sanal K. C.	IUCND	Prof. M. K. Jayaraj	Oxide thin films

3. Research Facilities

- a. Library
- b. Others

4. Distinguished Visitors :

Sl. No.	Name	Affiliation	Remarks
1	Prof. Tamio Endo	Mie University, Japan	Presented a talk on "Fabrication of La(Ba,Sr)MnO ₃ /ZnO Heterostructures and Electrical Junction/Switching Characteristics".
2	Prof. D. G. Kuberkar	Saurashtra University, Gujarat	Presented a talk on "Studies on Functional oxide based thin film devices"
3	Dr. Vineeth Valsan	University of Ferrara, Italy	Presented a talk on "Extending the band of focusing X-ray telescopes beyond 100 keV: motivations and proposed solutions"

**5. Publications****a. Papers**

Sl. No.	Name of Paper	Impact Factor, if any
1	Room temperature deposited transparent p-channel CuO thin film transistors, K. C. Sanal, L. S. Vikas, M. K. Jayaraj, Applied Surface Science, 297, 153 (2014)	2.112
2	Development of p-type amorphous $Cu_{1-x}B_xO_2$ thin films and fabrication of pn hetero junction, K. C. Sanal and M. K. Jayaraj, Materials Science and Engineering B, 185 (2014)	1.846
3	Growth and characterisation of tin oxide thin films and fabrication of transparent p-Sno/n-ZnO transparent p-n hetero junction, K. C. Sanal, M. K. Jayaraj, Materials Science and Engineering B, 178, 816 (2013)	1.846

6. Participation in Seminar/Conference/Refresher Courses etc by Faculty/Student

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. M. K. Jayaraj	Amorphous Transparent Semiconducting Oxides for Flexible Electronics, ICAFM 2014 Trivandrum, feb 19-21 2014.	Invited talk
Prof. M. K. Jayaraj	Quantum wells and quantum dots for photonic applications, RECENT TRENDS IN BIO-NANO PHOTONICS. S.N.College kollam Dec 19-20 2013	Invited talk
Prof. M. K. Jayaraj	Metal oxides - amorphous to single crystal film form for optoelectronic application", International confrence on adavnced matersils and its applictions ICAM 2014, Alphonsa college pallai,march 26-28,21014	Invited talk
Prof. M. K. Jayaraj	Oxide nanostructures and heterostructures for nonlinear optics national seminar on nonlinear optics. St Dominic college kolencherry 3-4 jan 2014.	Invited talk
Sanal K. C.	ICMAT 2013, 7 th International conference on Materials for Advanced Technologies, 30 June to 5 July 2013, Suntec Singapore	Poster presentation
Sanal K. C.	2 nd International conference on Advanced functional materials ICAFM 2014, February 19-21, 2013, Thiruvananthapuram, India	Poster presentation
Sanal K. C.	IUMRS ICA 2013, Dec 16-20 2013, IISc Bangalore, India	Poster presentation





K. M. MANI CENTRE FOR BUDGET STUDIES (KMMCBS)

A. Brief History of the Centre

a. Introduction

Following a token provision provided in the State Budget (2012-2013) to establish a Centre for Budget Studies (CBS) at the Cochin University of Science and Technology (CUSAT), the University Syndicate resolved to start the Centre in the University and chose to name it the K. M. Mani Centre for Budget Studies. K. M. Mani Centre for Budget Studies (KMMCBS) was inaugurated by Hon'ble Vice President of India on 17th February 2013 at the Old Assembly Hall, Thiruvananthapuram.

b. Objectives

1. The major objective of the Centre will be to contribute to the theory and practice of Public Budget and Budget making as well as to the classification, analysis, accountability and management of budget in democratic countries with special focus on India's fiscal federation.
2. In due course it will be the endeavour of the Centre to start a Post Graduate Course in Budget and Budget Management. Initially a six months Diploma Course with an intake of 10 students may be launched. Depending on demand it can be converted into a Masters Programme. There will also be a PhD programme, related to public finance and fiscal management.
3. To promote inter-departmental teaching and research by having collaborative ventures with the School of Management Studies and Department of Applied Economics. Needless to the focus will be on public finance.
4. To conduct round the year training for the officials of Budget Section in the Secretariat, Public Sector Undertakings, Universities, Local Fund Department, Panchayat Raj Institutions, Municipalities etc.

c. Thrust Areas of the Centre are;

- i. Local government budgeting with focus on Kerala
- ii. State, sub-state level fiscal relations



- iii. Establishing an archive of Travancore, Cochin, Travancore-Cochin and Kerala Budgets
- iv. To institute a long term ongoing project on the political economy of budgets and budget making in Kerala from the days of the princely states till date and publish papers and books based on that
- v. To create a cadre of experts on Budget and public budget making
- vi. Study on the public debt of Kerala
- vii. Establishment of a State Budget Observatory which provides the findings of the studies, research and detailed information concerning the state and local finance of Kerala. In particular the Centre would focus on developing a web-based architecture with the help of domain experts so that the programmes and schemes envisaged in the annual budgets can be effectively and efficiently executed on the field. This part would also include an effective monitoring mechanism so that the transparency of implementation, the reduction in corruption while the budget schemes and programmes are implemented with the use of modern IT tools and techniques. It is expected to develop a modern web-enabled e-architecture for the State of Kerala to show-case Government of Kerala as a modern government which works for its citizens
- viii. To organize various programmes/seminars and public lectures to create public awareness about the various dimensions of the annual budget of the governments particularly that of the union and Kerala State.
- ix. Publication (Books, reports, Working Papers, Occasional papers, News Letter etc.)

B. Executive Council

The functions of the Centre will be supervised by the Executive Council, comprising 9 members, under the Chairmanship of the Vice-Chancellor as follows:

1. Vice-Chancellor CUSAT (Chairman)
2. Pro- Vice-Chancellor
3. Honorary Director (Convener)
4. Secretary, Finance, Government of Kerala
5. Two Syndicate Members of CUSAT nominated by the Vice-Chancellor
6. Director, Gulati Institute of Finance and Taxation (GIFT)
7. Director, School of Management Studies
8. Head, Department of Applied Economics



C. Advisory Council

All members of the Executive Council are ex-officio members of Advisory Council. The Advisory Council consists of 15 members including Executive Council Members and other six members listed as below:

1. One Member from Kerala State Planning Board nominated by the Vice-Chairman, Planning Board.
2. Director, Centre for Development Studies (CDS), Thiruvananthapuram
3. One eminent person from the field of Management/Economics from National Institutes such as IIM, IIT, ISE nominated by the Vice-Chancellor
4. Director/Nominee, National Institute of Public Finance and Policy, New Delhi
5. Executive Director/Nominee, the Centre for Budget and Governance Accountability, New Delhi
6. President/Nominee, the Centre for Budget and Policy Studies, Bangalore

D. Organisational set up

1. Honorary Director - Prof. (Dr.) M. A. Oommen
2. Co-ordinator - Dr. Sabu Thomas
3. Staff Members - No permanent staff

E. Funding

An amount of Rs. 55 Lakhs have been received from Government of Kerala under Non-plan and Rs.5 Lakhs under Plan head. The annual budget proposed for 2014-15 is Rs.60 Lakhs.

F. Activities

The Centre was inaugurated on February 17, 2013 at the old State Assembly Hall, secretariat, Trivandrum by the Hon'ble Vice-President of India Shri. M. Hamid Ansari. The Centre organised the following programmes after the formal inauguration.

1. A Panel Discussion on Union Budget 2013-14 on March 8, 2013 at the Renai Cochin, Palarivattom in association with Centre for Budget and Governance Accountability (CBGA), New Delhi. Dr. Ramachandran Thekkedath, Vice-Chancellor, CUSAT inaugurated the programme. Panelists include eminent persons from academic and industrial background. Total 85 persons including students, researchers, professors, professionals participated in the programme. The Panel Discussion concluded with the Vote of Thanks by Dr. Subrat Das, Director, CBGA. A small book "A Look at the Budget" comprising the proceedings of the meeting edited by Prof. M. A. Oommen was published by the Centre.



2. In collaboration with Gulati Institute of Finance and Taxation (GIFT), the State Finance Department and the State Commercial Tax Department, the Centre organised a Pre-Budget Consultation at Government Guest House, Ernakulam on December 7, 2013. Dr. Jose Jacob, Director, GIFT delivered the Welcome Address and Shri. K. M. Mani, Honorable Minister for Finance, Law & Housing, Government of Kerala made the Presidential Address. Stakeholders from different sectors of the economy presented their memorandum before the Minister and Finance Secretary. There was very profitable exchange of views by the Government and the participants.
3. A Panel Discussion on State Budget 2014-15 on January 25, 2014 at the Government Guest House, Ernakulam under the Chairmanship of Honorary Director M. A. Oommen. Justice C.N. Ramachandran Nair, Former Judge, High Court of Kerala, (Chairman, Kerala Dam Safety Authority & Tenth Pay Commission) inaugurated the programme. Mr. R. Krishna Iyer (M/s R. Krishna Iyer & Co. Chartered Accountants, Ernakulam), Prof. (Dr.) Mary George (Member, Kerala Public Expenditure Review Committee, Government of Kerala), Prof. Lopus Mathew (Syndicate Member, CUSAT & Member, Higher Education Council Government of Kerala), Mr. Vinod Mathew (Resident Editor, The New Indian Express, Kochi), Prof. P. A. Vasudevan (Manager-Public Relations, Mathrubhumi, Palakkad), Dr. Jose Jacob (Director, National Savings Department (NSD), Government of Kerala & Director (i/c) Gulati Institute of Finance and Taxation (GIFT), Thiruvananthapuram), Dr. Nirmala Padmanabhan (Associate Professor & Head, Department of Economics, St. Teresa's College, Ernakulam) and Mr. P. J. Johny (M/s Johny & Co. Chartered Accountants, Ernakulam) presented papers. Accountants, Media persons, professors and University persons participated. The Panel Discussion concluded with the Vote of Thanks by Dr. Sabu Thomas, Co-ordinator, KMMCBS.
4. A Round Table Discussion on State Public Finance was organized by the Centre in association with Kerala Public Expenditure Review Committee on 15th March, 2014 at the Electronics Department Auditorium, CUSAT. Prof. (Dr.) K. Paulose Jacob, Pro-Vice Chancellor-in-charge of Vice Chancellor, CUSAT inaugurated the programme. Dr. B. A. Prakash, Chairman, Kerala Public Expenditure Review Committee, Government of Kerala delivered the Presidential Speech. Public Expenditure Review Committee members, Dr. K.V. Joseph, Dr. Mary George and Dr. V. Nagarajan Naidu expressed their views in the programme. Speakers of the programme were Shri. Sebastian Ouseph (Finance Officer, CUSAT), Prof.(Dr.) S. Harikumar (Professor, Department of Applied Economics, CUSAT) and Dr. Nirmala Padmanabhan (Associate Professor & Head, Department of Economics, St. Teresa's College, Ernakulam). The speakers commented on the latest report of Kerala Public Expenditure Review Committee for the year 2011-12. The Round Table Discussion concluded with the Vote of Thanks by Dr. K.V. Joseph, Member, Kerala Public Expenditure Review Committee.



G. Any Other

The Website of the Centre and a proposal to invite Research Projects on 'Political Economy and Process of budget-making in Travancore, Cochin and Kerala: from Historical and Theoretical perspectives', 'Budget process in the Local Governments of Kerala (PRIs, Municipalities and Corporations)', 'Social Security and Kerala Budget from 1957 through 2012-13' and 'Any innovative empirical or theoretical proposal on the theme of Budgeting', is under process.





UNIVERSITY UNION OFFICE

1. Brief History of the Department:

It is the University Union Office, under the guidance of Honorary Treasurer that co-ordinates and conducts the Election to the University Union. As soon as the University Order appointing Chief Returning Officer is released the Election process gain its momentum. Dr. Sasigopalan was the Chief Returning Officer for 2013-14. The Heads of the Departments were the Returning Officers for the respective constituencies coming under them. Each and every semester of the department is taken as a constituency except the part time and evening batches. Full time research scholars were considered under two constituencies and they would elect two representatives to the University Union. The preparation of constituency wise Electoral roll was done by University Union Office strictly in accordance with the University and Supreme Court directions in this regard. Students who lacked required percentage of attendance and had academic arrears were not allowed to contest the Election but had the right to vote. Nomination papers from more candidates than that required to fill the vacancies of the respective constituencies were received. Returning Officers had made arrangements at respective Departments for Election through Ballot where more valid nominations were received. The Election to the constituency of Research Scholars were also done at the University Union Office. After a free and fair election the following were elected as members:

1	Chairman	SREEHARI LAKSHMANAN M.Sc. I Sem., Dept. of Marine Geology, Geophysics
2	Vice-Chairman	ABIRAM K. R. B. Tech III Sem., Dept. of Ship Technology
3	General Secretary	ARCHANA G. MA. I Sem., Dept of Applied Economics
4	Secretary	SINU K. B.Tech. CS V Sem., School of Engineering
5	Executive Committee Member	DEEREJ K. BBA (LLB Hons.) V Sem School of Legal Studies
6	Executive Committee Member	THANSEEM K. B.Tech III Sem Dept. of Instrumentation
7	Executive Committee Member	AKHIL ANTONY III Sem (ME) Cochin University College of Engineering, Kuttanad
8	Executive Committee Member	UDITH KRISHNAN V. V. M.Sc.V Sem., International School of Photonics



9	Executive Committee Member	MISHAL M. A. B.Tech. I Sem., Kunjali Marakkar School of Marine Engineering
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2. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Dr. D. Mavoothu, Hon.Treasurer	1
2	Jhameela V. K., Office Superintendent	1
3	Geetha T., Peon	1

The Cochin University Union assumed charge on 8th January 2014.

Cochin University Union inaugural ceremony was held on 10.02.2014 at the Open Air Auditorium. The function was inaugurated by Smt. Rima Kallingal, Film Star and Shri. M.P. Rajeev, (Member of Parliament). The University Union conducted various other programmes as follows:

- 1) Sargam Arts Festival during March 2013
- 2) Published Magazine of Cochin University Union 2013-14
- 3) Freshers' Day of School of Engineering 2013-14.

Welfare Activities

Co-ordinating Student Aid Fund





NATIONAL CENTRE FOR AQUATIC ANIMAL HEALTH

1. Brief history

National Centre for Aquatic Animal Health (formerly Centre for Fish Disease Diagnosis and Management) established on 18th January 2000 could improve its performance and increase the out put under three spheres of activity during the period 2010 – 11, such as Research and Development, Extension and Education. Motto of the Centre has been 'Relentless effort for the Protection of Health of Aquatic Animals and their Environment' and it continually endeavors to transfer the outputs of research directly to the end users, the aquarists. The research and development activities of the Centre use cutting edge technology to bring in novel innovations for the development of sustainable aquaculture in India. A unique feature of the Centre is its in-house production facility, the Aquaculture Health Products Division to meet the needs of the Indian Aquaculture Industry. It is well equipped to conduct field trials of the research outputs, and ensures a consistent and continuous supply. The Aquaculture Extension Cell (AEC) is the link of the farmer to technology. Apart from this, we provide a platform for the interaction between farmers, scientists and industry.

The M. Tech. programme in Marine Biotechnology offered by the Centre supported by the Department of Biotechnology, Government of India under the National Network programme in human resource development in Biotechnology has been progressing well during the reporting period.

2. Programmes of study/Research

1. M.Tech. in Marine Biotechnology (Sponsored by DBT – 4 semesters)
- 2 . Ph.D. Programme under the Faculties of Marine Sciences and Environmental Studies

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Prof. I. S. Bright Singh	Professor & Co-ordinator	M.Sc., Ph.D.	Environmental (Marine) Microbiology & Biotechnology and Aquatic Animal Health
2.	Dr. Valsamma Joseph	Assistant Professor	M.Sc., Ph. D.	Marine Biotechnology



Sl. No.	Name	Designation	Qualification	Specialization
3.	Dr. T. P. Sajeevan	Assistant Professor	M.Sc. Ph. D	Marine Biotechnology
4.	Dr. A. Mohandas	Emeritus Professor	M.Sc. Ph. D.	Parasitology & Hematology
5.	Dr. Swapna P. Antony	DST INSPIRE Faculty	M.Sc. Oh. D.	Antimicrobial Peptides and Aquatic Virology
6.	Ms. Limmy T. P.	Contract	M.Tech	Bioprocess Technology

4. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. N. Nandini Menon	Scientist, Nansen Environmental Research Centre, India (NERCI) (Kochi)	M.Sc., Ph.D.	Marine Biology
2.	Mr. Mohan Kandaswamy	Director, Oriental Aquamarine Pvt. Ltd., Coimbatore	MBA	Industry Management
3	Mr. S. Girishkumar	Managing Director, HMT International Ltd., Bangalore	MBA	Industry Management
7	Mr. H. Krishna Iyer	Retd. Scientist, Central Institute of Fisheries Technology, Kochi	MSc	Biostatistics
8	Prof. R. Murugesan	Emeritus Professor Centre for Excellence in Genomic Sciences, Madurai Kamraj University	MSc, Ph,D	Bioinformatics
9	Dr. Satyanarayana Gummadi	Associate Professor, Department of Biotechnology, IIT, Madras	M.Tech, Ph.D	Bioprocess Engineering



Sl. No.	Name	Designation	Qualification	Specialization
10.	Dr. Jayachandran	Associate Professor, School of Biological Sciences, M.G. University, Kottayam-685560	M.Sc, Ph.D.	Bioprocess Technology
12.	Mr. K. C. Sivakumar	Technical Officer, Rajiv Gandhi Centre for Biotechnology, Trivandrum	M.Sc. MBA	Bioinformatics
13.	Dr. Sujith A.	Assistant Professor Department of Chemistry National Institute of Technology Calicut, Kozhikode-673801	M.Sc., Ph.D.	Nanobiotechnology
14.	Dr. A. Anas	Scientist 'C', National Institute of Oceanography, Cochin	M.Sc., Ph.D.	Nanobiotechnology

5. Research Staff:

- A) Dr. Gopalakrishnan. UGC – Kothari Fellowship – Biofilm disruption in shrimp hatchery systems with biosurfactants. 12-7-2012 to 11-7-2015
- B) Ms. Vrinda S. UGC – Kothari Fellowship – Recombinant antimicrobial peptides and cell penetrating domains from Phylum Arthropoda and Mollusca as anticancer agents. 02.12.2013 to 1-12-2016.

6. Research Scholars

Sl. No.	Name	Supporting Agency	Guide	Area of Work
1	Mr. Renjith K.	Degree Awarded	Prof. I. S. Bright Singh	Environmental Microbiology
2	Mr. Deepesh V.	Part time	Prof. I. S. Bright Singh	Environmental Biotechnology
3	Ms. Surekha mol I. S.	Degree Awarded	Prof. I. S. Bright Singh	Environmental Biotechnology
4	Ms. Vrinda S.	Thesis submitted	Prof. I. S. Bright Singh (Co Guide)	Marine Biotechnology



Sl. No.	Name	Supporting Agency	Guide	Area of Work
5	K. S. Sunish	Dgree Awarded	Prof. A. Mohandas & Prof. I. S. Bright Singh	Marine Biotechnology
6	Mr. Haseeb M.	Degree Awarded	Prof. I. S. Bright Singh	Environmental Biotechnology
7	Ms. Rose Mary Jose	Thesis submitted	Prof. I. S. Bright Singh	Environmental Biotechnology
8	Ms. Sunitha Paulose	Thesis submitted	Prof. I. S. Bright Singh	Environmental Biotechnology
9	Mr. Prem Gopinath	Thesis Submitted	Prof. I. S. Bright Singh	Environmental Microbiology
10	Mr. Jayesh P.	Degree awarded	Dr. I. S. Bright Singh	Environmental Biotechnology
11	Ms. Riya George	CUSAT	Prof. Rob H. Reed & Prof. I. S. Bright Singh	Environmental Microbiology
12	Ms. Ammu Thomas	CUSAT	Prof. Rob H. Reed & Prof. I. S. Bright Singh	Environmental Biotechnology
13	Ms. Deepa G. D.	CUSAT	Prof. A. Mohandas & Pro. I. S. Bright Singh	Marine Biotechnology
14	Mr. Devassy Christo	DBT	Dr. Valsamma Joseph	Metagenomics
15	Ms. Ramya R. Nair	UGC -JRF	Dr. Valsamma Joseph	Metagenomics
16	Ms. Sanyo Sabu	CUSAT	Dr. Valsamma Joseph	Marine Algal Biotechnology
17	Ms. Asha P.	DBT	Dr. I. S. Bright Singh	Marine Biotechnology
18	Ms. P. G. Preena	DST-Inspire	Prof. I. S. Bright Singh	Marine Biotechnology
19	Ms. B. Sreelakshmi	Degree awarded	Prof. I. S. Bright Singh	Environmental Biotechnology
20	Mr. Arun Augustin	CUSAT	Dr. Valsamma Joseph	Marine Biotechnology
21	Ms. Jisha Kumaran	KSCSTE	Dr. Valsamma Joseph	Marine Biotechnology
22	Ms. Dhaneesha M.	CUSAT	Dr. T. P. Sajeevan	Marine Biotechnology
23	Ms. Sareen Sarah John	DST Women Scientist Programme	Prof. Rob H. Reed and Prof. I. S. Bright Singh	Environmental Biotechnology



Sl. No.	Name	Supporting Agency	Guide	Area of Work
24.	Ms. M. Dhaneesha	KSCSTE	Dr. T. P. Sajeevan	Marine Biotechnology
25.	Ms. Lakhmi N.	SC/ST Welfare Fellowship	Dr. T. P. Sajeevan	Marine Biotechnology

7. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Office Assistant (daily wages)	1
2	Sweeper-cum-Cleaner (daily wages)	1

8. Technical Personnel : Project Assistants - 4 (Temporary)

9. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Tech. Marine Biotechnology	5	6	11
2	Ph.D.	6	19	25

10. Research facilities

- (1) Animal tissue culture
- (2) Immunodiagnostics
- (3) Molecular diagnostics
- (4) Virology
- (5) Bioprocess and fermentation
- (6) Bacteriology
- (7) Marine Biotechnology
- (8) Aquatic animal health assessment
- (9) Aquaculture medicine production unit
- (10) Aquatic animal bioassay unit
- (11) Environmental chemical analyses



11. Distinguished visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Pattanathu K. S. M. Rahman	Professor School of Science and Engineering, Middlesborough, UK.	5-9-2013

12. Ph.D. Awarded

Sl. No.	Title of Thesis	Research Scholar	Supervising Guide
1	A marine actinomycete <i>Nocardopsis</i> MCCB 110 as source of novel drugs to manage vibriosis	Suneesh K. S. (Reg. No. 2652)	Prof. A. Mohandas Dr. Rosamma Philip Prof. I. S. Bright Singh
2	Solar photo – oxidative disinfection for generating potable water from Natural sources	Ranjit K. (Reg. No. 2600)	Prof. I. S. Bright Singh & Prof. Rob H. Reed
3	Development of zero water exchange shrimp culture systems integrated with bioremediation of detritus and ammonia –nitrogen	Haseeb M. (Reg. No. 3232)	Prof. I. S. Bright Singh
4.	<i>Vibrio harveyi</i> phages: Isolation, characterization and evaluation of their potential as phage therapeutics on <i>Vibrio harveyi</i> in shrimp hatcheries	Surekha mol I. S. (Reg. No. 3072)	Prof. I. S. Bright Singh
5	Development of lymphoid cell culture system from <i>Penaeus monodon</i> and molecular approaches for its transformation	Jayesh P. (Reg. No. 3469)	Prof. I. S. Bright Singh

Ph.D. Theses Submitted

Sl. No.	Title of Thesis	Research Scholar	Supervising Guide
1.	Development of CHH family recombinant hormones and RNAi for induced maturation of <i>Penaeus monodon</i>	Vrinda S. (Reg. No. 3113)	Dr. Rosamma Philip & Prof. I. S. Bright Singh
2.	Marine yeast <i>Candida</i> MCCF 101 as feed supplement in aquaculture: nutritional quality, optimization of large scale production and evaluation of its protective effect on koi carp from <i>Aeromonas</i> infection	Sunitha Poulouse (Reg. No. 3233)	Prof. I. S. Bright Singh



Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
3.	Efficacy of marine bacterial probiotics on shrimp post larvae for enhanced growth, survival and protection from <i>Vibrio harvaeyi</i> '	Rose Mary Jose (Reg. No. 3234)	Prof. I. S.Bright Singh
4.	Mosquito larvae borne viruses from central Travancore region of Kerala: Isolation and characterization	Prem Gopinath (Re. No.	Prof. I. S.Bright Singh

13. Publications

a. Papers

Sl. No.	Peer Reviewed Journals
1.	Jayesh P., Rosamma P., I. S.Bright Singh. 2014. Multifactorial interaction of growth factors on <i>Penaeus monodon</i> lymphoid cells and the impact of IGFs in DNA synthesis and metabolic activity in vitro. <i>Cytotechnology</i> , DOI 10.1007/s10616 -04 – 9697-0. <i>Impact Factor</i> .
2.	Prabhakaran Priyaja, Puthumana Jayesh, Neil Scolastin Correya, Balachandran Sreelakshmi, Naduthalmuriparambil S. Sudheer, Rosamma Philip, Isaac Sarogeni Bright Singh. 2014. Antagonistic effect of <i>Pseudomonas aeruginosa</i> isolates from various ecological niches on <i>Vibrio</i> species pathogenic to crustaceans. <i>Journal of Coastal Life Medicine</i> . doi:10.12980/JCLM.2.2014J30
3.	Surekhamol I. S., G. D. Deepa, S. Somnath Pai, B. Sreelakshmi, S. Varghese and I. S.Bright Singh (2014). Isolation and characterization of broad spectrum bacteriophages lytic to <i>Vibrio harveyi</i> from shrimp farms of Kerala, India. <i>Letters in Applied Microbiology</i> , DOI 10. 1111/lam.12175, <i>Impact Factor</i> : 1.629
4.	Viswanathan Karthik., Vijayan Kamalakannan., Ancy Thomas., Naduvilamuriparambu Saidumammed Sudheer., Issac S. Bright Singh., Rangarajan Badri Narayanan (2013) Functional Characterization of a c-type Lysozyme from Indian Shrimp <i>Fenneropenaeus indicus</i> . <i>Probiotics & Antimicro. Proteins</i> . (Accepted) DOI 10.1007/s12602-013-9146-y. <i>Impact Factor</i> : 1.41
5.	Rejish Kumar V. J., Valsamma Joseph, Rosamma Philip and I.S. Bright Singh. 2013. Nitrification by Stringed Bed Suspended Bioreactors at Different Salinities and Substrate Concentrations' (Ref: IJMS/MS 2099/2012). <i>Indian Journal of Geo – marine Sciences</i> . Accepted. <i>Impact Factor</i> : 0.563
6.	Divya Jose, P. Jayesh, Prem Gopinath, A. Mohandas & I. S. Bright Singh. 2013. Potential application of B-1,3 glucanase from an environmental isolate of <i>Pseudomonas aeruginosa</i> MCCB 123 in fungal DNA extraction. <i>Indian Journal of Experimental Biology</i> , 52:89 -98. <i>Impact Factor</i> : 1.2



Sl. No.	Peer Reviewed Journals
7.	Rejish Kumar V. J., Vrinda Sukumaran, Cini Achuthan, Valsamma Joseph, Rosamma Philip, I. S. Bright Singh. 2013. Molecular characterization of the nitrifying bacterial consortia employed for the activation of bioreactors used in brackish and marine aquaculture systems. <i>International Biodeterioration & Biodegradation</i> , 78:74-81. <i>Impact Factor: 2.333</i> .
8.	Kulkarni A., J. H. W. M Rombout, I. S. B. Singh, N. S. Sudheer, J. M. Vlak, C. M. A. Caipang, M. F. Brinchmann, V. Kiron. 2013. Truncated VP28 as oral vaccine candidate against WSSV infection in shrimp: An uptake and processing study in the mid gut of <i>Penaeus monodon</i> . <i>Fish and Shellfish Immunology</i> , 34: 159 -166. <i>Impact Factor: 3.044</i>

Gen Bank Submissions : 62 entries (Total)

b. Books : Nil

c. Any Other : Nil

14. Participation in Seminar/Conference/Refresher Courses etc by Faculty of Members/Students/Staff

Participant(s)	Programme	Role
Dr. T. P. Sajeevan (Assistant Professor)	Bioinformatics in Marine Biology: Next generation sequencing technologies and applications – UGC – Sponsored – Conducted by Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Participant
Dr. Valsamma Joseph (Assistant Professor)	Bioinformatics in Marine Biology: Next generation sequencing technologies and applications – UGC – Sponsored – Conducted by Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Participant
Prof. I. S. Bright Singh (Assistant Professor)	Bioinformatics in Marine Biology: Next generation sequencing technologies and applications – UGC – Sponsored – Conducted by Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Participant
Mr. Arun Augustine (Research Scholar)	1. International Seminar on 'Research Impact, Publishing and Profiling' – 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016	Participant



Participant(s)	Programme	Role
	<p>2. Workshop on 'Data processing and presentation in Marine Sciences using open service Softwares', 24th 24th March, 2014 Organized by Department of Marine Biology, Microbiology and Biochemistry, CUSAT</p> <p>3. National seminar on 'Bioinformatics in Marine Biology: Next Generation Sequencing Technologies and Applications', 26th March 2013, Organized by Department of Marine Biology, Microbiology and Biochemistry, CUSAT</p>	Participant
Ms. Jisha Kumaran (Research Scholar)	<p>1. Short term training on Advanced Research Techniques (START – 2013) conducted at National Facility for Marine Cyanobacteria at Bharathidasan University, Thiruthirapalli from 8th to 19th April, 2013</p> <p>2. International Seminar on 'Research Impact, Publishing and Profiling' – 3rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016</p> <p>3. Presented a paper "Evaluation of growth requirements of marine microalgae <i>Nannochloropsis oculata</i> using Plackett – Burman experimental design" in the 26th Kerala Science Congress held at Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, during 28th – 31st January, 2014.</p> <p>4. Presented a paper " Diversity, distribution and abundance of miofauna in Kochi and Trivandrum Coast –a comparative study" in the National Seminar on climate change and marine ecosystems" held at the Department of Marine Biology, Microbiology and Biochemistry from 20th to 21st March 2014.</p> <p>5. Participated in the workshop on Data processing and presentation in Marine Sciences using open service Softwares', 24th 24th March, 2014 Organized by Department of Marine Biology, Microbiology and Biochemistry, CUSAT</p>	<p>Participant</p> <p>Participant</p> <p>Participant</p> <p>Participant</p> <p>Participant</p>



Participant(s)	Programme	Role
Ms. Riya George (Research Scholar)	1. Presented a paper on "Bioremediation potential of an aquaculture bioaugmentor <i>Bacillus cereus sensu lato</i> (MCCB 101) in shrimp sediment, India in the 3 rd International Science Congress ISC – 2013, 8 to 9 th December 2013, Karunya University, Coimbatore.	Presenter
	2. Participated in the International Seminar on Research Impact, Publishing and Profiling, 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016	Participant
Ms. Asha P. (Research Scholar)	1. Presented a paper on "Screening of cellulolytic microorganisms for the bioconversion of chemically delignified coir pith" in the 3 rd International Science Congress ISC – 2013, 8 to 9 th December 2013, Karunya University, Coimbatore.	Presenter
	2. International Seminar on 'Research Impact, Publishing and Profiling' – 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016.	Participant
Ms. Preena P. G. (Research Scholar)	1. Presented a paper on "Resolution of Nitrifying bacterial consortia on phytagel plates" in the International Conference on Biotechnology, Bioinformatics and Bioengineering, 28 th , 29 th 2013, SABT, Thirupathy.	Presenter
	2. Presented a paper on "Phylogenetic analysis of the denitrifiers segregated from the nitrifying bacterial consortia" in the International Conference on Ecosystem Conservation, climate change and Sustainable Development conducted from 3-5, October 2013, by Department of Aquatic Biology and Fisheries, Kerala University, Karyavattom, Trivandrum.	Presenter
	3. Presented a paper on "Diversity determination of ammonia oxidizing consortia used in nitrifying bioreactors designed for deploying in brackish water culture systems" in the the 3 rd International Science Congress ISC-2013, 8 to 9 th December 2013, Karunya University, Coimbatore.	Presenter



Participant(s)	Programme	Role
	4. Participated in International Seminar on 'Research Impact, Publishing and Profiling' – 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016	Participant
Ramya R. Nair (Research Scholar)	1. Presented a paper on "Ammonia oxidizing archaea in a zero water exchange shrimp culture system" in the 26 th Kerala Science Congress held at Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, during 28 th to 31 st January 2014. 2. Participated in the 101 th Indian Science Congress held at University of Jammu, during February 3 -7, 2014. 3. Participated in the workshop on Data processing and presentation in Marine Sciences using open service Softwares', 24 th 24 th March, 2014 Organized by Department of Marine Biology, Microbiology and Biochemistry, CUSAT 4. International Seminar on 'Research Impact, Publishing and Profiling' – 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016	Presenter Participant Participant Participant
Ms. Sanyo Sabu (Research Scholar)	1. Short term training on Advanced Research Techniques (START – 2013) conducted at National Facility for Marine Cyanobacteria at Bharathidasan University, Thiruthirapalli from 8 th to 19 th April, 2013. 2. Presented a paper on "Isolation and evaluation of marine microalgae from west coast of India for neutral lipids" in the 26 th Kerala Science Congress held at Kerala Veterinary and Animal Sciences University. 3. Participated in the 101 th Indian Science Congress held at University of Jammu, during February 3 -7, 2014.	Participant Presenter Participant



Participant(s)	Programme	Role
	4. Participated in the workshop on Data processing and presentation in Marine Sciences using open service Softwares', 24 th 24 th March, 2014 Organized by Department of Marine Biology, Microbiology and Biochemistry, CUSAT	Participant
	5. Participated in International Seminar on 'Research Impact, Publishing and Profiling' – 3 rd January 2014 at School of Marine Sciences, Cochin University of Science and Technology, Cochin – 682016	Participant

15. Awards/Honours/Fellowships etc. received :

Name of Awardee	Particulars
Prof. I. S.Bright Singh	Elected as Fellow of National Academy of Agricultural Sciences (NAAS), ICAR

16. Sponsored Research Project :

Ongoing Research Projects

Sl. No.	Title and Period	Funding Agency	Total Cost in Lakhs
1.	Detailed performance evaluation and accelerated commercialization of the nitrifying bioreactor technology in Indian market – Phase II. Period: 7-11-2012 to 7-11- 2017. PI: Prof. I. S.Bright Singh	Department of Biotechnology, Government of India, Under SBIRI Scheme	15.0 lakhs
2.	Polyhydroxy butyrate from marine micro-organisms for biomedical and aquaculture applications. Period: 1-4-2012 to 31-3-2017. PI: Prof. I. S.Bright Singh	Centre for Marine Living Resources and Ecology, Ministry of Earth Science, Government of India	87.0
3.	Immortalization of lymphoid cell culture from <i>Penaeus monodon</i> by transduction with oncogenes, ectopic expression of telomerase reverse transcriptase using shrimp specific expression vectors and hybridization with established cell lines. Period:14-9-2012 to 13-9- 2015 PI: Prof. I. S.Bright Singh	Department of Biotechnology, Government of India	46.07



Sl. No.	Title and Period	Funding Agency	Total Cost in Lakhs
4.	Development and optimization of vaccines to protect shrimp from white spot syndrome virus (August 2009 to March, 2013) PI: Prof. I. S. Bright Singh	Department of Biotechnology, Government of India.	56.96
5.	Selection and identification of immunocompetent early life stages of the giant fresh water prawn <i>Macrobrachium rosenbergii</i> based on differential mRNA expression. (19-6-2013 to 18-6-2016)	Department of Science and Technology, Government of India	43.67
6.	Metagenomic approach to cloning and expression of endo and exoglucanases and beta 1-4 glycosidase from soil water system (28 th September 2010 to 27 th September 2014) PI: Prof. I. S. Bright Singh	Department of Biotechnology, Government of India	40.02
7.	Development of photobioreactors for mass production of marine microalgae as live feed in aquaculture systems. (10302011 to 28-2-2014) PI: Dr. Valsamma Joseph	Kerala Biotechnology Commission, Kerala State Council for Science, Technology and Environment	21.516
8.	Bioprospecting for antitumor compounds from marine actinomycetes. (1-7-2012 to 30-6-2014) PI: Dr. T. P. Sajeevan	University Grants Commission.	3.83
9.	Optimization of neutral lipid and biomass production of marine microalgae and expression pattern of the key genes in neutral lipid synthesis. (1 st July 2012 to 30 th June 2015) PI: Dr. Valsamma Joseph	University Grants Commission	13.04
10.	Evaluation of saponins as potential anti white spot syndrome virus (WSSV) prophylactic molecules in shrimp culture. (3-9-2012 to 2-9- 2014) Dr. N. S. Sudheer	KSCSTE	1.0

17. Research Programmes and Activities

Sl. No.	Name	Guide	Area of Research
1	Renjith K.	Prof. I. S. Bright Singh	Solar photo-oxidative disinfection for generating low cost potable water from natural water sources
2.	Dhaneesha M.	Dr. T. P.Sajeevan	Bioprospecting for antitumor compounds from marine actinomycetes



Sl. No.	Name	Guide	Area of Research
3.	Sareen Saraha John	Dr. Rob H. Reed & Dr. I. S. Bright Singh	Improvisation of phytase production through optimizing fermentation conditions and strain improvement.
4.	Rojith G.	Dr. I. S. Bright Singh	Delignification studies on coir pith for enzymatic saccharification
5	Jisha Kumaran	Dr. Valsamma Joseph	Development of photobioreactors for mass production of marine microalgae as live feed in aquaculture systems
6	Deepesh V.	Dr. I. S. Bright Singh	Detritus Management in Shrimp Culture Systems
7.	Deepa S. Nair	Dr. P. Natarajan & Dr. I. S. Bright Singh	Production of poly beta hydroxyl butyrate from marine microorganism
8	Devassy Christo	Dr. Valsamma Joseph	Metagenomic approach to cloning and expression of endo and exoglucanases and beta, 1-4 glycosidase from forest eco system
9	P. Asha	Dr. I. S. Bright Singh	Metagenomic approach to cloning and expression of endo and exoglucanases and beta, 1-4 glycosidase from mangrove and coir retting ground
11	Ramya R. Nair	Dr. Valsamma Joseph	Diversity and abundance of key microbial functional groups involved in nitrogen biogeochemical cycling in shrimp culture systems through metagenomics approach
13	Rose Mary Jose	Dr. I. S. Bright Singh	Unraveling the probiotic effect in shrimp larval rearing systems and its augmentation for enhanced larval survival and productivity
15	Prem Gopinath	Dr. P. Natarajan & Dr. I. S. Bright Singh	Water borne Enteric viruses in and around Cochin
17	Sanyo Sabu	Dr. Valsamma Joseph	Marine microalgae with high neutral lipid content: Optimization of lipid and biomass production and relative quantification of the key genes expressed



Sl. No.	Name	Guide	Area of Research
18	Riya George	Dr. Rob H. Reed & Dr. I. S. Bright Singh	<i>Bacillus</i> MCB 101 as detritus bioaugmentor in aquaculture system: Mode of action and functional genomics.
19	Ammu Thomas	Dr. Rob H. Reed & Dr. I. S. Bright Singh	Development of photosynthetic sulphur bacteria based bioremediation technology for aqua culture system for H ₂ S removal.
20	Deepa G. D.	Dr. A. Mohandas & Dr. I. S. Bright Singh	Cyanobacterial probiotic <i>Synechocystis</i> MCCB 114 and 115- Purification, molecular characterization, microbial association and mass production in photobioreactor
21	P. G. Preena	Dr. I. S. Bright Singh	Molecular characterization and cell signaling of nitrifying bacterial consortia used in nitrifying bioreactor
22	Arun Augustin	Dr. Valsamma Joseph	Polyunsaturated fatty acid production in marine microalga <i>Nanno chloris</i> sp.

Research Projects under M.Tech Biotechnology

Sl. No.	Name	Guide	Area of Research
1.	Ms. Vinaya K. K.	Dr. Valsamma Joseph	Molecular characterization of cobalamine acquisition genes in marine microalgae (Completed)
2.	Ms. Gnana Dhivya R.	Dr. Valsamma Joseph	Metagenomic analysis of microbial communities associated with marine diatoms(Completed)
3.	Mr. Neelanchal Vaid	Dr. T. P. Sajeewan	Anti – bacterial and anti – viral compounds from marine actinomycetes against aquatic pathogens(Completed)
4.	Ms. Snigdha Gupta	Dr. T. P. Sajeewan	Bioprospecting for neuroprotectants from seaweeds.(Completed)



Sl. No.	Name	Guide	Area of Research
5.	Ms. Ayesha	Dr. T. P. Sajeevan	Molecular and cell culture based screening and development of PCR based diagnostics for major viral pathogens in ornamental fishes
6.	Ms. Hajira Haneef	Dr. T. P. Sajeevan	Bioactive peptides from marine tunicate Phallusia nigra with anti-proliferative and anti-bacterial activity:
7.	Ms. Balammal P.	Dr. Valsamma Joseph	Phylogenetic diversity of microbial communities associated with the marine diatoms
8.	Mr. Lankey Vinay	Dr. Valsamma Joseph	Optimization of sulfated polysaccharide production in marine red microalga Dixoniella grisea and screening for anti-viral activity against White Spot Syndrome Virus
9.	Mr. Dhirendra Kumar Singh	Dr. Swapna Antony	Molecular identification and phylogenetic relationship of marine DNA viruses
10	Mr. Vishnu Prasad J.	Prof. I. S. Bright Singh	Optimization of α -1,3 glucan production from <i>Pseudomonas aeruginosa</i> MCCB123 for the extraction of DNA from fungi

18. Consultancy Work

The Centre has undertaken consultancy works on routine monitoring of the water and sediment quality and health status of aquatic animals from various aquaculture farms from Kerala and outside.

Revenue generated (1-4-2012 to 31-3-2013)

Month Amount in Rupees

Month and Year	Amount in Rupees
April, 2013	Rs. 33,847.0
May, 2013	Rs. 22,471.0
June, 2013	Rs. 28,675.0
July, 2013	Rs. 55,620.0



Month and Year	Amount in Rupees
August, 2013	Rs. 9821.0
September, 2013	Rs. 23,450.0
October,2013	Rs. 14,069.0
November, 2013	Rs. 19,442.0
December, 2013	Rs. 37,058.0
January, 2014	Rs. 43,342.0
February, 2014	Rs. 33,133.0
March, 2014	Rs. 1,51,122.0
Total	Rs. 4,51,122/-

19. Extension Service:

Disease diagnosis and management aquaculture systems.

The Aquaculture Extension Cell of the Centre worked towards helping farmers in completing successful crops of *finfish and shellfishes*. The service has been extended to Maharashtra, Andhra Pradesh, and Tamil Nadu apart from several farms in Kerala.

The extension activities of the Centre are supported by the following:

1. Mr. Anishmon P. K. Project Associate (Farm)
2. Ms. Blessy Jose Project Assistant (Microbiologist)
3. Mr. Soman, A. L. Project Assistant (Office)
4. Ms. Surya Sugunan Project Assistant (Chemistry/Microbiology)

Besides, Research Scholars are also assigned with mini extension programmes with in the purview of their research programmes

Continuing education programme:

The Centre has organized several orientation programmes on zero water exchange sustainable shrimp culture and Diseases in Ornamental Fish Diseases. Under this category National Fisheries Development Board sanctioned a project on “zero water exchange shrimp culture with bioremediation and integrated disease management” under technology up gradation programme for a total cost of Rs. 15.05, 800.0. This programme is meant to demonstrate the zero water exchange technology to aquafarmers so that it can be extended to more areas. First phase of the programme has been completed





INTER-UNIVERSITY CENTRE FOR NANOMATERIALS AND DEVICES (IUCND)

1. Brief History of the Department :

The Centre was established by the University through a resolution adopted in the meeting of the syndicate held in september 2009. The inauguration of the Centre was done in the presence of honorable Minister for Education, Government of Kerala on 7th January 2010. The Centre was established with the object of the development and promotion of the research work on Nanomaterials and Devices and other allied programmes related with Nanomaterials. The Centre is headed by the Professor and Honorary Director, Dr. Prathapa Chandrakurup. Initially the Centre appointed 6 Research Personnel as Junior Research Fellow. Now there are 6 Research Scholars and 1 Principal Investigator in the IUCND.

2. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Anjali C. P.	Government of Kerala	Dr. K. Sreekumar (Professor, Dept. of Applied Chemistry)	Hetrogeneous Catalysis
2.	Anu A. M.	Government of Kerala	Dr. K. Sreekumar (Professor, Dept. of Applied Chemistry)	Synthesis and evaluation of catalytic activity of nano NiO and its composition
3.	Laina. A. L.	Government of Kerala	Dr. K. Girish kumar (Professor, Dept. of Applied Chemistry)	Application of Electro Chemical sensors for the determination of pharmaceuticals
4.	Aparna Thankappan	Government of Kerala	Prof. V. P. N. Nampoori (Emeritus Professor ISP)	Nanophotonics
5.	Sanal K. C.	Government of Kerala	Dr. M. K. Jayaraj (Professor, Dept.of Physics)	Preparation of oxide Thin Films for the application of TTFT
6.	Sreekala P. S.	Government of Kerala	Dr. C. K. Aanandan (Professor, Dept.of Electronics)	Microwave properties of Nanomaterials



Sl. No.	Name	Funding Agency	Guide	Area of Work
7.	Rajagopalan K.	Government of Kerala	Dr. M. R. Prathapa chandra Kurup (Professor, Dept.of Applied Chemistry)	Nanoparticles from metal complexes
8	Suhadath K. K.	Government of Kerala		Slurry based nano ceramic coating for TBC applications

Anu A. M. upto 02/03/2013 and Laina A. L. upto 26/04/2013

3. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer (Additional Charge)	1
2.	Assistant (on daily wage basis)	1
3.	Sweeper cum Cleaner (on daily wage basis)	1
4.	Library Assistant (on daily wage basis)	1

4. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Assistant	2 (vacant)

5. Research Facilities

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
410 Books	Nil

6. Ph.Ds Awarded :

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Voltammetric sensors for the determination of pharmaceuticals"	Laina A. L.	Dr. K. Girish Kumar



7. Publications

a. Papers

Sl. No.	Name of Paper	Impact Factor, if any
1.	“Optical characterization of ZnO nanoplates embedded in polymeric matrices for optical limiting applications” Optics & Laser Technology 52 (2013)37-42, Aparna Thankappan, Divya S., Sheenu Thomas and V. P. N. Nampoori	
2.	“Novel composites based on polymer micro –rods for photonic device applications ” Optics & Laser Technology 58 (2014) 63-70, Aparna Thankappan, Sheenu Thomas and V. P. N. Nampoori	
3.	“Solvent effect on the third order optical nonlinearity and optical limiting ability of betanin natural dye extracted from red beet root” Optical Materials 35 (2013) 2332-2337	
4.	“Tuning the face orientation of ZnO nano/microcrystals by a wet chemical method” Chin.Opt. let 2013,11(10)pp. 101801, Aparna Thankappan, Sheenu Thomas and V. P. N. Nampoori	
5.	“Morphology impact on the nonlinear optical Properties of ZnO crystals embedded in polymeric Matrices” Aparna Thankappan, Sheenu Thomas and V. P. N. Nampoori NLS,MIT, Manipal University January 8-11,2013	Conference papers
6.	Growth and characterisation of tin oxide thin films and fabrication of transparent p-SnO/n-ZnO p-n hetero junction K. C. Sanal, M. K. Jayaraj Material Science and Engineering B 13352(2013) 1–6.	1.88
7.	Growth of IGZO thin films and fabrication of transparent thin film transistors by RF magnetron sputtering. K. C. Sanal, Majeesh and M. K. Jayaraj, Proc. SPIE 8818, Nanostruc-tured Thin Films VI, 881814 (2013).	
8.	Room temperature deposited transparent p-channel CuO thin film transistors K. C. Sanal, and M. K. Jayaraj, Journal of Appl. Surf. Scie 297:153–157.(2014).2.11	2.11
9.	Development of p-type amorphous Cu _{1-x} BxO ₂ _ thin films and fabrication of pn hetero junction, K. C. Sanal, and M. K. Jayaraj , Mater. Sci. Eng. B (2014) 185:109-103	1.88

**8. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Student**

Name of Participant	Name of Seminar/Conference/Workshop	Role
Aparna Thankappan	Microwave assisted polyol method, for the preparation of cdse nanoballs- Sr. Anju K. Augustin	Participant
Aparna Thankappan	Preparation and Characterization Techniques for BaTiO ₃ AND CdS Nanoparticles – Mr. Nideep T. K.	Participant
Aparna Thankappan	Synthesis And Characterization of ZnSe nanoparticles – Manju Joseph	Participant
Aparna Thankappan	Preparation and properties & Applications of Chalcogenide Glasses- Musfir P. N.	Participant
Sanal K. C.	Growth and characterisation of p-type amorphous CuCrOx thin films by rf magnetron co- sputting, Sanal K. C. and M. K. Jayaraj, National seminar NATIONAL SEMINAR ON EMERGING TRENDS IN growth and characterization of single crystals and nanomaterials,2013 march, SH Chalakudy	Participant
Sanal K. C.	Growth of copper chromium oxide thin films and fabrication of thin film transistors IUMRS, ICA	Participant
Sanal K. C.	Growth of P-type Amorphous Transparent Oxide Thin Films by Co-sputtering ICMATT 2013, Singapore	Participant
Sanal K. C.	Electrical Conductivity Measurement of a Single ZnO Nanorod ICMATT 2013, Singapore.	Participant
Sanal K. C.	Room temperature deposited copper chromium oxide thin film transistors. K. C. Sanal and M. K. Jayaraj, National conference on nanotechnology and renewable energy (NSNRE-2013) October, KE college, Mannanam, Kottayam	Participant
Sanal K. C.	Growth of transparent conducting copper boron oxide thin films and fabrication of p-n hetero junction. National Conference on Nanotechnology and Renewable energy (NSNRE-2013) October, KE college, Mannanam, Kottayam	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
Anjali C. P.	Synthesis and application of feather like polypyrrole / Palladium nanocomposite as catalyst in benzimidazole synthesis Anjali C. P. and Dr. Sreekumar, National Seminar on Polymers plural Thoughts Over The Boons and Bans -2014 Kanhangad	Participant
Anjali C. P.	National Seminar on Current Trends in Chemistry Ctric – 2014 -Cochin	Participant
Sanal K. C.	Transparent Flexible Heterojunction In The Structure ITO/n-ZnO/i-ZnO/p-CuO/Au By RF Magnetron Sputtering, K. C. Sanal and M. K Jayaraj, International conference on advanced materials ICAFM (2014) Thiruvananthapuram, India.	Participant
Sanal K. C.	P-Channel Copper Oxide Thin Film Transistors fabricated using Room Temperature RF magnetron sputtering, K. C. Sanal and M. K. Jayaraj, International conference on advanced materials ICAFM (2014) Thiruvananthapuram, India.	Participant

9. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1.	"F Semigroup Compactifications Extension property for a Fuzzy Topological Semigroup	Department of Science and Technology (DST)	1068000/-	Dr. K. S. Kripalini





INTER - UNIVERSITY CENTRE FOR IPR STUDIES

1. Brief History of the Department:

The Centre for IPR Studies, established in the School of Legal Studies of the Cochin University of Science & Technology in 2003, is converted into IUCIPRS to encourage multidisciplinary teaching and research in the area of intellectual property rights. Centre for IPR Studies was originally established with Dr. K.N. Chandrasekharan Pillai, Dean, Faculty of Law as the Hon. Director and Dr. N.S. Gopalakrishnan as the Coordinator. The Centre is also supported by the Ministry of Human Resources Development, Government of India, which has established HRD Chair on Intellectual Property Rights in CUSAT in 2003. The Government of India also extended financial support to develop a depository of IPR materials. The Centre, thus at present, receives financial assistance from both the Centre and the State Governments. At present the Centre has one of the best collections on IPR from different parts of the world.

2. Programmes of Study/Research :

The main activities of the centre include policy research support to both Central and State Government, supporting /assisting Government of India in International Negotiations conducting extensive research in intellectual property related areas, conducting different types of academic programmes which include Ph.D programmes with fellowships, facilitating multi-disciplinary research, undertaking post graduate courses for students of School of Legal Studies from Science, Technology and management disciplines of CUSAT, short-time fellowship for students from other universities who have registered for Ph.D on any IP related areas, visiting fellowship for eminent academics from India and abroad, financial support for students giving them an opportunity to associate with conferences and workshop on emerging issues on Intellectual Property Law and conduct training programmes for Judges, professionals, scientists. It also extends support to scientists industrialists and other technical experts from CUSAT and outside in obtaining different forms of IP protection .The centre has prepared policy research papers for the Government of India for International text based negotiations in World Intellectual Property Organisation for different treaties on protection of traditional knowledge, traditional cultural expression/folklore and Genetic Resources. Also supported Government of Kerala in implementing the IPR policy of Kerala.



3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Prof. N. S. Gopalakrishnan	Professor	LLM, Ph.D	Intellectual Property
2	Dr. T. G. Agitha	Associate Professor	LLM, Ph.D	Intellectual Property
3	Dr. Prabha S. Nair	Research Officer	LLM, Ph.D	Intellectual Property

4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Chaithanya E. P.	Govt. of Kerala	Prof. N. S. Gopalakrishnan	The Role of State in the Protection of Traditional Knowledge
2	Narendran T.	Govt. of Kerala	Pro. N. S. Gopalakrishnan	Intellectual Property Issues in Open Source Drug Discovery"
3	Anson C. J.	Govt. of Kerala	Prof. N. S. Gopalakrishnan	Marketing Challenges Face by Geographical Indications of Kerala
4	Rujitha T. R.	Govt. of Kerala	Prof. N. S. Gopalakrishnan	Patenting Life under U/S 3 J of Patent Act and Its Impact
5	M. Sakthivel	Govt. of Kerala	Prof. N. S. Gopalakrishnan	Protection of 4g Peer 2 Peer Technology Under Copyright
6	Arathi Ashok	Nil	Dr. T. G. Agitha	Shift of Indian Copyright Regime: From Entrepreneur to Author

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Administrative Assistant	1
2	Cleaner cum Peon	1

**6. Technical Personnel**

Sl. No.	Designation	No. of Posts
1	Assistant Librarian	1
2	Library Professional	1

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Ph.D	3	3	6
2	LLM (IPR) Ph.D	2	3	5
3	MIP Ph.D	2	1	3

8. Research Facilities**a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 1504 Journals : 2	Books : 70

9. Distinguished Visitors :

Sl. No.	Name	Affiliation	Remarks
1	Jennifer A. McIntyre	U.S. Council General, Chennai	

10. Publications**a. Papers**

Name	Name of Paper	Impact Factor, if any
Dr. N. S. Gopalakrishnan	Compulsory Licence under the Indian Patent Law, along with Madhuri Anand, <i>Compulsory licence</i> , Max Plank Institute (2014 forth coming) Principles for Intellectual Property Provisions in Bilateral and Regional Agreements: Reflections on the ongoing negotiations of EU-India FTA, Journal of IIC, 2013.	



Dr. T. G.Agitha	<p>“Global Governance for Facilitating Access to Medicines: Role of World Health Organization”, 18 <i>Journal of Intellectual Property Rights</i>, November 2013 pp. 589-595 in the Column <i>Global Public Health and Intellectual Property</i>”</p> <p>Alternative incentive Models Delinking R&D Costs from Pharmaceutical Product Price”, 18 <i>Journal of Intellectual Property Rights</i>, September 2013 pp. 491-498 in the Column <i>Global Public Health and Intellectual Property</i></p> <p>“Impact of IP on Public Health: The Developed Country Scenario” 18 <i>Journal of Intellectual Property Rights</i>, July 2013 pp. 382-389 in the Column <i>Global Public Health and Intellectual Property</i></p> <p>“TRIPS Agreement and Public Health: The Post Doha Crises” 18 <i>Journal of Intellectual Property Rights</i>, May 2013 pp. 287-293 in the Column <i>Global Public Health and Intellectual Property</i></p>	
Dr. Prabha S. Nair	The Nagoya Protocol on ABS: Benefit Sharing Perspectives” in <i>Journal of the Campus Law Centre, University of Delhi</i> (ISSN : 2321-4716) Vol.1 (2013) pp. 78-97	
Rujitha	<p>Education & Library exception under Indian Copyright Act: An analysis published in GNLU conference proceedings, 2014, ISBN 978-81-921703-5-0</p> <p>"Challenges to Corporate Governance: Issues & Concerns" in <i>International Journal of Marketing, Financial Services & Management Research</i>. Vol.1 Issue 12, December 2012, ISSN 2277 3622</p>	
M. Sakthivel	Case Comment on TN Godavarman v. Union of India, MANU/ SC/ 0028/2014 in <i>Rostrum's Law Review</i> . (forth coming)	
Chaithanya E. P.	An Evaluation of the Impact of the Market on the Role of State With Special Reference to India” <i>Journal of history and social sciences</i> , Vol. IV, Issue II, July – December 2013	
Anson C. J.	Pokkali Rice Production under Geographical Indication Protection: The Attitude of Farmers standards-Essential Patents: A Prolegomena, <i>Journal of Intellectual Property Rights</i> Vol 19, January 2014, pp 59-66’	



Yogesh Pai	<p>The Rational Basis for FRANDly Courts Denying Injunctive Relief for SEPs Infringement”, Journal of Intellectual Property Rights, Vol 19, March 2014, pp 146-156’</p> <p><i>News Paper op-ed: “A New Template for Pharma Research”, Hindu Business Line (11th April, 2013),</i></p> <p><i>News Paper op-ed: “Legal Education at Crossroads” Hindu Business Line (15th May, 2013),</i></p>	
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b. Books**Dr. N. S. Gopalakrishnan**

Sl. No.	Name of Book
1	<i>Principles of Intellectual Property</i> , along with Dr. T.G. Agitha, Eastern Book Co. Second Edition 2014

11. Participation in Seminar/Conference/Refresher Courses etc by Faculty/ Student

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. N. S. Gopalakrishnan	27 th session of Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, March 2014	Member of Indian Delegation
	Diplomatic Conference to finalize the Treaty for the Protection of Persons with print and visual disabilities, Morocco, June 2013.	Member of Indian Delegation
	25 th session of Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, July 2013	Member of Indian Delegation
	24 th session of Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, April 2013	Member of Indian Delegation
	International Conference on TK, TCE and GR, Government of India, NewDelhi January 2013.	Speaker
Dr. T. G. Agitha	Patents and Access to Medicines” in the National Seminar organized by the Justice Krishna Iyer Chair on Human Rights, School of Legal Studies, Cochin University of Science	Speaker



	and Technology on “Socio-Economic Rights – Challenges for its Realization” held at School of Legal Studies on 3 rd - 5th March 2013	
	“Intellectual Property Rights and Protection of Traditional Knowledge of the Tribal People”, in the Workshop on Problems and Challenges Faced by Tribal Healers organized by KIRTADS from March 13-15, 2013	Speaker
Dr. Prabha S. Nair	National Symposium on Emerging Trends in Biotechnology organized by the Department of Biotechnology, Cochin University of Science and Technology during 22-23 January 2014	Resource person
	Special Lecture series organized by Centre for Environment and Law, National University of Advanced Legal Studies, Cochin on 11 th September 2013	Invited talk
Arathi Ashok	National Workshop on Social Responsibility and Professional Ethics in Librarianship.	Resource Person for the Session on Intellectual Property Rights and Libraries.
Rujitha	Presented a paper on “Intellectual Property Trade & Development: A perspective of Developing Country in the; light of RTA’s & FTA’s” in National Seminar on ‘Trade & Development’ organised by School of Economics, Devi Ahaliya Vishwavidyalaya, Indore on 7-8 February, 2014	Presented Paper
	Presented a paper on” TRIPS Flexibilities & Public Interest: Impact of Free Trade Agreements” in the Two Days International Conference on International law and Intellectual property laws (22-23 March, 2014) organised by Faculty of Law, Delhi University	Presented Paper
	Presented a paper on” Education & Library exception under Indian Copyright Act : An analysis in Technical conference cum workshop on Digital Library using space on March 21-23, 2014 Gujarat National Law University	Presented Paper
	Speaker on the topic “Role of IPR in Biotechnology Industry “ for Biotechnopreneur Programme is launched by Entrepreneur Development Institute under the sponsorship of Gujarat State Biotechnology Mission (GSBTM), Govt. of Gujarat	Speaker



M. Sakthivel	7 th International Poverty and Social Protection Conference, Bangkok, Thailand – March 9 th -11 th , 2014	Presented a Paper on “Manual Scavengers Protection”
	International Conference on “International Law and IPR” - 22 nd & 23 rd March, 2014. Organized by ISIL & Delhi University	Presented a Paper “Protection of Traditional Knowledge- An Analysis”.
	International Conference on “Comparative Law and Development” 21 st & 22 nd March, 2014. organized by Delhi University	Presented a Paper”Non-State Actors and Environmental Justice: An Indian Approach”
	One week “Institute on Internet and Society” organised by Centre for Internet and Society at Bangalore. 8 th -14 th June, 2013	Participated
Chaithanya E. P.	International conference on “India’s Development Strategy – Discourse On Past, Present and Future” conducted by Jamia Milia Islamia University, New Delhi on 5-6th March 2013	Presented a paper “Whether the Market has Changed the Role of State with Special to the Indian Scenario

12. Role of Faculty in International/National organizations/Institutions/Editorial Boards :

Name of Faculty	Name of Organization	Role
N.S. Gopalakrishnan	World Intellectual Property Organization, Geneva	Member of Editorial Board of the Journal

13. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Tutor, Distance Learning Programme	N. S. Gopalakrishnan	WIPO World Wide Academy, Geneva



**PART - IV**

ANNUAL ACCOUNTS OF THE UNIVERSITY
STATEMENT SHOWING THE RECEIPTS AND EXPENDITURE FOR 2013-2014

Sl. No.	Items	Plan	Non-Plan	Total
	Opening fund balance as 01.04.2013	394,338,923	-366,224,480	28,114,443
I. RECEIPTS FOR 2013-14				
1	Internal Revenue (including fee receipts)		376,953,857	376,953,857
2	Grant from State Govt.	140,000,000	540,000,000	680,000,000
3	Grant from UGC	67,591,370		67,591,370
4	Grant from other GOI Sources	151,390,219		151,390,219
5	Grant from other Agencies	18,286,522		18,286,522
6	NSS Grant from State Govt.	0		0
7	Other grants from State Govt.	36,500,000	5,000,000	41,500,000
8	Scholarships/Prizes		244,211	244,211
9	Net Debt Head Receipts (Excluding PF)			
	Debt Head Receipts 144,662,418			
	(Less) Debt Head Expenditure 136,827,397			
	Net Debt Head Receipts (Excluding PF)		7,835,021	7,835,021
	Total Receipts for 2013-14	413,768,111	930,033,089	1,343,801,200
II. EXPENDITURE FOR 2013-14				
10	Administrative Expenses			
a)	Salaries and other allowances	0	109,328,875	109,328,875
b)	Other revenue expenses	2,656,855	265,207,579	267,864,434
11	Examination Expenses			
a)	Salaries and other allowances	0	68,314,050	68,314,050
b)	Other revenue expenses	396,731	13,730,441	14,127,172
12	Academic Expenses			
a)	Salaries and other allowances	925,000	273,347,041	274,272,041



Sl. No.	Items	Plan	Non-Plan	Total
b)	Other revenue expenses	13,614,219	11,906,716	25,520,935
13	Other Auxiliary Expenses			
a)	Salaries and other allowances	0	42,348,942	42,348,942
b)	Other revenue expenses	6,014,608	46,721,455	52,736,063
14	Capital Expenses			
a)	Vehicles		2,750,872	2,750,872
b)	Computer & other Expenses	14,803,757		14,803,757
c)	Furniture	3,391,494		3,391,494
d)	Books & Journals	19,145,581		19,145,581
e)	Works	112,469,484		112,469,484
15	State Govt. Kerala Schemes	7,045,342		7,045,342
16	UGC-Bulk Grants & Schemes	22,451,730		22,451,730
17	Other GOI Sources	88,315,537		88,315,537
18	Scholarships/Fellowships/Prizes	55,351,216	8,810,131	64,161,347
19	Others (Bulk Grants & Schemes)	15,065,399		15,065,399
	Total Expenditure for 2013-14	361,646,953	842,466,102	1,204,113,055
	Closing fund balance as on 31.03.2014	446,460,081	-278,657,493	167,802,588
	PF receipts for 2013-14		111,673,699	
	PF expenditure for 2013-14		96,583,583	

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ENGINEERING DEPARTMENT

1.	Name of Department	Engineering Department
2.	Name of the University Engineer	Smt. Sheela P.J.
3.	Budget amount	
a.	Major work plan '1-97-0-T	13,04,63,390/-
b.	Minor works '1-97-0-T-4-999'	1,00,00,000/-
4.	2-94-1-T School of Engineering	5,63,38,000/-
5.	2-94-2- Cochin University College	1,36,50,000/-
6.	2-94-4-T Kunjali Marakkar	1,00,66,000/-
7.	17-0- Engineering Dept. (Non Plan)	3,46,75,000/-
8.	17-0- Engineering Dept. (Plan)	3,00,000/-

Major Works

Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
		1-97-0-T-1-036		
1.	C.B. No. 800/13-14	Urgent repairing to the lab No.AC17/18 for dept. of Applied Chemistry.	Sri. Rajendran	2,59,095/-
2.	C.B. No. 810/13-14	Providing entrance facilities for the newly constructed ramp and emergency maintenance work to dept. of Bio Technology.	Sri. Rajendran	1,62,756/-
3.	C.B. No. 815/13-14	Renovation of toilet at F.F. of Atmospheric Science dept. in connection with the commencing of new course at Industrial Fisheries.	Sri. V. K. Shaji	1,69,306/-
4.	C.B. No. 821/13-14	Repair and maintenance of room No.212, 223 & 224 related passage etc. for starting classes in Fisheries Science in F.F. of Atmospheric Science	Sri. V. K. Shaji	2,41,020/-
5.	C.B. No. 822/13-14	Providing light roof for the open space in the first floor adjacent to the class room of dept. of Atmospheric Science	Sri. P. K. Sajeeb	3,06,396/-
6.	C.B. No. 824/13-14	Urgent renovation works in the toilet in dept. of Instrumentation at Thrikkakara campus.	Sri. Suresh kumar S. S.	2,41,813/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
7.	C.B. No. 826/13-14	Modification works to room No. 11 & 10 for relocking the Library in dept. of Applied Chemistry.	Sri. Rajendran P. V.	2,50,949/-
8.	C.B. No. 843/13-14	Providing storage space to the various labs in the dept. of Polymer Science & Rubber Technology.	Sri. Rajendran P. V.	4,51,848/-
9.	C.B. No. 845/13-14	Renovation works to the Library of dept. of Mathematics dept. at Thrikkakara campus.	Sri. P. G. Suneesh	1,56,403/-
10.	C.B. No. 842/13-14	Flooring with Vitrified tiles drawing hall III (2 nd floor) in Ship Technology dept.	Sri. P. K. Meethen Kunju	81,972/-
11.	C.B. No. 882/13-14	Providing stage arrangements in SMS Auditorium in connection with the inauguration of National Seminar conducted by dept. of Hindi.	Events Excellence, Aluva	25,674/-
		Total		24,47,226/-
		'1-97-0-T-4-999'		
1.	C.B. No. 801/13-14	Purchase of Sintex tank 500 litre and to be reimbursed to the U.E. towards unloading and transportation charges.	Dept.	1,67,800/-
2.	C.B. No. 817/13-14	Construction of an open well near Adithi Bhavan	Sri. V. P. Letheef	3,08,916/-
3.	C.B. No. 823/13-14	Electrification to the new site for C-sis block at Thrikkakara campus.	M/s. Casedi Electricals	5,18,467/-
4.	C.B. No. 846/13-14	Cleaning the septic tank of post matric hostel having capacity 28m3	Sri. Shaji V. K.	60,000/-
5.	C.B. No. 851/13-14	Purchase of utensils for Post matric hostel OBC	Co op Dept. Store	1,13,891/-
6.	C.B. No. 860/13-14	Extension of canteen in Ad. block	K. M. Abdul Saleem	4,44,769/-
7.	C.B. No. 900/13-14	Purchase of LPG stove to OBC hostel	Dept.	84,008/-
8.	C.B. No. 1101/13-14	Petty works done in OBC hostel	Sri. Polly Mathew	96,400/-
		'1-97-0-T-4-602'		
1	C.B. No. 802/13-14	Balance work of Open air auditorium	M/s. P. N. P. Constructions	1,36,292/- 28,407/-
2	C.B. No. 813/13-14	Deptl. work in CUSAT Auditorium	M/s. P. N. P. Constructions	8,77,593.00
3	C.B. No. 814/13-14	Renovation of toilet in the G.F. of CUSAT auditorium	Sri. Anwar P. A.	42,552/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
		'1-97-0-T-1-045'		
1.	C.B. No. 803/13-14	Payment for the soil test conducted by M/s. Modarch consultants.	M/s. Modarch Consultants	29,000/-
2	C.B. No. 868/13-14	Architectural consultancy fee for the building of Nano Material & Devices	M/s. Modarch Consultants	2,37,932/-
		'1-97-0-T-4-603'		
1.	C.B. No. 804/13-14	Various works done in S.S. Complex	Dept.	59,361/-
2.	C.B. No. 807/13-14	Balance work phase II floor finishing, roofing, wooden joinery etc.	Sri. M. J. Thomas	15,99,401/-
3.	C.B. No. 811/13-14	Balance work phase II floor finishing, roofing, wooden joinery etc.	Sri. M. J. Thomas	3,13,920/-
4.	C.B. No. 825/13-14	Supply, installation, acoustic thermal insulation and false ceiling	Sri. P. A. Augustine	3,20,144/-
5.	C.B. No. 827/13-14	Payment of Consultancy charges for Acoustic works	M/s. Acoustic and Logistics works	52,128/-
6.	C.B. No. 828/13-14	Painting works to Science Seminar Complex	Sri. Shajahan P. K.	2,44,672/-
7.	C.B. No. 830/13-14	Air Conditioning of Auditorium in S.S. Complex	M/s. Satyta Sai Air Condition and Refrigeration Company Pvt. Ltd.	13,89,984/-
8.	C.B. No. 849/13-14	Reconstruction of S.S. Complex providing connection from the down water pipe to rain water harvesting tank in the S.S. Complex.	Raijo Thomas	3,25,882/-
9.	C.B. No. 850/13-14	Aluminium work and ceiling work in S.S. complex	Sri. Cheriyan Varghese	4,94,705/-
10.	C.B. No. 853/13-14	Supply and installation of side and rear wall bottom paneling etc. in S.S. complex	M/s. Green Tech Interior	2,92,950/-
11.	C.B. No. 854/13-14	Various civil works in S.S. complex	Dept.	38,292/-
12	C.B. No. 855/13-14	Various works done in S.S. Complex	Dept.	16,617/-
13	C.B. No. 856/13-14	Painting stage side walls with black acrylic emulsion paint.	Sri. Augustine P.A.	15,018/-
14	C.B. No. 857/13-14	Supplying and installation of Auditorium chairs	M/s. Fournier	13,51,080/-
15.	C.B. No. 859/13-14	Various works done in S.S. complex	Dept.	44,458/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
16	C.B. No. 861/13-14	Various works done in S.S. complex	Dept.	46,304/-
17	C.B. No. 863/13-14	Providing hand rails to S.S. complex	Sri. Nidheesh A. J.	2,11,549/-
18.	C.B. No. 866/13-14	Providing ACP works to exterior walls in S.S. complex	Sri. P. A. Augustine	13,04,788/-
19	C.B. No. 867/13-14	Various works done in S.S. Complex	Dept.	12,761/-
20	C.B. No. 869/13-14	Supply & Installation of Auditorium chairs.	M/s. Fournier	16,39,170/-
21.	C.B. No. 871/13-14	S.S. Complex chairing the end drop and drain pipe.	Dept.	4,431/-
22	C.B. No. 874/13-14	S.S. Complex – Supply and installation of side and near wall bottom paneling etc.	M/s. Green Tech interiors	7,88,819/-
23.	C.B. No. 877/13-14	S.S. Complex – painting works	Sri. Shajahan P. K.	1,97,050/-
24	C.B. No. 886/13-14	Purchase of articles for S.S. Complex	Dept.	4,684/-
25	C.B. No. 887/13-14	Construction of compound wall with grill and gate	Sri. Siraj T. A.	6,93,503/-
26.	C.B. No. 889/13-14	Providing stage arrangements in S.S. complex	Sri. P. A. Agustine	13,93,013/-
27	C.B. No. 893/13-14	Supply, Installation, testing & Commissioning of sound reinforcement system in the S.S. complex.	M/s. SAK pro Audio	6,41,239/-
28.	C.B. No. 894/13-14	Providing cable trench in S.S. complex	Sri. Suresh Kumar	27,888/-
29	C.B. No. 895/13-14	Supply installation testing and commissioning of stage lighting in S.S. complex	M/s. SAK pro & Audio	1,70,698/-
30	C.B. No. 1102/13-14	Construction of masonry wall closing of chiller room.	Sri. Suresh Kumar S. S.	79,099/-
31.	C.B. No. 1105/13-14	Providing Epoxy floor painting to arch steps in S.S. complex	Dept.	44,380/-
32.	C.B. No. 1106/13-14	Works done in S.S. complex	Dept.	27,886/-
33.	C.B. No. 1107/13-14	Labour charges for providing Epoxy floor painting to Arch steps in S.S. complex	Dept.	1,05,274/-
		Total		1,26,00,068/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
		'1-97-0-T-4-606'		
1.	C.B. No. 829/13-14	Construction of drain along the south side of compound wall for C-SiS premises at Thrikkakara.	Sri. P. K. Sajeeb	7,66,474/-
		'1-97-0-T-2-406'		
1.	C.B. No. 831/13-14	Repairing work to peeling out portion of ceiling in Aiswarya hostel	Sri. Polly Mathew	69,400/-
2.	C.B. No. 836/13-14	Converting existing work area into kitchen for Siberia hostel.	Sri. S. S. Sureshkumar	4,12,125/-
3.	C.B. No. 847/13-14	Cleaning the septic tank in north west side of Sanathana men's hostel.	Dept.	16,500/-
4.	C.B. No. 848/13-14	Supplying PVC septic tank for 25 user in Sanathana	Dept.	18,000/-
5.	C.B. No. 865/13-14	Providing new septic tank and soak pit to Hostel No.I (Sanathana)	Sri. Suresh Kumar S. S.	2,35,939/-
		Total		7,51,964/-
		'1-97-0-T-2-405'		
1.	C.B. No. 833/13-14	Construction of 1 st floor to the bachelor's hostel	Sri. Noble Mathew	10,41,445/-
2.	C.B. No. 1108/13-14	Construction of 1 st floor to the bachelor's hostel	Sri. Noble Mathew	13,61,691/-
		Total		24,03,136/-
		'1-97-0-T-1-037'		
1.	C.B. No. 842/13-14	Vertical extension to the earthing of SMS building in 1 st and 2 nd floor.	Sri. V. Pradeep	7,65,951/-
2.	C.B. No. 878/13-14	Vertical extension to the earthing of SMS building in 1 st and 2 nd floor.	Sri. Ansheed V.A.	10,23,410/-
		Total		17,89,361.00

School of Engineering - 2-94-1-T-4-999

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1.	C.B. No. 601/13-14	Construction of walk way & foot path along the road from main gate to culvert in SOE campus	Anshad V. A.	10,87,212/-
2.	C.B. No. 603/13-14	Fixing MS grills to the 1 st floor of stair case of NLB	Nazar V. K.	2,29,020/-
3.	C.B. No. 605/13-14	Painting works to the thermal and hydraulics lab in SOE campus	Rajendran P. V.	2,52,740/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
4.	C.B. No. 606/13-14	Providing grill/door to kitchen at B.Tech Men's hostel	Meethen Kunju	19,100/-
5.	C.B. No. 607/13-14	Various works done in various Departments	Department	2,900/-
6.	C.B. No. 608/13-14	Various works done in various Departments	Department	8,299/-
7.	C.B. No. 612/13-14	Purchase of articles and repair works done in SOE campus	Department	331/-
8.	C.B. No. 614/13-14	Construction of an ATM counter & permanent Security cabin at SOE	Meethen Kunju	2,30,343/-
9.	C.B. No. 615/13-14	Various painting and cleaning work in SOE campus	Department	32,497/-
10.	C.B. No. 616/13-14	Purchase of various articles in SOE campus	Department	10,607/-
11.	C.B. No. 618/13-14	Cutting and removing grass and bushes from the lab building in SOE	Department	9,341/-
12.	C.B. No. 619/13-14	Cutting and removing grass and bushes from the lab building in SOE	Department	16,853/-
13.	C.B. No. 620/13-14	Purchase of articles for replacing taps in B.Tech Boys hostel	Department	280/-
14.	C.B. No. 621/13-14	Cleaning fire & Safety Engineering lab for SOE	Polly Mathew	4,500/-
15.	C.B. No. 622/13-14	Modification to Electrical lab to accommodate advanced electrical Lab	Suresh Kumar	2,12,223/-
16.	C.B. No. 625/13-14	Repairing the damaged flooring inside the new lab block building	Department	5,050/-
17.	C.B. No. 626/13-14	Purchase of articles & various works done in SOE campus	Department	22,094/-
18.	C.B. No. 627/13-14	Reconstructing the collapsed compound wall behind Semi permanent block in SOE campus	Meethen Kunju	67,018/-
19.	C.B. No. 629/13-14	Repairs to the PVC doors in B.Tech hostel	Polly Mathew	10,780/-
20.	C.B. No. 630/13-14	Cleaning of septic tank in B.Tech hostel	Department	12,500/-
21.	C.B. No. 634/13-14	Electrical maintenance work in CAD/CAM lab in old SOE	Rijo George	22,599/-
22.	C.B. No. 635/13-14	Electrification to renovated advanced communication lab in the room No.9 in Electrical Department.	Biju J. Baby	78,648/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
23.	C.B. No. 636/13-14	Cleaning light jungle from the side of road from SOE campus to milma booth and cleaning of wall in SOE campus	Polly Mathew	18,480/-
24.	C.B. No. 638/13-14	Providing partition in B.Tech Digital Electronics lab	Department	47,389/-
25.	C.B. No. 639/13-14	Cleaning light jungle in SOE campus	Polly Mathew	28,887/-
26.	C.B. No. 645/13-14	Various works done in SOE campus	Meethen kunju	21,700/-
27.	C.B. No. 646/13-14	Various works done in SOE campus	Department	6,165/-
28.	C.B. No. 647/13-14	Purchase of water tank and transportation charges	Department	12,551/-
29.	C.B. No. 650/13-14	Providing power to new 6KVA UPS in digital image lab procuring lab in Electronics Division	Reji George	14,662/-
30.	C.B. No. 651/13-14	Purchase of articles pumps etc.	M/s. Periyar Trading Company	29,299/-
31.	C.B. No. 652/13-14	Electrification in connection with modification of Electrical machine lab to accommodate advanced Electrical Engineering lab	Reji George	57,952/-
32.	C.B. No. 653/13-14	Purchase of various articles in the SOE campus	Department	60,384/-
33.	C.B. No. 655/13-14	Purchase of various articles in the SOE campus	Department	9,456/-
34.	C.B. No. 656/13-14	Petty, works done in SOE campus	Meethen Kunju	48,318/-
35.	C.B. No. 657/13-14	Excavation of a pit inside Fire & Safety lab for installing on equipment	Meethen Kunju	22,600/-
36.	C.B. No. 658/13-14	Petty works done in SOE campus	Shaji V. K.	31,092/-
37.	C.B. No. 659/13-14	Providing Aluminium composite paneling to the exposed columns and beams in the courtyard of Soft ware Engineering block	Rajendran P. V.	6,83,910/-
38.	C.B. No. 660/13-14	Petty works done in SOE campus.	Department	49,162/-
		'2-94-1-T-1-387'		
1.	C.B. No. 611/13-14	Providing Aluminium composit paneling to Fire Engineering lab	Vinod O. T.	2,54,926/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
		'2-94-1-T-1-383'		
1	C.B. No. 617/13-14	Construction of 1/3 rd portion of Software Engineering block	M/s. PNP Constructions	11,90,435/-
2.	C.B. No. 640/13-14	Electrification of Software Engineering block	M/s. Delstar Ren Building, Aluva	27,13,971/-
				39,04,406/-
		2-94-1-T-4-630		
1	SR14/13-14	Construction of over head and under ground sump	EE CPWD	18,18,333/-
		TOTAL		
		'2-94-1-T-1-387'		2,54,926/-
		'2-94-1-T-1-383'		39,04,406/-
		'2-94-1-T-4-630'		13,18,333/-
		'2-94-1-T-4-999'		35,34,676/-

Kunjali Marakkar - 2-94-4-T-4-999

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1.	C.B. No. 609/13-14	Various works done in K.M.S.E.	Dept.	2,500/-
2.	C.B. No. 613/13-14	Various works done in K.M.S.E.	Dept.	700/-
3.	C.B. No. 633/13-14	Running of STP in K.M.S.M.E.	Dept.	9,413/-
4.	C.B. No. 641/13-14	Running of STP annual maintenance contract	Sri. Rijo Joseph	77,910/-
5.	C.B. No. 642/13-14	Arrangement for the inaugural function of Cadets hostel and canteen building.	Sri. Polly Mathew, Melby Correya and Executive Events	33,737/-+ 14,845/-
6.	C.B. No. 644/13-14	"" ""		
7.	C.B. No. 643/13-14	Running of STP Annual maintenance contract	Sri. Rijo Joseph	77,910/-
	C.B. No. 648/13-14	Running of STP Annual maintenance contract	Sri. Rijo Joseph	77,910/-
9.	C.B. No. 649/13-14	Clearing light jungle in K.M.S.M.E.	Dept.	17,891/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
10.	C.B. No. 654/13-14	Running of STP Annual maintenance contract	Sri. Rijo Joseph	77,910/-
11.	C.B. No. 661/13-14	Running of STP Annual maintenance contract	Sri. Rijo Joseph	77,910/-
		Total		4,68,642/-
		'2-94-4-T-2-406'		
1.	SR 11/13-14	Additional floor for Cadets hostel	E.E.,C.P.W.D.	90,53,834/-
		'2-94-4-T-2-406'		90,53,834/-
		'2-94-4-T-2-4-999'		4,68,642/-
		'1-97-0-T-4-609'		
1.	C.B. No. 805/13-14	Obtaining building Nos. Kalamassery Municipality for C-SiS building	Dept.	20,955/-
2.	S.R. No. 16/13-14	Construction of building for C-Sis building 2 nd & 3 rd instalments	E.E., C.P.W.D.	1,37,32,850/-
		Total		1,37,53,805/-
		'1-97-0-T-4-634'		
3.	C.B. No. 816/13-14	Electrification to Multipurpose sports Arena	Sri. Biju T. Baby Dept.	4,93,105/-
4.	C.B. No. 885/13-14	Adjustment bill		8,783/-
		Total		5,01,888/-
		'1-97-0-T-3-503'		
1.	C.B. No. 808/13-14	Repair & maintenance to E type quarters (17-22)	Sri. V. K. Shaji	9,83,475/-
2.	C.B. No. 832/13-14	Rectification works to unit N.5 type I quarters	Dept.	26,820/-
3.	C.B. No. 835/13-14	Leak proofing works to toilet in type I quarters unit 8	Dept.	26,820/-
4.	C.B. No. 864/13-14	Providing Aluminium check plate cover to low level water tank and 2 nos. water tanks of Type I quarters unit (1-4).	Sri. P. G. Suneesh	35,586/-
5.	C.B. No. 870/13-14	Repairing the toilet of unit No.7 and carporch at Type I quarters	Sri. Shaji V. K.	39,890/-
6.	C.B. No. 875/13-14	Purchase of Articles for quarters maintenance	Sri. Shaji V. K.	39,314/-
7.	C.B. No. 879/13-14	Special repairs and maintenance work to Type II quarters 1-8 units	Sri. Shaji V. K.	31,00,065/-
8.	C.B. No. 880/13-14	Special repairs and maintenance work to type II quarters (9-14) at Thrikkakara campus	Sri. P. K. Sajeeb	8,84,757/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
9.	C.B. No. 883/13-14	Type I quarters unit No.2	Sri. Nazar V. K.	36,967/-
10.	C.B. No. 888/13-14	Repairing the drainage system of Type I quarters	Sri. Nazar V. K.	1,72,757/-
11.	C.B. No. 891/13-14	Repair works to windows of Type I A unit No.3 and leak proofing to the terrace of Type IA quarters.	Sri. Nazar V. K.	2,25,842/-
12.	C.B. No. 896/13-14	Rectification works to Type I quarters unit No.3	Sri. Shaji V. K.	37,554/-
13.	C.B. No. 1103/13-14	Providing new septic tank & soak pit at F type quarters (1-10)	Sri. S. S. Suresh Kumar	3,89,302/-
14.	C.B. No. 1104/13-14	Urgent renovation and maintenance work to the PVC's quarters.	M/s. Cheriyan Varghese	6,21,145/-
		Total		66,32,524/-
		'1-97-0-T-4-620'		
1.	C.B. No. 812/13-14	Construction and Commissioning of 120m ³ /day construction of Sewage Treatment plant.	M/s. Green Method Engineering Pvt. Ltd.	20,41,115/-
2.	C.B. No. 818/13-14	Consultancy charges of STP	M/s. KITCO	67,416/-
3.	C.B. No. 837/13-14	Construction of STP in the Thrikkakara campus	M/s. Green Method Engg.	16,18,877/-
4.	C.B. No. 844/13-14	Construction of STP in the Thrikkakara campus	M/s. Green Method Engg.	3,68,444/-
5.	C.B. No. 858/13-14	Construction of STP in the Thrikkakara campus	M/s. Green Method Engg.	20,08,664/-
6.	C.B. No. 876/13-14	Construction of STP in the Thrikkakara campus	M/s. Green Method Engg.	28,75,915/-
7.	C.B. No. 881/13-14	Disposal of Bio waste and non bio waste from University campus.	Kalamassery Municipality	60,100/-
		Total		90,40,531/-
		'1-97-0-T-4-632'		
1.	C.B. No. 820/13-14	Construction of lift room in Admn. office	Sri. K. M. Abdul Saleem	6,66,651/-
2.	C.B. No. 852/13-14	Construction of lift room in Admn. office	Sri. K. M. Abdul Saleem	2,95,469/-
3.	C.B. No. 899/13-14	Supply installation testing and Commissioning of passenger Elevator in the Admn.	M/s. Tyssenkrup Elevator	11,79,045/-
		Total		21,41,075/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
		'1-97-0-T-4-634'		
1.	SR.6/13-14	Compound wall to ST Radar	M/s. B.S.N.L.	6,76,689/-
2.	SR.7/13-14	Building for ST Radar	M/s. B.S.N.L.	69,00,000/-
3.	SR.12/13-14	Building for ST Radar	M/s. B.S.N.L.	69,00,000/-
4.	SR.13/13-14	Providing Electrical Infrastructure for 49 element Antene	M/s. B.S.N.L.	4,87,000/-
		Total		1,49,63,689/-
		'1-97-0-T-4-621'		
1.	C.B. No. 862/13-14	Upgradation of Substation No.II to 2 x 250 KVA main campus.	M/s. Dinu Electricals	19,08,666/-
		'1-97-0-T-4-640'		
1.	C.B. No. 873/13-14	Renovation works and routine maintenance to the Central Library building at Thrikkakara campus.	Sri. P. A. Augustine	15,74,638/-
		'1-97-0-T-1-047'		
1.	SR./7/13-14	Modernisation of Central Library to International Standard.	M/s. B.S.N.L.	1,28,24,000/-

Pulicunnu Campus - 2-94-2-T-4-999

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1.	C.B. No. 302/13-14	Amount paid to Cochin Engineering Company, Ernakulam for periodical cleaning and maintenance of rain water harvesting tank No.2	Cochin Engineering Company	16,200/-
2.	C.B. No. 303/13-14	Replacing damaged PVC roofing sheet with Aluminium powder coated sheet and maintenance works for the class room	Sri. V. Pradeep	6,50,487/-
3.	C.B. No. 304/13-14	Periodical cleaning and maintenance of the rain water harvesting tank No.1 at CUCEK main campus.	Cochin Engg. Company	10,908/-
4.	C.B. No. 305/13-14	Renovation and extension of canteen of CUCEK at Pulincunnu, Alappuzha	M/s. Delta Power Services Ltd.	1,31,214/-
5.	C.B. No. 306/13-14	Purchase of articles and various works done CUCEK campus.	Dept.	11,826/-
6.	C.B. No. 307/13-14	Providing PVC water tank at CUCEK campus.	Dept.	23,750/-
7.	C.B. No. 310/13-14	Conversion of class room building No.8 to strength of materials lab in CUCEK Mini campus	Sri. V. Pradeep	92,686/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
8.	C.B. No. 311/13-14	Providing temporary fencing to the incomplete portion of compound wall and providing wicket gate near main hall of CUCEK main campus.	Dept.	29,540/-
9.	C.B. No. 312/13-14	Purchase of articles for providing door closes to the E.E. simulation lab in the CUCEK main building	Dept.	1,868/-
10.	C.B. No. 313/13-14	Purchase of various articles and various work done in CUCEK campus.	Dept.	14,631/-
11.	C.B. No. 314/13-14	Various petty works done in CUCEK campus	Dept.	26,573/-
		Total		10,09,683/-
		'2-94-2-T-1-350'		
1.	C.B. No. 308/13-14	Supply, Installation testing & Commissioning of one no. Passenger Elevator in the main block of CUCEK.	M/s. Thyssen Krup Elevator Pvt. Ltd.	15,32,500/-
		'2-94-2-T-4-903'		
1.	C.B. No. 301/13-14	Renovation of existing canteen building in CUCEK campus.	Sri. V. Pradeep	10,55,685/-
		'2-94-2-T-1-350'		15,52,500/-
		'2-94-2-T-4-903'		10,55,685/-
		'2-94-2-T-4-999'		10,09,683/-
1.		'1-97-0-T-1-037'		17,89,361/-
2.		'1-97-0-T-1-036'		17,94,251/-
3.		'1-97-0-T-1-045'		2,66,932/-
4.		'1-97-0-T-1-047'		1,28,24,000/-
5.		'1-97-0-T-2-405'		24,03,136/-
6.		'1-97-0-T-2-406'		7,51,964/-
7.		'1-97-0-T-3-503'		66,32,528/-
8.		'1-97-0-T-4-602'		10,84,844/-
9.		'1-97-0-T-4-603'		1,26,00,068/-
10.		'1-97-0-T-4-606'		7,66,474/-
11.		'1-97-0-T-4-609'		1,37,53,804/-
12.		'1-97-0-T-4-620'		90,40,531/-
13.		'1-97-0-T-4-621'		19,08,666/-
14.		'1-97-0-T-4-628'		1,19,51,036/-
15.		'1-97-0-T-4-632'		21,41,075/-
16.		'1-97-0-T-4-639'		1,49,63,689/-
17.		'1-97-0-T-1-640'		15,74,638/-
18.		'1-97-0-T-1-634'		5,01,886/-
19.		'1-97-0-T-4-628'		1,19,51,036/-





LIST OF RECOGNISED INSTITUTIONS

Sl. No.	Name of the Institutions	Courses Offered
1	Indian Institute of Information Technology & Management Kerala, 'Nila', Technopark, Thiruvananthapuram-695581	1. M.Sc (Information Technology) 2. M.Phil (Ecological Informatics) 3. M.Sc (Computational Science) 4. M.Sc (Geo Informatics)
2	ER & DCI Institute of Technology, PG No. 6520 Vellayambalam, Trivandrum - 695 033	1. MCA 2. M.Tech (VLSI Design & Embedded System)
3	Sarabhai Institute of Science & Technology Uriacode, Vellanadu, Thiruvananthapuram-695543	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Applied Electronics & Instrumentation Engineering) 4. B.Tech (Civil Engineering) 5. B.Tech (Mechanical Engineering) 6. M.Tech (Computer & Information Science) 7. M.Tech (Software Engineering)
4	College of Engineering Govt. ITI Campus, Attingal	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering)
5	CONSPI Academy of Management Studies, Plankalamukku, Industrial Estate P.O., Trivandrum	1. MBA
6	MG College of Engineering Thrikkanamangalam Thiruvallam Thiruvananthapuram-695027	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electrical & Electronics Engineering)
7	College of Engineering Kottarakkara, Kollam-691531	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering)
8	College of Engineering Perinad P.O., Perumon Kollam-691 501	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Mechanical Engineering) 5. B.Tech (Electrical & Electronics Engineering) 6. M.Tech (Computer & Information Science)
9	College of Engineering Karunagapally Kollam-690 518	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Information Technology) 3. B.Tech (Electronics & Communication Engineering)



Sl. No.	Name of the Institutions	Courses Offered
		4. B.Tech (Electrical & Electronics Engineering) 5. M.Tech in Computer Science with Specification in Signal Processing 6. M.Tech in Computer Science with Specification in Image Processing
10	TKM Institute of Technology Musaliar Hills, Karuvelil Ezhukone, Kollam	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Biomedical Engineering) 4. B.Tech (Food Technology) 5. B.Tech (Mechanical Engineering) 6. B.Tech (Electrical & Electronics Engineering) 7. B.Tech (Civil Engineering) 8. M.Tech (VLSI & Embedded Systems) 9. M.Tech (Computer & Information Science) 10. M.Tech (Software Engineering) 11. M.Tech Electronics (Signal Processing)) 12. M.Tech Electronics (Optoelectronics & Communication)
11	TKM School of Architecture Ezhukone, Kollam	B.Arch
12	College of Engineering Pathanapuram, Kuriottumala Piravanthoor, Pathanapuram Kollam	1. B.Tech (Electronics & Communication Engineering) 2. B.Tech (Computer Science & Engineering) 3. B.Tech (Electrical & Electronics Engineering) 4. B.Tech (Civil Engineering)
13	College of Engineering Adoor, Pathanamthitta-691523	1. B.Tech (Electronics & Communication Engineering) 2. B.Tech (Computer Science & Engineering) 3. B.Tech (Mechanical Engineering) 4. B.Tech (Electrical & Electronics Engineering) 5. M.Tech (Mechanical Engineering with Specialisation in Thermal Engineering) 6. M.Tech (Electronics) 7. M.Tech (Computer Science)
14	College of Engineering Kalloppara, Pathanamthitta Pin-689603	1. B.Tech (Electronics & Communication Engineering) 2. B.Tech (Computer Science & Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electronics & Instrumentation)
15	College of Engineering Kidangoor, Kottayam-686583	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electronics & Instrumentation Engineering) 5. B.Tech (Electrical & Electronics Engineering) 6. B.Tech (Civil Engineering)
16	College of Engineering Poonjar, Thekkekara P.O. Poonjar, Kottayam-686583	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology)



Sl. No.	Name of the Institutions	Courses Offered
17	College of Engineering Chengannur, Alappuzha Pin-689 121	<ol style="list-style-type: none"> 1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Electrical & Electronics Engineering) 4. B.Tech (Electronics & Instrumentation Engineering) 5. M.Tech (VLSI & Embedded System) 6. M.Tech in Computer Science with specialisation in Image Processing
18	College of Engineering Pallipuram, Cherthala Alappuzha - 688 541	<ol style="list-style-type: none"> 1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Electrical & Electronics Engineering) 4. M.Tech (Computer Science with specialisation in Computer & Information Science) 5. M.Tech (Electronics (Signal Processing))
19	KVM College of Engineering and Information Technology Kokkothamangalam PB No. 30, Cherthala Alappuzha - 688 583	<ol style="list-style-type: none"> 1. MCA 2. M.Sc (Biotechnology) 3. MBA 4. B.Tech (Mechanical Engineering) 5. B.Tech (Civil Engineering) 6. B.Tech (Electrical & Electronics Engineering) 7. B.Tech (Electronics & Communication Engineering) 8. B.Tech (Computer Science & Engineering)
20	College of Engineering Munnar, PB No.45, County Hills, Munnar, Iduki-685612	<ol style="list-style-type: none"> 1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Electrical & Electronics Engineering) 4. B.Tech (Mechanical Engineering) 5. M.Tech (Computer & Information Science) 6. M.Tech (Electronics with specialation in VLSI & Embedded Systems)
21	Model Engineering College BMC P.O., Thrikkakara Ernakulam-21	<ol style="list-style-type: none"> 1. B.Tech (Electronics & Communication Engineering) 2. B.Tech (Computer Science & Engineering) 3. B.Tech (Electronics & Biomedical Engineering) 4. B.Tech (Electrical & Electronics Engineering) 5. B.Tech (Electronics & Communication Engg.-PT) 6. B.Tech (Electrical & Electronics Engineering-PT) 7. M.Tech (VLSI Design & Embedded Systems) 8. M.Tech (Electronics (Signal Processing)) 9. M.Tech (Digital Image Processing) 10. M.Tech (Mechanical Engineering with specialisation in Energy Management) 11. M.Tech (Electronics (Optoelectronics & Communication))
22	The Co-operative Medical College, HMT Colony P.O. Kalamassery	<ol style="list-style-type: none"> 1. MBBS



Sl. No.	Name of the Institutions	Courses Offered
23	CMC Nursing College Campus of the Co-operative Medical College	1. B.Sc (Nursing)
24	Toch Institute of Science and Technology, Arakunnam Ernakulam-682313	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Biomedical Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electrical & Electronics Engineering) 5. B.Tech (Civil Engineering) 6. B.Tech (Mechanical Engineering) 7. B.Tech (Safety & Fire Engineering) 8. M.Tech (Computer & Information Science) 9. M.Tech (VLSI & Embedded Systems) 10. M.Tech (Wireless Technology) 11. M.Tech (Construction Engineering & Management) 12. M.Tech (Mechanical Engineering) 13. M.Tech (Power Electronics) 14. MBA
25	Central Institute of Fisheries Nautical & Engineering Training, Fine Arts Avenue Kochi-682016	1. Bachelor of Fishing Science (Nautical Science)
26	Bhavan's Royal Institute of Management, Off Hill Palace	1. MBA
27	Co-operative Institute of Technology, Palayanada P.O. Vadakara, Kozhikode-673530	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electronics & Instrumentation Engineering) 5. B.Tech (Civil Engineering) 6. B.Tech (Electrical & Electronics Engineering) 7. MCA
28	College of Engineering Eranholi, Thalassery Kannur-670107	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electrical & Electronics Engineering) 5. B.Tech (Mechanical Engineering)
29	College of Engineering Thrikkaripur, Cheemeni Kasargod-671313	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Information Technology) 4. B.Tech (Electrical & Electronics Engineering) 5. B.Tech (Civil Engineering)





ACADEMIC PROGRAMMES

COCHIN UNIVERSITY COLLEGE OF ENGINEERING, KUTTANAD

B.Tech. Civil Engg. / Comp. Science & Engg. / Elect. & Electronics Engg. / Electronics & Comm. Engg. / Inform. Tech. / Mech. Engg. (8 Semesters)

M.C.A. (6 Semesters)

SCHOOL OF ENGINEERING, THRIKKAKARA

B.Tech. Civil Engg. / Comp. Science & Engg. / Elect. & Electronics Engg. / Electronics & Commn. Engg. / Information Technology / Mechanical Engg. / Safety & Fire Engg. (8 Semesters)

M.Tech (full time) Civil Engg. Specialization in Geotechnical Engg. / Mechanical Engg. Specialization in Thermal Engg. (4 Semesters)

M.Tech (part time) Civil Engg. / Chemical Engg. / Mechanical Engg. / Electrical Engg. (Specialization in Power Electronics) (6 Semesters)

Ph.D.

KUNJALI MARAKKAR SCHOOL OF MARINE ENGINEERING

B.Tech. Marine Engg. (Residential Programme) (8 Semesters)

SCHOOL OF ENVIRONMENTAL STUDIES

M.Sc Environmental Tech., Stream 1. Env. Engg. (4 Semesters), Stream 2. Env. Biotech. (4 Semesters)

M.Tech. Marine Biotechnology (offered at NCAAH) Spon. by Dept. Bio Technology, Govt. of India, Selection through Jawaharlal Nehru University.

Ph.D.

DEPARTMENT OF ENGLISH AND FOREIGN LANGUAGES

Certificate Programmes in French / German / Japanese / Russian (1 year)

Diploma in Communicative English (1 year)

Diploma Programmes in French / German / Japanese / Russian (1 year)

Integrated Diploma in Italian (1 year)

M.A. Translation - German / Russian (4 Semesters)

Ph.D.

DEPARTMENT OF HINDI

M.A. Hindi Language and Literature (4 Semesters)

M.Phil Hindi (2 Semesters)



P.G. Diploma in Translation & Functional Hindi (1 year)

Ph.D.

SCHOOL OF LEGAL STUDIES

BBA L.L.B. (Hons.) (10 Semesters)

B.Com L.L.B. (Hons.) (10 Semesters)

L.L.B. Evening (6 Semesters)

L.L.M. (4 Semesters)

Ph.D.

INTER UNIVERSITY CENTRE FOR INTELLECTUAL PROPERTY RIGHTS STUDIES

Master of Intellectual Property (MIP), Ph.D. (5 years)

L.L.M (IPR) Ph.D. (5 years)

PG Diploma in IPR (1 year)

SCHOOL OF INDUSTRIAL FISHERIES

M.Sc. Industrial Fisheries (4 Semesters)

M.Phil Fisheries Science (2 Semesters)

M.F. Sc. Seafood Safety and Trade (4 Semesters)

Ph.D.

DEPARTMENT OF ATMOSPHERIC SCIENCES

M.Sc. Meteorology (4 Semesters)

M.Tech. Atmospheric Science (4 Semesters)

Ph.D.

DEPARTMENT OF CHEMICAL OCEANOGRAPHY

M.Sc. Hydrochemistry (4 Semesters)

M.Phil Marine Chemistry (2 Semesters)

Ph.D.

DEPARTMENT OF MARINE BIOLOGY, MICROBIOLOGY & BIOCHEMISTRY

M.Sc. Marine Biology (4 Semesters)

M.Phil Life Sciences (2 Semesters)

Ph.D.

DEPARTMENT OF MARINE GEOLOGY AND GEOPHYSICS

M.Sc. Marine Geology (4 Semesters)

M.Sc. Marine Geophysics (4 Semesters)

Ph.D.



DEPARTMENT OF PHYSICAL OCEANOGRAPHY

M.Sc. Oceanography (4 Semesters)
M.Tech. Ocean Technology (4 Semesters)
Ph.D.

DEPARTMENT OF APPLIED CHEMISTRY

M.Sc. Applied Chemistry (4 Semesters)
M.Phil Chemistry (2 Semesters)
M.Tech Industrial Catalysis (4 Semesters)
Ph.D.

DEPARTMENT OF BIOTECHNOLOGY

M.Sc. Biotechnology (4 Semesters)
Ph.D.

DEPARTMENT OF MATHEMATICS

M.Sc. Mathematics (4 Semesters)
M.Phil Mathematics (2 Semesters)
Ph.D.

DEPARTMENT OF PHYSICS

M.Sc. Physics (4 Semesters)
M.Phil Physics (2 Semesters)
Ph.D.

DEPARTMENT OF STATISTICS

M.Sc. Statistics (4 Semesters)
M.Tech Engineering Statistics (4 Semesters)
Ph.D.

DEPARTMENT OF APPLIED ECONOMICS

M.A. Applied Economics (4 Semesters)
M.Phil Applied Economics (2 Semesters)
Ph.D.

CENTRE FOR THE STUDY OF SOCIAL EXCLUSION AND INCLUSIVE POLICY

Ph.D.

SCHOOL OF MANAGEMENT STUDIES

M.B.A. (full time) (4 Semesters)
M.B.A. (part time) (6 Semesters)



M.B.A. (International Business) (4 Semesters)

M.B.A. (Travel & Tourism) (4 Semesters)

M.Phil (Commerce) (2 Semesters)

Ph.D.

DEPARTMENT OF ELECTRONICS

M.Tech Electronics (with specialization in Digital Electronics, Microwave & Radar Electronics) (4 Semesters)

DEPARTMENT OF INSTRUMENTATION

B.Tech Instrumentation Technology (8 Semesters)

M.Sc. Instrumentation (4 Semesters)

Ph.D.

DEPARTMENT OF POLYMER SCIENCE & RUBBER TECHNOLOGY

B.Tech Polymer Science and Rubber Technology (8 Semesters)

M.Tech Polymer Technology (4 Semesters)

M.Sc. Biopolymer Science (Offered at Centre for Bio-Polymer Science & Technology, CIPET)

Ph.D.

DEPARTMENT OF SHIP TECHNOLOGY

B.Tech Naval Arch. & Ship Building (8 Semesters)

M.Tech Comp. Aided Structural Analysis & Design (4 Semesters)

Ph.D.

INTERNATIONAL SCHOOL OF PHOTONICS

5 year Integrated M.Sc. in Photonics (10 Semesters)

M.Tech Opto-Electronics and Laser Technology (4 Semesters)

Ph.D.

DEPARTMENT OF COMPUTER APPLICATIONS

M.C.A.

Ph.D.

DEPARTMENT OF COMPUTER SCIENCE

M.Tech Computer and Information Science (4 Semesters)

M.Tech Software Engg. (4 Semesters)

Ph.D.



EXAM RESULT

EXAM D1 (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	M.Sc Marine Geology	27.08.14	10	10	1	6	-	7	75%
2	M.Sc Marine Geophysics	27.08.14	12	12	1	8	-	9	70%
3	M.Sc Marine Biology	05.09.04	18	18	17	1	-	18	100%
4	M.Sc Oceanography	08.07.14	11	11	5	4	-	9	82%
5	M.Sc Industrial Fisheries	09.12.14	18	18	12	5	-	17	94%
6	M.Sc Hydrochemistry	10.07.14	12	12	7	4	-	11	91.7%
7	M.Sc Metrology	06.08.14	6	6	-	5	-	5	83%
8	M.Phil Life Science	26.11.14	6	6	6	-	-	6	100%
9	M.Phil Fisheries Science	05.09.14	8	8	4	4	-	8	100%
10	M.Phil Marine Chemistry	23.05.14	5	5	4	1	-	5	100%

EXAM D2 (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	M.Sc (KVM) Biotechnology	30.07.14	19	19	4	11	-	15	79%
2	M.Sc (DBT) Biotechnology	09.07.14	10	10	9	1	-	10	100%
3	M.Sc Environmental Technology	24.06.14	9	9	7	2	-	9	100%
4	M.Phil Physics	25.10.14	7	7	7	-	-	7	100%
5	M.Phil Applied Economics	16.05.14	8	8	-	8	-	8	100%
6	M.Sc Instrumentation	19.06.14	13	12	6	2	-	8	66.7%
7	MA Applied Economics	23.09.14	15	15	2	13	-	15	100%
8	M.Sc Physics	23.07.14	27	27	11	15	-	26	96.3%

**EXAM D4 (2013-14)**

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	MBBS Aug.3	09.12.13	94	94	2	34	40	76	80.85%
2	MBBS Jan.14	16.07.14	24	24	-	-	17	17	70%
3	Certificate French May 14	29.11.14	15	15	1	2	11	14	93.33%
4	Certificate Germany May 14	29.11.14	20	15	-	5	8	14	70%
5	Integrated Diploma May 14	06.11.14	4	3	-	1	2	3	100%
6	Communicative English May 14	06.11.14	9	9	1	5	2	8	88%
7	Certificate in Italian May 14	10.11.14	11	10	5	3	1	9	90%

EXAM D (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	M.Phil Hindi	30.12.14	10	10	10	-	-	10	100%
2	M.Phil Chemistry	21.10.14	7	6	2	4	-	6	100%
3	M.Phil Maths	04.12.14	8	8	6	2	-	8	100%
4	PG Diploma in Hindi	04.09.14	23	23	-	18	4	1	100%
5	M.Sc Applied Chemistry	19.06.14	20	20	7	13	-	20	100%
6	MA Hindi	11.07.14	27	27	14	13	-	27	100%
7	M.Sc Maths	30.06.14	35	35	6	13	1	20	57%
8	M.Sc Statistics	21.06.14	26	24	5	14	3	22	91%

EXAM D (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	M.Tech Polymer Tech.	20.06.14	11	11	6	5	-	11	100%
2	M.Tech Opto Electronics & Lazer Technology	17.07.14	9	9	8	1	-	9	100%
3	M.Tech Software Engg.	18.06.14	16	16	10	6	-	16	100%
4	M.Tech CIS	18.06.14	18	18	16	2	-	18	100%



Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
5	M.Tech Electronics	30.06.14	20	20	16	2	-	18	100%
6	M.Tech CASAD	25.06.14	14	13	5	6	1	12	92.31%
7	M.Tech (PT) Civil Engg.	17.11.14	16	16	14	-	-	14	87.5%
8	M.Tech (PT) Electrical & Electronics Engineering (Power Electronics)	15.07.14	12	12	11	-	-	11	91.67%
9	M.Tech (PT) Mechanical Engg. (Production)	17.10.14	16	16	12	4	-	16	100%
10	M.Tech (PT) Chemical Engg. (Process)	15.11.14	16	15	15	10	-	15	93.75%
11	M.Tech Marine Biotechnology	30.12.14	6	6	5	1	-	6	100%
12	MBA BRIM, KVM, Toch CONSPI	18.09.14	198	197	5	44	2	54	25.89%
13	MBA (FT) SMS	21.10.14	57	57	1	35	-	36	63.16%
14	MBA (TT) SMS	31.10.14	59	59	1	24	-	25	42.31%
15	MBA (IB) SMS	29.10.14	56	56	-	38	-	38	67.86%
16	MBA (Part Time) SMS	15.10.14	24	23	1	11	-	12	52.17%
17	M.Sc Electronics Science	03.06.14	21	21	10	4	-	14	66.66%
18	5 yr. Integrated M.Sc Photonics	28.05.14	14	14	9	2	-	11	78.57%
19	MCA	17.06.14	140	140	37	33	-	70	50%

EXAM T (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	Computer Science with Specialisation in Image Processing	22.08.14	64	64	54	-	-	54	84.4%
2	Mechanical Engineering with Specialisation in Energy Management	12.08.14	24	24	24	-	-	24	100%
3	Computer Science with Specialisation in Cyber Forensics & Information Security	13.01.14	18	18	16	1	-	17	94.4%



Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
4	Computer Science with Specialisation in Data Security	13.08.14	24	24	20	1	-	21	88%
5	Electronics with Specialisation in Wireless Technology	13.08.14	18	18	7	1	-	8	44.4%
6	Mechanical Engineering with Specialisation in Thermal Engineering	23.08.14	17	17	15	2	-	17	100%
7	Electrical & Electronics Engineering with Specialisation in Power Electronics	22.07.14	24	24	22	1	-	23	96%
8	Computer and Information Science	05.08.14	83	83	78	3	-	81	97.5%
9	Electronics with Specialisation in Signal Processing	16.08.14	78	78	70	1	-	71	91%
10	Electronics with Specialisation in Opto Electronics & Commu. Systems May 2014	11.08.14	37	36	33	2	-	35	97.22%
11	Software Engineering	19.08.14	35	35	32	2	-	34	97.14%
12	Electronics with Specialisation in VLSI & Embedded Systems	19.08.14	106	106	79	9	-	88	83.02%
13	Electronics with Specialisation in Opto Electronics & Commu. Systems Dec 2014	21.01.15	22	22	20	-	-	20	90.90%

EXAM V (2013-14)

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	B.Tech PS & E	31.05.14	20	20	3	9	-	12	60%
2	B.FSc	24.06.14	20	20	14	4	-	18	90%
3	B.Tech Instrumentation	10.07.14	34	34	-	14	2	16	47%

**EXAM Y (2013-14)**

Sl. No.	Courses Allotted	Result Date	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	LLM	06.12.14	29	29	-	24	-	24	83%
2	M.Tech Degree in Engineering Statistics	04.07.14	7	7	4	3	-	7	100%
3	M.Tech Degree in Atmospheric Science	12.06.14	3	3	2	1	-	3	100%
4	M.Tech Degree in Industrial Catalysis	10.07.14	16	16	11	5	-	16	100%
5	M.Tech Degree in Electronics with Specialisation in Wireless Technology	01.09.14	16	16	11	5	-	16	100%
6	M.Tech Degree in Civil Engineering with Specialisation in Geotechnical Engineering	17.10.14	17	17	12	5	-	17	100%
7	M.Tech Degree in Mechanical Engineering with Specialisation in Thermal Engineering	03.09.14	17	17	5	12	-	17	100%
8	M.Tech Degree in Computer Science with Specialisation in Embedded Systems	17.06.14	13	13	3	10	-	13	100%
9	M.Sc Degree in Biopolymer Science	13.10.14	20	20	11	8	-	19	95%
10	5 yr BBA LLB (Hos)	07.06.14	33	33	2	25	4	31	93.93%
11	MCA (KVM, CIT)	17.06.14	109	109	9	42	-	51	47%
12	M.Sc Degree in Information Technology	16.08.14	15	15	6	9	-	15	100%
13	M.Sc Degree in Computer Science	19.10.14	21	21	7	11	-	18	86%
14	M.Sc Degree in Geoinformatics	26.07.14	15	15	12	3	-	15	100%
15	M.Phil Ecological Informatics	07.10.14	10	10	6	3	-	9	90%
16	M.Phil Computer Science	22.11.14	15	15	14	-	-	14	93%
17	M.Phil Commerce	10.12.14	6	6	-	6	-	6	100%





Cochin University of Science and Technology
B.Tech VIIIth Semester Examinations - April 2014 (2010 Admissions)
Collegewise Percentage of Results (Regular Students)

Sl. No.	College	Registered	Appeared	Dist	FC	SC	%
1	Toch	448	448	94	218	4	70.54
2	College of Engineering, Kottarakara	110	110	25	52	0	70
3	Model Engineering College, Cochin	381	381	142	113	0	66.93
4	College of Engineering, Chengannur	308	308	42	137	0	58.12
5	College of Engineering, Perumon	282	282	64	99	0	57.8
6	Sarabhai Institute of Science & Technology	310	310	56	121	0	57.1
7	College of Engineering, Thrikaripur	300	300	66	103	1	56.67
8	College of Engineering, Cherthala	175	175	35	64	0	56.57
9	School of Engineering, Cochin	566	566	96	208	1	53.89
10	TKM Institute of Technology	263	263	30	108	0	52.47
11	College of Engineering, Kidangoor	359	359	58	124	0	50.7
12	College of Engineering, Thalassery	401	401	65	137	0	50.37
13	College of Engineering, Adoor	252	252	34	86	0	47.62
14	College of Engineering, Kalliooppa	150	150	24	46	0	46.67
15	College of Engineering, Munnar	192	192	22	67	0	46.35
16	College of Engineering, Attingal	90	90	13	28	0	45.56
17	Co-operative Institute of Technology, Vadakara	354	354	38	119	0	44.35
18	Cochin University College of Engineering	312	312	39	95	0	42.92
19	MG College of Engineering	197	197	28	56	0	42.64
20	College of Engineering, Karunagapally	123	123	18	33	0	41.46
21	College of Engineering, Poonjar	126	126	7	43	0	39.68
	TOTAL	2880	2880	620	1115	6	60.45



LIST OF Ph.Ds. AWARDED

DETAILS OF Ph.D DEGREES AWARDED FROM 01.04.2013 TO 31.03.2014

Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
1	Neson Varghese	studies on transport and magnetic properties of nano particledoped Mg B2 super conductor for technological applications	Dr. V. Shyama prasad	4/2/2013
2	Sumangala K. N.	Hydrogeochemical quality assessment of ground water. A genaral perspective	Dr. C. H. Sujatha	4/4/2013
3	Reema Kuriakose	Marine Yeast isolates from Arabian Sea and Bay of Bengal: Biochemical, Molecular and Phylogenetic analysis	Dr. Rosamma Philip	4/9/2013
4	Arun Aravind	Synthesis and Characterization of 3d Transition Metals Doped ZnO Thin films and Nanostructures for Possible Spin Tronic Applications	Dr. M. K. Jayaraj	4/9/2013
5	Vivek M.	Probing the active galactic nuclei using optical spectroscopy	Dr. V. C. Kuriakose	4/18/2013
6	Nijo Varghese	Studies on...quasi normal modes and late time tails in black hole space times	Dr. V. C. Kuriakose	4/19/2013
7	Jeena Augustine	Physico chemical and molecular characterization of bacteriophases ÖSP-1 and ÖSP-3 specific for pathagenic salmonella and evaluation of their potential as biocontral agent	Dr. Saritha G. Bhatt	4/19/2013
8	Laila D.	Development and investigations of mobile antennas for less radation hazards	Dr. P. Mohanan	4/22/2013
9	Sunil Kumar K.	Service quality and reliability assessment of mobile communication infrastructure	Dr. Sreejith P. S.	4/23/2013
10	Rose Philo K. J.	Study on catalysis by mesoporous ceriamodified with transition metals	Dr. S. Sugunan	4/23/2013



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
11	Smt. Dhanya P. R.	Effect of spice oleoresins in microbial decontamination and their potential application in quality stabilisation of tuna <i>ceuthynnus affinis</i> during store	Dr. Saleena Mathew	4/23/2013
12	Joyni Jacob M.	Fish driven bioturbation as a viable aquaculture technology for increasing production and improving ecological sustainability of giant tiger shrimp <i>penaeus monodon</i> (fabricius)	Dr. Madhusoodana kurup	4/24/2013
13	B. Sreelakshmi	Molecular approaches for characterisation and determination of pathogenicity of vibrios with special reference to <i>vibrio harveyi</i> from <i>penaeus monodon</i> larval production systems	Dr. I. S. Bright Singh	4/26/2013
14	K. Jayakumar	An Insight into transition metal complexes of N ⁴ substituted thiosemicarbazones derived from 2-benzoylpyridine spectral studies and crystal structures	Prof. M. R. Prathapa chandrakurup	4/26/2013
15	Jaya Latha Gopalakrishnan G.	Short nylon-6 fibre/rubber toughened polystyrene composites	Dr. Sunil K. Narayanankutty	4/27/2013
16	Praveen S. S.	Numerical modelling of Tsunami propagation in the south east arabian seas and inundation along the Kerala coast	Dr. N. P. Kurian	4/30/2013
17	Raghul Subin S.	Characterisation of polyhydroxyalkanoates accumulating vibrios from marine benthic environments and production studies of polyhydroxyalkanoates by <i>vibrio</i> sp BTKB 33	Dr. Saritha G. Bhatt	5/2/2013
18	Rajive Tomy M.	Structural, Electrical and Electrochemical Characterization of High Frequency magnetron Sputtered Spinel oxide Cathode films for Lithium ion Battery Applications	Prof. S. Jayalekshmi	5/7/2013
19	Vinodkumar Jacob	Characterization of Human and Instrument Related Measurement Errors	Dr. M. Bhasi	5/8/2013



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
20	Bindu V.	Development and Evaluation of Soft Computing Techniques for Sensorless Vector Control of AC Drives	Dr. R. Gopika Kumari	5/31/2013
21	Praveen R. P.	Design analysis and realization of zero cogging permanent magnet brushless dc motor for space craft applications	Dr. Jagathy Raj V. P.	6/3/2013
22	Vidya Francis	Modification of Linear Low Density Polyethylene for Improved Photo and Biodegradation	Dr. Eby Thomas Thachil	6/5/2013
23	Jaison C. A.	Assessment of Water quality along the Coastal area of Kerala:A Study of the Tsunami Impact on Ground Water	Dr.V. Sivanandan Achari	6/21/2013
24	Sudheer S. P.	The Impact of Globalisation on the Spices Economy of Kerala with Special Reference to Pepper	Dr. P. Arunachalam	6/27/2013
25	Annie C. F.	Ligation Properties of N4 Phenylsemicarbazones Towards Transition Metals: Synthesis And Spectral Studies	Prof. M. R. Prathapa chandra Kurup	6/28/2013
26	Rashiba A. P.	Studies on copepods of EEZ Of India- Bay of Bengal and Andaman sea	Dr.Saramma U. Panampunnayil	7/6/2013
27	Saju Eapen Thomas	Role of Social Pressure as a Key Contributor of Materialism and Related Status Consumption	Dr. P. R. Wilson	7/18/2013
28	Jayanarayanan S.	Glutamatergic NMDA and AMPA Receptors Functional Regulation in Streptozotocin Induced Diabetic Rats :Effect of Vitamin D3 and Curcumin Supplementation	Dr. C. S. Paulose	7/19/2013
29	Vinu Prakash	Sedimentological and Geotechnical studies of Coastal Sediments of Central Kerala	Prof. A. C. Narayana	7/19/2013
30	Dileeplal J.	Multi Objective Assembly Job Shop Scheduling using Genetic algorithm and Tabu Search	Dr. K. P. Narayanan	7/20/2013
31	Indu P. S.	Smakaleen Hindi Upanyasom mein Paristhithic Sajagatha Ka Adhyayan	Dr. M. Shanmughan	7/22/2013



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
32	Sonal Kumar Jain	Dayglow Emissions on Mars and Venus	Dr. Anil Bharadwaj	7/22/2013
33	Angel Susan Cheriyan	On the Improvement of Window and Absorbent layer Properties of Sprayed Cu InS ₂ /In ₂ S ₃ thin film solar Cells using Doping and Multilayer Structure	Dr. K. P. Vijayakumar	7/25/2013
34	Mayalakshmi R.	Jaya Sankar Prasad aur Mohan Rakesh ke Natakam ke Tulanatmak Anuseelan	Dr. N. G. Devaki	7/25/2013
35	Praveen N.	Development of a Biometric Personal Authentication System Based on Finger Print and Speech	Dr. Tessamma Thomas	7/26/2013
36	Sreeraj M.	A writer Identification System for Handwritten Malayalam documents	Dr. Sumam Mary Idicula	7/26/2013
37	Bindhumol I.	Studies on exopolysaccharide production by probiotic lactic acid bacteria	Dr. K. Madhavan	8/3/2013
38	Pratheesh V. B.	Ecotoxic Metal Records and its Degree of Geochemical Symphony in the Niche of Cochin Estuarine System-A Theraptic Perspective	Dr. Sujatha C. H.	8/13/2013
39	Neil Scolastin Correya	Heterotrophic Bacteria From the Continental Slope Sediments of Arabian Sea	Dr. Rosamma Philip	8/14/2013
40	Bindu M. S.	Design and development of a Named Entity based Question answering System for Malayalam Language.	Dr. Sumam Mary Idicula	8/14/2013
41	Surekhamol I. S.	Vibriyo Harveyi Phages; Isolation, characterisation and evaluation of their Potential as Phage Therapeutics on Vibrio Harveyi in Shrimp Hatcheries	Dr. I. S. Bright Singh	17-08-013
42	Sreevalsa V.G.	Investigations on Some Amino Acid Based Single Crystals for non-Linear Optical Applications and Amino Acid capped Nano crystals	Prof. S. Jayalekshmi	8/19/2013
43	Jayesh P.	Development of Lymphoid Cell Culture System From Penaeus Monodon and Molecular Approaches for its Transformation	Dr. I. S. Bright Singh	9/5/2013



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
44	Rajgopal G. Pai	"Adhunik Hindi Natya Sameeksha-Ek Visleshnatmak Adhyayan"	Dr.R. Sasidharan	10/1/2013
45	Roselin Alex	"Bioremediation Of Hydrocarbons by Lysinibacillus Fusiformis Btts 10"	Dr.M Chandra sekaran	10/3/2013
46	Mohammed Ismail Mujahid Hilal	A Study on Iternational Marketing Stratsesy for Srilankan Tea	Dr. G. Antony	10/4/2013
47	Radhika R.	"Implications of Hydrobiology and Nutrient Dynamics on Trophic Structure and Interactions in Cochin Backwaters"	Dr. Sujatha C. H.	10/8/2013
48	Reni George	"Catalysis By Enzymes Immobilized on Tuned Mesoporous Silica"	Dr. S. Sugunan	10/17/2013
49	Deepthi C. P.	"Discrete Time Inventory Models with/without Positive Service Time"	Dr.A. Krishnamoorthy	10/28/2013
50	Nikitha Divakaran	"Studies on the Effect Of Polycyclic Aromatic Hydrocarbons in the Life and Activity of Perna Spp"	Dr. N. R. Menon	10/28/2013
51	A. John Chembian	"Studies on the Biology, Morphometrics and Biochemical Composition of the Ommatrephid Squid, Sthenoteuthis Oualaniensis(lesson, 1830) of the South West Coast of India"	Dr. Saleena Mathew	10/29/2013
52	Anil Kumar R.	"Vocational Higher Secondary Education in Kerala A Status Study of Students, Pass Outs and Training Componenets"	Dr. K. George Varghese	10/31/2013
53	Resmi E. A.	Sudden Stratospheric Warming and Its Influence on the Tropical Atmosphere	Dr. K. Mohan Kumar	11/3/2013
54	Nisha R.	"Development of Semi Conductor Metal Oxide Gas Sensors for the Detection of No ₂ and H ₂ s Gases"	Dr. K. N. Madhu soodanan	11/12/2013
55	Hari V. S.	"Design, Development and Realization of Quadratic Volterra Filters for Selected Applications"	Dr. Jagathy Raj V. P.	11/12/2013
56	Haseeb M.	"Development of Zero Water Exchange Shrimp Culture System Intergrated With Bioremediation of Detritus and Ammonia - Nitrogen"	Dr. I. S. Bright Singh	11/15/2013



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57	Viji V.	"Sanjeev Ka Upanyas: Ek Vishlesnatmak Adhyayan"	Dr. N. Mohanan	11/19/2013
58	Biju Augustine P.	"Influence of Forecasting, Planning, and Controlling on the Performance of Small and Medium Enterprises"	Dr. M. Bhasi	11/22/2013
59	Praveensal C. J.	"Modeling of Work-related Musculoskeletal Disorders in Chemical Process Industry in India"	Dr. G. Madhu	11/23/2013
60	Veena J.	"Hindi Ki Samakaleen Nareevadi Alochana-ek Adhyayan"	Dr. K. Vanaja	11/26/2013
61	Elizabeth George	"A Study on the Effect of Psychological Empowerment on Job Satisfaction and Job Related Stress Among the Bank Employees"	Dr. Zakkariya K. A.	12/6/2013
62	Aneesh V. Pillai	"Surrogacy Under Indian Legal System: Legal and Human Rights Concerns"	Dr. V. S. Sebastian	12/7/2013
63	Shalin Saleem	Application of Ocean Colour Data to Study Oceanographic and Atmospheric Features off the Southwest Coast of India with Special Reference to Upwelling	Dr. K. V. Sanil Kumar	12/8/2013
64	Zeena P. Hamza	Ionomer Compatibilized Low Density Poly Ethylene-tapioca Starch Blends Biodegradability and Photodegradability	Dr. Thomas Kurian	12/8/2013
65	Shine N. Das	"Design and Development of Efficient Classification Schemes for Web Content Mining"	Dr. K. V. Pramod	12/11/2013
66	Sheena M. A.	"Bharat Vibhajan Per Kendrit Hindi Upanyasom Ka Vishleshnatmak Adhyayan"	Dr. N. Mohanan	12/11/2013
67	Sunish K. S.	"A Marine Actinomycete Nocardiopsis Mccb 110 as Source of Novel Drugs to Manage Vibriosis"	Dr. A. Mohandas	12/12/2013
68	Lalu P. P.	"Numerical Simulation of two-part Underwater Towing System"	Dr. K. P. Narayanan	12/13/2013
69	Litta A. J.	"Computational Models for the Prediction of Severe Thunderstorms Over East Indian Region"	Dr. Sumam Mary Idicula	12/13/2013



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
70	Late. Dipson P. T.	"Spatio - Temporal Changes in the Wetland Ecosystem of Cochin City Using Remote Sensing And Gis"	Dr. M. V. Harindra nathan Nair	12/14/2013
71	Gireesh Kumar T. R.	"Source Characterization of Sedimentary Organic Matter in a Tropical Estuary, Southwest Coast of India: A Biomarker Approach"	Dr. N. Chandra mohana Kumar	12/16/2013
72	Rani Rajan	"Palladium Catalyzed Carbon - Carbon/ Carbon - Heteroatom Bond Formation Reactions Utilizing Pentafulvene Derived Bicyclic Hydrazines"	Dr. K. V. Radha krishnan	12/18/2013
73	Laina A. L.	"Voltammetric Sensors for the Determination of Pharmaceuticals"	Dr. K. Girish Kumar	12/19/2013
74	Sapna K.	"Isolation, Purification, Characterization and Application of Proteinaceous Protease Inhibitor from Marine Bacterium Pseudomonas Mendocina Btmw 301"	Dr. Elyas K. K.	12/20/2013
75	Sajimol Augustine M.	"Investigations on Novel Polymer Nano Composites and Bio-compatible Manganese Doped ZnS Nanocrystals for Photonic and Bio-imaging Applications"	Dr. S. Jayalekshmi	12/20/2013
76	Ranjit K.	"Solar Photo - Oxidative Disinfection for Generating Potable Water from Natural Sources"	Dr. I. S. Bright Singh	12/21/2013
77	Eason M. Mathew	"Synthesis And Photochemical Transformation of a Few Tethered Barrelenes"	Dr. Unnikrishnan P. A.	1/3/2014
78	Gifty Oommen	"Right to Privacy And Freedom of Press - Conflicts and Challenges"	Dr. V. S. Sebastian	1/3/2014
79	Aysha V.	"Document Image Segmentation and Compression Using Artificial Neural Networks and Evolutionary Methods"	Dr. B. Kannan	1/3/2014
80	Parvathy P.	"Impact of the Sanitary and Phyto Sanitary Agreement on The Exports of Marine Products from India with Special Reference to Kerala"	Dr. D. Rajasenan	1/7/2014



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
81	Bipinbal P. K.	"Preparation and Characterization of Micro and Nano Fiber Reinforced Natural Rubber Composites by Latex Stage Processing"	Dr. Sunil K. Narayanankutty	1/7/2014
82	Sindhumol S.	"Improved Feature Extraction and Classification Techniques for Multispectral Brain Magnetic Resonance Images"	Dr. B. Kannan	1/3/2014
83	Deepulal P. M.	"Ecotoxicological Assessment of Antifouling Biocides in the Sediments of Cochin Estuarine Systems"	Dr. Sujatha C. H.	1/9/2014
84	Susarla Raghuram	"Modelling of Ultraviolet and Visible Emissions in Comets"	Dr. Anil Bhardwaj	1/9/2014
85	Priya Rajan S.	"Curcumin and its Derivative as Antioxidants And Dna Intercalators"	Dr. P. V. Mohanan	1/10/2014
86	C. K. Haridevi	"Spatial and Temporal Variation of Phytoplankton Community and their Growth Limiting Factors in Cochin Backwater"	Dr. C. Revichandran	1/10/2014
87	Laija P. J.	"Shailesh Matiyani Ka Upanyas: Ek Anuseelan"	Dr. K. Vanaja	1/15/2014
88	P. P. Mini	"Rashtriya Swasthya Bhima Yojana-Comprehensive Health Insurance Scheme (Rsby-chis) In Kerala: A Study on the Effectiveness and Utilization of the Scheme with Special Reference to Ernakulam and Wayanad Districts"	Dr. P. Arunachalam	1/16/2014
89	Sreelekha G.	"Photonics Based Application of Substituted Poly Phenylenevinylene In Solutions And Free Standing Films"	Dr. C. P. Girija vallabhan	1/20/2014
90	Teena Thomas	"Nav Aupaniveshik Sandarb Mein Samakaleen Kahani: Ek Vishleshan"	Dr. M. Shanmughan	1/21/2014
91	Hysen Thomas	"On The Tailoring of Magnetic Properties of Fe-based Alloy Thin Films By Swift Heavy Ion Irradiation and Thermal Annealing"	Dr. M. R. Anantharaman	1/21/2014



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
92	Ajalesh B. Nair	"Ethylene-propylene-dinene Terpolymer/Hexafluoropropylene-vinylidene Fluoride Elastomeric Composites: Thermal, Mechanical and Microwave Properties"	Dr. Philip Kurian	1/31/2014
93	Jasmine Koshy	"Studies on Extracellular Enzyme Production During Growth of Pleurotus Sp. on Lignocellulosic Agriwaste and the Utilisation of Pent Mushroom Substrate"	Dr. Padma Nambisan	1/31/2014
94	Shilpa Joy	Gaba and 5-ht Chitosan Nanoparticles Enhanced Liver Cell Proliferation And Neuronal Survival in Partially Hepatectomised Rats: Gabab And 5ht _{2a} Receptors Functional Regulation	Dr. C. S. Poulouse	10/2/2014
95	Anish Kumar M. Nair	Studies on the Horizontal and Vertical Distribution of Clouds and their Impact on Energetics of the Atmosphere over the Indian Region	Dr. K. Rajeev	12/2/2014
96	Benjamin Varghese P.	Development of Optical Fiber Sensors for Selected Chemical and Physical Sensing Applications	Dr. K. N. Madhusoodanan	18/2/2014
97	Rose Leena Thomas	Synthesis And Characterization of Tellurium Oxide Glasses for Photonic Applications	Dr. Sheenu Thomas	22/2/2014
98	Udayakumar P.	Assessment of Heavy Metals in the Environmental Compartments of the Central and Northern Coast of Kerala, India	Dr. P. P. Ouseph	06/3/2014
99	Roji J. Kunnath	The Ligating Versatility of Halides and Pseudohalides in Copper(ii) Complexes-monomers Dimers and Chains	Dr. M. R. Prathapa chandra Kurup	07/3/2014
100	Anoop N. A.	Energetic Polymers	Dr. K. Sreekumar	17/3/2014
101	Martin G. D.	Biogeochemical and Ecological Feedbacks on Eutrophication in Cochin Backwaters	Dr. N. Chandra mohanakumar	19/3/2014
102	Rajeshmon V. G.	Prospects of Sprayed Czts Thin Film Solar Cells from the Perspective of Material Characterization and Device Performance	Dr. K. P. Vijayakumar	24/3/2014



Sl. No.	Name of Candidate	Title of the Thesis	Research Guide	Date Effective From
103	Manoj Mathew	Managerial Performance-an Analysis of Selected Antecedents and Mediators	Dr. James Manalel	25/3/2014
104	Nitin Agarwala	Acoustic- Structure Interaction for Floating Structure Under Moving Load	Dr. E. M. Somashekharan Nair	24/3/2014
105	Shivaprasad Amaravayal	Tide And River Runoff Interactions in the Cochin Estuary	Dr. C. Revichandran	26/3/2014
106	Sunil Kumar V.	Pore Water Geochemistry of the Wetlands Along ahe Coastal Tracts of Kochi, South-west Coast of India	Dr. K. Sajan	27/3/2014
107	Binu Mole K.	Law on Transboundary Movement of Hazardous Substances Through Sea	Dr. A. M. Varkey	31/3/2014





PRIZES / AWARDS / MEDALS

Thirty-Seven Merit Awards / Memorial Prizes instituted in the University in commemoration of important personalities provide encouragement / financial support to eligible candidates:

Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
1	ABS India Merit Awards	30,000/-	(400,500,500, 600,1000)	B.Tech (NA & SB)	Meritorious students in the I, II, V, VII & VIII Semesters of the B.Tech. Degree Programme in NA & SB
2	Antony James Memorial Scholarship	5,000/-	650	M.B.A. (F.T.)	Awarded to the student who secure the highest mark added together in the papers of Organizational Behaviour I & II at the M.B.A. Programme.
3	Antony James Prize	3,500/-	Interest	M.B.A. (F.T.)	Awarded to the student who secure the First Rank in the M.B.A. Degree full-time Programme.
4	Arpan Banerjee Endowment	1,000/-	1,000/- and a Silver Medal	Dept. of Ship Technology	All round, meritorious student of B.Tech Naval Architecture and Ship Building assessed by the academic performance in all semesters with extra curricular activities.



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
5	D. Sunil Memorial Prize	7,500/-	750/-	Physics Quiz	Award to a winner in a Physics Quiz conducted each year for the M.Sc. student of the Department of Physics
6	Dr. Justice T. Kochuthomman Prize	3,000/-	Interest	L.L.M. (Maritime Law)	Awarded to the best outgoing student in Maritime Law.
7	Dr. L.M. Singivi Endowment	11,258/-	Citation	Multi-disciplinary in nature	Annual Essay competition on Endowment, open to teachers of any University, College or Academic or Research Institute and doctoral or post-graduate scholars.
8	Dr. N.K. Panicker Memorial Prize	3,000/-	Interest	M.Sc. (Meteorology)	Awarded to the best student passing out of the M.Sc. programme in Meteorology adjudged by the total marks in all semesters added together.
9	Dr. S. Lakshmanan Endowment	10,000/-	1,000/-	M.Sc (Marine Geology)	Students who secure First Rank in the II year M.Sc. Degree Examination in Marine Geology Division in every year.



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
10	Dr. Terry Adams Prize	2,500/-	2,500/-	-	-
11	K.A. Damodara Menon Memorial Endowment	75,000/-	Interest	-	Oration
12	K.C. Menon Memorial Endowment	10,000/-	Interest	School of Legal Studies	Awarded to the First Rank holder in the L.L.M. Degree Examination
13	K.Kelappan Memorial Prize	10,000/-	Interest	M.A. Hindi	Student who secures the first rank in the M.A. Degree exam in Hindi every year.
14	Kanichai Thomas Jose Endowment	50,000/-	Interest	Department of Physics	First Rank holder of M.Sc. Physics
15	Kerala Management Association Scholarship	8,000/-	500/-	M.B.A. (F.T.)	Awarded to the student who secures the highest mark, not less than 60% during the first year M.B.A. (F.T.)
16	Lyka Olefin's Endowment	10,000/-	Interest	Dept. of Polymer Science & Rubber Technology	First Rank holder of B.Tech Polymer Science and Rubber Technology
17	M.M. Cherian Memorial Labour Law Prize	10,000/-	Interest	L.L.M. (Labour Law)	Student who secure the highest mark in the aggregate in the papers on labour law in the L.L.M. Degree Examination



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
18	Manjula Madhavan Memorial Endowment	25,000/-	Interest	M.Sc. (Hydro Chemistry)	Student who secures Second Rank in M.Sc. Hydrochemistry Examination.
19	N.C. John Memorial Award	8,000/-	Equal to the Interest accrued divided in the ratio 1:3	M.B.A. (P.T.)	Awarded to the student who secures the highest mark at M.B.A. (P.T.) Degree Exam and Completes the programme within the minimum period prescribed.
				M.B.A. (F.T.) Scholarship	Awarded to the student who secures highest mark during the first year of M.B.A.
20	Prof. C.C. John Memorial Endowment Prize	10,001/-	1,000/-	M.Sc. (Marine Biology)	Awarded to the student who secures First Class and First Rank in aggregate in the M.Sc Degree Examination in Marine Biology at the First appearance.
21	Prof. C.P. Menon Memorial Endowment	50,000/-	Interest	Dept. of Physics	Popular Oration on a Scientific or technical topic.
22	Prof. C.T. Samuel Endowment	12,000/-	1,001/-	M.Sc. (Industrial Fisheries)	Student who secures First Rank in M.Sc. Industrial Fisheries.



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
23	Prof. C.V. Kurian Endowment Prize	10,000/-	Interest	M.Sc. (Marine Biology, Marine Geology, Meteorology, Oceanography)	First Rank holder of the M.Sc Degree Exam in Marine Biology Meteorology, Marine Geology and Oceanography.
24	Prof. (Dr.) M.V. Pylee Endowment	10,00,000/-	20,00,000/-	Distinguished academician	As adjudged by an expert panel
25	Prof. (Dr.) P.N. Krishnan Nambisan Memorial Prize	25,000/-	2,000/-	M.Sc. (Hydro Chemistry)	Student who secures First Rank in M.Sc. (Hydrochemistry) every year.
26	Prof. Joy George Endowment Prize	10,000/-	Interest	M.Sc Physics	Awarded to M.Sc. student of Department of Physics who secures the highest marks in the first year / first two semesters taken together.
27	Prof. P. Madhavan Pillai Gold Medal	30,000/-	Interest	M.Sc. (Applied Chemistry)	Student who secures First Rank in M.Sc. (Applied Chemistry)
28	Prof. K.Venkiteswaralu Shashtiabdapoorthy Prize.	3000/-	200/-	M.Sc. (Physics)	First Rank Holder at the M.Sc. Degree in Physics Exam. on the basis of overall results.
29	Prof. Wazir Hazzan Abdi Endowment Prize	27,000/-	Interest	M.Sc. (Maths, Statistics, OR and CA)	First Rank holder of the Final Examination of M.Sc. (Mathematics, Statistics, OR & CA)



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
30	R.V. Kelkar Memorial Prize	10,000/-	Interest	L.L.M. (Criminal Law)	Highest mark in L.L.M. (Criminal Law every year)
31	Sir Robert Bristow Endowment	10,000/-	1,000/-	B.Tech (Naval Architecture & Ship Building)	Awarded to the student who secures the First Rank at B.Tech Degree Exam. (NA & SB)
32	The Bommareddi Venkatari Reddy Memorial Prize	5,000/-	400/-	M.Sc. (Oceanography)	Best Student of M.Sc. (Oceanography) Class of Department of Physical Oceanography with First Class and First Rank in aggregate after passing all the examinations in full appearance.
33	V.N. Padmanabha Pillai Memorial Prize for Law	10,000/-	Interest	L.L.M.	Awarded to the student who secures first class and First Rank at the L.L.M. Degree Examination.
34	Dr. T.S. A. Padmanabhan Endowment Prize		500/-	M.Sc. (Maths / OR and CA)	Awarded to the First Rank holder of M.Sc. Maths and M.Sc. (OR and CA) Course at CUSAT.
35	Classic, 83 Endowment	1,50,000		B Tech PS&RT	Awarded to the First Rank holder / CGPA Topper of B Tech Course in PS&RT
36	Prof. K. M. Mohammed Yusuff Endowment Lecture Series	2,40,000/	Interest	Applied Chemistry	For conducting Annual Lecture series by eminent personalities in Chemistry or related areas



Sl. No.	Name of Endowment	Corpus Amount	Amount of award	Programme for which awarded	Criteria of Award
37	Vishnu Prasad Memorial Endowment	1,50,000/-	12,500/-	B.Tech Safety & Fire Engineering	1. Best Male Singer (Light Music) in University Youth Festival 2. Topper in B.Tech Safety & Fire Engineering

SCHOLARSHIPS / FELLOWSHIPS

Sl No.	Name	Funding Agency	Amount	No of existing Scholars/Fellows
1	University Junior Research Fellowships	CUSAT	Fellowship 7500/-PM Contingency 10000/-PA	44
2	University Senior Research Fellowships	CUSAT	Fellowship 9000/-PM Contingency 10000/PA	9
3	University M.Phil Scholarships	CUSAT	10000 for 10 Months	59
4	University Merit Scholarships	CUSAT	1200/-PA	22
5	Aspire Scholarship	Govt. of Kerala	4000/-PM (Inside Kerala) 5000/-PM (Outside Kerala)	
6	KSCSTE Fellowship	Govt. of Kerala (State Council for Science Technology & Environment)	Fellowship 16000/PM for JRF 18000/-PM for SRF HRA 10% of Fellowship amount Contingency 20000/-PA	13
7	KSCSTE Young Scientist Award	Govt. of Kerala State Council for Science Technology & Environment)	50000/- as Contingency	1
8	Moulana Azad National Fellowship for Minority Students	UGC	Fellowship 16000/-PM for JRF 18000/-PM for SRF HRA 20% of Fellowship amount Contingency 25000/-PA for Science 20500/-PA for Humanities	17



Seeing is believing - Stills from C-Sis Science Park, Cusat