

ANNUAL REPORT

2012-2013



Cochin University of
Science and Technology

Annual Report 2012 - 2013



**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 2012 - 2013



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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, 2012 to March 31, 2013.

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.



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
Dr. Godfrey Louis

REGISTRAR
Dr. A. Ramachandran

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.
9. **Dr. Zakkariya K. A.**, Reader, 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. P. G. R. Pillai**, Dean, Faculty of Medical Science, CUSAT, Kochi-22 (upto 21/03/2013)
19. **Dr. K.R. Muraleedharan Nair**, Dean, Faculty of Sciences, CUSAT, Kochi-22 (upto 21/03/2013)
20. **Dr. M. Bhasi**, Dean, Faculty of Social Sciences, CUSAT, Kochi-22 (upto 21/03/2013)
21. **Dr. K. Vasudevan**, Dean, Faculty of Technology, CUSAT, Kochi-22 (22/03/2013 onwards)
22. **Dr. K. Mohankumar**, Dean, Faculty of Environmental Studies, CUSAT, Kochi-22 (22/03/2013 onwards)
23. **Dr. Philip Kurian**, Dean, Faculty of Engineering, CUSAT, Kochi-22 (22/03/2013 onwards)

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. **All Syndicate Members**
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. **Dr. Suresh Kumar P.**, Principal, Model Engineering College, Thrikkakara, Kochi - 21
10. **Prof. C. Raveendranath**, Member, Legislative Assembly, Lakshmi Bhavan, Panthalath Lane, Kannattukara, Thrissur - 680 011
11. **Dr. Sabu Thomas**, Professor, School of Chemical Sciences, M.G. University, P. D. Hills P.O., Kottayam - 686 560
12. **Dr. K. K. Velayudhan**, Professor & Head, Department of Hindi, Sree Sankaracharya University of Sanskrit, Kalady - 683 574



13. **Dr. Z. A. Zoya**, Professor, Department of Mechanical Engineering, Government Engineering, College, Thrissur - 680 009
14. **Dr. C. Sadasivan**, Head of the Department, Department of Bio-Technology & Micro Biology, School of Life Sciences, Kannur University Thalassery Campus, Palayad, Kannur Pin - 670661
15. **Dr. V. H. Abdul Salam**, Principal, M E S College of Engineering, Kuttipuram, Thrikkanapuram P.O, Malappuram - 679 573
16. **Dr. Narayanan K. P.**, Head and Associate Professor, Department of Ship Technology, CUSAT, Kochi - 22
17. **Dr. Pramod K. V.**, Head and Associate Professor, Department of Computer Applications, CUSAT, Kochi - 22
18. **Dr. K. Sreekumar**, Professor & Head, Department of Applied Chemistry, CUSAT, Kochi - 22
19. **Dr. T. S. Anirudhan**, Professor, Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram - 695 581
20. **Dr. K. Poullose Jacob**, Professor & Head, Department of Computer Science, CUSAT, Kochi - 22
21. **Dr. S. Prathapan**, Reader, Department of Applied Chemistry, CUSAT, Kochi - 22
22. **Sri. K. Babu MLA**, (Hon. Minister, Govt. of Kerala), Kanuparambathu, Sanskrit College Road, Thripunithura, Pin - 682 301
23. **Dr. K. Mohan Kumar**, Professor, Department of Atmospheric Sciences, CUSAT, Kochi - 16
24. **Dr. Philip Kurian**, Professor, Department of Polymer Science and Rubber Technology CUSAT, Kochi - 22
25. **Sri. M. M. Laurence**, President, Cochin Port Labour Union, Ernakulam, Kochi - 11
26. **Sri. M. S. Ansar**, Assistant Registrar, Administrative Office, CUSAT, Kochi - 22
27. **Sri. Harilal**, Section Officer, Administrative Office, CUSAT, Kochi - 22
28. **Sri. Jafar P. K.**, B.Tech. S3, Civil Engineering Branch, School of Engineering, CUSAT, Kochi - 22
29. **Sri. Rajmohan P. P.**, IInd year Electronics & Communication, Engineering, College of Engineering, Munnar, Idukki - 685 612
30. **Sri. Saju Paul M.L.A.**, Member, Legislative Assembly, Panthalingal, Vengoor P.O., Perumbavoor, Ernakulam - 683 546
31. **Sri. Salahudheen C. K.**, S3, B.Tech Computer Science, CUCEK, Pulinkunnu, Alapuzha Pin - 688 504
32. **Sri. Shameer M. I.**, S3, B.Tech. (E.C), T.K.M. Institute of Technology, Kollam - 691 005



33. **Sri. Sushob E.**, S3, B. Tech. (IT), College of Engineering, Thalassery, Kannur - 670 107
34. **Sri. Jamal Manakkaden**, Municipal Chairman, Kalamassery Municipality.
35. **Dr. Balachand A. N.**, Professor, Department of Physical Oceanography, CUSAT Kochi -16
36. **Sri. Bhasi A. B.**, Associate Professor, School of Engineering, CUSAT, Kochi - 22
37. **Dr. Girish Kumar K.**, Professor, Department of Applied Chemistry, CUSAT, Kochi - 22
38. **Dr. Mathew Cherian**, Associate Professor, Cochin University College of Engineering, Kuttanad, Pulinkunnu, Alappuzha-688504
39. **Dr. Radhakrishna Panicker M. R.**, Associate Professor, School of Engineering, CUSAT, Kochi - 22
40. **Dr. Sankaran P. G.**, Associate Professor, Department of Statistics, CUSAT, Kochi - 22
41. **Dr. Sasi Gopalan**, Associate Professor, School of Engineering, CUSAT, Kochi - 22
42. **Dr. Sunil K. Narayanankutty**, Professor, Department of Polymer Science and Rubber Technology, CUSAT, Kochi - 22
43. **Sri. V. K. Ibrahim Kunju MLA**, (Hon. Minister, Govt. of Kerala), Thaikkattukara P.O., Aluva - 683 108
44. **Sri Biju Gopal**, Associate Professor in Commerce, Govt. College, Thripunithura
45. **Sri. P. I. Basheer**, Lecturer in Electronics, Seethi Sahib Memorial Poly Technic, Tirur, Malappuram
46. **Sri. A. N. Rajan**, Ambattumyailil House, Kolazhy P.O., Thrissur - 680 010
47. **Chairman**, Cochin University Students Union, CUSAT, Cochin - 22
48. **Sri. T. S. Nazimuddin**, (Senior Superintendent, Assist Education Officer, Mattancherry), House No. 23/695 A, Kannanthara Niketh, Cochin - 682 006
49. **Sri. N. L. Sivakumar**, Section Officer (Higher Grade), Agriculture College, Kerala Agricultural University, Vellayani, Trivandrum
50. **Sri. Sharan Kartha**, (Joint Managing Director, CMRL), Poorna Nagar, No. 73, Market Road, Aluva - 1
51. **Dr. N. Vijayan Pillai**, President, National Institute of Personnel Management, Kerala State Productivity Council, Arunima, ACSRA - 69, Ashoka Road, Ernakulam
52. **Sri. Noor Mohamed Methar**, (Kerala Chamber of Commerce and Industrial), Mather Mansion, Pullepady, Chittoor Road, Cochin - 682 035
53. **Sri. K. K. Kabeer**, (Techno Cartons), Kadappallymoolayil House, South Kalamassery, Cochin - 682 033
54. **Dr. V. G. Rajesh**, Principal, KMEA Engineering College, Edathala, Kochi - 683 561



MEMBERS OF ACADEMIC COUNCIL

1. **The Vice Chancellor**
2. **The Pro-Vice Chancellor**
3. **All Syndicate Members**
4. **Dr. Girishkumar R.**, Assistant Professor, School of International Relations and Politics Faculty of Social Sciences, Mahathma Gandhi University, Kottayam - 686 560
5. **Dr. P. Unnikrishnan**, Assistant Professor in Philosophy, Sree Sankaracharya University of Sanskrit Regional Centre, Payyannur, Edat P. O., Kannur - 670327
6. **Dr. T. S. Anirudhan**, Professor, Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram - 695 581
7. **Dr. Gokuldas M.**, Head of Department, Department of Zoology, University of Calicut Calicut University P.O., Pin-673 635
8. **Dr. K. V. Jayachandran**, Professor, College of Fisheries, Panangad, Kochi - 682 506
9. **Dr. Suresh Das**, Director, NIIST, Industrial Estate P.O., Pappanamcode Thiruvananthapuram - 695 019
10. **Dr. Philip Kurian**, Professor, Department of Polymer Science and Rubber Technology CUSAT, Kochi - 22
11. **Dr. R. Sasidharan**, Professor, Department of Hindi, CUSAT, Kochi - 22
12. **Dr. K. Mohan Kumar**, Professor, Department of Atmospheric Sciences, CUSAT, Kochi - 16
13. **Dr. A. M. Varkey**, Associate Professor, School of Legal Studies, CUSAT, Kochi - 22
14. **Dr. P. Radhakrishnan**, Professor, International School of Photonics, CUSAT, Kochi - 22
15. **Dr. K. Vasudevan**, Professor, Department of Electronics, CUSAT, Kochi - 22
16. **The Registrar**, Kerala Nurses and Midwives Council, Red Cross Road, Thiruvananthapuram, Pin - 695 035
17. **Dr. K. Poulouse Jacob**, Professor & Head, Dept. of Comp. Science, CUSAT, Kochi-22
18. **Dr. G. Madhu**, Professor & Head, Division of Safety and Fire Engineering, School of Engineering, CUSAT, Kochi-22
19. **Adv. Asok Mammen Cherian**, Advocate, MM Cherian Law Chambers, St. Vincent Road, Ernakulam North - 682 018
20. **Dr. D. Rajeev**, Associate Professor, School of Legal Studies, CUSAT, Kochi-22
21. **Prof. P. R. Poduval**, No.11, Vidya Nagar, Cochin University.P.O, Kochi -22
22. **Dr. S. Harikumar**, Professor, Department of Applied Economics, CUSAT, Kochi-22
23. **Dr. P. Sudarsanan Pillai**, Hari Bhavan, Chunangavelly, Erumathala P.O., Alwaye - 683 112
24. **Prof. P. V. Joseph**, Porathur House, Satellite Township, Kakkanad - 30
25. **Dr. A. N. Balchand**, Professor & Head, Dept. of Physical Oceanography, CUSAT, Kochi-16



26. **Dr. N. R. Menon**, Emeritus Professor, School of Marine Sciences, CUSAT, Kochi - 16
27. **Dr. B. Madhusoodhana Kurup**, Vice-Chancellor, Kerala University of Fisheries & Ocean Studies, Panangad-682506
28. **Dr. K. Girish Kumar**, Professor, Department of Applied Chemistry, CUSAT, Kochi-22
29. **Dr. K. Babu Joseph**, Kuzhikattukunnel House, University Road, Cochin University P.O. Kochi-22
30. **Dr. K. E. George**, Professor, Department of Polymer Science and Rubber Technology, CUSAT, Kochi - 682 022
31. **Dr. K. P. Narayanan**, Associate Professor & Head, Department of Ship Technology CUSAT, Kochi-22
32. **Dr. P. Mohanan**, Professor, Department of Electronics, CUSAT, Kochi-22
33. **The Director**, NIAT, Naval Base, Kochi-682004
34. **The Director**, CIFNET, Kochi-16
35. **Dr. Jacob Chacko**, Professor, Department of Chemical Oceanography, CUSAT, Kochi-16
36. **Dr. Annie Kurian**, Kochuparambil House, University Road, Cochin - 682 022
37. **Dr. A. Mohandas**, Emeritus Professor, NCAAH, CUSAT, Kochi - 16
38. **Dr. N. G. Devadi**, Professor, Department of Hindi, CUSAT, Kochi - 22
39. **Dr. Aneykutty Joseph**, Professor, Department of Marine Biology, Micro Biology & Bio-Chemistry, CUSAT, Kochi - 16
40. **Dr. David Peter S.**, Professor, Division of Computer Science & Engineering, School of Engineering, CUSAT, Kochi - 22
41. **Dr. Supria M. H.**, Reader, Department of Electronics, CUSAT, Kochi - 22
42. **Dr. Tide P. S.**, Reader, Division of Mechanical Engineering, School of Engineering, CUSAT, Kochi - 22
43. **Dr. Saju K. K.**, Reader, Division of Mechanical Engineering, School of Engineering, CUSAT, Kochi - 22
44. **The Co-Ordinator**, NCAAH, CUSAT, Kochi -16
45. **Head of the Department**, Dept. of Applied Chemistry, CUSAT, Kochi - 22
46. **Head of the Department**, Dept. of Applied Economics, CUSAT, Kochi - 22
47. **Head of the Department**, Dept. of Atmospheric Sciences, CUSAT, Kochi - 16
48. **Head of the Department**, Dept. of Bio-Technology, CUSAT, Kochi - 22
49. **The Principal**, School of Engineering, CUSAT, Kochi - 22
50. **The Principal**, Cochin University College of Engineering, Kuttanadu, Alappuzha
51. **Head of the Department**, Dept. of Computer Applications, CUSAT, Kochi-22
52. **Head of the Department**, Dept. of Computer Science, CUSAT, Kochi-22
53. **Head of the Department**, Dept. of Electronics, CUSAT, Kochi-22
54. **The Director**, School of Environmental Studies, CUSAT, Kochi-22
55. **Head of the Department**, Dept. of Culture and Heritage, CUSAT, Kochi -22
56. **The Director, School of Industrial Fisheries**, CUSAT, Kochi - 16



57. **Head of the Department**, Dept. of Instrumentation, CUSAT, Kochi-22
58. **Head of the Department**, Dept. of Hindi, CUSAT, Kochi-22
59. **The Director**, School of Legal Studies, CUSAT, Kochi-22
60. **The Director**, School of Management Studies, CUSAT, Kochi-22
61. **Head of the Department**, Marine Biology, Micro Biology and Bio-Chemistry, CUSAT.
62. **Head of the Department**, Marine Geology and Geophysics, CUSAT, Kochi-16
63. **The Director**, School of Marine Sciences, CUSAT, Kochi-16
64. **Head of the Department**, Dept. of Mathematics, CUSAT, Kochi-22
65. **The Director**, CELOS, CUSAT, Kochi-22
66. **Head of the Department**, Dept. of Physics, CUSAT, Kochi-22
67. **Head of the Department**, Dept. of Polymer Science & Rubber Technology, CUSAT.
68. **Head of the Department**, Dept. of Physical Oceanography, CUSAT, Kochi-16
69. **Head of the Department**, Dept. of Ship Technology, CUSAT, Kochi-22
70. **Head of the Department**, Dept. of Statistics, CUSAT, Kochi-22
71. **Head of the Department**, Dept. of Chemical Oceanography, CUSAT, Kochi-16
72. **Director**, K M School of Marine Engineering, CUSAT, Kochi-22

DEANS OF FACULTIES

1. **Engineering**
Dr. Philip Kurian, Professor, Department of Polymer Science and Rubber Technology, CUSAT, Kochi-22.
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
4. **Law**
Dr. A. M. Varkey, Director, School of Legal Studies, CUSAT, Kochi-22
5. **Science**
Dr. K. R. Muraleedharan Nair, Professor, Dept. of Statistics, CUSAT, Kochi-22
6. **Social Sciences**
Dr. M. Bhasi, Professor, SMS, CUSAT, Kochi-22
7. **Technology**
Dr. K. Vasudevan, Professor, Dept. of Electronics, CUSAT, Kochi-22
8. **Marine Sciences**
Dr. H. S. Ram Mohan, Professor and Director, School of Marine Sciences, CUSAT, Kochi-16 (upto 28/05/2012)
Dr. K. Sajan, Professor, Department of Marine Geology & Geo-Physics, CUSAT, Kochi-16 (19/06/2012 onwards)
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 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 valued at Rs.180.00 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, 2012 and 2013) 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. Prathapachandra 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	Associate Professor	M.Sc., Ph.D.	Organic Chemistry
7.	Dr. N. Manoj	Associate Professor	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

4. Research Staff

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Annie C. F.	UGC Teacher fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
2	K. P. Ashokan	Teacher fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
3	Jessy Emmanuel	UGC Teacher fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
4	Rosephilo K.J.	UGC Teacher fellow	Dr. S. Sugunan	Catalysis by metal oxides
5	K. Jayakumar	UGC Teacher fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
6	Sobhana Mathew	UGC Teacher fellow	Dr. K. Girish Kumar	Development of potentiometric sensors for metal ions
7	M. Sithambaresan	ICCR Teacher fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry



8	Bindu Sharmila T. K.	UGC Teacher fellow	Dr. P. M. Sabura Begum	Polymer Composite
9	Manjula Krishnan	Teacher Fellow	Dr. N. Manoj	Organic Chemistry
10	Senju Devassykkutty	Teacher fellow	Dr. N. Manoj	Organic Chemistry
11	Reshma P. R.	Teacher Fellow	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
12	Midhun Dominic C. D.	Teacher Fellow	Dr. P. M. Sabura Begum	Polymer Composite
13	Sajitha T. S.	Scientist	Dr. P. A. Unnikrishnan	Organic Chemistry
14	Suma C. S.	Teacher Fellow	Dr. N. Manoj	Organic Chemistry
15	Jeemol P. A.	Teacher Fellow	Dr. P. M. Sabura Begum	Polymer Composite
16	Soumini C.	Teacher Fellow	Dr. S. Sugunan	Physical Chemistry
17	Minu Joys	Teacher Fellow	Dr. P. A. Unnikrishnan	Organic Chemistry
18	Theresa C. J.	Teacher Fellow	Dr. K. Girish Kumar	Analytical Chemistry
19	Jesny S.	Teacher Fellow	Dr. K. Girish Kumar	Analytical Chemistry
20	Seena Sebastian	UGC – BSR	Dr. N. Manoj	Organic Chemistry

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Cimi A. Daniel	UGC BSR	Dr. S. Sugunan	Catalysis by metal oxides
2.	Reni George	DST - PURSE	Dr. S. Sugunan	Enzyme Catalysis
3.	Nissam E.	CSIR	Dr. S. Sugunan	Catalysis by clays
4.	Mothi Krishna Mohan	UGC - BSR	Dr. S. Sugunan	Catalysis by mesoporous silica
5.	Honey Mary Joseph	CSIR - JRF	Dr. S. Sugunan	Physical Chemistry
6.	Soumya G.	CSIR - JRF	Dr. S. Sugunan	Physical Chemistry
7.	Roji J. Kunnath	UGC	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
8.	Nisha K.	CSIR	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
9.	Jinsa Mary Jacob	CSIR	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
10.	Bibitha Joseph	CSIR	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry



11.	Ambili Aravindakshan	CSIR	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
12.	Ambili K. U.	UGC	Dr. M. R. Prathapachandra Kurup	Inorganic Chemistry
13.	Leena R.	UGC- BSR	Dr. K. Girish Kumar	Development of electrochemical sensors for various pharmaceuticals
14.	Laina A. L.	IUCND	Dr. K. Girish Kumar	Application of electrochemical sensors for the determination of pharmaceuticals
15.	Divya Thomas	CSIR	Dr. K. Girish Kumar	Development of electrochemical sensors
16.	Soumya T. Cyriac	CSIR	Dr. K. Girish Kumar	Development of Sensors: Pharmaceutical / Organic Compounds
17.	Zafna Rasheed	UGC	Dr. K. Girish Kumar	Development of electrochemical sensors
18.	Anuja E. V.	CSIR	Dr. K. Girish Kumar	Biosensors
19.	Mahesh Kumar M. V.	CUSAT	Dr. K. Sreekumar	Conducting Polymers
20.	Anoop N. A.	UGC	Dr. K. Sreekumar	Energetic polymers
21.	Jiby K. Gopinath	DST - PURSE	Dr. K. Sreekumar	Conducting Polymers
22.	Smitha George	CSIR	Dr. K. Sreekumar	Dendrimers
23.	Sinija P. S.	CUSAT	Dr. K. Sreekumar	Organic Reactions Catalysed by modified silica
24.	Anjali C. P.	IUCND	Dr. K. Sreekumar	Heterogeneous Catalysis
25.	Jabia Kurian	UGC	Dr. K. Sreekumar	Chemical sensors based on conjugated polymers
26.	Jithinkumar V. A.	CSIR	Dr. K. Sreekumar	Heterogeneous Catalysis Using Supported Dendrimers
27.	Jisha K. A.	CSIR	Dr. K. Sreekumar	Periodic Mesoporous Silica based Catalysis



28.	Anjaly Jacob	CSIR	Dr. K. Sreekumar	Polymer Supported Solid Phase Peptide Synthesis
29.	Rakesh N.	CSIR	Dr. S. Prathapan	Organic Synthesis
30.	Sandhya R.	CSIR	Dr. S. Prathapan	Organic Synthesis
31.	Reshma G.	CSIR	Dr. S. Prathapan	Organic Synthesis and photochemical studies
32.	Nithya C.	DST-Inspire	Dr. S. Prathapan	Conducting Polymers
33.	Jomon P. Jacob	CUSAT	Dr. S. Prathapan	Organic Synthesis and Photochemical Studies
34.	Ligi M. L.	UGC	Dr. S. Prathapan	Organic Synthesis and Photochemical Studies
35.	Seena Sebastian	UGC – BSR	Dr. N. Manoj	Organic Chemistry
36.	Pravitha N. P.	CSIR	Dr. N. Manoj	Organic Chemistry
37.	Kala K.	UGC	Dr. N. Manoj	Organic Chemistry
38.	Vineetha P. K.	UGC	Dr. N. Manoj	Organic Chemistry
39.	Parvathy O. C.	UGC	Dr. N. Manoj	Organic Chemistry
40.	Cisy Abraham	UGC	Dr. N. Manoj	Organic Chemistry
41.	Bhavya Badran	CUSAT	Dr. P. M. Sabura Begum	Polymer composite
42.	Sajitha N. R.	CSIR	Dr. P. M. Sabura Begum	Polymer composite
43.	Divya P. R.	CSIR	Dr. P. M. Sabura Begum	Polymer composite
44.	Eason M. Mathew	CSIR	Dr. P. A. Unnikrishnan	Photochemical studies on a few barralene derivatives
45.	Saumya T. S.	CSIR	Dr. P. A. Unnikrishnan	Photochemical and photophysical studies of multichromophoric systems.
46.	Shandev P. P.	CSIR	Dr. P. A. Unnikrishnan	
47.	Navya Antony	UGC BSR	Dr. P. V. Mohanan	Enzyme Catalysis
48.	Priya Rajan	UGC BSR	Dr. P. V. Mohanan	Enzyme Technology
49.	Sneha Jose E.	CSIR	Dr. P. V. Mohanan	Enzyme Technology
50.	Divya K. M.	CSIR	Dr. P. V. Mohanan	Enzyme Technology
51.	Jessica Elizabeth Philip	UGC	Dr. P. V. Mohanan	Enzyme Technology
52.	Shanty A. A.	CUSAT	Dr. P. V. Mohanan	Enzyme Technology
53.	Bindu V. U.	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	15	6	21
2	M.Sc. II Year	16	5	21
3	M.Tech. (Industrial Catalysis) I Year	9	7	16
4	M.Tech. (Industrial Catalysis) II Year	9	7	16
5	M.Phil. I Semester	1	8	9

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
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 (Quad 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
Other Equipment for common use	HPLC-MS	Waters	Working properly
	GC-MS	Agilent	Working properly
	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 air 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 : 4219 Nos. Journal : 3 Nos	Books : 113 Nos.

10. Distinguished Visitors

1. Prof. V. N. Rajasekharan Pillai, Executive Vice – president, KSCSTE
2. Dr. Indira Priyadarshini, BARC
3. Dr. T. Pradeep, IIT Chennai
4. Dr. A. C. Bhasikkuttan, BARC
5. Dr. Selvam P., IIT Chennai

11. Ph.D. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Fabrication of potentiometric sensors for the determination of lanthanide ions"	Beena Saraswathyamma	Dr. K. Girish Kumar
2.	"Synthesis and characterization of lanthanide complex of some biologically active ligands"	Mohanraj K.	Dr. K. Girish Kumar
3.	"Fabrication of electrochemical sensors for the determination of pharmaceuticals"	Sindhu Issac	Dr. K. Girish Kumar
4.	Organic Synthesis Mediated by Heterogeneous Catalysts	Kannan V.	Dr. K. Sreekumar
5.	Functionalized Silicon polymers: Novel materials for Catalysis	Mangala K.	Dr. K. Sreekumar
6.	Studies on photocatalysis by Nano Titania Modified with Non-metals	Rajesh K. M.	Dr. S. Sugunan
7.	Studies on catalysis by ordered Mesoporous SBA-15 Materials Modified with Transition metals	Ambily V. K.	Dr. S. Sugunan
8.	Chelating behavior of acyl. Hydrazones towards transition metals: Spectral and structural aspects	Neema Ani Mangalam	Dr. M. R. Prathapachandra Kurup
9.	Spectral studies and crystal structures of some transition metals complexes of N4 –substituted semicarbazones	Reena T. A.	Dr. M. R. Prathapachandra Kurup
10.	Studies on metal complexes of some tridentate acyhydrazones	Nancy Mathew	Dr. M. R. Prathapachandra Kurup
11.	Transition metal complexes with ring incorporated thiosemicarbazones: synthesis, structures and spectral properties.	Laly K.	Dr. M. R. Prathapachandra Kurup



12. List of Publications

Dr. M. R. Prathapachandra Kurup

1. (2E)-2-(3-Ethoxy-2-hydroxybenzylidene) hydrazinecarboxamide, Aravindakshan, A. A.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2013, 69, o586o587.
2. 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., *J. Inorg. Organomet. Polym.*, 2013, 23, 608-615
3. (2E)-2-[1-(2-Hydroxy-4-methoxyphenyl)ethylidene]-N-phenylhydrazinecarboxamide monohydrate, Annie, C. F.; Jacob, J. M.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o2985-o2986.
4. (1-[(E)-[Phenyl(pyridin-2-yl-N)methylidene]amino-N]pyrrolidin-2-one-O) bis(thiocyanato-N) copper(II), Kunnath, R. J.; Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1302.
5. N'-[(E)-4-Benzyloxy-2-hydroxybenzylidene]benzohydrazide, Reshma, P. R.; Sithambaresan, M.; Kurup, M. R. P.; *Acta Cryst. E*, 2012, 68, o2785.
6. Di-*i*-azido-4N1:N1'-bis({1-[(E)-phenyl(pyridin-2-yl-N) methylidene] thiosemicarbazidato-2N1,S} copper(II)), Kunnath, R. J.; Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1195.
7. {2-[(2-Carbamoylhydrazin-1-ylidene)-methyl-2N1,O]-5-methoxyphenolatoO1} chloridocopper(II), Kunnath, R. J.; Kurup, M. R. P.; Ng, S.W., *Acta Cryst. E*, 2012, 68, m1194.
8. Dichlorido(1-[(E)-[phenyl (pyridin-2-yl-N) methylidene]amino-N] pyrrolidin-2-one-O)copper(II) monohydrate, Kunnath, R. J.; Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1181.
9. (Cyanato-N){1-[(E)-phenyl(pyridin-2-yl-N)methylidene]semicarbazidato-2N1,O}copper(II), Kunnath, R. J.; Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1180.
10. catena-Poly[[[1-[(E)-phenyl(pyridin-2-yl-N)methylidene]semicarbazidato-2N1,O}copper(II)]-dicyanamido-2N1:N5] monohydrate], Kunnath, R. J.; Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1176.
11. N'-[(E)-(3-Fluoropyridin-2-yl)methylidene]benzohydrazide monohydrate, Nair, Y.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o2709.
12. (Anilino{(Z)-2-[(E)-5-bromo-3-methoxy-2-oxidobenzylidene]hydrazin-1-ylidene κ²O₂,N₂}methanethiolato-κ^S)(4,4'-dimethyl-2,2'-bipyridine-κ²N,N')zinc N, N-dimethyl formamide monosolvate., Jacob, J. M, Kurup, M. R. P.; Ng, S. W., *Acta Cryst. E*, 2012, 68, m1089.
13. Di-μ-acetato-κ⁴O:O-bis({N'-[(E)-phenyl(pyridin-2 κN) methylidene] benzohydrazidato-κ²N',O} copper(II)), Vineetha, M. C.; Sithambaresan, M.; Jacob, J. M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, m1086.
14. 2-Ethoxy-6-({2-[(3-ethoxy-2-hydroxybenzylidene)amino]-benzyl}iminomethyl)phenol, Ambili, K. U.; Sreejith, S. S.; Jacob, J. M.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o2482.



15. Synthesis, Spectral and Magnetic Properties of Ternary Nickel (II) Complexes with Acid Hydrazones and Heterocyclic Bases, Sreeja, P. B.; Sunaja Devi, K. R.; Vinayakumar, K.; M. R. P. Kurup, *Mapana J. Sci.*, 2012, 11, 45-55
16. Bis(1-phenyl-3-((Z)-[phenyl(pyridin-2-yl)methylidene]amino-²N,N')urea-O)nickel(II) dinitrate, Aiswarya, N.; Jacob, J. M.; Kurup M. R. P.; Ng, S.W., *Acta Cryst. E*, 2012, 68, m918.
17. (2E)-2-(5-Bromo-2-hydroxy-3-methoxybenzylidene)-N phenylhydrazinecarbothioamide, Jacob J. M.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o1871.
18. N₂ -{(E)-[4-(Benzyloxy)-2-hydroxyphenyl]methylidene}-4-nitrobenzohydrazide monohydrate, Joseph, B.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o1421.
19. (2E)-2-[(2-Hydroxy-4-methoxyphenyl)(phenyl)methylidene]-N-phenylhydrazinecarboxamide dimethyl formamide monosolvate, Annie, C. F.; Jacob, J. M.; Sithambaresan, M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o1519.
20. Spectral, thermal, structural, dielectric and microhardness studies of gel grown diaquasuccinatocadmium(II) hemihydrate, Dhanya, V. S.; Sudarsanakumar, M. R.; Suma, S.; Kurup, M. R. P.; Sithambaresan, M.; Roy, S. M., *Spectrochim. Acta A*, 2012 93, 295-299.
21. Bis[2-2-[di(pyridin-2yl)methylidene]hydrazinecarbothioamido-K₄S,N,N₂ :N₂ 2 ;K₄N₂ 2 :N₂ ,N,S} bis[bromidocopper(II)] methanol disolvate, Kunnath, R. J.; Sithambaresan, M.; Kurup, M. R. P.; Natarajan, A.; Aravindakshan, A. A., *Acta Cryst. E*, 2012, 68, m346.

Dr. K.Girish Kumar

22. (2E)-2-(5-Bromo-2-hydroxy-3-methoxybenzylidene)-N-cyclohexyl hydrazinecarbothioamide, Jacob, J. M.; Kurup, M. R. P., *Acta Cryst. E*, 2012, 68, o836.
23. Mathew, S.; Rajith, L.; Lonappan, L.; Jos, T.; Girish Kumar, K. A lead (II) selective PVC membrane potentiometric sensor based on a tetra azamacrocyclic ligand. *J. Incl. Phenom. Macrocycl. Chem. (in press)*, 2013.
24. Thomas, D.; Lonappan, L.; Rajith, L.; Cyriac, S. T.; Girish Kumar, K. Quantum Dots (QDs) based fluorescent sensor for the selective determination of Nimesulide. *J. Fluores*, (in press), 2013.
25. Vikraman, A. E.; Rasheed, Z.; Lonappan, L. Rajith, L.; Girish Kumar, K. MWCNT modified gold electrode sensor for the determination of propyl gallate in vegetable oils. *Food Anal Methods*, (in press), 2013.
26. Jos, T.; Issac, S.; Joseph, R.; Rajith, L.; Girish Kumar, K. Electrocatalysis and determination of PAM chloride using carbon nanotube modified gold electrode. *Micro Nano Lett*, 2012, 7, 854
27. Thomas, D.; Rajith, L.; Lonappan, L.; Issac, S. Girish Kumar, K. Sensitive determination of nitrite in food samples using Voltammetry, *Food Anal Methods*, 2012, 5, 752.

Dr. K. Sreekumar

28. Synthesis of 2-amino alcohols catalyzed by poly(vinyl chloride) supported Schiff base-metal complexes; G. Rajesh Krishnan, Sapna Kajal and K. Sreekumar (*Monatshefte fur Chemie* 2012, 143, 637-642)



29. Synthesis and Application of Polycarbosilane Supported Manganese Ions as Catalyst in Mannich Reaction, Kunniyur Mangala, Krishnapillai Sreekumar, *J. App. Polym. Sci.*, 2012, DOI: 10.1002/APP.37860
30. Theoretical and experimental studies of chiral polyurethanes. C. V. Elizabeth, K. Sreekumar, *J. Polym. Research*, 2012, 19, 9760.

Dr. S. Sugunan

31. Liquid Phase Benzoylation Of Toluene Over Modified Titania Catalysts, Sunaja Devi K. R.; Sugunan S., *Mapana, Christ University Journal Of Sciences*, 2012, 11, 31-44.
32. Effect Of Mechanical Stirring On The Preparation Of High Visible Light Active N S Co-Doped Nano Titania: Synthesis And Characterization, Rajesh K. M.; Sugunan S., *IOSR Journal Of Applied Chemistry (IOSR-JAC)* 2012, 2, 36-42.
33. Acetalization Of Cyclohexanone Over Transition Metals Modified Mesoporous Ceria-A Green Approach, Rose Philo, K. J.; Sugunan, S., *IOSR Journal Of Applied Chemistry (IOSRJAC) ISSN: 2278-5736*, 2012, 1, 24-31.
34. Improved Biochemical Characteristics Of Cross Linked \tilde{A} -Glucosidase On Nanoporous Silica Foams, Reshmi, R.; Sugunan, S., *J. Molecular Catal. B*, January 2013, 85–86, 111–118.
35. Benzoylation Of Toluene Over Iron Modified Mesoporous Ceria. Rose Philo, K. J.; Sugunan, S. *Bulletin Of Chemical Reaction Engineering & Catalysis*, 2012, 7, 158-164.

Dr. S. Prathapan

36. "Characteristics of Dual Amplified Spontaneous Emission from MEH-PPV solutions" G.Sreelekha, G. Vidya, K. Geetha, Rani Joseph, S. Prathapan, P. Radhakrishnan C.P.G. Vallabhan and V.P.N. Nampoori, Accepted in International journal of Optics and Photonics
37. "Laser Resonant Modes from MEH-PPV Dissolved in Tetrahydrofuran", G.Sreelekha, G. Vidya, K. Geetha, Rani Joseph, S. Prathapan, P. Radhakrishnan C.P.G. Vallabhan, V. P. N. Nampoori International Journal of Photonics, ISSN 0974-2212 Volume 3, Number 1 (2011), pp. 31-38.
38. "Evaluation of absolute fluorescence quantum yield of MEH-PPV using laser induced thermal lens technique" G.Sreelekha, G. Vidya, Rani Joseph, S. Prathapan, P. Radhakrishnan, C.P.G. Vallabhan and V.P.N. Nampoori, Accepted in Asian journal of Spectroscopy

Dr. N. Manoj

39. Self-sensitized photooxidation of N-methyl phenothiazine: acidity control of the competition between electron and energy transfer mechanisms. Manju, T.; Manoj, N.; Braun, A. M.; Oliveros, E., *Photochemical & Photobiological Sciences*, 2012, 11, 1744-1755.

Dr. P. V. Mohanan

40. *Bioactive derivatives of curcumin attenuate cataract formation in vitro*. Asha, R.; Sudha Devi, R.; Sasikala, V.; Priya Rajan, S.; Balachandran, S.; Mohanan, P. V.; Abraham A. *Chemical Biology & Drug Design* 2012, 80, 887–892.

**Books**

Sl. No.	Name of Books
1	G. Rajesh Krishnan and K. Sreekumar , "Recent Trends in Polymer Supported Catalysts" in Focus on Catalysis Research: New Developments, Minjae Ghang and Bjorn Ramel (eds) , 2012, Nova Science Publishers, New York (ISBN978-1-62100-444-8) pp-63-90
2	G. Rajesh Krishnan and K. Sreekumar , "Applications of Dendrimers in Catalysis" in Focus on Catalysis Research: New Developments, Minjae Ghang and Bjorn Ramel (eds) , 2012, Nova Science Publishers, New York (ISBN978-1-62100-444-8) pp-325-360
3	പ്ലാസ്റ്റിക് കഥയും കാര്യവും by Dr. K. Girish Kumar NBS Kottayam

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

- Rearrangement and cyclization of isoxazoline to some biologically active Compounds, R.Sandhya, P.R.John, P. A.Unnikrishnan, and S. Prathapan, CTriC 2013, 22-23 March 2013
- Crystal structure of N'-[(E)-(5-bromo-2-hydroxy-3-methoxyphenyl) methylidene] pyridine-3-carbohydrazide, *Bibitha Joseph and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
- Crystal structure of 1-[(E)-(5-bromo-2-hydroxyphenyl) methylidene]amino} pyrrolidin-2-one, *N. Aiswarya and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
- Design and Development of Cyanuric Chloride based Organic catalyst for Asymmetric Catalysis, *S. Varun, K. Kala and N. Manoj*, CTriC 2013, 22-23 March 2013
- Synthesis and spectral characterization of oxidovanadium(IV) complexes derived from an ONO donor N4-phenylsemicarbazone, *Annie C.F. and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
- Electrochemical determination of guaiphenesin on a Pt electrode incorporating the 1-d character of MWNT, *Theresa C.J. and K. Girish Kumar*, CTriC 2013, 22-23 March 2013
- Crystal structure of N'-(3-ethoxy hydroxybenzylidene)benzohydrazide monohydrate *M. C. Vineetha, M. R. Prathapachandra Kuru*, CTriC 2013, 22-23 March 2013
- Development of gold nanoparticle modified glassy carbon electrode Sensor for the voltammetric determination of sunset yellow, *Anuja E. V, K. Girish Kumar*, CTriC 2013, 22-23 March 2013
- Reinforcing effect of nanoclay in SBR, *Bhavya Bhadran , P. M. Sabura Begum , Rani Joseph*, CTriC 2013, 22-23 March 2013
- Synthesis of 4-n-(4-aminocyclohexyl)- 8,12-di-n-octyl-4,8,12-triazatriangulenium tetrafluoroborate ion, *Cisy Abraham, Pravitha, N. P., Senju, D. A, Vineetha, P. K., Manoj.N.*, CTriC 2013, 22-23 March 2013
- Photochemical transformation of a tethered barrelenes, *Eason M. Mathe, P. A. Unnikrishnan*, CTriC 2013, 22-23 March 2013



12. Synthesis, characterization and crystal structure of a dioxidovanadium(V) complex of aroyl hydrazone, *Jessy Emmanuel and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
13. Development of nanoparticle based sensors for the determination of amoxicillin, *Laina Lonappan and K. Girish Kumar*, CTriC 2013, 22-23 March 2013
14. Synthesis and spectral characterization of mixed ligand copper(II) chelates derived from an ONS donor N4-phenylhydrazinecarbothioamide, *Jinsa Mary Jacob and M.R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
15. Photo oxidation of phenyl appended anthracene methanamine over modified titania systems, *Mothi Krishna Mohan and S. Sugunan*, CTriC 2013, 22-23 March 2013
16. In vivo release of ciprofloxacin hydrochloride from a biodegradable hydro gel, *Jinu George and Lisa Srejith*, CTriC 2013, 22-23 March 2013
17. Synthesis, characterization and application of rice husk nanosilica (RHNS) in natural rubber, *Midhun Dominic C. D., P. M. Sabura Begum and Rani Joseph, Ammu Rosin jose*, CTriC 2013, 22-23 March 2013
18. Catalytic efficiency of modified ceria zirconia catalyst towards the transesterification reaction, *Cimi. A. Daniel and S. Sugunan*, CTriC 2013, 22-23 March 2013
19. Synthesis of Pyrazolines from Bisthiophenecycloalkanones, *C. Nithya, P. A. Unnikrishnan and S. Prathapan*, CTriC 2013, 22-23 March 2013
20. DNA binding study of curcumin pyrazole complexes, *Priya, R.S., Balachandran, S. and Mohanan P.V.*, CTriC 2013, 22-23 March 2013
21. Nanogold supported metal loaded mesoporous silica based solids for suzuki coupling reaction, *Soumini C and Sugunan*, CTriC 2013, 22-23 March 2013
22. Photocatalytic Degradation of Malachite Green with TiO₂- Polyaniline nanocomposite., *Sandhya.K.P and S.Sugunan.*, CTriC 2013, 22-23 March 2013
23. Antioxidant Activity of Hydroxy Derivatives of Benzaldehyde Schiff Base *Jessica Elizabeth Philip, S. Balchandran Nair and P.V. Mohanan*, CTriC 2013, 22-23 March 2013
24. Kinetics and thermodynamic studies of starch hydrolysis by immobilized glucoamylase on SBA-15, *Reni George and S. Sugunan*, CTriC 2013, 22-23 March 2013
25. Electroanalytical method for the determination of a synthetic antioxidant tert-butylhydroquinone, *Soumya T Cyriac and K Girish Kumar*, CTriC 2013, 22-23 March 2013
26. Crystal structure of dioxovanadium (V) complex of 2-benzoylpyridine-N4-dimethylthiosemicarbazone, *K. Nisha and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
27. Development of a simple and efficient route for the synthesis of substituted indoles. *N. Rakesh, P. A. Unnikrishnan, S. Prathapan*, CTriC 2013, 22-23 March 2013
28. Crystal structure of N, N'-bis(3-ethoxysalicylidine)-1,4-diaminobutane, *S. Sreejith and M. R. Prathapachandra Kurup*, CTriC 2013, 22-23 March 2013
29. Photoinduced electron transfer reaction of (anthracen-9-yl)methyl methyl thioether, *G. Reshma, J. P. Jacob, P. A. Unnikrishnan, N. Manoj and S. Prathapan*, CTriC 2013, 22-23 March 2013
30. Molecular Imprinting Approach on Multiwalled Carbon Nanotubes for the Design of Enantioselective Sorbents for D-Mandelic Acid, *Sajini T, Rohini Ashok and Beena Mathew*, CTriC 2013, 22-23 March 2013



31. Conformational effects on the geometry of Bisanthracenes *Saumya T.S and Gisha George*, CTriC 2013, 22-23 March 2013
32. Carbon nitride dots based fluorescent sensor for the determination of BHA in food samples, *Divya Thomas and K. Girish Kumar*, CTriC 2013, 22-23 March 2013
33. Differential pulse voltammetric determination of amaranth using MWCNT, *Sreejith Chandran & K. Girish Kumar*, CTriC 2013, 22-23 March 2013
34. Soumya T. Cyriac, Zafna Rasheed, Shinu P. International conference on "Biologically active molecules (ICBAM 2012)" held at Gandhigram Rural Institute, Dindigul
35. Anuja E.V, Sreejith Chandran International conference on "Biologically active molecules(ICBAM 2012)" held at Gandhigram Rural Institute, Dindigul
36. Divya Thomas, Leena R, XXIV Kerala Science Congress held at Rubber Board, Kottayam, January 2012
37. Anuja E.V XXIV Kerala Science Congress held at Rubber Board, Kottayam, January 2012
38. Laina A.L, Soumya T. Cyriac, Zafna Rasheed, Shinu P.J, Sreejith Chandran XXIV Kerala Science Congress held at Rubber Board, Kottayam, January 2012
39. Dr. P. M. Sabura Begum, Kerala Science Congress – Jan 29-31, 2012
40. Dr. P. M. Sabura Begum, One day workshop – Scanning Electron Microscopy

14. Awards/Honours/Fellowships etc Received

Sl. No.	Name of Recipient	Name of Fellowship/ Honour/Award	Awarding Agency
1.	Cisy Abraham	UGC JRF	UGC
2.	Amrutha U.	UGC JRF	UGC
3.	Jithin Kumar V. A.	UGC JRF	UGC
4.	Soumya Xavier	UGC NET	UGC
5.	Soumya T. Cyriac	CSIR JRF	CSIR
6.	Soumya Jos	UGC NET	UGC
7.	Divya K. M.	CSIR JRF	CSIR
8.	Suhada K. M.	UGC JRF	UGC
9.	Jamsheena V.	CSIR JRF	CSIR
10.	Jessica Elizabeth Philip	UGC JRF	UGC
11.	Ligi, M. L.	UGC JRF	UGC
12.	Vineetha M. C.	CSIR JRF	CSIR
13.	Seena K. Thomas	CSIR JRF	CSIR
14.	Maria Agustine	CSIR JRF	CSIR
15.	Thomson Devassia	UGC JRF	UGC
16.	Anila P. V.	CSIR JRF	CSIR
17.	Shandev P. P.	CSIR JRF	CSIR
18.	Daly Kuriakose	UGC JRF	UGC
19.	Lincy Tom	CSIR JRF	CSIR



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. Prathapachandra Kurup

16. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Catalysis by transition metal impregnated pillared calys	Nissam E. & Dr. S. Sugunan
2.	Catalysis by ceria zirconia modified with transition metals	Cimi Daniel & Dr. S. Sugunan
3.	Photo catalysis by nano titania for detoxification of water containing pollutants	Mothi Krishnan & Dr. S. Sugunan
4.	Photo catalysis by titania conducting polymer composites	Sandhya K. P. & Dr. S. Sugunan
5.	Synthesis of nanogold supported over mesoporous Ti/Zr-SBA 15 materials and their catalytic performance	Sowmini C. & Dr. S. Sugunan
6.	Photocatalysis by TiO ₂ /Graphene composites	Soumya Gopi & Dr. S. Sugunan



Sl.No.	Problems/Topics	Investigator(s)
7.	Photocatalysis by TiO ₂ /carbon nano tubes	Honey mary Joseph & Dr. S. Sugunan
8.	Studies of metal complexes of some bis (thiosemicarbazone)s	Laly K. & M. R. P. Kurup
9.	Studies of metal complexes of aroyl hydrazones	Jessy Emmanuel & M. R. P. Kurup
10.	Studies of metal complexes of multidentate ligands	Sheeja.S. R & M. R. P. Kurup
11.	Structural and NLO properties of some metal complexes	K. Jayakumar & M. R. P. Kurup
12.	Metal complexes of carbohydrazones	Annie C. F & M. R. P. Kurup
13.	Transition metal complexes of carbohydrazones and thiocarbohydrazones	Roji J. Kunnath & M. R. P. Kurup
14.	Metal complexes of some semicarbazones	K. P. Ashokan & M. R. P. Kurup
15.	Transition metal complexes of thiosemicarbazones	Nisha K & M. R. P. Kurup
16.	Transition metal complexes of thiosemicarbazones	Jinsa Mary Jacob & M. R. P. Kurup
17.	Metal complexes of some acylhydrazones	Bibitha Joseph & M. R. P. Kurup
18.	Transition metal complexes of acylhydrazones	Reshma P. R. & M. R. P. Kurup
19.	Synthesis and Charaterization and Application studies of Transion Metal complexes	Aiswarya N. & M. R. P. Kurup
20.	Synthesis and Charaterizationof Metal complexes of multidentate ligands	Sreejith S. S. & M. R. P. Kurup
21.	Synthesis and Charaterization of Transion Metal complexes	Fousiamol M. M. & M. R. P. Kurup
22.	Synthesis and Characterization of Transition Metal complexes of multidentate ligands	Ambili K. U. & M. R. P. Kurup
23.	Synthesis and Characterization of Transition Metal complexes	Vineetha M. C. & M. R. P. Kurup
24.	Development of electrochemical sensors for various pharmaceuticals	Renjini Joseph & Dr. K. Girish Kumar
25.	Development of macrocyclics based electrochemical sensors	Sobhana Mathew & Dr. K. Girish Kumar
26.	Development of electrochemical sensors for various pharmaceuticals	Leena R & Dr. K. Girish Kumar



Sl.No.	Problems/Topics	Investigator(s)
27.	Development of electrochemical sensors for various pharmaceuticals	Theresa C. J. & Dr. K. Girish Kumar
28.	Application of electrochemical sensors for the determination of pharmaceuticals	Laina A. L. & Dr. K. Girish Kumar
29.	Development of electrochemical sensors	Divya Thomas & Dr. K. Girish Kumar
30.	Development of Sensors: Pharmaceutical / Organic Compounds	Soumya T. Cyriac & Dr. K. Girish Kumar
31.	Development of voltammetric sensors for food analysis	Jesny S. & Dr. K. Girish Kumar
32.	Development of chemical sensors	Zafna Rasheed & Dr. K. Girish Kumar
33.	Biosensors	Anuja E. V. & Dr. K. Girish Kumar
34.	Periphery modified dendrimers in organic synthesis.	Smitha George & Dr. K. Sreekumar
35.	Conducting polymers.	Jiby K. Gopinath & Dr. K. Sreekumar
36.	Organic reactions catalyzed by functionalized periodic mesoporous silica.	Sinija P. S. & Dr. K. Sreekumar
37.	Heterogeneous catalysis by polymer supported metal catalyst.	Anjali C. P. & Dr. K. Sreekumar
38.	Synthesis characterization and application of hyper branched polymer and star branched polymer.	Sherlymole P. B. & Dr. K. Sreekumar
39.	Catalysis by dendrimer supported Catalyst.	Jithinkumar V. A. & Dr. K. Sreekumar
40.	Ground & excited state electron transfer reaction between some tertiary amines and suitable electron acceptors	Jomon P. Jacob & Dr. S. Prathapan
41.	Synthesis of a few nitrogen and oxygen heterocycles	Sandhya R. & Dr. S. Prathapan
42.	Ground & excited state electron transfer reaction between some sulphides and suitable electron acceptors	Reshma G. & Dr. S. Prathapan
43.	Synthesis of a few nitrogen and oxygen heterocycles	Rakesh N. & Dr. S. Prathapan
44.	Improved method for synthesis of blue light emitting poly (p-phenylene vinylene) derivatives bearing highly phenylated pendants	Nithya C. & Dr. S. Prathapan



Sl.No.	Problems/Topics	Investigator(s)
45.	Macromolecular architecture of new soluble conjugated- non conjugated polymers via introduction of solubilizing groups	Ligi M. L. & Dr. S. Prathapan
46.	Catalysis by functionalised mesoporous silica	Jisha K. A. & Dr. S. Prathapan
47.	Study of energy transfer phenomena in bridged donor-acceptor systems	Parvathy O. C. & Dr. S. Prathapan
48.	Synthesis and study of triaryl cation based singlet oxygen sensitizer for photodynamic therapy	Seena Sebastian & Dr. N. Manoj
49.	Synthesis and study of triangulenium ions based donor-acceptor systems in solar cell applications	Pravitha N. P. & Dr. N. Manoj
50.	Synthesis of triazine based donor-acceptor systems	Suma C. S. & Dr. N. Manoj
51.	Synthesis and study of chirally modified triarylmethane dyes	Senju Devassykutty & Dr. N. Manoj
52.	Synthesis and study of donor-acceptor systems	Kala K. & Dr. N. Manoj
53.	Synthesis and study of triangulenium cation based donor-acceptor systems for solar cell applications	Cisy Abraham & Dr. N. Manoj
54.	Synthesis of heteroatom bridged triaryl cations: Application of radical cyclisation and dehydration strategies	Vineetha P. K. & Dr. N. Manoj
55.	Development of novel synthetic methods via C-H bond activation strategy	Jith C. J. & Dr. N. Manoj
56.	Studies on the use of rice husk silica and bagasse silica in different rubbers	Midhun Dominic C. D. & Dr. P. M. Sabura Begum
57.	Studies on the properties of different rubbers using modified clay nano composites	Bhavya Bhadran & Dr. P. M. Sabura Begum
58.	Polymer nanocomposites	Divya P. R. & Dr. P. M. Sabura Begum
59.	Effect of nanofillers on adhesive performance of epoxy resin	Bindu Sharmila T. K. & Dr. P. M. Sabura Begum
60.	Rubber Composites	Jeemol P. A. & Dr. P. M. Sabura Begum
61.	Polymer composites	Seena K. Thomas & Dr. P. M. Sabura Begum
62.	Studies on the synthesis, characterization and applications of some new schiff base complexes of transition metals	Sameeha A. P. & Dr. P. M. Sabura Begum



Sl.No.	Problems/Topics	Investigator(s)
63.	Synthesis and Spectral Characterization of Metal complexes of multidentate ligands	Ambili Aravindakshan A. & Dr. P. M. Sabura Begum
64.	Spectral Studies and structure of Transition Metal complexes of multidentate ligands	Sajitha N. R. & Dr. P. M. Sabura Begum
65.	Immobilization of diastase α -amylase on the synthetic and natural polymers	Navya Antony & Dr. P. V. Mohanan
66.	Synthesis, characterization and biological studies of metal complexes of Schiff base	Jessica Elizabeth Philip & Dr. P. V. Mohanan
67.	Studies of metal complexes of Schiff base	Shanty A. A. & Dr. P. V. Mohanan
68.	Enzyme immobilization on biopolymer nano composite	Bindu V. U. & Dr. P. V. Mohanan
69.	Synthesis, characterization and biological studies of metal complexes of amino acid Schiff base	Sneha Jose E. & Dr. P. V. Mohanan
70.	Enzyme immobilization on magnetic polymer nano composite	Maria Augustine & Dr. P. V. Mohanan
71.	Photochemical & photophysical studies on a few barrelene derivatives	Eason M. Mathew & Dr. P. A. Unnikrishnan
72.	Studies on novel applications and development studies on a few barrelene derivatives	Sajitha T. S. & Dr. P. A. Unnikrishnan
73.	Photochemical & photophysical studies on a few multichromophoric arrays	Saumya T. S. & Dr. P. A. Unnikrishnan
74.	Design and synthesis of selected targets with desired properties: Bichromophoric systems	Shandev P. P. & Dr. P. A. Unnikrishnan
75.	Synthesis and transformations of a few amine-appended anthracenes and related compounds	Tomson Devassia & Dr. P. A. Unnikrishnan

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

National Seminar on Current Trends in Chemistry, CTriC 2013

Inculcate 2013 – Science Workshop for selected students from government and government aided school children of 8th standard in collaboration with Departments of Mathematics, Physics and Biotechnology





DEPARTMENT OF APPLIED ECONOMICS

1. Brief History

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 for 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 advance 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	MA, Ph.D	Agricultural Economics, Environmental Economics
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 and Head	M.A.(Eco), M.A.(History), Ph.D.	Industrial Economics, Gender Economics
5	Dr. P. K. Manoj	Lecturer (Sr. Scale)	B.Tech., MBA, LL.B; MA (Eco), M.Com., M.Phil., Ph.D; CAIIB; AMT (Fin.); AMIE	Finance and Accounts, Business Strategy, Operations Management



4. Research Scholars

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. Rajasenana	
3	Dhanya A.	2011	Foreign Direct Investment in India	Dr. Manoj P. K.	UGC-JRF
4	Dhanya C.	2012	Women Empowerment in Coastal Areas of Malabar	Dr. Meera Bai M.	UGC-JRF
5	Emilson V. V.	2010	International Container Transshipment Terminal, Vallarpadam: The Port Based Special Economic Zone with Boundless Economic Possibilities and Opportunities	Dr. P. Arunachalam	
6	Elizabeth George	2008	Employee empowerment A study with special reference to banking sector	Dr. Sankaranarayanan Dr. Zakkaria K. A.	
7	Freeda V. Simon	2010	Informal labour market in Kerala: A study of female labourers	Dr. S. Harikumar	
8	Haseena C. A.	2011	Occupational Pattern of Women Migrants from Kerala to Middle East	Dr. Meera Bai M.	UGC JRF
9	Y. C. Ibrahim	2008	Export performance for Indian traditional items of Exports in the WTO Regime A study of Prices Exports	Dr. P. Arunachalam	
10	Igy George	2008	Economic Linkage of Airport-A Case Study of Cochin International Airport Ltd.	Dr. K. C. Sankaranarayanan	
11	Jayesh Balan	2009	A study on Socio-Economic Impact of AIDS on AIDS Affected People in Kerala	Dr. P. Arunachalam	
12	Jaheer Mukthar K. P.	2011	Housing Situation in India-Significance of Affordable Housing	Dr. Manoj P. K.	MAN-FMS



13	Jayson Jacob	2008	Retail Industry in Globalized Scenario- a Study of Kerala	Dr. Mary Joseph	
14	Jayasree Paul	2006	Substainability of the Kerala Model of Economic Growth	Dr. Mary Joseph	
15	Justine Joseph	2009	The role of self Help Groups in Community Development: A case study of self help groups.	Dr. P. Arunachalam	
16	Keerthan Rose Alexon P.	2011	MGNREGS-Its Impat on Women Empowerment and Poverly Alleviation in Kerala	Dr. Manoj P. K.	MAN-FMS
17	Mohammed Kasim C.	2010	Determinants of Food Security and Nutritional Status in Kerala A Comparative Study of Urban and Rural areas	Dr. S. Harikumar	
18	Nalinam M.	2009	Poverty and child morbidity	Dr. S. Harikumar	
19	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	
20	Praveena K.	2009	Economic Inequality in Kerala: An Inter-District Analysis	Dr. S. Harikumar	
21	Premkumar M. P.	2009	Unorganised Work Force and Social Security: a Study of Kerala	Dr. S. Harikumar	
22	Rajeev B.	2010	SHGs and Cooperatives as Social Security Options for Traditional Fishing Communities in Kerala- An Analysis in the Context for Globalization	Dr. D. Rajasenana	UGC JRF
23	Rajesh R.	2010	The Dynamics of social exclusion a probe into the livelihood and employment of workers in plantation sector in Kerala	Dr. D. Rajasenana	
24	Remya Mohandas	2006	Kudumbashree: A study of selected districts in Kerala	Dr. M. Meera Bai	



25	Saritha C. K.	2010	Socio Economic Mobility of the Employees in the IT sector	Dr. Meera Bai M.	
26	Sebastian Thomas	2006	Industrial Economics-Kerala Economy	Dr. Meera Bai M.	
27	Shelly M. K.	2005	A comparative study on the Economic Impact of Self-financing Courses at Higher Education	Dr. George Varghese	
28	Shihabudheen N.	2011	Efficacy of micro finance in Women Empowerment: A study with Special Reference to 'Kudumbashree'	Dr. Manoj P. K.	
29	P. R. Suresh	2009	Social Structural Determinant of Education Among Tribes in Kerala	Dr. D. Rajasenan	
30	Susan Joseph	2011	Financial Disclosure Practices of Housing Finance Companies in India in the Reforms era	Dr. Manoj P. K.	
31	Subhash K.	2012	A Study on Socio-economic Impact of Agricultural Price Instability and Income Uncertainty in Kerala	Dr. Meera Bai M.	
32	Soumya K. M.	2009	Economics of Organic Farming in Kerala: Scope and Constraints	Dr. K. C. Sankaranarayanan	
33	Teena Thomas P.	2009	Impact of Emigration on Human Development	Dr. S. Harikumar	UGC SRF
34	Vigi V. Nair	2009	Behavioural Competency Management with Special Reference to Banking and IT sector in Kerala	Dr. K. C. Sankaranarayanan	
35	Vinod K. U.	2007	An Economic Analysis of Special Economic Zones in Kerala	Dr. Meera Bai M.	
36	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	Dr. S. Anilkumar	



37	Ajay Singh O. T.	2012	Socio-economic conditions of women in self help grounds with special reference to Kumbalam Panchayath	Dr. P. K. Manoj	RGNF
38	Sancy K. Jose	2012	An Analysis of Consumption Expenditure Pattern of fixed Income Households in Kerala	Prof. K. C. Sankaranarayanan	
39	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.	
40	Sachin Pavithran A. P.	2012	Socio Economic Impact of the CRZ notification on the Coastal Community of Kerala	Prof. K. C. Sankaranarayanan	
41	Reni Sebastian	2012	Migration: An Economic and Social Analysis with special Reference to United States of America	Dr. P. K. Manoj	

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	1

6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	MA (Third Semester)	5	8	13
2	MA (First Semester)	2	13	15
3	M.Phil. (First Semester)	4	4	8
4	Ph.D	3	4	7



7. Research Facilities:

a. 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.	Financial inclusion of the fish worker households in coastal Kerala-Role of microfinance	Sangeetha K. Prathap	Dr. M. Meera Bai
2.	Technological change and modernization in the fishing sector: The question of sustainability	Bindu George	Prof. D. Rajasenan
3.	Institutional dynamics in community based fisheries resource management for sustainable development of marine fisheries of Kerala	Renjini R. Prabhu	Prof. 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 started the phase II of the ambitious project under the ***New Millennium Indian Technology Leadership Initiative (NMITLI)***, after successfully completing the first phase of **Mesospheric Modelling of Monsoon Related Predictions**.

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, ***Effect of global warming and the land use changes on the weather and climate of Kerala*** under UGC – SAP - Level DRS Phase II from 2007 to 2012. The Department received Rs.36.5 lakhs to carry out research in the frontier area of Atmospheric Sciences. The financial support 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.

The 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 been 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 the first Wind Profiler Radar in the near-equatorial site to study the monsoon features. CUSAT has been selected first among strong contestants including ISRO, IIT Kharagpur, IIG, Mumbai and many other prestigious national Institutes in India. This is the highest project funded by the 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 40 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. 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.	Sri. Ignatius Kunjumon	Assistant Professor	M.Tech	Modelling Studies
7.	Dr. Venu G. Nair	Lecturer on contract basis	M.Tech, Ph.D	Tropical Meteorology
8.	Dr. Nithin Viswambharan	Lecturer on contract basis	M.Sc., Ph.D	Middle Atmosphere
9.	Johnson Zacharia	Lecturer on contract basis	M.Tech	Air- Sea interactions
10.	Prof. P. V. Joseph	Emeritus Professor	M. Sc., Ph D	Monsoon Meteorology

**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	Asha S. Philip	NA	Dr. C. A. Babu	Meteorology
2	Smitha A.	NA	Dr. H. S. Ram Mohan	Meteorology
3	Jayakrishnan P. R.	NA	Dr. C. A. Babu	Meteorology
4	Sivaprasad P.	UGC-SRF	Dr. C. A. Babu	Meteorology
5	Vijaykumar P.	UGC-SRF	Dr. Santosh K. R.	Meteorology
6	Anila Alex	CSIR-JRF	Dr. K. Mohankumar	Meteorology
7	Krishnamohan K. S.	CSIR-JRF	Dr. K. Mohankumar	Meteorology
8	Smart K. B.	DST-PURSE	Dr. C. A. Babu	Meteorology
9	Sudeep Kumar B. L.	ISRO-JRF	Dr. C. A. Babu	Meteorology
10	Shinu Sheela Wilson	Nansen- JRF	Dr. K. Mohankumar	Meteorology
11	Suresh N.	NA	Dr. K. Mohankumar	Meteorology
12	Baburaj P. P.	NA	Dr. K. Mohankumar	Meteorology

6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Section Officer (Typist)	1
3	Senior Grade Assistant	1
4	Peon	1

7. Technical Personnel

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

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. Meteorology	1	5	6
2	M.Tech. Atmospheric Sciences	1	3	4
3	Ph.D.	3	1	4



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. Lareef Zubair	Earth Inst at Columbia University, USA	Delivered a talk
2.	Dr. Harendu Prakash	NCMRWF	Delivered a talk
3.	Dr. R. Suresh	IMD Chennai	Delivered a talk
4.	Dr. John P. George	NCMRWF	Delivered a talk
5.	Dr. Manoj M. G.	University of Maryland, USA	Delivered a talk

11. Ph.Ds Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Studies on Rainfall Variability and the Influence of Orography and Land Use on the Climate of Peninsular India	Lorna R. Nayagam	Prof. H. S. Ram Mohan
2.	Coconut Phenology and Yield Response to Climate Variability and Change	Krishnakumar K. N.	Prof. H. S. Ram Mohan
3.	Impacts of Climate variability on Agriculture in Kerala	Gopakumar C. S.	Prof. H. S. Ram Mohan
4.	Southern Hemispheric Features and their Teleconnection with Indian Summer Monsoon	Nithin Viswambharan	Prof. K. Mohankumar
5.	Sudden Stratospheric Warming and its Influence on the Tropical Atmosphere	Resmi E. A.	Prof. K. Mohankumar

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

Sl. No.	Name of Paper
1.	Abhilash S, A K Sahai, K. Mohanakumar, John P George, Someshwar Das (2012), Assimilation of Doppler Weather Radar Radial Velocity and Reflectivity Observations in WRF-3DVAR System for Short-Range Forecasting of Convective Storms, <i>Pure and Applied Geophysics (PAGEOPH)</i> , 2012 DOI 10.1007/s00024-012-0462.
2.	Abish B and K. Mohanakumar (2012) Evidence of Aerosol Induced Alteration of Cloud Parameters and its Impact on the Climate System over the Indian Subcontinent, <i>Indian Journal of Marine Sciences (India)</i> , 2012 (In Press).
3	Rajesh J, Lorna R. Nayagam, K. Mohanakumar (2012) Peninsular Indian rainfall and its association with meteorological and oceanic parameters over the Indian Ocean, <i>Theoretical and Applied Climatology</i> , 109 pp7-14, 2012.
4.	Nithin Viswambaran and K Mohanakumar (2012) Signature of a southern hemisphere extratropical influence on the summer monsoon over India, <i>Climate Dynamics</i> , vol. 2012 DOI 10.1007/s00382-012-1509-7
5.	Abish B and K. Mohanakumar (2012) A Stochastic Model for Predicting Aerosol Optical Depth over the North Indian Region, , <i>International Journal of Remote Sensing</i> , 2012 DOI:10.1080/01431161.2012.723149.
6.	Krishnamohan K S, K Mohanakumar, P V Joseph, (2012) iv. The influence of Madden–Julian Oscillation in the genesis of North Indian Ocean tropical cyclones, <i>Theoretical and Applied Climatology</i> , 109 (1-2), pp 271-282, 2012.
7.	Muraleedharan, PM, K. Mohanakumar, K U Sivakumar (2012) A study on the characteristics of temperature inversions in active and break phases of Indian summer monsoon, , <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2012.
8.	Abish B and K. Mohanakumar. Absorbing aerosol variability over the Indian Subcontinent and its increasing dependence on ENSO, <i>Global and Planetary Change</i> , 2012 (in press).
9.	Shinu Sheela Wilson and Venu G Nair (2013) Variation of Atmospheric Boundary Layer Parameters During a Partial Annular Solar Eclipse over Kochi". Proceedings of 25 th Kerala Science Congress, 29 th January - 1 st February, 2013, Thiruvananthapuram.
10.	C A Babu, P R Jayakrishnan and Hamza Varikoden (2012) Climatology of Rainfall, Precipitable Water and Circulation over Middle East Region And Their Variability, <i>Int J of water Resources & Arid Envts.</i>
11.	P R Jayakrishnan and C A Babu (2013) Variations of surface boundary layer parameters associated with Cyclone Gonu over the Arabian Sea using QuikSCAT data. <i>Int J. of Remote Sensing</i> . 34:7, 2417-2431
12.	Madhu V (2012) Impact of Sudden Stratospheric Warming Events on Columnar Ozone over the Polar and Mid latitude regions. Quadrennial Ozone Symposium, QOS 2012.



13.	Madhu. V (2013). Impact of Sudden Stratospheric Warming Events on Columnar Ozone over the Polar Region. Proc. Of 25 th Kerala Science Congress, KSCSTE, ISBN: 81-86366-83-0, Vol. 1, pp 543.
14.	Shinto Roose and V. Madhu (2013). Temporal and Spatial Variability of Column ozone over Tropics. Proc. of 25 th Kerala Science Congress, KSCSTE, ISBN: 81-86366-83-0, Vol. 1, pp 543.
15.	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, Journal of Atmospheric and Solar Terrestrial Physics, Volume 94, Pages 49-53.
16.	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, Atmospheric and Climate sciences (In Press).

b. Books :

Sl. No.	Name of Book
1	Стратосфера тропосфере взаимодействий - Введение (Russian) Mohanakumar Rus. Fund. for Basic Research (RFBR) and Published by : FIZMATLIT, 2012
2	TRANSPORT AND DISTRIBUTION OF ATMOSPHERIC AEROSOLS OVER INDIA Abish B, and K. Mohanakumar LAP LAMBERT Academic Publishing, Germany, 2013, ISBN 9783659398049, 208 pages

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof K. Mohankumar	International Conference on Extreme Rainfall Events, September 2-12, 2012, Beijing, China	Presented Keynote Address & Chaired Session
Prof. K. Mohankumar	Summer School on Fundamental Processes in Atmospheric Sciences March 11-17, 2013, SV University, Tirupati	Invited Talk
Jayakrishnan P R & C. A. Babu	11 th Biennial Conference of Pan Ocean Remote Sensing Conference PORSEC 2012, 5-9 November 2012 Kochi.	Presented two posters
Anila Alex	" "	Presented paper
Smart K. B.	" "	Presented paper
Krishnamohan K. S.	" "	Presented paper
Nithin Viswambharan	" "	Presented paper
Dr. C. A. Babu	" "	Presented paper



Sudeep Kumar B. L.	TROPMET, held during 20-22, November 2012 at Dehradun	Presented a paper
Dr. C. A. Babu	SERC School on Basics of Radar and Satellite Meteorology and applications in Nowcasting, December 2012, conducted by Air Force Administrative College, Coimbatore.	Served as resource person
All faculty	SERB School on Fundamentals of Radars for Atmospheric Research scheduled during January 07-31, 2013	Served as resource persons
Shinu Sheela Wilson	SERB School on Fundamentals of Radars for Atmospheric Research scheduled during January 07-31, 2013.	Attended
Suresh N.	SERB School on Fundamentals of Radars for Atmospheric Research scheduled during January 07-31, 2013.	Attended
Baburaj P. P.	SERB School on Fundamentals of Radars for Atmospheric Research scheduled during January 07-31, 2013.	Attended
Johnson Zacharia	25 th Kerala Science Congress, 29 th January - 1 st February, 2013, Thiruvananthapuram	Presented a poster
Dr. Madhu V.	25 th Kerala Science Congress, 29 th January - 1 st February, 2013, Thiruvananthapuram	Presented paper
Smitha John A.	Workshop on Data Assimilation Techniques" at NCMRWF, Noida from 23rd July 2012 - 3rd August 2012.	Attended
All students	11 th Biennial Conference of Pan Ocean Remote Sensing Conference PORSEC 2012, 5-9 November 2012 Kochi.	Attended

14. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. K. Mohankumar	Fellow of Indian Geophysical Union	Indian Geophysical Union, NGRI, Hyderabad
Dr. K. Mohankumar	Expert Member, Project Advisory and Monitoring Committee	Ministry of Earth Sciences, Government of India, New Delhi
Dr. K. Mohankumar	Expert Member, Project Advisory Committee, DST	Ministry of Science and Technology, Government of India, New Delhi



Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. K. Mohankumar	Expert Member, Scientific Advisory Committee of Space Physicas Laboratory, VSSC	Department of Space, Government of India Bangalore
Dr. Madhu V.	Best Poster presentation at 25 th Kerala Science Congress, 29 th January - 1 st February, 2013, Thiruvananthapuram	Kerala State Council for Science, Technology and Environment, Govt. of Kerala

15. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Mesoscale modeling for monsoon related weather prediction- Ph II- Development of topography module and coupled slab ocean atmosphere model simulations of Intraseasonal variability of monsoon using Varsha GCM	NMITLI- Phase II CSIR	31.93 Lakhs	Dr. K. Mohankumar
2	Effect of global warming and the land use changes on the weather and climate of Kerala	SAP-DRS Phase II-UGC	36.50 Lakhs	Dr. K. Mohankumar
3.	Studies on the Troposphere features and Staratosphere Troposphere Coupling Processes over the Monsoon region using Stratosphere Tropshere (ST) Radar at Cochin	DST	19.98 Crores	Dr. K. Mohankumar
4.	Numerical Study of the Dynamics of severe thunderstorms over Indian region using the WRF model	DST WOS - A	5.95 Lakhs	Smitha John
5.	Atmospheric Boundary layer & Cloud Characteristics and monitoring of aerosol over Cochin	ISRO-RESPOND	9.31 Lakhs	Dr. C. A. Babu
6.	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
7.	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
Total Amount of Funded Projects : Rs. 20 Crores, 19.79 Lakhs				

**16. Research Programmes and Activities**

Sl. No.	Problem/Topic	Investigator(s)
1	Indian Ocean Climate Variability	Asha. S. Philip Dr. C. A. Babu & Dr. Hareesh Kumar
2.	Study of Monsoon Clouds using Satellite Data	Vijayakumar P. Dr. Santosh. K. R.
3.	Boundary Layer Dynamics and Monsoon	Jayakrishnan P. R. Dr. C. A. Babu
4.	Influence of wind stress curl over the Bay of Bengal	Smitha A. Dr. H. S. Ram Mohan
5.	Aerosol Study in Boundary Layer	Sivaprasad P. Dr. C. A. Babu
6.	Ozone – climate interaction	Anila Alex Dr. K. Mohankumar
7.	Numerical Study of the Dynamics of severe thunderstorms over Indian region using the WRF model	Smitha John A. Dr. H. S. Ram Mohan
8.	Evolution of Atmosphere on a natural satellite harboring subsurface ocean	Smart K. B. Dr. C. A. Babu
9.	Interannual Variability of Monsoon over India	Shinu Sheela Wilson Dr. K. Mohankumar
10.	Characteristics of Monsoon Boundary Layer	Sudeep Kumar B. L. Dr. C. A. Babu
11.	Study of Vapour transport from Troposphere to Stratosphere	Suresh N. Dr. K. Mohankumar
12.	Dynamical and Physical Forcing of Tropical Cyclones	Baburaj P. P. Dr. K. Mohankumar

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

Sl. No.	Title	Duration	Coordinator(s)	Funding Agency
1.	SERB School on Fundamentals of Radars for Atmospheric Research	January 7-31, 2013	Dr. K. Mohankumar & Dr. Santosh K. R.	DST
2.	WMO Day 2013	25, March 2013	Dr. V. Madhu	IMS Cochin Chapter





DEPARTMENT OF BIOTECHNOLOGY

1. Brief History

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.

65 students have so far taken their doctoral degrees from the Department, with about 190 scientific publications from the Department.

A Centre for Neurosciences was established during 2000 in the Department with the intention of bringing the Industries, medical colleges and hospitals closer to research accomplishments. The Centre organizes annual workshops, meetings, lectures and awareness programmes. The Centre also takes up extension activities like conducting neurological surveys, diagnosis, clinical and scientific testing. The research interests of the Centre include molecular aspects of Neurotransmitter receptors functional regulation in relation to Diabetes, Cell proliferation, pancreatic regeneration, Cancer, Epilepsy, Herbal medicines, Alcoholism, Bone fracture healing, Stem Cell differentiation Aging, Hypoxia and Hypoglycemia and Spinal cord regeneration. It provides opportunities to do research activities in Molecular Neurobiology for students of India and abroad. The Centre conducted World Brain Awareness Programme for five years until 2010 for the students of Colleges, Schools and Public. This helped increase awareness among them about the brain and particularly about delaying the onset of different brain related disorders by efficiently making use of their brain.

The Department has linkages with R & D Institutions and Industries such as Sree Chitra Tirunal Institute of Medical Sciences, Indian Spices Research Board, Rajiv Gandhi Centre for Biotechnology, Amirtha Institute of Medical Sciences, Lakeshore Hospital and Research



Centre, Madona Hospital and Research Centre, Synthite Industries, Kerala Ayurveda Pharmacy Ltd, Medical College, Kottayam, MOSC Medical College, Kolenchery and Muvattupuzha Medical Centre, Govt. Ayurveda College, Tripunithura.

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. C. S. Paulose (Superannuation on 15.03.2013)	Professor	M.Sc., Ph.D	Molecular and Cellular Neurobiology
3	Dr. Sarita G. Bhat	Associate Professor & Head	M.Sc., Ph.D	Microbial Genetics
4	Dr. Padma Nambisan	Associate Professor	M.Sc., Ph.D	Plant Biotechnology

4. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Anju T. R.	Research Associate	Ph.D.	Neuroscience
2	Dr. Raghul Subin S.	Research Associate	Ph.D.	Biotechnology

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1.	Ajayan M. S.	CSIR	Dr. C. S. Paulose	Neuroscience
2.	Noble K. Kurian	DST-INSPIRE	Dr. Sarita G. Bhat	Microbial Genetic Technology
3.	Kiran Lakshmi M. S.	CSIR	Dr. Padma Nambisan	Plant Biotechnology
4.	Anala R.	CSIR	Dr. Padma Nambisan	Plant Biotechnology
5.	Laxmi M.	DST-INSPIRE	Dr. Sarita G. Bhat	Microbial Genetic Technology



6. 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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc.	2	8	10
2	Ph.D.	2	3	5

8. Research Facilities

a. Laboratories (Major equipments available)

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 (Hoefer)
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
1769	20

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Dr. Olof Olsson	Dept. of Pure & Applied Biochem, Lund Univ Lund, Sweden	
2	Dr. P. R. Sudhakaran	Director, Biotech. Commission KSCSTE, Trivandrum	

10. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Neuronal degeneration in streptozotocin induced diabetic rats: effect of Aegle marmelose and pyridoxine in pancreatic beta cell proliferation and neuronal survival	Anitha M.	Dr. C. S. Paulose
2.	Withania somnifera and withanolide a mediated restoration of AMPA and NMDA receptor function in pilocarpine induced temporal lobe epilepsy	Smijin K. Soman	Dr. C. S. Paulose
3.	Serotonin receptor subtypes functional regulation and oxidative stress mediated apoptosis in 6-hydroxydopamine lesioned Parkinsonian rats: Functional recovery with serotonin, GABA and Bone Marrow cells	Korah P. Kuruvilla	Dr. C. S. Paulose
4	Characterization of polyhydroxyalkanoates accumulating Vibrios from marine benthic environments and production studies of polyhydroxyalkanoates by Vibrio sp.BTKB33	Raghul Subin S.	Dr. Sarita G. Bhat
5	Physicochemical and molecular characterization of bacteriophages Φ SP-1 and Φ SP-3 specific for pathogenic salmonella and evaluation of their potential as biocontrol agent	Jeena Augustine	Dr. Sarita G. Bhat



11. Publications

a. Papers

Sl. No.	Name of Paper
1	Jeena Augustine, Linda Louis, Siju M Varghese, Sarita G. Bhat and Archana Kishore (2012). Partial characterization of Φ SP-1, a Salmonella specific lytic phage from intestinal contents of broiler chicken- candidate for biocontrol agent. Paper accepted for publication in Journal of Basic Microbiology. DOI 10.1002/jobm.201100319
2	Siju M. Varghese, Jeena Augustine and Sarita G. Bhat (2012) Rapid and sensitive detection of low number of salmonella in water by loop- mediated isothermal amplification. Paper accepted for publication in Advanced biotech, June, 2012, 11(12):28-30.
3	Jeena Augustine, Siju M Varghese Sarita G. Bhat (2012). Φ SP3, A salmonella specific lytic phage capable of infecting host under nutrient deprived states. Accepted for publication On 4-5-2012. Annals of microbiology accepted on 4-5-2012. DOI 10.1007/s13213-012-0485-9
4	Sapna K., Manzur Ali P. P., Abraham Mathew, Rekha Mol K. R., Sarita G. Bhat, Chandrasekaran M. and Elyas K. K. (2012) Marine Pseudomonas mendocina BTMW 301 as a potential source for Extracellular Proteinaceous Protease Inhibitor. Advanced Bio Tech. June 2012 11(12):12-15.
5	Roselin Alex, and Sarita G. Bhat (2012) Isolation and characterization of a solvent tolerant alkaliphilic marine bacteria. Accepted for publication in International Journal of Scientific & Engineering Research. ISSN 2229-5518
6	Raghul Subin S., Siju M. Varghese, Sarita G. Bhat (2012) Isolation and characterization of polyhydroxyalkanoates accumulating Vibrio sp. strain BTTC26 from marine sediments and its production kinetics. Accepted Dec 2012 for publication in J. Scien. Indus. Res.(JSIR)
7	Manjusha, S. and Sarita, G. B. (2012). Characterization of Plasmids from Multiple Antibiotic Resistant Vibrio sp. Isolated from Molluscs and Crustaceans. Korean J. Microbiol. Biotechnol. Vol. 40, No. 3, 197–207 (2012)
8	Smitha S. and Sarita G. Bhat (2012) Thermostable Bacteriocin BL8 from Bacillus licheniformis isolated from marine sediment. J. Appl. Microbiol. accepted Nov, 2012. doi:10.1111/jam.12097
9	Shajimol, Roselin Alex V. G. Sreevalsa, G. D. Deepa, Sarita G, Bhat and S. Jayalakshmi, (2013) Highly luminescent and bio-compatible, L-citrulline capped ZnS:Mn nanocrystals for rapid screening of metal accumulating Lysinibacillus fusiformis bacteria. Luminescence: The Journal of Biological and Chemical Luminescence. DOI 10.1002/bio.2477
10	Alphonsa Vijaya Joseph, Raghul Subin S., Harisree P. Nair and Sarita G. Bhat (2013). Occurrence of Potential Pathogenic Aeromonas species in Tropical Seafood, Aquafarms and Mangroves off Cochin Coast in South India. Accepted for publication in Veterinary World Vol.6 No.6 June 2013. Ref No. VW/Accept/205/20L2



11	Mridula V. G., Jeena Augustine, Siju M. Varghese, Sarita G. Bhat (2012) Variation in CRISPRs in Salmonella Enteritidis and its Bacteriophage Insensitive Mutant (BIM): Indication of its role in phage – host interaction. In: Proceedings of the National Symposium on Emerging Trends in Biotechnology, 2012. Pp85-91. ISBN-978-93-80095-39-4.
12	Harisree P. Nair, Helvin Vincent, Sarita G. Bhat (2012) Metagenomic approach for analysis of bacterial diversity of Mangalavanam mangrove soil. In: Proceedings of the National Symposium on Emerging Trends in Biotechnology, 2012. Pp40-45. ISBN-978-93-80095-39-4
13	Cikesh P. C. and Sarita G. Bhat (2012) High Performance Liquid Chromatography analysis of LPS isolated from Salmonella Typhi. In: Proceedings of the National Symposium on Emerging Trends in Biotechnology, 2012. Pp61-67. ISBN-978-93-80095-39-4.
14	Noble K. Kurian and Sarita G. Bhat (2012) Melanin production by marine Vibrio alginolyticus BTKK1. In: Proceedings of the National Symposium on Emerging Trends in Biotechnology, 2012. pp 36-39. ISBN-978-93-80095-39-4.
15	Anju T. R., Smijin S., Chinthu R., Paulose C. S.* Decreased cholinergic function in the cerebral cortex of hypoxic neonatal rats: Role of glucose, oxygen and epinephrine resuscitation. <i>Respir Physiol Neurobiol.</i> 180(1):8-13 (2012)
16	Anju T. R., Binoy J., Anitha M., Paulose C. S.* Striatal GABA Receptor Alterations in Hypoxic Neonatal Rats: Role of Glucose, Oxygen and Epinephrine Treatment. <i>Neurochem Res.</i> 37(3):629-38 (2012)
17	Sherin A., Anu J., Peeyush K. T., Smijin S., Anitha M., Roshni B. T. and C. S. Paulose.* Cholinergic and GABAergic Receptor Functional Deficit in the Hippocampus of Insulin Induced Hypoglycemic and Streptozotocin Induced Diabetic Rats. <i>Dec 1. j.neuroscience.</i> 202 :(2012) 69-76.
18	Naijil George, T. Peeyush Kumar, Sherin Antony, S. Jayanarayanan and C. S. Paulose.* Effect of vitamin D3 in reducing metabolic and oxidative stress in the liver of streptozotocin-induced diabetic rats. <i>British Journal of Nutrition,</i> (doi:10.1017/S0007114511006830).(2012)
19	Serene Xavier, Jayanarayanan S., Naijil George, C. S. Paulose.* β_2 Adrenergic and Insulin Receptors Expression in the Skeletal Muscle of Streptozotocin Induced Diabetic Rats: Antagonism by Vitamin D ₃ and Curcumin. <i>European journal of pharmacology</i> (2012)
20	Shilpa J, Naijil G., Nandhu M. S., Paulose C. S*. Evaluation of GABA-chitosan nanoparticle induced cell signaling activation during liver regeneration after partial hepatectomy. <i>Journal of nanoscience and nanotechnology.</i> 12(8): 6145-6155 (2012).
21	Anju T. R., Naijil G., Shilpa J., Roshini T., Paulose C. S*. Neonatal hypoxic insult mediated cholinergic disturbances in the brain stem:Effect of glucose, oxygen and epinephrine resuscitation. <i>Neurological Sciences.</i> (2012)
22	Asha abraham and C. S. Paulose*. Role of pancreatic adrenergic receptors in modulating glucose induced insulin secretion as a function of age. <i>Indian journal of gerontology.</i> 26(2). 285-292 (2012)



23	Mathew J., Balakrishnan S., Antony S., Abraham P. M., Paulose C. S*. Decreased GABA receptor in the cerebral cortex of epileptic rats: effect of Bacopa monnieri and Bacoside-A. J Biomed Sci. 19:25. (2012)
24	Smijin Soman, Korah P. K., Jayanarayanan S., Jobin Mathew, C. S. Paulose*. Oxidative stress induced NMDA receptor alteration leads to spatial memory deficits in Temporal lobe epilepsy: ameliorative effects of Withania somnifera and Withanolide A. Neurochem Res. 37:1915-1927 (2012)
25	Anitha M., Abraham Pretty Mary, C. S. Paulose*. Disturbed brain glucose metabolism and dopamine receptor expression in diabetic rats: Restoration by pyridoxine – European journal of pharmacology. (2012).
26	T. R. Anju, M. Anitha, R. Chinthu, C. S. Paulose*. Cerebellar GABA _A receptor alterations in hypoxic neonatal rats: Role of glucose, oxygen and epinephrine supplementation. Neurochemistry international. 61: 302–309. (2012)
27	Shilpa J., Roshni B. T., Chinthu R., Paulose C. S*. Role of GABA and serotonin coupled chitosan nanoparticles in enhanced hepatocyte proliferation. Journal of materials science: materials in medicine. 23(12):2913-21. (2012).
28	Anju T. R., Paulose C. S*. (2012). Learning and cognitive deficits in hypoxic neonatal rats intensified by BAX mediated apoptosis: Protective role of glucose, oxygen and epinephrine. International Journal of Neuroscience.
29	M. Anitha, Pretty Mary Abraham, C. S. Paulose*. (2012). Striatal dopamine receptors modulate the expression of insulin receptor, IGF-1 and GLUT-3 in diabetic rats: Effect of Pyridoxine treatment. European journal of pharmacology. 696(1-3):54-61.
30	Jayanarayanan S., Smijin S., Peeyush K. T., Anju T. R., Paulose C. S*. NMDA and AMPA receptor mediated excitotoxicity in cerebral cortex of streptozotocin induced diabetic rat: ameliorating effects of curcumin. Chemicobiological interactions (2012). 201(1-3):39-48.
31	Anju T. R., Ajayan M. S., Paulose C. S*. Disruption of cerebellar cholinergic system in hypoxic neonatal rats and its regulation with glucose, oxygen and epinephrine resuscitations. Neuroscience (2012).
32	Smijin S., Anju T. R., Jayanarayanan S., Sherin A., Paulose C. S*. Impaired motor learning attributed to altered AMPA receptor function in cerebellum of Temporal lobe epileptic rats: ameliorating effects of Withania somnifera and Withanolide A. Epilepsy & Behavior (2012).
33	Chinthu R., Anju T. R., Nandhu M. S. and C. S. Paulose*. (2012). Cholinergic receptor alterations in the brain stem of spinal cord injured rats. Neurochemical Research
34	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". Journal of Neuroscience Research
35	Anju T. R., Paulose C. S. (2013) . Striatal cholinergic function alterations in hypoxic neonatal rats: Role of glucose, oxygen and epinephrine resuscitation. Biochemistry and cell biology



36	P. Karthikeyan, Sarita G. Bhat and Chandran M. (2013). Halocin SH10-A novel bacteriocin from an extreme haloaechaeon Natrinema sp. BTS10 isolated from salt pans of South India-Saudi Journal of Biological Sciences (2013) 20, 205-212. http://dx.doi.org/10.1016/j.sjbs.2013.02.002 .
37	Jose J., Nimisha K., Anu M. A. & Nambisan P. - Evaluation of somaclonal variation in callus cultures of <i>Jatropha curcas</i> maintained on different hormonal combination using RAPD Markers 2012 World journal of Agricultural Sciences 8(6) 616-623
38	Sudha Hariharan & Padma Nambisan - Optimazation of lignin peroxidase, manganese peroxidase and lac production from <i>Ganoderma lucidum</i> under solid state fermentation of pineapple leaf. Bioresources - 2013 (1), 250-271
39	Jasmine Koshy & Padma Nambisan - Pretreatment of agricultural waste in pleurotus sp. For ethanol production - 2012 International Journal of Plant, Animal & Environmental Sciences 2(2) ISSN 2231-4490
40	Jasmine Koshy, Neethu Chandran & Padma Nambisan - Biodegradation of phenol using spent substrate of pleurotus sp. World Journal of Pharmacy & Pharmaceutical Sciences 1(2) 656-661 ISSN 2278-4357

b. Books

Sl. No.	Name of Book
1	Edited a book on "Valorization of Food Processing By-Products' 2012. Editor(s): M.Chandrasekaran under the Series: Fermented, ISBN:9781439848852,CRC Press. Taylor & Francis Group, Boca Raton, Florida, U.S.A. August 30, 2012, 808 pages http://www.crcpress.com/product/isbn/9781439848852
2.	Proceedings of the National Symposium on Emerging Trends in Biotechnology, 12-13 December 2012. Ed. Sarita G Bhat and Padma Nambisan. Published by the Directorate of Public relations and Publications for the Department of Biotechnology, Cochin University of Science and Technology, Kochi-682022, Kerala, India. ISBN-978-93-80095-39-4.
3.	Chapter in Book-Sarita G. Bhat and Rajeev K. Sukumaran. 2012. Enzyme technologies for bioconversion of food processing by-products Ch-10, p233-266 In Valorization of food processing by-products. Edited by Dr. M.Chandrasekaran. Pub.CRC Press. Taylor & Francis Group. ISBN-978-1-4398-4885-2.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Sarita G. Bhat	UGC-sponsored programme TOT -Training of Trainers workshop on "Capacity building for women managers in higher education" held at Bishop Cotton college for Women, Bangalore during 20-25 th February , 2012	Participant



Dr. Sarita G. Bhat	UGC-sponsored programme MSEM- Management skills enhancement module-workshop on "Capacity building for women managers in higher education" held at NMKRV College for women, Bangalore, during 4-8 th August, 2012.	Trainee
Dr. Sarita G. Bhat	Training Programme on Molecular Markers in fisheries research to be held from 12 th -19 th September, 2012 to be conducted at NBFGR, Kochi unit (CMFRI campus)	Participant
Dr. Sarita G. Bhat	Talk on Microbial Technology as part of the Lecture Series of the Star College Programme, organized by Dept. of Botany, St. Albert's College, Ernakulam	Resource person
Dr. Sarita G. Bhat	UGC-sponsored programme SAM workshop on "Capacity building for women managers in higher education". Organized by the Women's Studies centre, CUSAT from 21-25 th January, 2013	Resource person
Dr. Sarita G. Bhat	National Seminar on "Biotechnology and Information Technology", organized by Dept. of Zoology, Govt. Victoria College, Palakkad from 22-23, January, 2013	Resource person
Dr. Sarita G. Bhat	UGC-sponsored programme SAM workshop on "Capacity building for women managers in higher education". Organized by the Women's Studies centre, CUSAT from 25 th February to 1 st March, 2013 at St. Thomas College, Kozhencherry, Kerala	Resource person
Dr. Sarita G. Bhat	UGC-sponsored -National Seminar on bioinformatics in Marine biology: Next generation sequencing technologies and applications organized by Department of marine biology, microbiology and biochemistry, CUSAT on 26 th March, 2013	Participant
Naijil George, Ajayan M.S. and Paulose C. S.	Muscarinic Receptor subtypes Functional Regulation in the Pancreas of multiple low dose Streptozotocin Induced Diabetic Rats.(2012), 1 st Edition, Bloomsbury Publishing India Pvt.Ltd. SBN:978-93-82563-27-3.	Corresponding author
Roshni Baby Thomas, T. R. Anju, Shilpa Joy and C. S. Paulose.	Role of Curcumin as a Nutritional Supplement to Enhance Cell Proliferation and survival in hypoxia Induced Hepatocyte Injury- <i>in vitro</i> model.(2012),1 st Edition, Bloomsbury Publishing India Pvt.Ltd.ISBN:978-93-82563-27-3.Long Term Effects of Neonatal Hypoxia on Cognition and Memory.(2012),1 st Edition, Bloomsbury Publishing India Pvt.Ltd.ISBN:978-93-82563-27-3.	Corresponding author



Ajayan M. S., Anju T. R., Paulose C. S.	Differential expression of proteins in the Akt Pathway in the cerebral cortex of experimental rats.(2013).25 th Kerala Science congress. ISBN 81-86366-83-0.	Corresponding author
Korah P. Kuruvilla, Jayanarayanan Sadanandan, Smijin Soman and C. S. Paulose	Differential regulation of serotonin receptors in 6-OHDA induced Parkinson's disease: Neuroprotection by Bone Marrow Cells, Serotonin and GABA". The 5 th Special Conference of the International Society for Neurochemistry "Synapses and dendritic spines in health and disease", Buenos Aires, Argentina.(September 2012)	Corresponding author
Korah P. Kuruvilla, Jayanarayanan S., Smijin Soman and C. S. Paulose.	6-OHDA induced oxidative stress and neurodegeneration in Parkinsonian rats: Neuroprotection by bone marrow cells in combination with 5-HT and GABA". ISN-APSN-IBRO School, Osaka, Japan and 11 th biennial meeting of Asian Pacific Society for Neurochemistry-55 th Meeting of Japanese Society for Neurochemistry-34 th Annual Meeting of Japanese Society of Biological Psychiatry, Kobe, Japan.(October 2012)	Corresponding author
C. S. Paulose.	Nutrition, Neurodegenerative diseases and stem cell therapy. 2 nd International conference on cellular nutrition, environmental and anti aging medicine. Indian nutritional medicine association, Cochin (January, 2012)	Corresponding author
P. Karthikeyan, Lineesha K. A., Divya T. N., Sarita G. Bhat, Chandrasekaran M.	31st Symposium of the Malaysian Society for Microbiology, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia, December 13-15, 2012. - Microflora of heavily rain flooded salt pans in South India. Proceedings Pg 298-301	Corresponding author
Soumya P. S., Kiran Lakshmi M. S. & Anala R., Laxmi M., Helvin Vincent, Smitha S., Noble K. Kurian	UGC-sponsored -National Seminar on bioinformatics in Marine biology: Next generation sequencing technologies and applications organized by Department of marine biology, microbiology and biochemistry, CUSAT on 26 th March, 2013	Participants

13. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
C. S. Paulose	Fellow of the National Academy of Medical Sciences (India), FAMS in the year 2012.	National Academy of Medical Sciences (India)



14. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
1	Advanced Research in Neurotransmitters Functional Regulation to Diabetes and Pancreatic Regeneration : Insulin Secretion and Function at Molecular Level (On going)	Department of Science & Technology, Govt. of India	Rs. 2.50 Crores	1. Dr. C. S. Paulose (PI) Professor, DBT, CUSAT 2. Dr. A. A. Mohammed Hatha (Co-PI), Associate Professor, School of Marine Sciences, CUSAT
2	Morphometric and Molecular characteristics of deep sea fishes: Screening and Isolation of Potential bioactive molecules from the Deep sea organisms including bacteria	(MOES) Govt. of India (2012-2017)	87,40,000/-	Dr. Sarita G. Bhat (PI)
3	DST-FIST Programme	DST-FIST 2008-13	85 Lakhs	Head of the Dept.
4	Whole genome analysis of marine microbial community for novel feed enzymes	UGC 2012-2015	14,40,800/-	Dr. Sarita G. Bhat -PI

15. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1	Microbial Technology	Prof. (Dr.) M. Chandrasekaran
2	Molecular and Cellular Neurobiology	Dr. C. S. Paulose
3	Microbial Genetics	Dr. Sarita G. Bhat
4	Plant Biotechnology	Dr. Padma Nambisan

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Symposium on Emerging trends in Biotechnology	12-13 Dec, 2012	Dr. Sarita G. Bhat	DBT, UGC, DST-PURSE





DEPARTMENT OF CHEMICAL OCEANOGRAPHY

1. Brief History:

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 in to a full 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, 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 :

- i) M.Sc. (Hydrochemistry) ii) M.Phil. (Marine Chemistry) iii) Research

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. C. H.Sujatha	Reader & Head of the Dept.	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



Sl. No.	Name	Designation	Qualification	Specialization
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. Research Scholars

Sl. No.	Name	Funding Agency	Guide
1	Anuradha V.	DST	Dr. S. Muraleedharan Nair
2	Manju M. N.	CUSAT	Dr. N. Chandramohanakumar
3	Shibini Mol P. A.	CSIR	Dr. C. H. Sujatha
4	Ramzi A.	KSCSTE	Dr. N. Chandramohanakumar
5	Nebula Murukesh	CUSAT	Dr. N. Chandramohanakumar
6	Prashobh Peter K. J.	CUSAT	Dr. S. Muraleedharan Nair
7	Ranjitha Raveendran	State	Dr. C. H. Sujatha
8	Dayala V. T	KSCSTE	Dr. C. H. Sujatha
9	Manju P. Nair	CUSAT	Dr. C. H. Sujatha
10	Resmi P.	MoES	Dr. N. Chandramohanakumar
11	Saritha S.	CSIR	Dr. S. Muraleedharan Nair
12	Salas P. M.	CUSAT	Dr. C. H. Sujatha
13	Kala K. Jacob	CUSAT	Dr. N. Chandramohanakumar
14	Byju K.	DST	Dr. N. Chandramohanakumar
15	Sanil Kumar K. S.	Part Time	Dr. S. Muraleedharan Nair
16	Abhilash P. Kailas	Part Time	Dr. S. Muraleedharan Nair
17	P. K. Gayathri Devi	Part Time	Dr. C. H. Sujatha
18	Libin Baby	Part Time	Dr. T. V. Sankar, CIFT
19	Radhika R.	Part time	Dr. C. H. Sujatha
20	Shaiju P.	Part Time	Dr. S. Muraleedharan Nair
21	Akhil P. S.	MoES	Dr. C. H. Sujatha
22	Leena P. P.	CUSAT	Dr. S. Muraleedharan Nair
23	Ragi A. S.	DST	Dr. S. Muraleedharan Nair
24	Maneesh T. P.	Part Time	Dr. P. Seralathan
25	Anu Shaji	Part Time	Dr. P. Seralathan

**5. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1	Assistant	1
2	Lab Assistant	2
3	Peon	1

6. Technical Personnel

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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc. (Hydrochemistry)	5	20	25
2	Ph.D.	13	17	30
3	M.Phil. (Marine Chemistry)	4	4	8

8. Research Facilities**a. Laboratories (Major equipments available)**

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

9. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Hydro Geo-Chemical Assessment of Groundwater-A General perspective	K. N. Sumangala	Dr. C. H. Sujatha

10. Publications**a. Papers**

Sl. No.	Name of Paper
1.	Manju P.Nair, Akhil P.S and Sujatha C.H," Toxic Metal Distribution in the Core Sediment of Cochin Estuarine System (CES)" - <i>International Journal of Environmental Research</i> (Accepted).
2.	Manju P. Nair., C. H. Sujatha. 2013 Nutrient Dynamics in the Sediments of Kerala Coast- <i>International Journal of Environmental Sciences</i> 3(5) 1562-156
3.	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



4.	Manju P. Nair., P. S. Akhil, C. H. Sujatha 2013. Geochemistry of Core Sediment from Antarctic Region. <i>Research journal of chemistry and environment</i> 17(2), 8-12.
5.	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.
6.	P. M. Deepulal & T. R. Gireesh kumar ,C. H. Sujatha (2012) "Behaviour of REEs in a tropical estuary and adjacent continental shelf of Southwest coast of India: Evidence from anomalies", <i>Journal of Earth System Science</i> , Springer (Accepted).
7.	Manju P. Nair., C. H. Sujatha 2012. Biogeochemical quality assessment of the sediments in Kerala coast. <i>International Journal of Environmental Sciences</i> . 3(1), 707-719.
8.	Akhil P. S. and Sujatha C. H. (2012) "Prevalence of Organochlorine Pesticide Residues in Groundwaters of Kasargod District, India" <i>Toxicological and Environmental Chemistry</i> Vol. 94, No. 9.1718-1725
9.	P. R. Anupama Nair and C. H. Sujatha (2012) "Organic Pollutants as Endocrine Disruptors", <i>Environmental Chemistry for a Sustainable World</i> Vol.1, Springer April 2012.
10.	Akhil P. S. and Sujatha C. H. (2013) "Spatial Budgetary Evaluation of Organochlorine Contaminants in the Sediments of Cochin Estuary, India. <i>Marine Pollution Bulletin</i> (in press).
11.	Manju P. Nair and Sujatha C. H. (2013) "Biennial Metal Discrepancy in the surface sediment of Cochin Estuarine System" <i>International Journal of Recent Scientific Research</i> (in press).
12.	Shibini Mol P. A., Dayala V. T. and Sujatha C H (2013) "Spatial Relationship among Phytoplankton Abundance and Physicochemical parameters around the Coastal waters of Kerala" - <i>International Journal of Current Research</i> . Vol. 5, Issue, 10, pp.3094-3099.
13.	Dayala V. T., Jose Mathew and 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> (in press).
14.	Dayala V. T., Salas P. M. and Sujatha C. H. (2013) "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 Marine Sciences</i> (in press).
15.	V. B. Pratheesh and Sujatha C. H. (2013). "A Prelude Evaluation and Sediment Quality Assessment of Ponds in Palakkad District, Kerala", <i>JECET</i> ; July 2013; Vol.2.No.3, 879-875.
16.	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).



17.	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>
18.	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> .
19.	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.
20.	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.
21.	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> .
22.	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.
23.	Gireeshkumar, T. R., Deepulal, P. M., Chandramohanakumar, N., 2013. Distribution and sources of sedimentary organic matter in a tropical estuary, south west coast of India (Cochin estuary): A baseline study. <i>Marine Pollution Bulletin</i> , 66(1-2), 239–45.
24.	Rejomon George, Muraleedharan K. R., Martin G. D., Sabu P., Vijay John Gerson, Dineshkumar P. K., Nair S. M., Kumar 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
25.	Rejomon George, Martin G. D., Nair S. M. and Kumar N. C. 2013. Biomonitoring of trace metal pollution using the bivalve molluscs, <i>Villorita cyprinoides</i> , from the Cochin backwaters. <i>Environmental Monitoring and Assessment</i> . DOI 10.1007/s10661-013-3334-9
26.	Anuradha V. ,Byju K., Emilda Rosmine, AnuGopinath, S.MuraleedharanNair, N. Chandramohanakumar, Prashobpeter K. J., GireeshkumarT. R., Vasundhara G., 2013. Insilico biological activity of steroids from the marine sponge <i>Axinella carteri</i> , <i>Medicinal Chemistry research</i> , 22: 1142-1146
27.	Byju K., AnuradhaV., Emilda Rosmine, S.MuraleedharanNair, 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.
28.	Anuradha V., Byju K., Kalajacob., Anu Gopinath., Prashobpeter 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>).



29.	Byju K., 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
30.	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.
31.	P. M. Deepulal & T. R. Gireesh kumar ,C. H. Sujatha (2012) "Behaviour of REEs in a tropical estuary and adjacent continental shelf of Southwest coast of India: Evidence from anomalies", <i>Journal of Earth System Science</i> , Springer. 32. P.R Anupama Nair and C.H Sujatha (2012) "Organic Pollutants as Endocrine Disruptors", <i>Environmental Chemistry for a Sustainable World Vol.1</i> , Springer April 2012.
32.	Niffy Benny and Sujatha C. H. (2012) Enrichment of Sulphur compounds in the Cochin Estuarine System. <i>LAP LAMBERT Academic System</i> . Germany
33.	N. Aneeshkumar, C. H. Sujatha (2012)" Biomarker Pigment Signatures in Cochin Back Water System - A Tropical Estuary south west coast of India" <i>Estuarine, Coastal and Shelf Science</i> , 99 (2012) 182e190.
34.	Manju Mary Joseph., Renjith, K. R., Ratheesh Kumar C. S., Chandramohanakumar N., 2012. Assessment of organic matter sources in the tropical mangrove ecosystems of Cochin, southwest India. <i>Environmental Forensics</i> , 13:262-271.
35.	Manju, M. N., Resmi P., Gireeshkumar T. R., Ratheesh Kumar, C. S., Rahul, R., Joseph, M. M., Chandramohanakumar N. 2012. Assessment of Water Quality Parameters in Mangrove Ecosystems along Kerala Coast: A Statistical Approach. <i>International Journal of Environmental Research</i> , 6(4):893-902
36.	Gireeshkumar T. R., Deepulal P. M., Chandramohanakumar N., 2012. Phosphorous Speciation in Surface Sediments of the Cochin Estuary, <i>Environmental Monitoring and Assessment</i> . DOI 10.1007/s10661-012-2729-3.
37.	Manju M. N., Resmi P., Gireeshkumar T. R., Ratheesh Kumar C. S., Rahul R., Joseph M. M., Chandramohanakumar N., 2012. Assessment of Water Quality Parameters in Mangrove Ecosystems along Kerala Coast: A Statistical Approach. <i>International Journal of Environmental Research</i> , 6(4), 893-902.
38.	Martin G. D., Rejomon George., Shaiju P., Muraleedharan K. R., Nair S. M., and N. Chandramohanakumar., 2012. ToxicMetals Enrichment in the Surficial Sediments of a Eutrophic Tropical Estuary (Cochin Backwaters, Southwest Coast of India). <i>The Scientific World Journal</i> . Volume 2012, Article ID 972839.
39.	Rejomon George, Martin G. D., Nair S. M. and Kumar N. C. 2012. Biomonitoring of trace metal pollution using fishes from the Cochin backwaters. <i>Environmental Forensics</i> , 13:272–283, 2012

b. Books

Sl. No.	Name of Book
1	P. R. Anupama Nair and C. H. Sujatha (2012) "Organic Pollutants aa Endocrine Disruptors", <i>Environmental Chemistry for a Sustainable World Vol.1</i> , Springer April 2012.

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

1.	Participated and presented a paper on "Fractionation of Phosphorus in the Cochin Estuary- South west coast India" in Symposium on Coastal Oceanographic Studies Modelling and Observations [COSMOS] held at NPOL, Cochin on 9 th and 10 th May 2013.
2.	Participated and presented a paper on "Spatial Assemblage of Phytoplankton and its Relation to Physico Chemical Parameters in the Shore Regions of Kerala Coast" in Symposium on Coastal Oceanographic Studies Modelling and Observations [COSMOS] held at NPOL, Cochin on 9 th and 10 th May 2013.
3.	Participated and presented a paper on "Distributional Dynamics of Nutrients along Kerala Coast, India" in Symposium on Coastal Oceanographic Studies Modelling and Observations [COSMOS] held at NPOL, Cochin on 9 th and 10 th May 2013.
4.	Participated and 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

12. 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	Sustainable management of mangrove ecosystems- Biogeoorganics and Biomarker Approach.	DST Govt. of India	2728200	Dr. Chandramohana kumar Dr. S. M. Nair
3	Biogeoorganics of Mangrove Ecosystems along Kerala coast North of Cochin	MoES Govt. of India	2001220	Dr. Chandramohana kumar Dr. S. M. Nair
4	"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



Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
5	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
6	"Hydro geochemical quality assessment of ground waters in selected districts of Kerala"	UGC, India	910800	Dr. C. H. Sujatha
7	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

List of Thesis Submitted

1. Pratheesh V. B. (2012) " Ecotoxic Metal Records and its degree of Geochemical Symphony in the Niche of Cochin Estuarine System- A Theraptic Perspective" on 10-01'12.
2. Radhika R. (2013) "Implications of Hydrobiology and Nutrient Dynamics on Trophic structure and Interactions in Cochin Backwaters.

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Aquasem 2013	3 days	Dr. N. Chandramohanakumar	KSCSTE CUSAT





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

- i) MCA
- ii) Ph.D. (Computer Applications)
- iii) Ph.D. (Library Science and Information Technology)

3. Faculty Members

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

4. 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
3.	Arumughavelan S.	Nil	Dr. K. V. Pramod	Computer Applications
4.	Arun Madhu	Nil	Dr. A. Sreekumar	Wireless Sensor Networks
5.	Aysha V.	Nil	Dr. B. Kannan	Image Processing and Pattern Recognition and Data Compression
6.	Beena A. L.	Nil	Dr. S. Humayoon Kabir	Library Science and Information technology
7.	Bino Sebastian V.	Nil	Dr. A. Unnikrishnan	Computer Applications
8.	Binu Jacob	Nil	Dr. K. V. Pramod	Computer Applications
9.	Binu V. P.	Nil	Dr. A. Sreekumar	Information Extraction from online Social Network
10.	Cecil Sam Koshy	Nil	Dr. K. V. Pramod	A Comprehensive Study on Routing, Coverage and Security in Wireless Sensor Network
11.	Cini Kurien	Nil	Dr. B. Kannan	Computer Applications
12.	Deepika M. P.	Nil	Dr. A. Sreekumar	Visual Cryptography
13.	Dhanya P. M.	Nil	Dr. A. Sreekumar	Natural Language Processing
14.	Indukala Ramanath	Nil	Dr. M. Bhasi	Applying cognitive load theory to Computer Science Education in Schools
15.	Jessy George	Nil	Dr. A. Sreekumar	Mobile Ad-Hoc Network Security
16.	Jino P. J.	Nil	Dr. A. Unnikrishnan	Computer Applications
17.	Jomy John	Nil	Dr. K. V. Pramod	Image Processing
18.	Julie M. David	Nil	Dr. B. Kannan	Application of Statistical machine learning in the prediction of learning disability and suggesting stable remedial measures
19.	Krishna Kumar M.	Nil	Dr. K. V. Pramod	Computer Applications



20.	Malathi S.	Nil	Dr. B. Kannan	Computer Applications
21.	Murugesh M.	Nil	Dr. B. Kannan	Machine Translation
22.	Ramkumar R.	Nil	Dr. B. Kannan	Graph Theory
23.	Remya A. R.	Govt. of India	Dr. A Sreekumar	Cryptography
24.	Reshmi S.	Nil	Dr. B. Kannan	Computer Applications
25.	Santhosh Kumar M. B.	Nil	Dr. A. Sreekumar	Medical Imaging for Brain Tumour Detection & 3D Analysis
26.	Sariga Raj	Nil	Dr. Jagathyraj V. P.	Computer Applications
27.	Shine K. George	Nil	Dr. Jagathy Raj V. P.	Library Science and Information technology
28.	Shine N. Das	Nil	Dr. K. V. Pramod	Computer Applications
29.	Simily Joseph	DST PURSE	Dr. B. Kannan	Digital Image Processing CBIR
30.	Sindhu M. S.	Nil	Dr. B. Kannan	Artificial Intelligence Expert Systems
31.	Sindhumol S.	Nil	Dr. B. Kannan	Computer Applications
32.	Smiju I. S.	Nil	Dr. M. Bhasi	Software Project Management
33.	Srikrishnan S.	Nil	Dr. M. Bhasi	Computer Applications
34.	Sunil Kumar R.	Nil	Dr. M. Jathavedan	Graph Theory
35.	Surendran Cherukodan	Nil	Dr. S. Humayoon Kabir	Impact of Open Source Software on Libraries : a web based study
36.	Tibin Thomas	Nil	Dr. M. Jathavedan	Topological Fluid Mechanism
37.	Unnikrishnan K.	Nil	Dr. K. V. Pramod	Computer Applications

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistants	3
3	S. O Typist / Steno	1
4	U.D. Typist / Steno	1
5	Professional Assistant	1
6	Peon Spl. Gr.	1
7	Peon	1
8	Sweeper – cum – Cleaner	1



6. Technical Personnel

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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	MCA II Semester	21	35	56
2	MCA IV Semester	20	36	56
3	MCA VI Semester	30	30	60

8. Research Facilities

a. Laboratories (Major Equipments available)

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 help from the Department 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 : 5795 Journals : 18	Books : 245

9. 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	

**10. Ph.D.s Awarded**

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Statistical Machine Learning Techniques for the prediction of learning disabilities in School-Age Children	Julie M. David	Dr. B. Kannan
2.	A Study of Morphological Operators with Applications	Ramkumar P. B.	Dr. K. V. Pramod
3.	Algebraic Geometric Codes and their Relation to Cryptography using Elliptic Curves	Manju C.	Dr. K. V. Pramod

11. Publications**a. Papers**

Sl. No.	Name of Paper
Dr. K V PRAMOD	
1	Jomy John, KV Pramod and Kannan Balakrishnan. Unconstrained handwritten Malayalam character recognition using wavelet transform and support vector machine classifier, <i>Procedia Engineering</i> , 30:598-605, 2012.
2	Jomy John, Kannan Balakrishnan, K.V. Pramod, Malayalam Character Recognition System for Camera Enabled Mobile Devices, <i>International Journal of Advanced Research in Computer Science</i> , Volume 3 No.6, (Nov. – Dec.2012)
3	Jomy John, Kannan Balakrishnan, K.V. Pramod, A system for offline recognition of handwritten characters in Malayalam script, <i>International Journal of Image, Graphics and Signal Processing</i> , MECS-Press, 2013.
4	Jomy John, Kannan Balakrishnan, K.V. Pramod, Grouping scheme for the recognition of handwritten Malayalam vowels, consonants, compound characters and vowel-consonant signs, <i>IEEE International Conference on Communication and Signal Processing</i> , 2013.
5	Eliminating Noisy Information in Web Pages using Featured DOM Tree, <i>International Journal of Applied Information Systems (IJAIS)</i> Volume 2 – N0.3, May 2012, page 27 – 34.
Dr. A SREEKUMAR	
1	Secure Key Exchange with Random Challenge Responses in Cloud – <i>International Journal of Research in commerce, IT & Management (IJRCM)</i> Vol. No.2 (2012) Issue No.6(June) Sl.No.15, pp-81-83
2	Lossless Secret Image Sharing Schemes – <i>International Journal of Computational Intelligence and Information Security (IJCIIS)</i> Vol4, No.4, April 2013, ISSN – 1837-7823
Dr. B KANNAN	
1.	Bijo S Anand, Kannan Balakrishnan, Manoj Changat an Iztok Peterin. Atoms and Clique separators in graph products. <i>Applicable Analysis and Discrete Mathematics</i> , 6(1):46-62, 2012.



2.	Kannan Balakrishnan, Bostjan Bresar, Manoj Changat, Sandi Klavzar, Iztok Peterin and Ajitha R Subhamathi. Almost self-centered median and chordal graphs. <i>Taiwanese Journal of Mathematics</i> , 16(5): pp-1911, 2012.
3.	Kannan Balakrishnan, Manoj Changat, Henry Martyn Mulder and Ajitha R Subhamathi. Axiomatic characterization of the antimedial function on paths and hypercubes. <i>Discrete Mathematics, Algorithms and Applications</i> 4(04), 2012.
4.	Kannan Balakrishnan, Manoj Changat, Henry Martyn Mulder and Ajitha R Subhamathi. Consensus strategies for signed profiles on graphs. <i>ARS MATHEMATICA CONTEMPORANEA</i> , 6(1), 2012.
5.	Jomy John, KV Pramod and Kannan Balakrishnan. Unconstrained handwritten Malayalam character recognition using wavelet transform and support vector machine classifier, <i>Procedia Engineering</i> , 30:598-605, 2012.
6.	M David Julie and Balakrishnan Kannan. Attribute reduction and missing value imputing with ann: prediction of learning disabilities. <i>Neural Computing and Applications</i> , 21(7): 1757-1763, 2012.
7.	Cini Kurian and Kannan Balakrishnan. Development & evaluation of different acoustic models for Malayalam continuous speech recognition. <i>Procedia Engineering</i> , 30:1081-1088, 2012
8.	Phil Antony Mingo, KA Rafidha Rehiman and Kannan Balakrishnan. An Autonomous Framework for classifier selection in weka. <i>International Journal of Engineering and Computer Science</i> , 2(3): 696-703, 2013.
9.	R. Ram Kumar and Kannan Balakrishnan. Media sets and median number of a graph. <i>ISRN Discrete Mathematics</i> , 2012.
10.	Abraham Varghese, Reji Rajan Varghese, Kannan Balakrishnan & J S Paul. Axial t2 weighted mr brain image retrieval using moment features. <i>Advances in Computing and Information Technology</i> , pages 355-363, 2012.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr . K. V. Pramod	9th International Conference on Information Technology: New Generations - ITNG 2012	Participant
Dr. K. V. Pramod	NCILC – 2013	Conducted & Chaired
Dr. K. V. Pramod	National Conference on Computing Technologies (NCCT 2013) held at Sree Narayana Gurukulam College of Engineering - March 2013	Chaired a session
Dr. B. Kannan	Indo Slovenin Conference on Graph Theory	Participant
Dr. B. Kannan	NCILC – 2013	Organizing Committee



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. B. Kannan	IEEE Conference on Computer	Chaired
Dr. B. Kannan	TEQIP - Short term course on Open source tools for Computing organized by Division of Information Technology, School of Engineering, CUSAT	Participant
Dr. A. Sreekumar	National Conference in Security Monitoring (NCSM – 2013)	Participant
Smt. S. Malathi	NCILC – 2013	Organizing Committee
Smt. S. Malathi	Short Term Programme on Applications of Mathematics held at Rajagiri	Participant
Smt. S. Malathi	TEQIP - Short term course on Open source tools for Computing organized by Division of Information Technology, School of Engineering, CUSAT	Participant
Smt. S. Malathi	TEQIP - Short term course on Advanced Java Programming organized by Division of Computer Science, School of Engineering, CUSAT	Participant
Smt. S. Malathi	Short Term Programme on Women Empowerment at IMG Kakkanad	Participant

13. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Sri. Binu V. P.	Best Paper Award-NCSM-2013	Amritha University

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	National Conference of Indian Language Computing 2013	January 19-20 2013	Dr. K. V. Pramod	UGC, KSCSTE





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, the first of its kind in the state of Kerala. In 1986, the Department was identified by the Defence 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 into 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. The second M.Tech. programme in Software Engineering sponsored by UGC was started in the academic year 2000-2001. A part time M.Tech programme in Computer Science with Specialisation in Embedded Systems was also started in 2011.

Ph.D. programme 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, the campus intercom system were all 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 Specilisation 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



Sl. No.	Name	Designation	Qualification	Specialization
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

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

Sl. No.	Name	Guide	Area of Work
1	Litta A. J.	Dr. Sumam Mary Idicula	Neural Networks
2	Bindhu M. S.	Dr. Sumam Mary Idicula	Natural Language Processing
3	Bindya M. Varghese	Dr. N. Unnikrishnan	Mining of Spatial Data using Hierarchical data Structures
4	Daleesha M. Viswanathan	Dr. Sumam Mary idicula	Human computer Interaction
5	Vineetha S.	Dr. Sumam Mary idicula	Bioinformatics
6	Binsu C. Kovoov	Dr. K. Poullose Jacob	System Security
7	Mohanam K.	Dr. Sumam Mary Idicula	Software Engineering
8	Mini U.	Dr. K. Poullose Jacob	Information Science
9	Sreeraj M. (FT)	Dr. Sumam Mary idicula	Artificial Intelligence
10	Santhosh Simon	Dr. K. Poullose Jacob	Expert Systems
11	Prime Kumar	Dr. Sumam Mary idicula	Neural Networks
12	Sindhu L.	Dr. Sumam Mary idicula	Natural Language Processing
13	Bindu Baby Thomas	Dr. Sumam Mary idicula	Natural Language Processing
14	Lini Varghese	Dr. K. Poullose Jacob	Mobile Computing
15	Vimina E. R.	Dr. K. Poullose Jacob	Computer Vision
16	Anupama Surendran (FT)	Dr. Philip Samuel	Object Oriented Program Testing
17	Pradeep M. (P T)	Dr. David Peter	Adaptive MAC in Adhoc Wireless Networks
18	Manilal D. L. (P T)	Dr. David Peter	MAC layer design in Hybrid Traffic in WI-MAX Network Environment
19	Latha R. Nair	Dr. David Peter	Natural Language Processing
20	Vinod Kumar P. P.	Dr. K. Paulose Jacob	Parallel MD Simulation algorithms



21	Thresiamma K. George	Dr. M. D. Baby	Data base Security
22	Saju P. John	Dr. Philip Samuel	Current problems in advanced authentication techniques in wired / wireless networks
23	Sreejith C. K.	Dr. David Peter	Knowledge discovery and financial for forecasting using Data Mining
24	Asha Das	Dr. David Peter	Medical ImageRegistration Application to SPECT and MRI Images
25	Mariamamma Chacko	Dr. K. Poulose Jacob	Validation and optimization of embedded system code as architecture oriented approach
26	Sonia Sunny	Dr. David Peter	Speech recognition using digital signal processing and neural networks
27	Sunitha E. V.	Dr. Philip Samuel	Object Oriented Modeling and Design
28	Renu George	Dr. Philip Samuel	Compiler Design
29	Manju K.	Dr. David Peter S.	Natural Language Processing
30	Jyothi John	Dr. David Peter S.	Distributed Computing
31	Manoj Ray D.	Dr. Philip Samuel	Cost Estimation for Global Software Development
32	Gopakumar G.	Dr. Philip Samuel	Wireless Networks
33	Murali Mohanan	Dr. Philip Samuel	Effective and Improved Requirement Engineering
34	Jayasree K.	Dr. Sumam Mary Idicula	Video Classification and Retrieval using Multimodal Analysis
35	Reena Murali	Dr. David Peter S.	Gene Expression Profiling (Bio Informatics)
36	Jisha P. Abraham	Dr. Sheena Mathew	Computer Architecture and Parallel Processing
37	Vipin Kumar K. S.	Dr. Sheena Mathew	Software Engineering
38	Pramod Pavithran	Dr. Sheena Mathew	Network Security and Cryptography
39	Sminu Isudheen	Dr. Sheena Mathew	Data Mining
40	Anil C. B.	Dr. Sheena Mathew	Localization, Object Tracking and Time Synchronization in Wireless Sensor Network



41	Jayaprabha P.	Dr. K. Poullose Jacob	Computer Generated Holograms and its applications
42	Preetha Theresa Joy	Dr. Poullose Jacob	Adhoc Wireless Networks
43	Sr. Thresiamma Devasia	Dr. Poullose Jacob	Automatic Early Stage Glaucoma Detection using Image Processing Techniques
44	Preetha K. G.	Dr. A. Unnikrishnan	Mobile Adhoc Networks
45	Deepa Elizebeth George	Dr. A. Unnikrishnan	Multi Sensor Data Fusion
46	Brighty Jose	Dr. M. D. Baby	Re-Engineering Public Library System in Kerala
47	Jacob Mathews	Dr. Rekha K. James	Low Power IC Design
48	Jithesh V.	Dr. Poullose Jacob	Imaging and Discrimination of Concealed Radar Targets
49	Deepa T.	Dr. A. Unnikrishnan	Cluster-based Outlier Mining
50	Janardhanan P. S.	Dr. Philip Samuel	Multi-Core Adaptability of Operating Systems
51	Jayasree V.	Dr. M. D. Baby	Hospital Libraries in Kerala : Challenges and Opportunities
52	Tony Joseph	Dr. M. D. Baby	Multilingual Facilities in Library Software a Comparative Study Of selected Commercial And Open Source Softwares
53	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
54	Shimmi Asokan	Dr. G. Santhoshkumar	Formal Specification and Verification of Software Systems
55	T. Sobha	Dr. A. Unnikrishnan	Development of Effective Models For Image Understanding
56	Saritha S.	Dr. G Santhosh Kumar and Dr. Rekha K. James	Studies in Spatiotemporal Data Mining
57	Sonia Abraham	Dr. Rekha K. James	Investigations on data mining and its applications in novel platforms



58	Mary Priya Sebastian	Dr. G. Santhoshkumar	Linguistic knowledge based Machine Translator for Malayalam
59	K. H. Kochaleema	Dr. G. Santhoshkumar	Modelling and Verification of Embedded Systems
60	Binu A.	Dr.G Santhosh Kumar and Dr. Rekha K. James	Energy-Aware incremental compilation techniques for Mobile Processors
61	V. Damodaran	Dr. G. Santhoshkumar	Developing Machine Translation methods for closely related Languages
62	K. B. Muralidharan	Dr. M. Bhasi and Dr. G. Santhosh Kumar	Low-Latency Processing of Event Streams
63	Vinu Paul M. V.	Dr. G. Santhosh Kumar	Mapping of Cyber Space Geometry through High Speed Network Traffic Analysis

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistant	2
3	Office Superintendent (Typist)	1 (vacant)
4	Peon	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	27	36
2	M.Tech. Degree in Software Engineering (Two batches)	13	21	34
3	M.Tech Computer Science with Specialisation in Embedded System 2011 batch	6	7	13
4	Ph. D (Including 2012 admission)	24	39	63



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
- **RTLlinux** : 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. Library**

No. of books and journals as on 31st march of the previous year	Additions during the current year
Books : 5758 Journals : 57	Books : 407

c. Others : Overhead Projectors, Multimedia Projector etc.

9. Distinguished Visitors

Sl. No.	Name & Designation	Official Address	Date & Time	Purpose of Visit	Remarks, if any
1	Dr. Lakshmi Narasimhan	Professor, Department of Computer Science, East Carolina University, USA	4 th February 2013	To deliver a lecture	Trends and Issues in Data Mining and Their Unusual Applications
2	Prof. Beth Kolko	Professor, Human Centered Design Engineering Adjunct Faculty, Information School Faculty Associate, Harvard University Berkman Center for Internet and Society	25 th February 2013	To deliver a lecture	Technical talk on IT Risk Assessment

10. Ph.Ds. Awarded

Sl. No.	Name of Research Scholar	Title
1	Smt. Binu G. S.	Energy Management in wireless sensor networks
2	Smt. Mariamma Chacko	An Error-Localization, Validation and Optimization Tool For Embedded Code Augmentation : An Architecture Oriented Approach
3	Syama Das	Mean squared residue based Biclustering algorithms for the analysis of gene expression data



11. Publications

Sl. No.	Name of Paper
	Dr. K. Poullose Jacob
1.	Cooperative caching techniques for mobile ad hoc networks, P. T. Joy, K. P. Jacob Data Science & Engineering (ICDSE), 2012 International Conference on, 175-180
2.	Cache Replacement Policies for Cooperative Caching in Mobile Ad hoc Networks. P. T. Joy, K. Poullose Jacob, International Journal of Computer Science Issues (IJCSI) 9 (3)
3.	A probabilistic approach to reduce the route establishment overhead in AODV algorithm for manet, K. G. Preetha, A. Unnikrishnan, K. P. Jacob arXiv preprint arXiv: 1204.1820
4.	Recognition of Speech Signals: An Experimental Comparison of Linear Predictive Coding and Discrete Wavelet Transforms., S. Sunny, S. David Peter, K. Poullose Jacob, International Journal of Engineering Science & Technology 4 (4)
5.	Wireless Sensor Networks for Paddy Field Crop Monitoring Application in Kuttanad, S. Simon, K. P. Jacob, International Journal of Modern Engineering Research 2 (4), 2017-2020
6.	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)
7.	A Novel Cache Resolution Technique For Cooperative Caching In Wireless Mobile Networks, P. T. Joy, K. P. Jacob , Computer Science
8.	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)
9.	CBIR Using Local and Global Properties of Image Sub-blocks, E. R. Vimina, K. P. Jacob, International Journal of Advanced Science and Technology 48
10.	Feature Extraction Methods Based on Linear Predictive Coding and Wavelet Packet Decomposition for Recognizing Spoken Words in Malayalam, S. Sunny, P. S. David, K. P. Jacob, Advances in Computing and Communications (ICACC), 2012 International Conference on Computing and Communications.
11.	Image retrieval using local and global properties of image regions with relevance feedback, E. R. Vimina, K. P. Jacob, Proceedings of the International Conference on Advances in Computing and Communications.
12.	Image retrieval using local colour and texture features, E. R. Vimina, K. P. Jacob, Mechanical Engineering and Technology, 767-772
13.	A Compiler Integrated Assistance for Optimum Data Allocation in Banked Memory Embedded Processors, M. Chacko, K. P. Jacob, International Journal of Software Engineering & Its Applications 6 (1)
14.	A New Algorithm for Adaptive Smoothing of Signals in Speech Enhancement, S. Sunny, S. D. Peter, K. P. Jacob, IERIProcedia 4, 337-343
15.	Cooperative Caching Framework for Mobile Cloud Computing, P. T. Joy, K. P. Jacob, arXiv preprint arXiv: 1307.7563



16.	A location aided cooperative caching protocol for mobile ad hoc networks, P. T. Joy, K. P. Jacob, Advanced Infocomm Technology (ICAIT), 2013 6th International Conference on advanced Infocomm Technology.
17.	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
18.	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
19.	Role of Non-governmental Organisations in the economic and community development of Kerala: a case study of Peermade Development Society, K. G. Jacob, Kottayam
20.	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
21.	Studies in graph theory domination parameters of a digraph, K. Jacob, Kottayam
22.	Energy management in wireless sensor networks a crosslayer channel adaptive approach towards performance optimization, G. S. Binu Cochin
23.	Spatial Clustering Algorithms-An Overview, B. M. Varghese, A. Unnikrishnan, K. P. Jacob, Asian Journal of Computer Science & Information Technology 3 (1)
24.	Peer to Peer Cache Resolution Mechanism for Mobile ad HOC Networks, P. T. Joy, K. P. Jacob, International Journal
25.	Effectiveness of Feature Detection Operators on the Performance of Iris Biometric Recognition System, B. C. Koor, M. H. Supriya, K. P. Jacob, International Journal
26.	Combined Feature Extraction Techniques and Naive Bayes Classifier for Speech Recognition, S. Sunny, S. David Peter, K. P. Jacob, Computer Science
27.	Iris biometric recognition system employing canny operator, B. C. Koor, M. H. Supriya, K. P. Jacob, First International Conference on Computational Science and Engineering (CSE ...
28.	Performance Comparison of Two Different Energy Conservation Mac Protocols, G. S. Binu, K. P. Jacob, Procedia Technology 4, 207-214
29.	Design and development of a performance evaluation Prototype for IT Organizations in the context of outsourcing, K. P. Jacob, S. Sasi, Cochin
30.	Design of compact reversible decimal adder using RPS gates, R. K. James, K. P. Jacob, S. Sasi, Information and Communication Technologies (WICT), 2012 World Congress on Information and Communication Technologies
31.	A comparative study of parametric coding and wavelet coding based feature extraction techniques in recognizing spoken words, S. Sunny, S. D. Peter, K. P. Jacob, Proceedings of the CUBE International Information Technology Conference, 326-331
32.	Performance improvement of multiple Connections in AODV with the concern of Node bandwidth, K. G. Preetha, A. Unnikrishnan, K. P. Jacob, arXiv preprint arXiv:1208.4192
33.	Development and Deployment of Wireless Sensor Network in Paddy Fields of Kuttanad, S. Simon, K. P. Jacob, architecture 2 (1)



34.	Studies, design and development of network security enhancement services using novel cryptographic algorithms, S. Mathew, Cochin
35.	Aprobabilistic approach to reduce the route establishment overhead in aodv algorithm for manet, A. Unnikrishnan, K. P. Jacob, International Journal of Distributed & Parallel Systems 3 (2)
36.	Filtering Template Driven Spam Mails using Vector Space Models, L. Varghese, M. H. Supriya, K. P. Jacob, International Journal of Computer Applications 39
37.	A Comparative Study of Cache Replacement Policies in Wireless Mobile Networks, P. T. Joy, K. P. Jacob, Advances in Computing and Information Technology, 609-619
38.	Image Retrieval Using Low Level Features of Object Regions with Application to Partially Occluded Images, E. R. Vimina, K. P. Jacob, Progress in Pattern Recognition, Image Analysis, Computer Vision, and ...
39.	International Journal on AdHoc Networking Systems (IJANS), K. G. Preetha, A. Unnikrishnan, K. P. Jacob, Performance Improvement
40.	Impact of Bandwidth on Multiple Connections in AODV Routing Protocol for Mobile Ad-Hoc Network, K. G. Preetha, A. Unnikrishnan, K. P. Jacob, Advances in Computer Science, Engineering & Applications, 231-239
Dr. Sumam Mary Idiula	
1.	The diagnosis of severe thunderstorms with high-resolution WRF model, A .J. Laitta, U. C. Mohanty, Sumam Mary idicula, Journal of earth system science 121(2), 297-316
2.	Performance of On-Line Malayalam Handwrittencharacter recognition using hmm And sfam, K. P. Primekumar, Sumam Mary idicula, International journal of computer Engineering & Technology (IJECT), 3(1) -125
3.	Micro RNA-Mrna Interaction Network Using TSK-type Recurrent Neural Fuzzy Network, S. Vineetha, C. Chandra Shekara Bhat, Suniam Mary idicula, Gene Elsevier 20121.
4.	An Online Character Recognition System to Convert Grantha Script to Malayalam, Sreeraj M., Sumam Mary idicula, International Journal of Advanced Computer Science and Applications (I J ACS A, Volume 3 Issue 7, 2012
5.	Artificial Neural Network Model for the Prediction of Thunderstorms over Kolkata, A. J. Litta, Suniam Mary idicula, C. Naveen Francis, International Journal of Computer Applications 50(11),50-55
6.	Gene regulatory network from microarray data of colon cancer patients using TSK-type recurrent neural fuzzy network, S. Vineetha, C. handra Shekara Bhat, Sumam Mary idicula, Gene Elsevier 2012
Edited Book Chapters	
1.	The effect of SIFT features as content descriptors in the context of automatic writer identification in Malayalam language, Sreeraj M., Sumam Mary idicula, Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT), 2012
2.	Syntactic Based Machine Translation from English to Malayalam, Anitha T. Nair, Sumam Mary idicula, International Conference on Data Science & Engineering (ICDSE),2012



3.	Detection of flock movement in spatio-temporal database using clustering techniques- An Experience, G. M. Jacob, Sumam Mary idicula, International Conference on Data Science & Engineering (ICDSE), 2012
4.	Comparison of statistical and semantic similarity techniques for paraphrase identification, S. S. Abraham, Sumam Mary idicula, International Conference on Data Science & Engineering (ICDSE), 2012
Dr. G. Santhosh Kumar	
International Journals	
1.	An Image Mining Prototype to Achieve Medical Image Diagnosis with Effectiveness, International Journal of Information Processing, 6(2),pp. 38 - 47, 2012
2.	Using Open Source Software for Digital Libraries: A Case Study of CUSAT, The Electronic Library, 31(2), pp.217 - 225, 2013
International Conferences	
1.	Ontology based framework for news extraction in visual media, IEEE Data Science & Engineering (ICDSE), 2012 International Conference on, 220-222, July 2012
2.	Integrated environment for launch vehicle telemetry data management, IEEE Data Science & Engineering (ICDSE), 2012 International Conference on, 171 -174, July 2012
3.	An Improved Color Video Super-Resolution Using Kernel Regression and Fuzzy Enhancement, Advances in Computing and Communications (ICACC), 2012 International Conference on, 114-117, August 2012
4.	Extension schemes for the Alignment Model of English-Malayalam Statistical MachineTranslator, Advances in Computing and Communications (ICACC), 2012 International Conference on, 86-89, August 2012
5.	Real time recognition of pedestrian and vehicles from videos, ACM Proceedings of the Second International Conference on Computational Science, Engineering and Information Technology, 517-523,October2012
6.	Automatic image annotation using SURF descriptors, India Conference (INDICON), 2012 Annual IEEE, 920-924, December 2012
7.	Implementation and evaluation of an improved header compression for 6LoWPAN, India Conference (INDICON), 2012 Annual IEEE, 439-443, December 2012
8.	Handling OOV Words in Phrase-Based Statistical Machine Translation for Malayalam, Proceedings of National Conference on Indian Language Computing, CSI Digital Library, February 2013
9.	Analytical Study of Typographical Errors in OPACS and Corrective Measures, CALIBER 2013, Inlibnet Centre, March 2013

12. Sponsored Research Projects

Participant(s)	Programme	Role
Dr. Sumam Mary Idicula	International Conference on Data Science & Engineering 2012 (ICDSE)	Session chair



Participant(s)	Programme	Role
Dr. G. Santhosh Kumar	Second International Conference on Advances in Computing and Communications (ICACC-2102), Rajagiri School of Engg & Technology, August 2012	Author
	Workshop on Simulation Model Development, Department of Statistics, CUSAT, 17-19 December 2012	Participant
	National Seminar on Current Trends in IT, NISH, Trivandrum, 6-8 Feb 2013	Participant

13. Awards/Honours/Fellowship etc. received

1. Dr. G. Santhosh Kumar, Assistant Professor - Selected as Ambassador of ACM by Association of Computing Machinery, USA
2. Dr. G. Santhosh Kumar, Assistant Professor - Senior Member of ACM

14. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (Rs.)	Investigator(s)
1	e-governance @ CUSAT	Kerala State	20 lakhs	Dr. K. Poullose Jacob
2	DST-FIST Project	DST	52 lakhs	Dr. K. Poullose Jacob

15. Research Programmes and Activities

The department promotes research in all areas of Computer Science, with guidance banking on the expertise available in our alumini, spread across other departments, as well.

16. Seminar/Conference/Workshop/Refresher Courses

Title of the Seminar/Conference/Workshop/Refresher Course	Event Date	National/International	Funding Agency	Co-ordinator
International Conference on Data Science & Engineering 2012 (ICDSE)	July 18-20 2012	International	CUSAT	Dr. K. Poullose Jacob

17. 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

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, Microwave Image Processing, Pattern Recognition, Microprocessor Applications and Signal processing display devices. External agencies like the DST, ISRO, AICTE, DOE, DRDO, DOD, CSIR, MoES, NRB, DIT and the State Government 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. The Department has been selected for the special assistance programme of UGC at DSA level in the year 2000. Recently, the 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, Polarzone 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 Micprocessors
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

Sl. No.	Name	Designation	Qualification	Specialization
1.	Sri. A. K. Prakash	Former Senior Scientist, NPOL	M.Tech.	Radar & Communication
2.	Dr. M. K. Radhakrishnan	Former Director, Philips Electronics-Singapore.	Ph.D	VLSI

**5. Research Scholars**

Sl. No.	Name	Funding Agency	Guide	Area of Work
Full – Time				
1.	Ullas G. Kalappura	UGC	Dr. K. T. Mathew	Microwave Electronics
2.	Reji A. P	UGC	Dr. Tessamma Thomas	Image Processing
3.	Tony D.	UGC	Dr. K. Vasudevan	Microwave Antennas
4.	Anju P. Mathews	UGC	Dr. C. K. Aanandan	Microwave Antennas
5.	Sujith R.	DST	Dr. P. Mohanan	Microwave Antenna
6.	Lindo A. O.	UGC	Dr. C. K. Aanandan	Microwave Antennas
7.	Adrine Antony Correya	UGC	Dr. P. R. S. Pillai	Ocean Electronics
8.	Dinesh R.	UGC	Dr. P. Mohanan	Microwaves
9.	Deepak U.	UGC	Dr. P. Mohanan	Microwave Antennas
10.	Nijas C. M.	UGC	Dr. P. Mohanan	Microwave Antennas
11.	Vinesh P. V.	UGC-JRF	Dr. K. Vasudevan	Multiband Folded Antennas
12.	Abdul Rasheed	UGC-JRF	Dr. K. Vasudevan	Compact Broadband metamaterial Antennas
13.	Suraj Kamal	Project	Dr. Supriya M. H.	Accessories imaging
14.	Saneesh A. T.	UGC	Dr. Supriya M. H.	Betterment of miniaturised Archival tags
15.	Roshna T. K.	UGC	Dr. P. Mohanan	Microwave Antennas
16.	Athul Shaji	UGC-GATE	Dr. K. Vasudevan	Development of multiband antennas
17.	Sajitha V. B.	KSCSTE	Dr. P. Mohanan	Compact metamaterial loaded microwave filter
18.	Nobert Thomas Pallath	FIP	Dr. Tessamma Thomas	Design and Development of a hybrid MAC protocol for video transmission over wireless networks
19.	Praveen N.	FIP	Dr. Tessamma Thomas	Biometrix



Sl. No.	Name	Funding Agency	Guide	Area of Work
Part – Time				
1.	Paulbert Thomas	-	Dr. C. K. Aanandan	Microwaves
2.	Anish Kumar M. S.	-	Dr. Gopikakumari	Signal processing
3.	Ananda Resmi S.	-	Dr. Tessamma Thomas	Image Processing
4.	Mohankumar K.	-	Dr. P. R. S. Pillai	Underwater Acoustics
5.	Girish G.	-	Dr. C. K. Aanandan	Microwave Electronics
6.	Kedarnath Shenoy S.	-	Dr. P. R. S. Pillai	Underwater Acoustics
7.	Deepa J.	-	Dr. Tessamma Thomas	Medical Image Processing
8.	Sethunadh R.	-	Dr. Tessamma Thomas	Image Processing
9.	Cyriac M. Odackal	-	Dr. C. K. Aanandan	Microwave Electronics
10.	Sarah Jacob	-	Dr. P. Mohanan	Microwave Electronics
11.	Binesh T.	-	Dr. P. R. S. Pillai	Ocean Electronics
12.	Prakash K. C.	-	Dr. K. Vasudevan	Microwave Electronics
13.	Prabha C.	-	Dr. P. R. S. Pillai	Ocean Electronics
14.	Sreejith M. Nair	-	Dr. P. Mohanan	Microwave Electronics
15.	Sreenadh S.	-	Dr. C. K. Aanandan	Microwave Imaging
16.	Nelson K. J.	-	Dr. K. Vasudevan	Microwave Antennas
17.	Anu Sabarish R.	-	Dr. Tessamma Thomas	Image Processing
18.	Rithu James	-	Dr. Supriya M. H.	Ocean Electronics
19.	Prajas John	-	Dr. P. R. S. Pillai	Embedded Systems
20.	Sherin B. M.	-	Dr. Supriya M. H.	Embedded Systems
21.	Sumitha Mathew	-	Dr. K. Vasudevan	Microwave Antennas
22.	Biju K. V.	-	Dr. P. R. S. Pillai	Acoustic Modem
23.	Tina P. G.	-	Dr. Tessamma Thomas	Image Processing
24.	S. M. Alex Raj	-	Dr. Supriya M. H.	VLSI Systems
25.	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	(One 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 (2012 admission)

Sl. No.	Programme of Study	Men	Women	Total
1.	M.Tech. (Electronics)	12	11	23
2.	M.Sc. (Electronic Science)	12	11	23
3.	Ph.D. (Full-Time)	5	2	7
4.	Ph.D. (Part-Time)	1	1	2

9. Research Facilities**a. 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)
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
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

Research and Training Laboratories of the Department

With special assistance from the Ministry of Human Resource Development, Govt. of India, three special Research and Training Laboratories have been set up in the Department in frontier areas of Electronics.

A. Microprocessor Laboratory

This Laboratory was set up with aid from the Ministry of Human Resource Development, Government of India. A total grant of Rs.30 lakhs has been sanctioned for setting up this centre. The centre is equipped with Microcomputer systems, a large number of Microprocessor system support cards including memory cards, Dynamic Memories, Battery Backup Cards, A/D & D/A Cards, Relay Cards, Opto Coupler Cards, Peripheral Controller Cards, Graphic and Semigraphic Terminals.

Research work undertaken in this centre are in the areas of Multiprocessors, Protocols for Multiprocessors, Speech Processing, Pattern Recognition, etc.

(i) ARM9 Based Attendance and Access Control System

Atmel ARM9 Processor based attendance and access control system has been developed using an RFID techniques. The RFID receiver is interfaced to the ARM9 based development board and necessary software has been developed to manage the system. The window CE 5.0 environment is utilized for the above.

(ii) Ethernet Video Monitoring System based on ARM9 Processor

A Video Camera interface and driver has been developed for the Net monitoring applications. The in built dynamic web server helps to monitor the environment from remote locations.

(iii) QVGA TFT LCD Interface

A QVGA TFTLCD interface has been developed for 18 series PIC Processor and is also capable of interface connecting to the internet. The system is very helpful in remote message display applications.



(iv) Robot Status Monitoring System

A PIC32 Processor Based Remote Status Monitoring System for the mobile robot has been developed. The system incorporates an RF module having SPI interface and USB bridge interface to the PC.

B. 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 spent 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 miniaturised 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.

C. 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, 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, super-conducting microwave 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. Non-destructive testing of objects like vehicular tyres is a break through by the laboratory in NDT technique. 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:

- (i) Design and development of compact DVH antennas
- (ii) UWB Microwave Imaging for Biomedical Application (breast cancer detection)
- (iii) Design and Development of microwave tunable devices using BST Ferroelectric thin films
- (iv) Conductive strips loaded planar antennas for mobile radiation hazards reduction
- (v) Microwave ceramic resonators
- (vi) Development of conducting polymer composites for EMI shielding

Synthesis and study of conducting polymers and their composites for various electromagnetic compatibility applications were carried out. Conducting polymer (Polyaniline, Polypyrrole, Polyurethane etc) based blends are synthesized. Composite materials involving microwave absorbers such as graphite and carbon black are prepared. Conducting polymers have found significant applications in the past decade in industrial, scientific and medical (ISM) fields. Conducting polymers are used in applications like anticorrosion, electromagnetic interference (EMI) shielding, static coating and other antenna applications.

D. 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

- (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
- (c) Finger Print Recognition and Identification

Other Research Laboratories

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 5934 Foreign Journals : 43 Indian Journals : 5	Books : 3 Foreign Journals : 2 Indian Journals : Nil

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Prof. C. P. G. Vallabhan	President, Kerala Science and Technology Society India	Inauguration and keynote address, APSYM -2012
2	Prof. C. S. Sridhar	Bangalore Institute of Technology, Bangalore	Invited Talk, APSYM -2012
3	Dr. D. Srinivasan	Formerly Director, NPOL, Cochin	Invited Talk, APSYM -2012



4	Dr. S. N. Joshi	Emeritus Scientist, CEERI, Pilani	Invited Talk, APSYM -2012
5	Dr. Sudhakar Rao	Northrop Grumman Aerospace Systems California, USA	Invited Talk, APSYM -2012
6	Dr. K. J. Vinoy	Professor, IISc, Bangalore	Invited Talk, APSYM -2012
7	Dr. Paul R. Young	Professor, University of Kent, UK	Invited Talk, APSYM -2012
8	Dr. Smail Tedjini	Professor, INP, Grenoble France	Invited Talk, APSYM -2012
9.	Dr. Bhaskar Gupta	Professor, Jadvpur University, Kolkata	Invited Talk, APSYM -2012

11. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Development and Investigation of Mobile Antennas for Less Radiation Hazards	Laila D.	Dr. P. Mohanan
2.	Design and Development of Compact Coplanar Waveguide Fed Antennas for Wireless Applications	Sujith R.	Dr. P. Mohanan
3.	Design and Development of Reconfigurable Compact Cross Patch Antenna for Switchable Polarization	Nishamol M. S.	Dr. K. Vasudevan
4	Design and Development of Compact Printed Ultra Wide Band Antennas	Shameena V. A.	Dr. P. Mohanan
5	Investigations on the Radiation Characteristics of Broadband Strip Loaded Slotted Microstrip antennas	Sarin V. P.	Dr. K. Vasudevan

12. Publications

a. Publications in International/National Journals/Symposia

1.	Sujith R., Laila D. and P. Mohanan "CPW fed mobile antenna with reduced RF interference towards human head" 24th Kerala Science Congress, Kottayam 2012.
2.	Vineetha, Vishnu K., Laila D., Pradeep C., V. P. N. Nampoori "Effect of mobile phone radiation on DNA, its harmful effects and possible solution" 24th Kerala Science Congress, Kottayam 2012.
3.	Sarin V. P., Nishamol M. S., Rohit K. Raj, Anju Pradeep, K. Vasudevan, 'A Stacked Metal Slab Antenna for Directional WLAN Applications' National Symposium on Antennas and Propagation (APSYM 2012), 17-19 December 2012, CUSAT, Kerala, India.
4.	Dinesh R., Vinod V.K.T, Ashkar Ali P., Sarin V. P. and P. Mohanan, 'A Dual Band Asymmetrical Grounded CPW fed Antenna for WLAN Applications' National symposium on Antennas and Propagation (APSYM 2012), 17-19 December 2012, CUSAT, Kerala, India.



International

1.	R. Sujith, B. Graham, P. Mohanan, N. Timmons, J. Morrison, "Pattern Reconfigurable Coplanar Waveguide Fed Antenna For Wireless Body Area Networks", IEEE APWC, ICEAA- 2013, Torino Italy
2.	Sujth Raman, Ben Graham, Shane Mc Crossan, Nick Timmons, Shameena V. A., Mohanan P., Jim Morrison, " Microstrip fed ground modified compact antenna with reconfigurable radiation patterns for BANs", LAPC-2012, Loughborough, UK
3.	Sarin V. P., Nishamol M. S., Dinesh R., Vinesh P. V., Rasheed and K. Vasudevan, "A Novel Compact Truncated Ground Monopole Quasi Yagi Antenna", Accepted for IEEE Asia Pacific Conference on Antennas and Propagation, Singapore, 2012
4.	Sarin V. P. and K. Vasudevan, " Compact High Gain Stacked Offset Broadband Microstrip Antenna as an Alternative to Normal Stacked and Array Configurations" IEEE Antennas and Propagation society International Symposium (APS-2012), Chicago, USA.

b. Books

Sl. No.	Name of Book
1.	Proceedings of APSYM 2012

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
K. Vadsudevan	IEEE APS International Symposium, Chicago, USA, July 2012	Invited Speaker

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. P. Mohanan Dr. K.Vasudevan Dr. C. K. Aanandan	Antenna Design fabrication and testing for a pseudorandom polarization hopping (PPA) communication systems	Polarizone Malaysia	7.60 (Completed)
2.	Dr. K. Vasudevan Dr. P. Mohanan	DSA Special Assistance Programme	UGC	75.00
3.	D. P. Mohanan Dr. K. Vasudevan Dr. C. K. Aanandan	Development of an antenna for wireless sensor network	Polarizone, Malaysia	5.00 (Completed)
4.	Dr. K. Vasudevan Dr. P. R. S. Pillai D. P. Mohanan	Assistance under FIST Programme	DST	59.00 (Completed)



5.	Dr. P. R. S. Pillai Dr. M. H. Supriya	Development of Miniaturised Archival Tags	MOES	95.00
6.	Dr. C. K. Aanandan	Integrated Smart Antennas for next generation millimeter wave wireless communications	UKIERI	34.00 (Completed)
7.	Dr. C. K. Aanandan Dr. K. T. Mathew	Development and Study of Polymer Composites for Efficient EMI Shielding Property at Microwave Frequencies	DRDO	15.67 (Completed)
8.	Dr. P. Mohanan Dr. K.Vasudevan Dr. C. K. Aanandan	Design and Simulation of Dielectric-Diplexer	VSSC	8.89
9.	Dr. Supriya M. H.	Development of Techniques for Blind Source Separation	NPOL	8.50 (Completed)
10.	Dr. Supriya M. H.	HMM Based target Classifier with improved success rates	NRB -Delhi	43.55

15. Research Programmes and Activities

Sl. No.	Problem / Topic	Investigator(s)
1.	(i) Design and development of compact DVBH antennas UWB Microwave Imaging for Biomedical Application (breast cancer detection) (ii) Design and Development of microwave tunable devices using BST Ferroelectric thin films (iii) Conductive strips loaded planar antennas for mobile radiation hazards reduction (iv) Microwave ceramic resonators (v) Development of conducting polymer composites for EMI shielding	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 (v) Streaming audio in on-line biometric security system - Audio and Image Processing	Dr. P. R. S. Pillai Dr. M. H. Supriya



Sl. No.	Problem / Topic	Investigator(s)
3.	(i) ARM9 Based Attendance and Access Control System. (ii) Ethernet Video Monitoring System based on ARM9 Processor. (iii) QVGA TFT LCD Interface. (iv) Robot Status Monitoring System	Dr. James Kurian
4.	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
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.	APSYM 2012	3 days (17-19 Dec-2012)	Dr. P. R. S. Pillai Dr. Supriya M. H. Dr. K. G. Nair Dr. C. K. Aanandan	DST, CSIR, UGC, KSCSTE, Etc.

17. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	Development of Patch Antennas	Dr. K. Vasudevan Dr. P. Mohanan Dr. C. K. Aanandan	General Electronics, Bangalore





DEPARTMENT OF ENGLISH AND FOREIGN LANGUAGES

1. Brief history

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 language 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 language 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 Seminar on “**Creativity in the Era of Globalization**” on 13-14 March 2013.

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 and Russian.
4. P.G. Diploma Course 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	Head of the Dept., Asst. Professor in English	M.A. (English) (Qualified SLET-Accredited by UGC)	English Language and Literature



4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
2.	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
3.	Smt. Ansy Sebastian		Dr. Mariamma Vincent Panikulangara	The aesthetics of Paul Verlaine and Changampuzha Krishna Pillai – A Comparative Perspective.

5. Administrative Personnel

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

6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1.	Certificate Course in French	24	11	40
2.	Certificate Course in German	30	4	34
3.	Integrated Diploma in Italian	5	4	9
4.	Integrated Diploma in Japanese	5	-	5
5.	P.G. Diploma in Communicative English	5	5	10
6.	Ph.D. Programme	0	1	1

7. 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 facilitates digital and e-learning

c. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
6927	254

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

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

Sl. No.	Name of Participant	Name of Seminar/Conference/Workshop	Role
1.	Smt. Brinda Bala Sreenivasan	UGC Sponsored National Seminar on Remapping of Reality through Visual Technology-Inter-disciplinary Engagements 28-29 June 2012 Dept. of English & Centre for Research, St.Teresa's College, Ernakulam	Participant
2.	Smt. Brinda Bala Sreenivasan	UGC Sponsored Workshop Sensitivity Awareness –Motivation (SAM) January 21-25, 2013	Participant
3.	Smt. Brinda Bala Sreenivasan	UGC Sponsored National Seminar on Creativity in the Era of Globalization organised by the Dept. of English and Foreign Languages, CUSAT on 13-14 March 2013	Director

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

Sl. No.	Title	Duration	Director	Funding Agency
1.	Creativity in the Era of Globalization	2 days (13-14 March 2013)	Smt. Brinda Bala Sreenivasan	IGC

10. 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	Institutions and individuals





DEPARTMENT OF HINDI

1. Brief History

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, Feminism, Ecocriticism, Dalit 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 169 Ph.Ds. The creative capabilities of the teaching faculties 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 UGC has identified the Dept. of Hindi for its Special Assistance Programme (SAP) considering the high academic activities so far undertaken. The Dept. to successfully completed the three stages (15 years) of DRS (Dept. Research Support) to the Dept. of Hindi. The Dept. of Hindi is the only Dept. which got DSA in Hindi among Indian Universities.

The Department Library has about 47000/- books and is currently subscribing 35 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 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. Computer Aided Language Teaching
5. Ph.D

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. R. Sasidharan	Professor & Head	M.A., M.Phil., Ph.D Diploma in translation and Computer aided teaching.	Hindi Drama and Theatre
2.	Dr. N. Mohanan	Professor	M.A, M.Phil, Ph.D	Ancient and Modern Hindi Literature, Comparative Literature



Sl. No.	Name	Designation	Qualification	Specialization
3.	Dr. M. Shanmughan	Professor	M.A., Ph.D, PG Diploma In Translation	Poetry & Short Story
4	Dr. N. G. Devaki	Professor	M.A., Ph.D	Medieval and Modern Poetry, Computer aided Language Learning, Poetics, Functional Hindi, Linguistics, Scientific Translation.
5	Dr. K. Vanaja	Professor	M.A, Ph.D, D. Lit	Criticism Comparative Literature, Modern Literature and Translation studies
6	Dr. K. Ajitha	Associate Professor	M.A, M.Phil, Ph.D	Modern Drama and Theatre Comparative Study

4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Teena Tomy		Dr. M. Shanmughan	Samakaleen Kahani Mein Sampradayikata Ke Bahuyani 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 Upaniyasam mein Aupaniveshik Shakthiyom ka prathirodh
4	Sheena M. A.		Dr. N. Mohanan	Bharath Vibhajan Par kendrit Hindi upanyasom ka Vishleshnatmak Adhyayan
5	Sunitha T. N.		Dr. R. Sasidharan	Narendra Mohan Ka Rachana Sansar
6	Sujithakumari G. S.		Dr. P. A Shemim Aliyar	Adhuni Hindi Natak Aur Upanyas Mein Abhivyakt Kalakar Ki Srijanatmakta Ek Anusheelan
7	Kavitha K.		Dr. K. Vanaja	Samakaleen Hindi Upanyas Mein Vishwa vidyalay Jeevan ka Vividh Aayam



8	MayaLakshmi R.		Dr. N. G. Devaki	Jayashankar Prasad Aur Mohan Rakesh Ke Natokom ka Tulanatmak Shastriya Anusheelan
9	Veena J.		Dr. K. Vanaja	Hindin Ki samakaleen Nareevad Ek Alochana
10	Shalbi Mohanan		Dr. R. Sasidharan	Daya Prakash Sinha ke Natakome Mein Prayodharmita Ke Vividh Aayam
11	Nimisha I. V.		Dr. N. Mohanan	Sattothar Hindi Natokome Mein Lok Natya Ka Prabhav
12	Viji V.		Dr. N. Mohanan	Sanjeev ke Upanyas Ek Vishleshnatmak Ek Adyayyan
13	Remya P. R.		Dr. K. Ajitha	Samakaleen Kavitha Mein Paristhithik Vimarsh Ek Adhyayan
14	Vineetha N. A.		Dr. K. Ajitha	Nab eke dashak ke kavayathriyayom Ki Kavithavom me Stri vimarsh
15	Jincy Mathai		Dr. K. Ajitha	Harishankar Parsai Aur V.K.N Ke Katha sahitya Mein Vyengaya Ke Vibhinn Aayam
16	V. Manju Bhashini		Dr. R. Sasidharan	Samakaleen Hindi Upanyas Mein Upabhog Sanskriti Ke Vibhinn Aayam
17	Laija P. J.		Dr. K. Vanaja	Shailesh Matiyani Ka Upanyas: Ek Anusheelan
18	Deepthi A. S.		Dr. K. Ajitha	Samakaleen kahani Mein Kisani Samvedana
19	Anjali Krishnan		Dr. N. Mohanan	Kashinath Singh Ka Rachana Sansar
20	Blessy V.		Dr. K. Vanaja	Samakaleen Hindi Kahaniyom Mein Vrudh Jeevan ka Yatharth
21	Sandhya S.		Dr. R. Sasidharan	Mrinal Pandey Ka Rechana Sansar
22	Aneesh Shankar P. S.		Dr. N. Mohanan	Hindi Ke Musalman Upanyasakarom Ke Upanyasom mein Bharatheeyatha ki avadharana
23	Teresa Tincy T. G.		Dr. K. Vanaja	Hindi Ki Stree Atmakata;Ek Anusheelan



24	Saranya T. S.		Dr. M. Shanmughan	Samakaleen Mahila Kahanikarom Ki Kahaniyom Mein Badalti Naitik Chethana
25	Girish Kumar K. K.		Dr. N. Mohanan	Samakaleen Hindi Kavita Mein Nava Upanivesh Ka Pratirodh
26	Remya Joseph K. J.		Dr. N. G Devaki	Jainedrakumar, Ilachandra Joshi Aur Anjey Ki Manovygyanik Kahaniyom Ka Punarmoolankan
27	K. Lekha		Dr. K. Ajitha	Stree Vimarsh Ke Sandharbh Mein Stree Natya Lekhan
28	Safeena S. A.		Dr. K. Ajitha	Anamika Alka Saraogi Aur Mahua Maji Ka Katha Sahitya: Ek Vishleshnatmak Adhyayan”
29	Manish K. Gopinath		Dr. K. Ajitha	Hindi Ki Dalit Atmakathaom Ka Vishleshnatmak Adhyayan
30	Lakshmipriya C.		Dr. R Sasidharan	Samakaleen Hindi Natak:Ek Vishleshnatmak Adhyayan
31	Vidya P. V.		Dr. R. Sasidharan	Hindi Balnatak:Ek Adhyayan
32	Susmitha Ghai		Dr. N. Mohanan	Samakaleen Hindi Upanyas Mein Gandhi Chinthan
33	Silpa P. B.		Dr. K. Vanaja	Samakaleen Hindi Upanyas Mein Adivasi Jeevan Ka Yadharth
34	Seena Kurian		Dr. K. Vanaja	Samakaleen Hindi Kavitha Mein Lok Tatv
35	Sreejina P. P.		Dr. R. Sasidharan	Rahul Sankrityayan Ke Upanyasom Ka Visleshanatmak Anuseelan
36	Soumya M. B.		Dr. K. Ajitha	Samakaleen Hindi Mahila Kahanikaran Ki Kahaniyon Mein Manavadhikar
37	Sumi C. S.		Dr. N. G. Devaki	Samakaleen Hindi Kahaniyom Ka Pravrutthigath Anuseelam
38	Arya Viswanath		Dr. N. G. Devaki	Samakaleen Hindi Malayalam Mahila Kahanikarom Ki Kahaniyom Ka Tulnatmak Adhyayan
39	Krishnapriya T. P.		Dr. N. G. Devaki	Amarkant Kee Kahaniyom Ka Vishleshnatmak Anusheelan
40	Sangeetha Nair		Dr. N. G. Devaki	Adhunik Hindi Kavayitriyon Ki Kavitaon Ka Vishleshnatmak Adhyayan



41	Aparna Venu		Dr. K. Ajitha	Bharatiya Mahila Rang Manch: Ek Adhyayan Hindi Aur Malayalam Ke Vishesh Sandarbh Mein
42	Salma Das P.		Dr. N. G. Devaki	Rajesh Joshi Aur Pawan Karan Ki Kavitaon Mein Abhivyakth Samajik Yatharth Ka Anusheelan
43	Sajana Beegum K. H.		Dr. K. Ajitha	Samakaleen Hindi-Malayalam Mahila Kahaneekarom Kee Kahaniyom Mein Prathirodi Chethana (1990 SE 2010 Tak Ki Kahaniyom Ke Vesesh Sandharbh Mein)
44	Mary Ria D'Couth		Dr. R. Sasidharan	Samakaleen Hindi Kahaniyon mein Nagar Jeevan Ki Abhivyakthi
45	Sariga I. V.		Dr. N. Mohanan	Prem Chand Ke Kadha Sahitya Ka Sampathi Shasthriya Vivechan
46	Geethu V. Krishnan		Dr. R. Sasidharan	Hindi Ke Jeevaniparak Upanyason Ka Vishleshanatmak Adhyan
47	Kanakalatha O.		Dr. N. Mohanan	Swayamprakash Ka Rachana Sansar
48	Reshmi Raveendran		Dr. K. Ajitha	Hindi Ke Natyaroopantarom Ki Samvedana Aur Sanrachna - Ek Vishleshnatmak Adhyayan
49	G. Sugida		Dr. K. Vanaja	Paristhitik Streevad Ke Sandarbh Mein Samakaleen Hindi Upanyas: Ek Adhyayan
50	Beena Pylee		Dr. K. Vanaja	Upanivesh Aur Navaupaniveshkaleen Stree Kendrit Hindi Upanyasom Ka Tulanatmak Adhyayan
51	Dhanya K. P.		Dr. K. Vanaja	Samakaleen Hindi Kavitha Ka Pravrutthigat Adhyayan (Nabbe Ke Baad Ki Kavithavom Ke Vishesh Sandarbh Mein)

5. Student Enrollment (2012 admission)

Sl. No.	Programme of Study	Men	Women	Total
1	M.A	1	26	27
2	M.Phil	1	9	10
3	Ph. D	0	7	7

**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. Research Facilities

a. Laboratories : Computer Lab

b. Library :

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 46,670 Journals : 56	

8. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Prof. Shivakumar Mishra	S.P. University Gujarat	Presented Key Note Address in Seminar On Ramvilas Sharma
2	Ambikasuthan Managad	Malayalam Laureate & Prof. of Malayalam NASCollege Kanhangad	Inaugurated Kerala Piravi Celebrations and made a speech on Parsisthityum Keralavum
3	Susheela Takbhaure	Hindi Laureate	Made speech on Woman & Dalit Discourse on 20/12/12
4	Kamal kumar	Hindi Laureate	Made a speech on Human Rights and Woman Literature 8/2/2012
5	Prof. Ramprakash	Prof. of S.V University Tirupati	Made a speech on Critic Ramvilas Sharma

9. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.		Lovely Varghese	Dr. N. G. Devaki
2		Surya L. S.	Dr. N. G. Devaki
3	Samakaleen Kavita Mein Paristitik Vimarsh	Remya P. R.	Dr. K. Ajitha



10. Publications

a. Papers

Sl. No.	Name of Paper
Dr. R. Sasidharan	
1	Paristhitik Sajagata Malayalam Kavita Mein Anuseelan vol -43 No.29 January 2013 (pp 300-315) Department of Hindi, CUSAT, Kochi – 22
	No Bar mein Abhivyakt Dalit Chetana Samakalika Hindi Dalit Katha : KathakalumPthanangalumSign Books Kozhikkode (ISSN - 978-93-80095-43-1)
Dr. N. G. Devaki	
1	Harit Ramayanam “ –Paristhitiki Ke Ke pariprekshya mein ; Anuseelan vol -43 No.29 January 2013 (pp 321-323) Department of Hindi, CUSAT, Kochi - 22
2	Sreelal shukla: ek antarang parichay 2013, Dept. of Hindi, Maharajas College, Ernakulam 682 011 pp 11-18.
3	‘Vaishik paridrishya mein raja bhasha karyakshetriy karmachariyon Ki Hindi Koden, Chirag, vol.2 – 2013 p.37
Dr. K. Vanaja	
1.	1. Edited journal – Samakaleen Alochana Mein Bharatiyata - Anuseelan 2. Upanyas mein Gandhi – Anthim Jen, Delhi 3. Hindi Nayi Sameeksha Main Bharateey Kavya Sasti Ki Talash, Anuseelan 4. Nirmal Verma Aur Gahan Paristitivad
Dr. K. Ajitha	
1.	Kuttippuram Palam – Paristitiki Ka Pahla Pat
2.	Antholan Dharmita aur dalit kavita –Samakaleen kavita ke Aayam
3	Samakaleen kavita mein gauv – Jan vikalp
4	Angare Kahani mein Dalit chetna –Samakaleen Hindi Dalit Kulam pata nangalum (ISSN - 978-93-80095-43-1)

b. Books

Sl. No.	Name of Book
1	Dr. R. Sasidharan (Ed) Samakalika Hindi Dalit Katha : KathakalumPthanangalum Sign Books Kozhikkode(ISBN 978-93-80095-43-1) Dakshin Mein Hindi Bhasha Aur Sahity : Disha Aur Dashaa (ED) Jawahar Pustakalay, Mathura (ISBN-978-81-8111-237-9)
2	Dr. N. Mohanan Samakaleen Hindi Upanyas – Vani Prakashan, New Delhi - 2013
3	Dr. K. Vanaja -Eco Feminism – published by Vani Prakashan, Delhi
4	Dr. K. Ajitha – Aswadan Ke Aayam

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. N. Mohanan	<ol style="list-style-type: none">1. UGC National Seminar conducted by CUSAT on ' Literature of Ramvilas Sharma2. National Seminar conducted by Sree Sankaracharya University, Regional Centre, Tirur on'Paristhitik Vimarsh'3. National Seminar conducted by Govt. Brennan College on 'Samakaleen Hindi Sahitya	Resource Person Resource Person
Dr. R. Sasidharan	<ol style="list-style-type: none">1. UGC National Seminar conducted by CUSAT on Literature of Ramvilas Sharma2. National Seminar conducted by Sree Sankaracharya University, Regional Centre, Tirur Dalit Vimarsh3. National Seminar conducted by Sree Sankaracharya University, Kalady On Samakalin kavita	Resource Person Resource Person Resource Person
Dr. N. G. Devaki	<ol style="list-style-type: none">1. Travelogues of Rahul Sankrityayan and SK Pottekkad – A comparative study' paper presented in the international conference at Department of comparative literature, Jadvpur University, Kolkata during 16-18 January 2013.2. Participated in the UGC National Seminar on Ramvilas Sharma Ka Rachana Sansar at Dept. of Hindi, Cochin University during 7-8 February 2013.	Paper Presentation Participant
Dr. K. Vanaja	<ol style="list-style-type: none">1. 9th World Hindi Conference held at Johannes Berg, South Africa in Sept. 20122. National Seminar conducted by Govt. Brennan College on 'Samakaleen Hindi Sahitya3. National Seminar conducted by Sree Sankaracharya University, Regional Centre, Tirur on'Paristhitik Vimarsh'4. National Seminar conducted by Sree Sankaracharya University, Regional Centre, Thiruvananthapuram on Paristhitiki5. UGC National Seminar conducted by CUSAT on ' Literature of Ramvilas Sharma	Honored Participant Participant Participant Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. Ajitha	1. UGC National Seminar on Hindi Sahitya Aur Dalit Vimarsh, Dept. of Hindi, SSUS Regional centre, Panmana	Resource Person
	2. UGC National Seminar on Ramvilas Sharma Ka Rachana Sansar, Dept. of Hindi, Kerala University	Resource Person
	3. UGC National Seminar on Samakaleen Kavita Ke Aayam, Dept. of Hindi, SSUS Kalady	
	4. UGC National Seminar on Ramvilas Sharma, Dept. of Hindi, CUSAT	
	5. UGC Workshop on capacity building for women managers in higher education's women's study centre, CUSAT	
	6. UGC workshop on research methodology Dept. of Hindi, SSUS Kalady	

12. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. K. Vanaja	9th World Hindi Conference held at Johannes Berg, South Africa on Sept. 2012	Govt. of India
Dr. N. Mohanan	National Award for the writers of non-Hindi speaking areas Hindi Writer	Central Hindi Directorate, New Delhi (MHRD)

13. Research Programmes and Activities

Sl. No.	Problem / Topic	Investigator(s)
1.	DRS III Level Assistance (SAP-UGC) 5 year Project (2007 - 2012)	Dr. N. Mohanan

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

Sl. No.	Title	Duration	Chairman/Coordinator	Funding Agency
1	Ramvilas Sharma Ka Rachana Sansar		Dr. K. Vanaja, Prof., Department of Hindi	UGC
2	Hindi day Celebration	One Day	Chatra Parishad & Hindi Dept	CUSAT
3	Kerala Piravi Aghosham	One Day	Dept of Hindi	CUSAT





DEPARTMENT OF INSTRUMENTATION

1. Brief History

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 has been 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. 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

5. 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
4	Technical Assistant Grade III	2
5	Technician IV	3
6	Technician III	1
7	Technician II	1
8	Technician I	4

6. Student Enrollment

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

7. 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. Johney 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



8. Research Facilities

a. Laboratories (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 : 2538 No. of Journals : 14	No. of Books : 384 No. of Journals : 5

9. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Conduction in Polymeric Nanofluids and Nanosolids Controlled by Interfacial Scattering: Solutions to some selected Problems	Ms. Nisha M. R.	Dr. Jacob Philip
2	Preparation and Characterization of High-k Aluminum Oxide Thin films by Atomic Layer Deposition for Gate Dielectric Applications	Ms. Anu Philip	Dr. K. Rajeev Kumar

10. Publications

a. Papers

Sl. No.	Name of Paper
1	"Synthesis of ZnO nanostructures using domestic microwave oven based remote plasma deposition system; Rehna Raj T, K.Rajeev Kumar, Nanoscience and Nanotechnology, 2012, 2(3):66-70

**11. Sponsored Research Projects**

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Design and fabrication of a Microwave Plasma Assisted Atomic Layer Deposition System, characterization of plasma parameters and investigations on the effect of plasma parameters on the properties of nano layers of pseudo binary oxide high-k dielectrics deposited by the same.	DST	17,83,720	Dr. K. Rajeev Kumar
2	Preparation of high-k polymer thin films loaded with ceramic nano particles by microwave assisted plasma polymerization for application in flexible thin film transistors.	UGC	7,28,500	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. Johney Isaac

12. 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) KKTU College, Kodungalloor	Author & Presenter (Dec.2013)
Mohammed Abdul Rahman	Current advancements in Communication, control & Instrumentation Engineering	Author & Presenter

16. 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





DEPARTMENT OF MARINE BIOLOGY, MICROBIOLOGY & BIOCHEMISTRY

1. Brief History

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

- i. M.Sc Marine Biology ii. M.Phil. Life Sciences iii. PhD.

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. Babu Philip	Professor	M.Sc. Ph.D	Marine Biochemistry
3.	Dr. A. V. Saramma	Professor	M.Sc. Ph.D	Microbiology
4.	Dr. Mohamed Hatha A. A.	Associate Professor	M.Sc. Ph.D	Fish Pathology & Nutrition
5.	Dr. S. Bijoy Nandan	Associate Professor	M.Sc. Ph.D	Marine Ecology & Pollution
6.	Dr. Rosamma Philip	Asst. Professor	M.Sc. Ph.D	Marine Microbiology

4. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. Mujeeb Rahiman K. M.	Post Doctoral Fellow	M.Sc, Ph.D	Microbiology
2.	Dr. Prabhakaran M. P.	Research Associate	M.Sc, Ph.D	Marine Ecology

**5. 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	Marine Actinomycetes
8	Jisha Jose	University	Prof. Dr. Babu Philip	Biochemical effects of Cadmium Chloride
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 and 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.	Project-DOD	Dr. Rosamma Philip	Antimicrobial peptides
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 Rosenbergi
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



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
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



6. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Section Officer (H.G)	1
2.	Selection Grade Assistant	1
3.	Office Superintendent	1
4.	Sr. Gr. Assistant	1
5.	Peon	1

7. Technical Personnel

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

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc Marine Biology	2	16	18
2	M.Phil Life Sciences	1	5	6
3	Ph.D	4	5	9

9. 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. Fermentation Unit
10. Vacuum Concentrators
11. PAGE apparatus
12. Spectrophotometers
13. PCR Machines
14. Deep Freezers
15. Microscopes
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 Chromatography
24. Microbeal ID System
25. Phase Contrast Microscope
26. Blood Analyser (Biochemical Analyser)
27. Microbial identification system
28. Gel Documentation system

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Prof. Syed Hashsham	Michigan State University, USA	Gave lecture on Environmental Genomics

11. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Biology of flat Toadfish, <i>colletteichthys Dussumieri</i> (Valenciennes, 1837) of Cochin Estuary	Roja Sebastian	Dr. K. Y. Mohammed Salih
2.	Microalgal Vegetation in the Selected Mangrove Ecosystems of Kerala.	Rejil T.	Dr. K. J. Joseph
3.	Marine Micro Algae in the EEZ of India.	Harikrishnan E.	Dr. K. J. Joseph
4.	Investigations on Pheaocystis sp., a harmful bloom forming alga isolated from Cochin estuary.	Sini P. J.	Dr. A. V. Saramma



5.	Pyocyanin (5-methyl-1-hydroxyphenazine) produced by <i>Pseudomonas aeruginosa</i> as antagonist to vibrios in aquaculture: Overexpression, downstream process and toxicity.	Priyaja P.	Dr. Rosamma Philip
6	Macrobenthos of continental margin (200-1000m) of South Eastern Arabian Sea with special reference Polychaetes.	Abdul Jaleel K. U.	Dr. R. Damodaran
7	Process optimization for the production of enzymes and antibacterials from a marine fungus, <i>Penicillium citrinum</i> S36 through solid state fermentation.	Smitha S. L.	Dr. Rosamma Philip

12. Publications

a. Papers

Sl. No.	Name of Paper
1	S. Bijoy Nandan and Nimila P. J. 2012. Lindane toxicity: histopathological, behavioural and biochemical changes in <i>Etroplus maculatus</i> (Bloch, 1795). <i>Marine Environmental Research</i> , 76: 63-70. (Publisher: Elsevier, U.K.) Impact factor: 2.276.
2	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. <i>Oceanologia</i> , Vol. 55(1), 1-20. (Publisher: Polish Academy of Sciences) Impact factor 1.439
3	S. Bijoy Nandan and B. Girish Kumar 2012 Physiological and histopathological responses to sublethal concentrations of copper in the teleost fish, <i>Anabas testudineus</i> (Bloch -1972), Presented in the 5th Bilateral Seminar Italy-Japan (BSIJ) titled "Physical and Chemical Impacts on Marine Organisms: for the sustainable quality of human society dependent on marine environment held in Palermo, Italy 27-28-29 November 2012, organized by Consiglio Nazionale delle Ricerche Istituto di Biomedicina e Immunologia Molecolare "Alberto Monroy.
4	S. Bijoy Nandan and Ciji P. P., 2012, Toxicity due to copper and zinc on the fish <i>Puntius parrah</i> (Day, 1865), Presented in the 5th Bilateral Seminar Italy-Japan (BSIJ) titled "Physical and Chemical Impacts on Marine Organisms: for the sustainable quality of human society dependent on marine environment held in Palermo, Italy 27-28-29 November 2012, organized by Consiglio Nazionale delle Ricerche Istituto di Biomedicina e Immunologia Molecolare "Alberto Monroy, (Under publication in MER, Elsevier)
5	P. R. Jayachandran, S. Bijoy Nandan, O. K. Sreedevi, V. F. Sanu 2013, Influences of Environmental Factors on Fish Assemblage in the Tropical Estuary of South West Coast of India, A Case Study of Kodungallur-Azhikode Estuary, <i>International Journal of Marine Science</i> , Vol. 3, No. 2, P:4-16. (Publisher: Biopublisher, Sophia publishers, Canada).



6	Prabhakaran M. P., P. R. Jayachandran and S. Bijoy Nandan 2013, New record of Ocean Turf Grass <i>Halophila beccarii</i> Ascherson, 1871 from a restored mangrove ecosystem of Koduvally Estuary, Southwest coast of India, <i>Botanica Marina</i> (in press), (Publisher: De Gruyter, Germany) Impact factor 1.628.
7	P. R. Jayachandran, S. Bijoy Nandan, O. K. Sreedevi, V. F. Sanu 2013, Influences of Environmental Factors on Fish Assemblage in the Tropical Estuary of South West Coast of India, A Case Study of Kodungallur-Azhikode Estuary, <i>International Journal of Marine Science</i> , Vol. 3, No. 2, P:4-16, (Publisher: Biopublisher, Sophia publishers, Canada).
8	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> , (Accepted - in press). (Publisher: National Institute of Science Communication & Information Resources, CSIR, Govt. of India, New Delhi) Impact factor: 0.422.
9	S. Bijoy Nandan, C. M. Sumitha and Gireesh Kumar 2013 Ecotoxicological Effects of Manganese on the Cellular and Humoral factors of <i>Oreochromis mossambicus</i> (Peters, 1852), <i>Pollution Research</i> , (3): (In press)
10	Selven Subramonian and Rosamma Philip 2012. Pharmacological level of copper induces the immune and antioxidant mechanisms of <i>Fenneropenaeus indicus</i> conferring better protection against white spot syndrome virus infection. <i>Aquaculture International</i> 20, 635-647.
11	Sreedharan K., Rosamma Philip. and Bright Singh I. S. 2012 Virulence potential and antibiotic susceptibility pattern of motile aeromonads associated with freshwater ornamental fish culture systems: a possible threat to public health. <i>Brazilian Journal of Microbiology</i> . 42 (2), http://dx.doi.org/10.1590/S1517-83822012000200040 .
12	Seena Jose, P. Jayesh, N. S. Sudheer, Gigi Poulouse, A. Mohandas, Rosamma Philip & I. S. Bright Singh. 2012. Lymphoid organ cell culture system from <i>Penaeus monodon</i> (Fabricius, 1798) as a platform for white spot syndrome virus and shrimp immune related gene expression. <i>Journal of Fish Disease</i> , doi:10.1111/j.1365-2761.01348.X
13	Sudheer N. S., Rosamma Philip and I. S. Bright Singh. (2012). Anti white spot syndrome virus activity of <i>Cerriops tagal</i> aqueous extract in giant tiger shrimp <i>Penaeus monodon</i> . <i>Archives of Virology</i> 157(9),1665-75
14	Swapna P. Antony, Rosamma Philip, T. P. Sajeevan, Simi P. Joseph and I. S. Bright Singh 2012 Differential Expression of Antimicrobial Peptides in <i>Penaeus Monodon</i> in Response to the Administration of Marine Yeasts/ α Glucans and White Spot Virus challenge. <i>Blue Biotechnology Journal</i> . Volume 1 (1)
15	Afsal V. V., Swapna P. Antony, V. N. Sanjeevan, P. R. Anil Kumar, I. S. Bright Singh, Rosamma Philip 2012 A new isoform of Anti lipopolysaccharide factor identified from the blue swimmer crab, <i>Portunus pelagicus</i> : Molecular characteristics and phylogeny. <i>Aquaculture</i> 356-357: 119-122.
16	Afsal V. V., Swapna P. Antony, E. R. Chaithanya, I. S. Bright Singh, Rosamma Philip 2012. Two isoforms of antilipopolysaccharide factors identified and characterized from the haemocytes of portunid crabs, <i>Portunus pelagicus</i> and <i>Scylla tranquebarica</i> <i>Molecular Immunology</i> 52: 258-263.



17	Selven Subramonian and Rosamma Philip 2012 Salinity induced Haematological inflection in Indian White shrimp, <i>Fenneropenaeus indicus</i> (H.Milne Edwards, 1837) <i>Asian Fisheries Science</i> 25: 170-179.
18	Naveen Satyan, Rosamma Philip, E. R. Chaithanya, P. R. Anil Kumar Swapna P. Antony Identification of a histone derived putative antimicrobial peptide Himanturin from Round whip ray <i>Himantura pstitacoides</i> and its phylogenetic significance. <i>Results in Immunology</i> 2: 120-124.
19	Anil Kumar, Deepthi Augustine, Asmita Mehta, Kavitha R. Dinesh, Darsana Viswam, Rosamma Philip. 2012 <i>Leuconostoc garlicum</i> : An unusual pathogen in the era of vancomycin therapy. <i>The Indian Journal of Chest Diseases and Allied Science</i> 54:127-130
20	Jayesh P., Jose S., Rosamma Philip, Singh I. S. B. (2012) A novel medium for the development of in-vitro cell culture system from <i>Penaeus monodon</i> . <i>Cytotechnology</i> DOI 10.1007/s10616-012-9491-9.
21	Naveen Sathyan, Rosamma Philip, E. R. Chaithanya and P. R. Anil Kumar 2012 Identification and molecular characterization of Molluskin a histone derived antimicrobial peptide from molluscs <i>ISRN Molecular Biology</i> . Article ID 219656. 6 pages doi: 10.5402/2012/219656.
22	Naveen Sathyan, Rosamma Philip, E. R. Chaithanya, P. R. A. Kumar, S. P. Antony, I. S. B. Singh. 2012. Identification of a putative antimicrobial peptide sequence, Sunettin from marine clam, <i>Sunetta scripta</i> . 1(3), 397-403.
23	Chaithanya E. R., Rosamma Philip, Naveen Sathyan, and P. R. Anil Kumar, Swapna P. Antony, V. N. Sanjeevan I. S. Bright Singh 2012 A novel isoform of the hepatic antimicrobial peptide, hepcidin (Hep-CB1) from a Deep sea fish, the Spinyjaw Greeneye <i>Chlorophthalmus bicornis</i> (Norman, 1939): Molecular Characterisation and phylogeny. <i>Probiotics and Antimicrobial peptides</i> DOI: 10.1007/s12602-012-9120-0.
24	Selven Subramonian and Rosamma Philip (2013) Salinity a significant environmental factor for <i>Vibrio harveyi</i> virulence in <i>Fenneropenaeus indicus</i> <i>Aquaculture Research</i> 44, 747-759.
25	Divya T. Babu, Swapna P. Antony, Simi P. Joseph, Ann Rose Bright, Rosamma Philip 2013 Marine yeast <i>Candida aquaetextoris</i> S527 as a potential immunostimulant in black tiger shrimp <i>Penaeus monodon</i> 112: 243-252.
26	Chaithanya E. R., 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 <i>ISRN Molecular Biology</i> . Volume 2013, Article ID 185807, 7 pages http://dx.doi.org/10.1155/2013/185807 .
27	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 <i>Aquaculture International</i> . DOI 10.1007/s10499-013-9621-1



28	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 and Biodegradation</i> 78:74-81.
29	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. <i>Advances in Applied Science Research</i> , 2013, 4(2):119-133.
30	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. <i>Blue Biotechnology Journal</i> Vol 1 (4): 473-480.
31	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. <i>Current Science</i> , 104 (8): 1078-1080.
32	S. Shyam Kumar and A. V. Saramma. (2013) A revised method for pigment extraction from marine nanoplanktonic algal cultures. <i>Journal of Algal Biomass Utilization</i> , 4(2), 47-52.
33	Neethu C. S., Mujeeb Rahiman K. M., Krishnan K. V., Saramma A. V., and Mohamed Hatha A. A. (2012) Substrate specificity of cold active lipases of Psychrotrophic bacteria from Kongsfjord and its partial purification. <i>Advanced Biotech.</i> Vol. 12, Issue 011, July 2012.
34	S. Shyam Kumar and A. V. Saramma. (2012) Nitrate and phosphate uptake by immobilized cells of <i>Synechocystis salina</i> Wislouch. <i>Eco. Env. & Cons.</i> 18(1): pp.65-69.
35	S. Shyam Kumar and A. V. Saramma. (2012) Nitrate and phosphate uptake by immobilized cells of <i>Gloeocapsa gelatinosa</i> . <i>J. Mar. Biol. Ass. India</i> , 54(1), 119-122.
36	Mujeeb Rahiman K. M., Sarita G., Hatha A. A. M., and A. V. Saramma (2012). Characterisation and bioprospecting of cold adapted yeast from water samples of Kongsfjord, Norwegian Arctic. <i>Proceedings of 24th Kerala Science Congress</i> , 29-31 January, 2012, RRII, Kottayam, pp 502-504.
37	Mujeeb Rahiman K. M., Deborah A., Hatha A. A. M. and A. V. Saramma (2012). Bacteriological quality of water, sediment and shrimp samples from seasonal and perennial shrimp ponds along Cochin backwater, Kerala. <i>Proceedings of Shrimp Aquaculture: Challenges and Innovative Solutions</i> . 25-26 January, 2012, Bharathidasan University, Thiruchirappally, pp 53-54.
38	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. <i>Current Science</i> , 104 (8): 1078-1080. (Impact Factor., 0.935)



39	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> (In Press) doi:10.2166/wh.2013.221(Impact Factor., 1.367)
40	Jesmi Y., Mujeeb Rahiman K.M., Hatha A. A.M., Deepu Lal and Jyothi S. (2013) Risk assessment of rooftop collected rainwater for individual household and community use in Central Kerala, India. <i>Journal of Environmental Health</i> (In Press). (National Environmental Health Association, USA, I.F., 0.9)
41	Divya P. S., Srinivasan D. and Hatha A. A.M. (2012) Antibiotic resistance of <i>Escherichia coli</i> serotypes from Cochin estuary. <i>Interdisciplinary Perspectives on Infectious Diseases</i> . Article ID 124879, 7 pages. doi:10.1155/2012/124879 (Open Access Journal, Hindawi Publications)
42	Deborah Gnanaselvam, K. M. Mujeeb Rahiman and A. A. M. Hatha (2012) An investigation into occasional white spot syndrome virus (WSSV) outbreak in traditional paddy-cum prawn fields of India. <i>The Science of the World Journal</i> (Volume 2012, Article ID 340830, 11 pages. doi:10.1100/2012/340830.(Open Access Journal, Impact factor 1.54)
43	Reema Singh, Vinay Narayan, Patricia McLenachan, Richard C. Winkworth, Suparna Mitra, Peter J. Lockhart, Lorraine Berry, Abdulla M. Hatha, William Aalbersberg and Dhana Rao (2012) Detection and diversity of pathogenic vibrios from Fiji. <i>Environmental Microbiology Reports</i> . doi:10.1111/j.1758-2229.2012.00344.x (Wiley Online. Impact Factor – 3.07)
44	Sanilkumar, M. G., Anit M. Thomas, K. C. Vijayalakshmi, A. V. Saramma and A. A. M. Hatha (2012) <i>Chattonella marina</i> bloom in the coastal sea off Mahe, Southwest India. <i>Current Science.</i> , 103 (6), Pp: 623-625. (Impact Factor., 0.935)
45	Sudha S., Divya P. S., Bini Francis and A. A. M. Hatha (2012) Prevalence and distribution of <i>Vibrio parahaemolyticus</i> in finfish from Cochin (South India). <i>Veterinaria Italiana</i> , 48(4): 269-281. (Impact Factor – 0.7)
46	George M., Anjumol A., George G. and A. A. M. Hatha (2012) Distribution and bioactive potential of soil actinomycetes from different ecological habitats. <i>African Journal of Microbiology Research</i> , 6 (10): 2265-2271. Doi. 10.5987/AJMR11.856. (Academic Journals. Impact Factor – 0.533)
47	Neethu, C. S., Mujeb Rahiman K. M., Krishnan K. P., Saramma A. V and A. A. M. Hatha. (2012) Substrate specificity of cold active lipase of psychrotrophic bacteria from Kongsfjord and its partial characterisation. <i>Advanced Biotech.</i> , 12: 28-31.
48	Varghese R., Suchitra R., Nishamol S. and A .A. M. Hatha (2012) Spatial and temporal variation of microbial population in the grassland soils of tropical montane forest: Influence of soil physico-chemical characteristics and nutrients. <i>Journal of Advances in Developmental Research</i> : 3(1): 1-7.
49	Nifty John and A. A. M. Hatha (2012) Prevalence, distribution and drug resistance of motile aeromonads in freshwater ornamental fishes. <i>Indian Journal of Fisheries</i> : 59(2): 161-164.(Indian Council of Agricultural Research, I.F. 0.4)



50	Rinoy Varghese and A. A. M. Hatha (2012) Significance of soil microorganisms with special reference to climate change. <i>Indian Journal of Education and Information Management</i> , 1(3): 130-134.
51	Rinoy Varghese, Nishamol S., Suchitra R. and A. A. M. Hatha (2012) Biochemical and physiological characteristics of actinomycetes isolated from high altitude shola soils of tropical Montane forest. <i>Indian Journal of Innovations and Developments</i> , 1(3): 142-144.
52	Krishna M. P., Rinoy Varghese and A. A. M. Hatha (2012) Depthwise variation of microbial load in the soils of region of Kerala: a function of important soil physico-chemical characteristics and nutrients. <i>Indian Journal of Education and Information Management</i> , 1(3): 126-129.
53	Jyothi S., Abhirosh Chandran, Anju Abbas and A. A. Mohamed Hatha (2012) Survival of <i>Escherichia coli</i> , <i>Aeromonas hydrophila</i> and <i>Pseudomonas fluorescens</i> in Bottled Water and Biofilms. <i>Journal of Natural Science and Sustainable Technology</i> , 6(1): page no.s to be given.(Nova Publishers Inc., Canada)
54	a. Suchitra Varior & Babu Philip, "Aflatoxin B1 induced Alterations in the Stability of the Lysosomal Membrane in <i>Oreochromis mossambicus</i> (Peters, 1852), <i>Aquaculture Research</i> (Blackwell Pub.) 43: 1170-1175 (2012).
55	b. Rema. L. P. & Babu Philip, "Effect of mercury and zinc on some metabolically important enzymes of <i>Oreochromis mossambicus</i> ; <i>Indian Journal of Geo- Marine Sciences</i> , 41(3),377-380, 2012.
56	c. Remya Varadarajan, Jisha Jose, HariSankar H. S. and Babu Philip, "Haematological and Ionic Alterations in <i>Oreochromis mossambicus</i> (Peters) induced by phenolic compounds. <i>Journal of Aquatic Biology & Fisheries</i> , 2013.
57	d. Smitha V. Bhanu, Hari Sankar H. S. and Babu Philip, "Effect of Ethanol on Membrane Stability in <i>Oreochromis mossambicus</i> (Peters) (In vitro and In vivo conditions). <i>International Journal of Agriculture, Environment and Biotechnology-Special Issue</i> (2013).
58	e. HariSankar H. S., Smitha V. Bhanu, Jisha Jose, Remya Varadarajan and Babu Philip, "Functional Zonation of Different Digestive Enzymes in <i>Etroplus suratensis</i> and <i>Oreochromis mossambicus</i> ," <i>Fish Physiology and Biochemistry</i> (under review).

Publications in proceedings by faculty during 2012-13

Sl. No.	Name of Paper
1.	Akhilesh Vijay, S. Bijoy Nandan and E. J. Zachariah. 2013, Methane Emission from Organic and Fertilizer aided rice Paddy at different growth stages of Rice Cultivation from Padayatti Wetland, Palakkad <i>Proceedings of the 25th Kerala Science Congress</i> , 18-20.



b. Books

1	S. Bijoy Nandan 2012. <i>Field Guide to the identification of backwater fishery resources</i> , ISBN: 978-93-80095-33-2, 131 P. (Cost: Rs.350/-), (Publisher: Cochin University of Science & Technology, Cochin)
2	Mujeeb Rahiman K. and Mohamed Hatha A. A. 2012. Environmental Microflora of <i>Macrobrachium rosenbergii</i> . ISBN 978-3-8473-4393-4. Publisher: Lambert Academic Publishing, GmbH & Co., Germany. 262 pages. Price; 70 Euros.
3	Harsha H. T. and Mohamed Hatha A. A. 2012. Prevalence, drug resistance and Survival of Salmonella in Eggs. ISBN 978-3-659-00029-4. Publisher: Lambert Academic Publishing, GmbH & Co., Germany. 262 pages. Price; 62 USD.
4	Hatha A. A. M. (2012) Microbial Enzymes as an effective tool in bioremediation of polluted soil and water ecosystems. Book Chapter in Green Chemistry. Editors: Anuradha Mishra and Abha Dubey. (World Education Publishers, Delhi, India)
5	Chandran Abhirosh, Asit Mazumder, Sherin Varghese, A. P. Thomas and A. A. M. Hatha (2012) Influence of a salt water regulator on the survival response of <i>Salmonella paratyphi</i> in Vembanadu Lake: India. Book chapter in 'Salmonella – Diversified Superbug'. Pp: 1-16. ISBN 978-953-307-781-9. (In-Tech Publishers, Croatia)
6	S. Bijoy Nandan, Asha C.V., Akhilesh Vijay, Jayachandran P. R. 2013, Benthic faunal assemblage, diversity and time scale changes in ice cold Konjsfjorden Arctic systems In : <i>Climate Change and Himalayas</i> , J. Sundaresan, Pankaj Gupta, K.M Santosh and Ram Boojh (eds.), Scientific Publishers (India) p: 184-190, (Publisher: Scientific Publishers (India)
7	S. Bijoy Nandan 2013, <i>Retting of coconut husk in the coastal water bodies of South west coast of India – An ecological Perspective</i> , In: Discover Potential of Coconut Fibre – A Monograph to be published by National Institute of Research on Jute and Allied Fibre Technology, Indian Council of Agricultural Research, Kolkata as a part of the publication of National Agricultural Innovation Project. (in press). (Publisher: Indian Council of Agricultural Research)

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
S. Bijoy Nandan	5th Bilateral Seminar Italy-Japan (BSIJ) titled "Physical and Chemical Impacts on Marine Organisms: for the sustainable quality of human society dependent on marine environment held in Palermo, Italy 27-28-29 November 2012, organized by Consiglio Nazionale delle Ricerche Istituto di Biomedicina e Immunologia Molecolare "Alberto Monroy.	Presentation

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

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. Mohamed Hatha	Fulbright Fellowship 2012: Fulbright – Nehru Visiting Fellowship for 2012-13 period	United States India Educational Foundation
Dr. S. Bijoy Nandan	June 2012: Received the CUSAT grant for authoring the University publication <i>Field Guide to the identification of backwater fishery resources</i> vide PI(UGC) 2/31060/ 11-12 dtd. 27-03-2012: Amount: Rs. 20,000/-	

15. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount in lakhs	Investigator(s)
1	Bioactive peptides from marine organisms and novel genes for commercially important enzymes from mangrove microbes	Ministry of Earth Sciences	120	Dr. Rosamma Philip
2	Carbon Dynamics and budgeting in Wetland ecosystems and its Possible Influence on Livelihood Activities.	Dept. of Environment & Climate Change, Govt. of Kerala	65.12	Dr. S. Bijoy Nandan
3	Systematics and molecular phylogeny of pelagic copepods (Crustaceans) from the coastal wetlands of South West Coast of India	University Grants Commission	12.24	Dr. S. Bijoy Nandan
4	Taxonomy and Genetic Characterization of Pelagic Copepods (Crustacea) from the Marine waters of the South West Coast of India	Department of Biotechnology, Govt. of India.	42.22	Dr. S. Bijoy Nandan
5	Sea Water Quality Criteria - Toxicity Effects of Selected Heavy Metals and Pesticides on Marine Organisms.	Integrated Coastal Marine Area Management (ICMAM) – Ministry of Earth Sciences, Govt. of India	230	Dr. S. Bijoy Nandan
6	Role of microbenthos in remineralisation of shelf sediments along Kerala coast	Ministry of Earth Sciences	70	Dr. A. A. Mohamed Hatha



7	Marine Biodiversity along Kerala Coast	Ministry of Earth Sciences	60.5	Dr. A. A. Mohamed Hatha
8	Monitoring of Harmful Algal Blooms along Kerala coast	Ministry of Earth Sciences	79.5	Dr. A. V. Saramma
9	Bioactive peptides from marine organisms and novel genes for commercially important enzymes from mangrove microbes	Ministry of Earth Sciences	120	Dr. Rosamma Philip

16. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1	Antimicrobial peptides from marine biota	Dr. Rosamma Philip
2	Microbenthos in the SE and SW coast of India	Dr. Rosamma Philip
3	Marine microbes and their applications in aquaculture	Dr. Rosamma Philip
4	Marine Endophytes	Dr. Rosamma Philip
5	Harmful algal blooms	Dr. A. V. Saramma
6	Bioactive Compounds	Dr. A. V. Saramma
7	Fish Pathology	Dr. A. A. Mohamed Hatha
8	Psychrophilic bacteria	Dr. A. A. Mohamed Hatha
9	Microbial diversity in the environment and biogeochemical cycles	Dr. A. A. Mohamed Hatha
10	Probiotics	Dr. A. A. Mohamed Hatha
11	Marine Ecology- monitoring and modeling ecosystems, community studies, fishery biology, ecotoxicology	Dr. S. Bijoy Nandan
12	Aquaculture	Dr. Aneykutty Joseph
13	Marine Toxicology	Dr. Babu Philip

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	National Seminar on Health and Environment held at School of Marine Sciences, CUSAT organized by Swasraya Bharat, 2012, Swadeshi Science Movement and School of Marine Sciences, School of Industrial Fisheries, Cochin University of Science & Technology	23 January 2013	Dr. S. Bijoy Nandan	KSCSTE, DECC, MOES, KSPCB



2	Marine Bioactive compounds held at School of Marine Sciences organized by Swasraya Bharat, 2012, Swadeshi Science Movement and School of Marine Sciences, Cochin University of Science & Technology	15 January 2013		KSCSTE, DECC, MOES, KSPCB.
3	Wetland Fisheries held at Central Institute of Fisheries, Nautical & Engineering Training (CIFNET) organized by Swasraya Bharat, 2012, Swadeshi Science Movement and School of Marine Sciences, Cochin University of Science & Technology	18 January 2013		KSCSTE, DECC, MOES, KSPCB.
4	Seminar and Lab to Field Programme on Mangrove Propagation and Conservation held at Mangalavanam, Cochin and School of Marine Sciences, CUSAT organized by Dept. of Marine Biology, Microbiology & Biochemistry, Cochin University of Science & Technology	12 July 2012		Directorate of Environment & Climate Change, Govt. of Kerala and Kerala State Pollution Control Board.
5	UGC sponsored National Seminar on 'Bioinformatics in Marine Biology: Next Generation Sequencing Technologies and Applications'	26 th March 2013		





DEPARTMENT OF MARINE GEOLOGY & GEOPHYSICS

1. Brief History

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

- i. M.Sc Marine Geology ii. M.Sc Marine Geophysics iii. 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. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. K. T. Damodaran	U.G.C. Visiting Professor	Ph.D.	Mineral Resources and Geochemistry

**5. Research Scholars**

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Jishnu B. K.	DST	Dr. C. G. Nambiar	Trace element Geochemistry 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
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, Minerology, 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 of Basins Southern India.

6. Administrative Personnel

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



7. Technical Personnel

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

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	II Marine Geology	4	7	11
2	IV Marine Geology	3	5	8
3	II Marine Geophysics	10	2	12
4	IV Marine Geophysics	2	8	10

10. 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 Diffractrometer
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. Section Cutting and Grinding Machine
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

**10. Distinguished Visitors**

Sl. No.	Name	Affiliation	Remarks
1.	Prof. B. Mahabaleswar	Geological Society of India	For Prof. Kurien Jacob Memorial Lecture on 26th March 2013

11. Publications**a. Papers**

Sl. No.	Name of Paper
1	A Numerical Weighted Parameter Rating (WPR) for artificial ground water recharging in Bharathapuzha River basin: Southern India – Author:- Sreela Reghu, Reji Srinivas, Girish Gopinath, Rajesh Reghunath & Kurian Sajan, International Journal of Earth Sciences & Engineering - Vol. 5 (2) PP.268 - 275

b. Books

Sl. No.	Name of Book
1	Contributed four chapters in the book – “Sastram Ethra Lalitham” – Dr.K.R. Baiju published by D.C. Books, Kottayam.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. R. Baiju	THERMOCALC workshop at IIT Khoregpur 8 – 10 January 2013	Participant
Dr. K. R. Baiju	Workshop on “Precambrian Plate Tectonics: Recent advances from southern India and East Antarctica” on 3 rd January 2013 at Department of Geology, University of Kerala, Thiruvananthapuram	Participant
Mr. B. K. Jishnu	Geochemical Modeling, 14-17 January 2013 at NGRI, Hyderabad	Participants

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	B. P. Radha Krishna Memorial Lecture	18th Feb. 2013	Dr. K. R. Baiju	Nil
2.	Kurian Jacob Memorial Lecture	26th Mar. 2013	Dr. K. R. Baiju	KSCSTE





DEPARTMENT OF MATHEMATICS

1. Brief History

The combined Department of Mathematics and Statistics came in to 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 and 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	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. 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. Krishnamoorthy	Stochastic Modelling
7.	Satheesh Kumar S.	-	Dr. M. N. Narayanan Namboodiri	Acoustic Modelling using Wavelets
8.	Bittu L. Lambi	-	Dr. M. N. Narayanan Namboodiri	Solution to differential equation using wavelets
9.	Susan Mathew Panakkal	-	Dr. M. Jathavedan	Fluid Mechanics
10.	Viji M.	-	Dr. R. S. Chakravarti	Studies on some Non Commutative rings
11.	Sathian M. K.	-	Dr. A. Krishnamoorthy	Stochastic modeling analysis and application
12.	Pravas K.	-	Dr. A. Vijayakumar	Some problems in graph theory and related topics
13.	Anusha A. K.	-	Dr. B. Lakshmy	Stochastic Modelling and its Application
14.	Didimos K. V.	-	Dr. R. S. Chakravarti	Theories of Matter, Spinors & Geometric Algebra
15.	Rajeena Margret V. J.	-	Dr. T. P. Johnson	Some Problems in algebra, Topology
16.	Vinitha T.	-	Dr. T. P. Johnson	Some Problems in Topology Analysis.
17.	Elizabeth Reshma M. T.	-	Dr. T. P. Johnson	Some Problems in Analysis Lattice Theory Topology.
18.	Binitha Benny	-	Dr. A. Krishnamoorthy	Stochastic Modelling
19.	Vijayagovindan C.	-	Dr. A. Krishnamoorthy	Stochastic Modelling
20.	Manjunath A. S.	-	Dr. A. Krishnamoorthy	Stochastic Modelling and Analysis



21.	Anu Varghese	-	Dr. A. Vijayakumar	Some Problems in Algebraic Graph Theory
22.	Deepthi C. P.	-	Dr. A. Krishnamoorthy	Stochastic modeling analysis and application
23.	Jaison Jacob	-	Dr. B. Lakshmy	Stochastic Modelling
24.	Savitha K. S.	-	Prof. A. Vijayakumar	Some Problems in Graph Theory and Interconnection Networks
25.	Sindhurani P. J.	-	Dr. T. P. Johnson	Indian Contributions to Studies on Algebra with special reference to Intermittent Equations
26.	Divya V.	-	Prof. A. Krishnamoorthi	Stochastic Modelling
Full-time				
1.	Manikandan R.	UGC	Dr. A. Krishnamoorthy	Stochastic modeling and analysis
2.	Chitra M. R.	CUSAT	Dr. A. Vijayakumar	Some problems in Graph Theory
3.	Jayaprasad P. N.	UGC-FIP	Dr. T. P. Johnson	Topology
4.	Raji George	FIP	Dr. T. P. Johnson	Some Problems in Fuzzy Set Theory and Related Topics
5.	Pamy Sebastian	FIP	Dr. T. P. Johnson	Some Problems in Fuzzy Set Theory and Related Topics
6.	Tijo James	NBHM	Dr. A. Vijayakumar	Graph Classes
7.	Seethu Varghese	KSCSTE	Dr. A. Vijayakumar	Cartesian Product of Graphs
8.	Dhanya Shajin	DST PURSE	Dr. B. Lakshmy	Stochastic Processes
9.	Balesh K.	CSIR	Prof. P. G. Romeo	Structure of Semigroups with Involutions
10.	Akhila R.	KSCSTE	Prof. P. G. Romeo	A Study of the Structure of Semirings.

5. Administrative Personnel

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



6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc Mathematics	10	52	62
2	M.Phil (Maths)	3	18	21
3	Ph.D.	26	10	36

7. Research Facilities

a. Laboratories

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
8957	300

8. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Prof. M. Thampan Nair Dept. of Mathematics IIT Madras, Chennai.	Prof. Abdi Memorial Lecture "IL Posedness of Compact Operator Equations".	25 th September 2012
2.	Prof. R. Balakrishnan Adjunct Professor Dept. of Mathematics Bharathidasan University Tiruchirappally.	A Survey on Graph Colorings. Some of the topics that are likely to be covered are : Graph Homomorphism, Interpolation Theorems for Graph Colouring, b-colouring & fall coloring.	4 th October 2012
3.	Prof. Ashwin Gansan Asst. Professor Dept. of Mathematics Amrita School of Engg. Amrita University.	Automorphism Groups of Graph.	4 th January 2013



Sl. No.	Name	Affiliation	Remarks
4.	Prof. M. R. Adhikari Professor in Pure Mathematics University of Calcutta.	Fundamental Groups and their Applications.	23 rd January 2013
5.	Dr. Kesavan IIMSc, Chennai.	Isoperimetric Inequalities.	10 th January 2013

9. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Queues with Customer induced Interruption"	Varghese Jacob	Prof. A. Krishnamoorthy
2.	"Queueing Models with Vacations and Working Vacations"	Sreenivasan C. Krishnamoorthy	Prof. A.
3.	"On (s,S) Inventory Policy with/without Retrial and Interruption of Service/ Production"	Sajeev S. Nair	Prof. A. Krishnamoorthy
4.	"Spectral Analysis of Bounded Self-Adjoint Operators – A Linear Algebraic approach"	Kiran Kumar V. B.	Dr. M. N. Narayanan Namboodiri

10. Publications

a. Papers

Sl. No.	Name of Paper
1.	M. N. N. Namboodiri, Geometric Theory of Weak Korovkin Sets, journal 'Operators and Matrices' Voluem 6, Number 2, June 2012, pp271-278.
2.	L.Golinski, K. Kumar, M. N. N. Namboodiri, S.Serra Capizano, A Note on Discrete Version of Borg's Theorem via Toeplitz-Laurent Operators with Matrix-Valued Symbols, Bulletin U.M.I. (9) 2013, PP 205-218 (Dr. M. N. N. Namboodiri).
3.	Biorordered sets and Von Neumann Algebras, Proceedings of the International Conference MSAST 2012, December 21-23, 2012, Kolkata, India, P.59-63. (Prof. P. G. Romeo).
4.	A revisit to queueing-Inventory system with positive service time (2013) – Annals Operations Research (Springer) (Dr. B. Lakshmy).



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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. M. N. Narayanan Namboodiri	Workshop on Geometric and Singular Analysis held at The Institut Fur Mathematik, Univ. Potsdam, Germany during March 25-29, 2013. The following reasearh work was presented; (1) MNNNamboodiri, Spectral-zeta Function for Operators in Hilbert spaces with Compact Inverse. (2) Scientific/collaborative visits. Visitted Institute Fur Mathematik, TU Clausthal, Germany during Marh 29- April 7, 2013 and presented a Colloquium lecture on April 3rd. Apart from this a couple of informal lectures were also given that lead to collaboration with the spectral theory group lead by Prof. Michael Demuth, Senior Professor of Mathematics, TU Clausthal. (3) Gave a lecture on An Introduction to Spectral Functions, during an International Seminar at the Dept Maths, Univ. Kerala, Kariavattom, Trivandrum on 29th April 2013.	Invited Speaker
Prof. P. G. Romeo	National Seminar on Algebra, Number Theory and Discrete Mathematics, Department of Mathematics, Govt. College, Kattappana, November 28 – 30, 2012.	Invited Speaker
	International Conference MSAST 2012, December 21- 23, 2012, Kolkata, India.	Invited Speaker
	National Seminar on Algebra, Department of Mathematics, University of Kerala, Kariavattom, March 23, 2013.	Invited Speaker
Dr. B. Lakshmy	Seminar on Queueing, Inventory and Reliability Theory in Govt. Engineering College, Thrichur.	Delivered a talk on Reliability Theory
Prof. A. Vijayakumar	09/05/2012 – INSPIRE programme organized by University of Kerala.	Resource person
	July 2012 – Indian Delegation in the National Presentation of India in the International Congress on Math Education (ICME-12) held at Seoul, South Korea, during 8 – 15 July 2012.	Member
	14/09/2012 - INSPIRE programme organized by S.H. College, Thevara.	Resource person



Name of Participant	Name of Seminar/Conference/Workshop	Role
	18/01/2013 – 3 rd Children's Science Congress organized by Rotary Club of Cochin Lords and Kerala Science & Tech. Society at Campion School, Edappally.	Invited Speaker
	21/01/2013 – 'Network Science' in the National Seminar on Mathematics & Theoretical Computer Science at Govt. Victoria College, Palghat.	Inaugural Address and Keynote
	30/01/2013 – 'Graph Energy' in the 25 th Kerala Science Congress organized by KSCSTE, Trivandrum.	Invited talk
	25/02/2013- INCULCATE programme of KSSTM held in CUSAT.	Resource person

12. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Some Problems in Graph Classes	NBHM (DAE)	10,02,900	Dr. A. Vijayakumar

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	"National Conference on Algebra and Number Theory" (NCANT 2012)	16-18 Aug. 2012	Prof. P. G. Romeo	NBHM

Merit Evening

A 'Merit Evening' was arranged jointly by the Department of Mathematics and its Alumni Association – OSADMS - on 2nd February 2013 in which 'Prof C S Venkataraman memorial prizes' and 'KSCSTE sponsored cash awards' were distributed to the five toppers of the Regional Mathematical Olympiad 2013- (1) R. Srihari, Bhavan's Varuna Vidyalaya, Thrikkakara (2) Jose Mathew, Loyola School, TVM (3) Sivaprasad.S, Bhavan's Varuna Vidyalaya, Thrikkakara (4) K.Venkatesh, Bhavan's Vidya Mandir, Girinagar (5) Nitin M.Pai, Bhavan's Vidya Mandir, Elamakkakara.

Shri.B.S.Warrier, Career Consultant and Columnist was the Chief Guest.





DEPARTMENT OF PHYSICS

1. Brief History

The present day Department of Physics of the Cochin University of Science & Technology first came into existence as the Department of Physics of the Ernakulam Centre of the University of Kerala in the year 1963. The Department of Physics was founded by Prof. K. Venkateswarlu with a moderate beginning and 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 and are all well placed in different spheres of life all 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.

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. They also have 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 :

- i. M.Sc. (Physics) ii. M.Phil. (Physics) iii. 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 & 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 (Presently on deputation as PVC, CUSAT.)	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. 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.	Sivaraj K. S.	DAE-BRNS project	Dr. M. R. Anantharaman	Multiferroics
18.	Poornima N.	UGC-RFSMS	Dr. C. Sudha Kartha	Photoluminescence
19.	Sree Roop S. S.	NIL	Dr. C. Sudha Kartha	Holography
20.	Anas Swalih P. K.	UGC	Dr. C. Sudha Kartha	Photothermal beam deflection technique
21.	Deepu D. R.	UGC-RFSMS	Dr. C. Sudha Kartha	Transparent conducting metal oxides
22.	Aswathy G.	KSCSTE	Dr. C. Sudha Kartha	Holography
23.	Anshad A.	UGC-RFSMS	Dr. C. Sudha Kartha	Photorefractive materials
24.	Jisha J. Pillai	DST	Dr. C. Sudha Kartha	Photorefractive materials
25.	Rajesh C. S.	DST	Dr. C. Sudha Kartha	Holography
26.	T. H. Sajeesh	UGC	Dr. K. P. Vijayakumar	Thin Film Solar Cells
27.	Rajesh Menon M. R.		Dr. K. P. Vijayakumar	Polymer Solar Cells
28.	Angel Susan Cherian	CSIR	Dr. K. P. Vijayakumar	Thin Film Solar Cells
29.	Rajeshmon V. G.	CSIR	Dr. K. P. Vijayakumar	Thin Film Solar Cells
30.	Santhosh M. V.	MNRE	Dr. K. P. Vijayakumar	Thin Film Solar Cells
31.	Gincy Sunny	MNRE	Dr. K. P. Vijayakumar	Thin Film Solar Cells
32.	Geethu R.	DST	Dr. K. P. Vijayakumar	Polymer Solar Cells
33.	Divya Divakaran	UGC RFSMS	Dr. K. P. Vijayakumar	Thin Film Solar Cells
34.	Urmila K. S.	UGC RFSMS	Dr. B. Pradeep	Thin film
35.	Sreejith P.	Part time	Dr. B. Pradeep	Thin film
36.	Namitha Asokan T.	Part time	Dr. B. Pradeep	Thin film
37.	Abhilash A.	E-grantz	Dr. B. Pradeep	Thin film
38.	Majeesh M.	Full time	Dr. B. Pradeep	Thin film



39.	Priyesh K. V.	UGC RFSMS	Dr. Ramesh Babu T.	Quantum Optics
40.	Anoop P. D.	Part time	Dr. Ramesh Babu T.	Bose Einstein condensate
41.	Lini Devassy	UGC RFSMS	Dr. Ramesh Babu T. / Dr. V.C. Kuriakose	Bose – Einstein Condensation
42.	Navaneeth P.	DST-PURSE	Dr. Ramesh Babu T.	Neutrino Physics
43.	Shaju K. Y.	(FIP)	Dr. Ramesh Babu T.	Astrophysics
44.	Praseetha P.	E-grantz	Dr. Ramesh Babu T.	Astrophysics
45.	Bhavya B.	UGC RFSMS	Dr. V. C. Kuriakose	Cosmology / Astro Physics
46.	Nijo Varghese	UGC – RFSMS Full Time	Dr. V. C. Kuriakose	Gravitation/Cosmology
47.	Prasia P.	UGC JRF	Dr. V. C. Kuriakose	
48.	Saneesh Sebastian	CSIR - SRF	Dr. V. C. Kuriakose	Gravitation / Cosmology
49.	Tharanath R.	UGC - RFSMS	Dr. V. C. Kuriakose	Black Holes : Thermo Dynamic Properties and quasi normal mode
50.	Vivek M.	UGC - RFSMS	Dr. V. C. Kuriakose	Astrophysics/Astronomy'
51.	Prasobh C. B.	UGC RFSMS	Dr. Ramesh Babu T. / Dr. V. C. Kuriakose	Thermodynamic and Scattering properties of Black holes
52.	Sajan P.	E-grantz	Dr. M. Junaid Bushiri	Nanomaterials
53.	Bini B. Nair	Part time	Dr. M. Junaid Bushiri	Synthesis of ZnO materials
54.	Ganesh Chandra Prabhu V.	UGC JRF	Dr. M. Junaid Bushiri	
55.	Shajira P. S.	UGC-JRF	Dr. Junaid Bushiri	Synthesis and characterization of Tin oxide Micro and nanostructures.
56.	Nima K. S.	Part time	Dr. M. Sabir / Dr. V. C. Kuriakose	Synchronization of Chaos
57.	Vinod R.	RGNF	Dr. Junaid Bushiri	Nanomaterials
58.	Satheesh M.	E-grantz	Dr. M. Junaid Bushiri	
59.	Dhannia T.	Part time	Dr. S. Jayalekshmi	Cerium Oxide based Nanocrystals for Sensor Applications.
60.	Anil Kumar K. M.	Part time	Dr. S. Jayalekshmi	Rechargeable Lithium Battery Materials.



61.	Francis Xavier P. A.	Part time	Dr. S. Jayalekshmi	Conducting Polymer based Optoelectronic Devices.
62.	Jeeju P. P.	FIPUGC	Dr. S. Jayalekshmi	Conducting Polymer based Nanocomposites.
63.	Sajimol Augustine	FIP (teacher fellow)	Dr. S. Jayalekshmi	Semi-conducting Nanocomposite Materials.
64.	Sreekanth J. Varma	UGC (RFSMS)	Dr. S. Jayalekshmi	Polymer Nanocomposites for Optoelectronic Applications.
65.	Sreevalsa V. G.	Part time	Dr. S. Jayalekshmi	Non-linear Optical Crystals.
66.	Anand P. B.	BRNS	Dr. S. Jayalekshmi	polymer based optoelectronics, photovoltaics, and energy storage devices

5. Administrative Personnel

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

6. 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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Project Fellow	2		2
2	Ph.D. 2012-13	39	27	66
3	M.Phil 2012-13	3	14	17
4	M.Sc. 2012-13	11	39	50



8. Research Facilities :

a. Laboratories (Major equipments available)

1. Atomic Force Microscope
2. The high resolution Raman spectrometer
3. Microprobe station with IV-CV Measurement System
4. UV/VIS light source (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 fabrication)
27. KEMI - Centrifuge Model 8C
28. Keithley Picoammeter/Voltage source.
29. Laser Doppler Vibrometer (Polytec-0FV5000)
30. KBr press Model M-15 Pelletizer

i. 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

ii. 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

iii. 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)

iv. 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

v. 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

vi. 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

vii. 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

viii. Common Facilities

- 1 NIR Spectrophotometer & Accessories (Hitachi)
- 2 Differential Scanning Calorimeter (DSC-7)
- 3 Rigaku Model D max C X-ray Diffractometer System



- 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)

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Book till 31/03/2013 : 13833 Journals : 11	440 Nil

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Prof. Ramon Alcubilla Gonzalez	Departament of Enginyeria Electrònica Universitat 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.
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 "Internationalconference 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 "Internationalconference 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 "Internationalconference on optoelectronic materials and thin films for advanced Technology.
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

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Growth of metal and semiconductor nanostructures for nonlinearoptical applications	Sreeja R.	Prof. M. K. Jayaraj
2	Investigations on magnetic,optical and transport properties of magnetic nanofluids for engineering and biomedical applications	Reena Mary A. P.	Prof. M. R. Anantharaman
3	Spray pyrolysed tin chalcogenide thin films: Optimization of opto-electronic properties of SnS for possible photovo ltaic application as an absorber layer	T. H. Sajeesh	Prof. K. P. Vijayakumar
4	Fabrication and characterization of polymer heterojunction solar cells using sprayed indium sulfide electron selective layer	Rajesh Menon M. R.	Prof. K. P. Vijayakumar
5	Investigations on the structural, optical and magnetic properties of nanostructured cerium oxide in pure and doped forms and its polymer nanocomposites.	Dhannia T.	Prof. S. Jayalekshmi
6	Investigations on polyaniline based systems for technologically important applications and some novel polymers as prospective candidates for fabricating polymer light emitting diodes.	Sreekant J. Varma	Prof. S. Jayalekshmi
7	Investigations on some technologically important polymer nanocomposite films and semi conducting polypyrrole films	Jeeju P. P.	Prof. S. Jayalekshmi

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

Sl. No.	Name of Paper
1.	Optical and magnetic properties of copper doped ZnO nanorods prepared by hydrothermal method, Arun Aravind, M. K. Jayaraj, Mukesh Kumar, Ramesh Chandra J. Mater Sci: Mater Electron (2012).
2.	Structural, optical and magnetic properties of Mn doped ZnO thin films prepared by pulsed laser deposition, Arun Aravind, M. K. Jayaraj, Mukesh Kumar, Ramesh Chandra, Materials Science and Engineering B 177 (2012) 1017–1022.
3.	Structural, optical and magnetic properties of highly oriented transition metal (Mn/Co/Ni/Cu) doped ZnO thin films prepared by PLD, Arun Aravind, M. K. Jayaraj, Mukesh Kumar and Ramesh Chandra, Mater. Res. Soc. Symp. Proc. Vol. 1454 © 2012.
4.	Optical properties of Cu doped ZnO thin films grown by pulsed laser deposition, Arun Aravind, M. K. Jayaraj, Phy. Express (2013)
5.	Pulsed laser deposited ZnO:Al thin films for optoelectronic applications R. Manoj, M. K. Jayaraj, Journal of Intense Pulsed Lasers and Applications in Advanced Physics 2, 11 (2012).
6.	Liquid phase pulsed laser ablation of metal nanoparticles for nonlinear optical applications, Sreeja, R. Reshmi, P. M. Aneesh and Dr. M. K. Jayaraj, Science of Advanced Materials, 4, 439, (2012).
7.	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, Phys.Chem. Chem. Phys., 2013,15, 8106.
8.	Electroluminescent characteristics of ZnGa ₂ O ₄ :Dy ³⁺ thin film devices fabricated on glass substrates K. Mini Krishnay, G. Anoopz, and M. K. Jayaraj Phys. Status Solidi A, 1–5 (2012) / DOI 10.1002/pssa.201228204.
9.	Buffer Assisted Epitaxial Growth of Bi _{1.5} Zn ₁ Nb _{1.5} O ₇ Thin Films by Pulsed Laser Deposition for Optoelectronic Applications, Krishnaprasad Sasi, Sebastian Mailadil, Fredy Rojas, Aldrin Antony, M. K. Jayaraj Madambi, MRS Spring 2012, USA.
10.	Growth and characterization of tin oxide thin films and fabrication of transparent p-SnO/n-ZnO p-n hetero junction, K. C. Sanal and M. K. Jayaraj, Materials Science and Engineering B (2013).
11.	Structural, optical, electrical and low temperature thermoelectric studies on the ordered vacancy compound AgGa ₃ Se ₅ . Rajani Jacob, Geethu R., Shripathi T., Okram G. S., Ganesan V., Pradeep B., Urmila K. S. and Rachel Reena Philip Physica Status Solidi (b), p.1-6 (2012)
12.	Optoelectronic and Thermoelectric properties in Ga Doped β - PbS ₂ nanostructured thin films. Geethu R., Rajani Jacob, T. Shripathi, G. S. Okram, V. Ganesan, Shilpa Tripathi, Anees Fatima, Sreenivasan P. V., Urmila K. S., B. Pradeep, and Rachel Reena Philip Applied Surface Science, Vol.258, p.6257– 6260(2012)



13.	Optoelectronic and low temperature thermoelectric effects in the OVC n-CuIn ₃ Se ₅ thin films Rajani Jacob, Geethu R., Shripathi T., Okram G. S., Ganesan V., Pradeep B., Urmila K. S. and Rachel Reena Philip Physica Status Solidi (a), Vol.209, p.2195-2200 (2012)
14.	Structural Studies And Valence Band Splitting Parameters In Ordered Vacancy Compound AgGa ₇ Se ₁₂ . Journal of Inorganic and Organometallic Polymers and Material, Rajani Jacob, Geethu R., Shripathi T., Okram G. S., Ganesan V., Pradeep B., Urmila K. S. and Rachel Reena Philip Vol.23, p.424– 431(2013)
15.	An optical limiter based on silver silica nanocomposites, P. B. Anand, C. S. Suchand Sandeep, Kishore Sridharan, T. N. Narayanan, Senoy Thomas, Reji Philip, M. R. Anantharaman, Advanced Science, Engineering and medicine, Vol.4 2012
16.	Hybrid Multiferroic Nanostructure with Magnetic"Dielectric Coupling, T. N. Narayanan, B. P. Mandal, A. K. Tyagi, A. Kumarasiri, Xaiobo Zhan, Myung Gwan Hahm, M. R. Anantharaman, G. Lawes, and P. M. Ajayan. Nano Lett. 2012 Jun 13;12(6):3025-30
17.	Exchange bias effect in partially oxidized amorphous Fe-Ni-B based metallic glass nanostructures, S. Thomas, G. Pookat, S. S. Nair, M. Daniel, B. Dymerska, A. Liebig, S. H. Al-Harhi, R. V. Ramanujan, M. R. Anantharaman, J. Fidler and M. Albrecht, (2012) Journal of Physics Condensed Matter, 24 (25), art. No. 256004
18.	On conduction mechanism in paramagnetic phase of Gd based manganites, Sagar S., Anantharaman M. R. (2012) Bulletin of Materials Science, 35 (1), pp. 41-45
19.	Swift heavy ion induced surface and microstructural evolution in metallic glass thin films. Thomas H., Thomas S., Ramanujan R. V., Avasthi D. K., Al- Omari I. A., Al-Harhi, S., Anantharaman M. R. (2012) Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms, 287, pp. 85-90
20.	Unusual surface and edge morphologies, sp 2 to sp 3 hybridized transformation and electronic damage after Ar + ion irradiation of few-layer graphene surfaces, Al-Harhi, S.H., Elzain M., Al-Barwani M., Kora'a A., Hysen T., Myint M. T. Z., Anantharaman M. R. (2012) Nanoscale Research Letters, 7, art. no. 466
21.	Sequential interactions of silver-silica nanocomposite (Ag-SiO ₂ NC) with cell wall, metabolism and genetic stability of Pseudomonas aeruginosa, a multiple antibiotic-resistant bacterium, A. Anas, J. Jiya, M. J. Rameez, P. B. Anand, M. R. Anantharaman and S. Nair, (2012) Letters in Applied Microbiology ISSN 0266-8254
22.	Fluorescent Superparamagnetic Iron Oxide Core-Shell Nanoprobes for Multimodal Cellular Imaging, S. Smitha, V. S. Haseena, T. N. Narayanan, A. P. R. Mary, P. M. Ajayan, J. Puthumana, A. A. Aziz, R. R. Aburto, S. A. Mani, P. A. Joy, and M. R. Anantharaman, Materials Express, 2(4), 265-274 (2012)
23.	Flexible electromagnetic interference shields in S band region from textile materials, Savitha Kadencheri Unnikrishnan, Vinayasree S., Gurumalles Prabu Halliah Anantharaman M. R. Journal of Industrial Textiles July 5, 2012, 1528083712452898



24.	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, Journal of Magnetism and Magnetic Materials (article in press)
25.	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, Composites Science and Technology, (article in press)
26.	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)
27.	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)
28.	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)
29.	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)
30.	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)
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32.	Investigations on CoFe Thin Films for Possible MEMS Applications Hysen Thomas, Geetha P. (conference publication: International Union of Materials Research Societies – International Conference of young Researchers on Advanced Materials) IUMRS-ICYRAM-2012)
33.	Giant magnetoelectric coupling in BTO-METGLAS-BTO nanophasic multilayered thin films Geetha P., Swapna S. Nair, Anantharaman M. R. (conference publication: International Union of Materials Research Societies - International Conference of young Researchers on Advanced Materials IUMRS-ICYRAM-2012)
34.	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)



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36.	S. Agouram, M. J. Bushiri, D. N. Montenegro, C. Reig, M. C. Martínez-Tomás, and V. Muñoz-Sanjósé Synthesis and characterization of ZnO nano and micro structures grown by low temperature spray pyrolysis and vapor transport. <i>J. Nanosci. Nanotechnol.</i> 12 (2012) 6792-6799
37.	R. Vinod, P. Sajan, Sreekumar Rajappan Achary, Carmen Martinez Tomas, Vicente Muñoz-Sanjósé and M Junaid Bushiri Enhanced UV emission from ZnO nanoflowers synthesized by the hydrothermal process, <i>J. Phys. D: Appl. Phys.</i> 45 425103(2012).
38.	M. Junaid Bushiri, V. Gopakumar, V. K. Vaidyan Structural and surface morphological investigation of formation stages of highly (002) oriented ZnO films on glass substrates by spray pyrolysis method. <i>Journal of Optoelectronics and Biomedical Materials.</i> 4 (2012)71-78.
39.	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)
40.	Probing Late-time tails of fields around Schwarzschild black hole surrounded by quintessence, Nijo Varghese, V. C. Kuriakose, <i>Gen Relativ Gravit.</i> 45:189–201 (2013)
41.	Probing the time variability of five Fe low broad absorption line quasars, M. Vivek, R. Srianand, P. Petitjean, P. Noterdaeme, V. Mohan, A. Mahabel and V. C. Kuriakose, <i>Mon. Not. R. Astron. Soc.</i> 423, 2879 (2012)
42.	Gravitational waves from f(R) theory and its detection using spherical antenna P. Prasia and V. C. Kuriakose <i>J. Phys.: Conf. Ser.</i> 405 012019(2012)
43.	Band offset of the In ₂ S ₃ /indium tin oxide interface measured by X-ray photoelectron spectroscopy, M. R. Rajesh Menon, A. Mancini, C. Sudha Kartha, K. P. Vijayakumar, A. Santoni <i>Thin Solid Films</i> , 520 (July 2012), pp. 5856-5859
44.	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.
45.	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
46.	Effect of defect bands in b-In ₂ S ₃ thin films. R. Jayakrishnan, Tina Sebastian, C. Sudha kartha, and K. P. Vijayakumar <i>Journal of Applied Physics</i> 111, 093714 (2012)



47.	Engineering Structural and Opto-Electronic Properties of SnS Films Deposited using Chemical Spray Pyrolysis Technique by Controlling pH of the Precursor Solution” (2012), T. H. Sajeesh, A. S. Cherian, C. S. Kartha, K. P. Vijayakumar, Energy Procedia, 15 325-33.
48.	“Role of pH of precursor solution in taming the material properties of spray pyrolysed SnS thin films” (2012) , T. H. Sajeesh, K. B. Jinesh, C. S. Kartha, K. P. Vijayakumar, Applied Surface Science, 258 6870-6875.
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50.	Determination of thermal and electronic carrier transport properties of SnS thinfilms using photothermal beam deflection technique” (2012), A. R. Warriar, T. H. Sajeesh, C. S. Kartha, K. P. Vijayakumar, Material Research Bulletin 47 3758-3763
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52.	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 Journal of alloys and compounds, 553 (2013) 239-244.
53.	Effect of phase shifted frequency modulation on two level atom- field interaction, K. V. Priyesh and Ramesh Babu Thayyullathil, Communications in Theoretical Physics 57 (2012) 468.
54.	Modified holographic Ricci dark energy model and statefinder diagnosis in flat universe. - International Journal of Modern Physics D, Titus K. Mathew
55.	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.
56.	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.
57.	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
58.	Size dependant nonlinear optical properties of spin coated ZnO/Polystyrene nanocomposite films, Jeeju P. P., S. Jayalekshmi, K. Chandrasekharan, P. Sudheesh , Optics Communications Volume 285, Issue 24, 1 November 2012, Pages 5433–5439.



59.	"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
60.	Novel Polypyrrole films with excellent crystallinity and good thermal stability", P. P. Jeeju, S. J. Varma, P. A. Francis Xavier, A. M. Sajimol, S. Jayalekshmi, Materials Chemistry and Physics, Volume 134, Issues 2–3, 15 June 2012, Pages 803–808.
61.	On the structural and optical properties of gold.polyaniline nanocomposite synthesized via a novel route, P. B. Anand, K. Hasna, K. M. Anilkumar and S. Jayalekshmi. Polymer International, Volume 61, Issue 12, pages 1733–1738, December 2012.
62.	Effect of annealing on the electrochemical properties of the Li-Mn-O thin films, prepared by high frequency RF magnetron sputtering, M. Rajive Tomy, , K. M. Anil Kumar, P. B. Anand, S. Jayalekshmi, Journal of Physics and Chemistry of Solids, Volume 73, Issue 4, April 2012, Pages 559-563.
63.	Effect of annealing on structural and electrical properties of the Li-Mn-O thin films, prepared by high frequency RF magnetron sputtering, M. Rajive Tomy, K. M. Anil Kumar, P. B. Anand, S. Jayalekshmi, Journal of Physics and Chemistry of Solids, Volume 72 , 2012, Pages 1251-1255.
64.	Synthesis and studies on exceptionally crystalline polyaniline thin films, Sreekanth J. Varma, Francis Xavier, Soney Varghese, S. Jayalekshmi, Polymer International, Volume 61, Issue 5, pages 743-748, May 2012.
65.	L histidine modified bio-compatible ZnO nanocrystals , Sreevalsa V. G., Jeeju P. P., Sajimol Augustine Anilkumar K. M., S. Jayalekshmi, Journal of Experimental Nanoscience , 29, page 1-10 2012.

Conference Papers

Sl. No.	Name of Paper
1	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
2	Effect of Molarity on Properties of Spray pyrolysed SnO ₂ :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 CuInS ₂ /In ₂ 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	On "Spray Technique for photovoltaic applications: Taming the technique for tailored material properties" K. P. Vijayakumar Indo-US workshop sponsored by the 'Indo-US Science and Technology Forum [IU-STF] held at IIT Mumbai [2012].
6	On "Electricity from the Sun: Physics, Materials and Devices" K. P. Vijayakumar One day workshop on Solar Energy sponsored by KSCSTE held at MAFAST, Thiruvalla [2012].
7	On "Spray technique for Photovoltaic Applications" K. P. Vijayakumar National Conference on 'Advanced materials' sponsored by the UGC held at Calicut University [2012].
8	On "Spray Technique for Eco-Friendly Photovoltaic devices" K. P. Vijayakumar National seminar on 'Advanced materials: Processing and Applications (NSAMPA-2012)' sponsored by the UGC and DST held at Bharathiar University, Coimbatore [2012]
9	On "Third generation Solar Cells: Physics and materials" K. P. Vijayakumar National conference on 'recent Trends in Solar Energy and its Applications' held in P.K.R College, Erode [2012]
10	Fabrication and characterization of MEH-PPV based bulk-heterojunction polymer solar cells using spray-deposited indium sulfide electron selective layer; M. R. Rajesh Menon, M. V. Maheshkumar, K. Sreekumar, C. Sudha Kartha and K. P. Vijayakumar; Photovoltaic Specialists Conference (PVSC), 2012 38 th IEEE, pp.002764-002769, 3-8 June 2012, doi: 10.1109/PVSC.2012.6318166
11	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
12	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
13	Spray pyrolysed tin chalcogenide thin films: Optimization of opto-electronic properties of SnS for possible photovoltaic application as an absorber layer T. H. Sajeesh, K. P. Vijayakumar SOLID STATE PHYSICS: Proceedings of the 57th DAE Solid State Physics Symposium 2012
14	All sprayed thin film solar cells using earth abundant materials through Japanese collaboration" K. P. Vijayakumar, C. S. Kartha, Y. Kashiwaba T. H. Sajeesh, JSPS Aluminee Conference, Nagpur, India, August 2012.

**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

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. M. K. Jayaraj	UGC sponsored Seminar on Current Trends in the Field of Nano Science and Nano Technology on 13th and 14th December 2012	Invited Speaker
Hasna K.	ANGEL 2012 - 2nd Conference on Laser Ablation and Nanoparticle Generation in Liquids	Paper presentation
Subha P. P.	Nano India 2013	Paper presentation
Majeesh M.	SPIE – Optics and Photonics 2012	Paper presentation
Vikas L. S.	Nano India 2013	Paper presentation
Shijeesh M. R.	Nano India 2013	Participant
Vikas L. S.	Nanosolar 2012	Paper presentation
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	OMTAT 2013	Organizer
B. Pradeep	National Science Day	Organizer
Lija K. joy, Lisha Raghavan	9 th Indian Nanoelectronics Users Program, INUP Hands on training, April 23-27, 2012, IIT-Bombay	Participant
Geetha P., Hysen Thomas	International Union of Materials Research Societies – International Conference of young Researchers on Advanced Materials IUMRS-ICYRAM-2012, July 1-6, Singapore	Presented papers
Sivraj K. S.	Workshop on Advanced materials for Electronics, Photonics and Sensors at PSG Institute of Advanced Studies, Coimbatore August 4-8, 2012	Participant



Vinayasree S.	Visited TU Chemnitz, Germany (29 th July-29 th September 2012)	Visited Institute of Physics under DST DAAD PPP exchange program between CUSAT and Technical University of Chemnitz, Germany undertaken by Prof. M. R. Anantharaman
Lisha Raghavan	International School on SHIMEC, October 7-11, 2012, IUAC Delhi, SHIMEC conference October 9-12, 2012	Participant
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
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, Thiruvanthapuram, Kerala,India.	Poster Presentation
Rajesh Menon	Fabrication and characterization of MEH-PPV based bulk-heterojunction polymer solar cells using spray-deposited indium sulfide electron selective layer; Photovoltaic Specialists Conference (PVSC), 2012 38th IEEE, pp.002764-002769, 3-8 June 2012, doi: 10.1109/PVSC. 2012.6318166	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
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. Sree Roop ¹ , C. Sudha Kartha NLS-21	Presentation
Santhosh M. V.	Improvement in Properties of Window Layer of Sprayed CuInS ₂ /In ₂ S ₃ Solar Cell by Optimization of Tin Doping M. V. Santhosh, M. S. Sreejith, C. Sudha Kartha and K. P. Vijayakumar Solid State Physics: Proceedings of the 57th DAE Solid State Physics Symposium 2012	Presentation
Sajeesh T. H.	All sprayed thin film solar cells using earth abundant materialsthrough Japanese collaboration" K. P. Vijayakumar, C. S. Kartha, Y. Kashiwaba T. H. Sajeesh, JSPS Aluminee Conference, Nagpur, India, August 2012.	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	Indo-US workshop sponsored by the 'Indo-US Science and Technology Forum [IU-STF] held at IIT Mumbai [2012]	Invited Lecture
Prof. K. P. Vijayakumar	International workshop on 'Nano Solar' held in Amrita Institute [2012]	Invited Lecture
Prof. K. P. Vijayakumar	One day workshop on Solar Energy sponsored by KSCSTE held at MAFAST, Thiruvalla [2012]	Invited Lecture
Prof. K. P. Vijayakumar	National Conference on 'Advanced Materials' sponsored by the UGC held at Calicut University [2012]	Invited Lecture
Prof. K. P. Vijayakumar	National Seminar on 'Advanced Materials: Processing and Applications (NSAMPA-2012)	Invited Lecture
Prof. K. P. Vijayakumar	National Conference on 'Recent Trends in Solar Energy and its Applications' held in P.K.R. College, Erode [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
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
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	3. Fifth International Conference On Electroactive Polymers: Materials And Devices (ICEP 2012) 4-9 November 2012, Varanasi, India	Research paper presentation
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. 2 nd 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
Mr. Anand Puthirath Balan	7. Cochin Nano, India (Cochin Nano 2011)	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

13. 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 Paper Award (Oral Presentation)	National seminar on Challenges in Nanoscience and Technology, CNT-2011
M. Sajimol Augustine	Best Poster Presentation Award (second prize)	International Conference on Nanotechnology at the Bio-Medical Interface



Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
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 (REAL) and IRE Retired Employees Organization (IREREO)
Nijo Varghese	DS Kothari Fellowship for Post-Doctoral Research	UGC, New Delhi
Vivek M.	IUCAA Post-Doctoral Fellowship	Inter-University of Astronomy and Astrophysics, Pune
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

14. Sponsored Research Projects

Name of PI/Co-PI	Name of Project	Duration	Total Amount Rs.	Sponsoring Agency
Prof. M. R. Anantharaman	"Investigations on Multiferroic Materials based on Rare Earth Manganites"	2011-12	24,73,000/-	BRNS
Prof. M. R. Anantharaman	Project entitled "Fabrication of magnetic nanostructures employing oblique angle vapour deposition and investigations on their structural and magnetic properties"	2011-12	45,01,160/-	. DST NANOMISSION
Prof. S. Jayalekshmi (PI) Prof M .K Jayaraj (CI)	Devolopement of solid state, flexible and environmentally friendly, polymer based thin film lithium ion battery with improved specific capacity and cyclability (Ongoing)	2011-12	19,71,000/-	BRNS



Prof. S. Jayalekshmi (PI) Dr. M. R. Prathapachandra Kurup (CI)	Optimization of Synthesis condition of Sol-Gel technique of preparing nanostructure LiFePO ₄ cathod materials with excellent electro chemical performance	2011-12	8,00,000/-	VSSC
Prof. V. C. Kuriakose Prof. Ramesh Babu T.	Black Holes, Information Loss and Entanglement	2010-13	Ongoing	UGC
Prof. Titus K. Mathew	Popularising of Kerala Contribution in Astronomy	2011-14	1,50,000/-	KSCSTE
Prof. K. P. Vijayakumar (PI), Prof. C. Sudha Kartha (Co-PI) and Dr. Rajeevkumar (Co-PI), Dept. of Instrumentation	Development of stable and low cost thin film solar cells using automated spray technique		2,23,86,000/-	MNRE
Prof. K. P. Vijayakumar (PI), Prof. C. Sudha Kartha (Co-PI)	Fabrication of ZnO nanorods/ polymer heterojunctions for solar cell application (collaborating project with Bharathiyar University)		18,12,200/-	DST
Prof. K. P. Vijayakumar (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		11,40,000/-	KSCSTE
Prof. Ramesh Babu T.	Collaboration by Indian Physicists on Neutrino Projects" at Fermilab (USA).	2012-15	224 lakhs	DST
Prof. S. Jayalekshmi, Prof. M. K. Jayaraj	Development of solid state, flexible and environmentally friendly, polymer based thin film lithium ion cellswith improved specific capacity and cyclability	2012-13	19.8 lakhs	BRNS



15. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1.	Nanostructured materials	Prof. M. K. Jayaraj
2.	Ferroelectric materials	Prof. M. K. Jayaraj
3.	Electroluminescent Devices	Prof. M. K. Jayaraj
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

16. 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, BRFSST, 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

17. 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

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 45 years 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, modeling, 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. R. Sajeev	Associate Prof. & Head	M.Sc (Cusat) Ph.D (Cusat)	Coastal Oceanography
2	Dr. A.N. Balchand	Professor	M.Sc (Cusat) Ph.D (Cusat)	Environmental Oceanography
3	Sri P. K. Saji	Asst. Professor	M.Sc. (Cochin)	Ocean Atmosphere Interaction



4. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. T. K. Sivadas	Guest Lecturer, Retd. Scientist CIFT	Ph.D	Ocean Instrumentation

5. 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. Sajeew	
4	Salini T. C.	Part Time CMLRE, MoES	Dr. R. Sajeew	Physical Processes and its Influence on the Biological Productivity of the Andaman Sea
5	P. Chandrasekharan	DPO, Part Time	Dr. R. Sajeew	Ocean Atmospheric Coupling in the Arabian Sea
6	Sudha A. K.	DPO, Full-Time	Dr. R. Sajeew / Dr. Prasada Rao	Studies on the Indian Ocean Circulation
7	Umesh P.	SAC	Dr. A. N. Balchand & Dr. Swain	Wave Modelling
8	Ricky Fernandez	DRDO, NPOL	Dr. A. N. Balchand & Dr. Swain	Ocean Climatology
9	Shinitha C.	DPO, CUSAT	Dr. R. Sajeew	Indian Monsoon Variability and Ocean Atmosphere Coupling system
10	Gopika N.	DPO, CUSAT	Dr. R. Sajeew	Heat budget of the Indian Ocean
11	Muhammed Shafeeque	DPO, CUSAT	Dr. A. N. Balchand	South Eastern Arabian Sea Studies based on Satellite Oceanography
12	Abdulla C. P.	DPO, CUSAT (Nansen)	Dr. A. N. Balchand	Sea level variability over Indian Ocean

**6. 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

7. Technical Personnel

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

8. 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	1	10	11
3.	M Tech Ocean Technology II Sem	1	6	7
4.	M Tech Ocean Technology IV Sem	3	4	7

9. Research Facilities**a. Laboratories (Major equipments available)**

- 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
- 2GB Recorder and Supporting electronics board



- Ext-BK-4 Housing, ADP/ADV external battery case with 3 alkaline battery packs
- 10-m poser and communication cable
- In line load cage for standard ADP systems with external battery housing (Stainless steel)
- Trawl-Resistant bottom mount frame with glimbal, for 500MHz and 250MHz ADP system with external battery housing, 3-battery pack configuration, includes 100lbs lead ballast
- Sensor, Strain gage pressure (0.1% accuracy), 200m

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

10. 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

11. Publications

a. Papers - Journal and Conference

Sl. No.	Name of Paper
1	Phiros Shah & R. Sajeew – Influence of IOD events on coastal dynamics along the south west coast of India, Paper presented in the International Conference PORSEC-2012. November 05-09, 2012.
2	Thara K.J., R. Sajeew, Phiros Shah, Gopika N. and Pankajakshan Thadathil, Impacts of Indian Ocean Dipole on Oil sardine (<i>Sardinella longiceps</i>) and Indian mackerel (<i>Rastrelliger kanagurta</i>) fishery of South West Coast of India. Paper submitted to Fisheries Oceanography. February 2013.
3	Chiranjivi Jayaram, Udaya Bhaskar T. V. S., Ajith Joseph K. and Balchand A. N. (2012). Variability of wind stress and its role on upwelling, chlorophyll and mixed layer in south eastern Arabian Sea as observed from satellite data. The International Journal of Ocean and Climate Systems, 3, 97-108.
4	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	Chiranjivi Jayaram, Ajith Joseph K. and Balchand A. N. (2012). Interannual variability of chlorophyll-a concentration along the southwest coast of India. International Journal of Remote Sensing (revised submitted, under publication).
6	Ajith Joseph K., Smitha A. and Balchand A. N. (2012). Synergistic use of altimetry and ocean color data to study the role of geostrophic currents in modulating surface chlorophyll distribution along the SW coast of India. PORSEC 2012, 07-25, page 214.

**Editor and one of the author's of the books entitled**

- 1) Climate Change and Himalayan Informatics (ISBN: 978-81-7233, publishers: Scientific Publishers (India), Publishing Year: 2013.)
- 2) Climate Change and Himalayan ecosystem – indicator, bio and water resources (ISBN : 978- 81-7233, publishers: Scientific Publishers (India), Publishing Year: 2013)
- 3) Geospatial Technologies and Climate Change (Springer , Springer International Publishing AG, Gewerbestrasse 11 , 6330 Cham, Switzerland; series titled “Geotechnologies and the Environment. Under publication)

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. R. Sajeev	International Conference PORSEC 2012, Cochin	Organising Committee Official and Member of Sub- committee
Dr. R. Sajeev	Attended a Public consultation Workshop on State Action Plan on Climate Change on 28/09/12 at KFRI, Peechi.	Special Invitee
Dr. A. N. Balchand	International Conference PORSEC 2012, Cochin	Organising Committee Official and Member of Sub- committee on Scientific Sessions and Posters
Dr. A. N. Balchand	Attended a Public consultation Workshop on State Action Plan on Climate Change on 28/09/12 at KFRI, Peechi.	Special Invitee
Dr. K. Rasheed	Kerala Science Congress, Rubber Board, Kottayam Regional Ocean Modeling Systems (ROMS), CUSAT	Attended in January 2012, Attended a training programme on 22-23 November 2012
Sri. P. K.Saji	International Conference PORSEC 2012, Cochin	Attended.
Dr. K. M. Santosh	National Level Training Programme on “Climate Change & Spatial Technology” by CSIR, NewDelhi	Performed as Full time Faculty
Dr. K. M. Santosh	Training Programme organized by Agriculture Department, during May 13-15	Acted as a Faculty
Dr. K. M. Santosh	Training Programme on ROMS organized by Ocean Society of India jointly with CORAL, IIT, Kharagpur	Attended



13. 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. Sajeew (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)

14. Research Programmes and Activities

Sl.No.	Problems/Topics	Investigator(s)
1	Satellite Altimetry	Muhammad Shafeeque, Ajith K. Joseph and A. N. Balchand
2	Sea Level Changes in Indian Ocean	C. P. Abdulla, 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	Wave Forecasting and Modelling	P. A. Umesh, D. Swain and A. N. Balchand
6	Ocean Circulation	Ricky F., D, Swain and A. N. Balchand
7	Coastal Zone Management	A. N. Balchand
8	Indian Ocean and Climate Change	A. N. Balchand in collaboration with NERCI (India) and NANSEN (Norway)
9	Circulation Dynamics of the Arabian Sea	Phiros Shah and R. Sajeew
10	Physical Processes and its Influence on the Biological Productivity	Saliny T. C. and R. Sajeew
11	Ocean Atmospheric Coupling	P. Chandrasekharan & R. Sajeew
12	Indian Ocean Circulation	Sudha, A. K, C. V. K. Prasada Rao and R. Sajeew
13	Heat budget	Gopika N. and R. Sajeew
14	Indian Monsoon Variability and Ocean Atmosphere Coupling system	Shinitha C. and R. Sajeew

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Training program on Regional Ocean Modeling System (ROMS)	22-23 Nov. 2012	Dr. R. Sajeew	Ocean Society of India, Kochi





DEPARTMENT OF POLYMER SCIENCE AND RUBBER TECHNOLOGY

1. Brief History

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, Waters515 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. Narayanakutty	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	Lecturer	M.Tech, Ph.D.	Polymer Science/Technology
4	Dr. Rani Joseph	Professor	M.Sc., B.Tech., Ph.D	Polymer Science/Technology
5	Dr. Jyotish Kumar	Inspire Faculty	M. Sc, Ph.D	Polymer Science/Technology
6.	Dr. Eby Thomas Thachil (retired on August 2013)	Professor & Head	B.Tech, M.Tech & Ph.D	Polymer Science/Technology
7.	Dr. Philip Kurian	Professor	B.Tech, M.Tech & Ph.D	Polymer Science/Technology
8	Dr. K. E. George	Professor	B.Tech, M.Tech & Ph.D	Polymer Science/Technology

4. 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)	



5. 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

6. Technical Personnel

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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech	16	6	22
2	M.Tech	6	5	11
3	Ph.D	3	5	8

8. Research Facilities :

a. Laboratories (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



Sl. No.	Instrument	Make	Funding
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
3876	11

9. 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)

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	"Studies on methylene blue sensitized poly vinyl alcohol : effect of molecular weight of the polymer and crosslinking agents on its holographic properties	Nimmy K. P.	Dr. Rani Joseph
2.	"Polypropylene/Metal oxide composites Fibre spinning and Evaluation	Saisy K. Esthapan	Dr. Rani Joseph
3.	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 Kurin
4.	Ionomer Compatibilized Low Density Polyethylene – Tapioca Starch Blends <i>Biodegradability and Photodegradability</i>	Zeena P. Hamza August 12, 2013	Dr. Thomas Kurin
5.	Synthesis, Characterization and properties of conductive elastomeric composites based on polypyrrole and short Nylon -6 fiber	D. S. Pramila Devi	Dr. Sunil K. Narayanankutty

11. Publications

a. Papers

Sl. No.	Name of Paper
1.	Latex stage blending of multiwalled carbon nanotube in carboxylated acrylonitrile butadiene rubber: mechanical and electrical properties. <i>Materials & Design</i> , Volume 41, 2012, pages 23-30, K. Preetha Nair, Paulbert Thomas, Rani Joseph
2.	Effect of concentration of DYE on the storage life of plane wave gratings on photopolymer film. <i>Journal of Applied Polymer Science</i> , Volume 125, 2012, pages 1238-1243. Kalathungal Prasannakumari, Nimmi, Vayalamkuzhy Pramitha, Krishnapillai Sreekumar, Cheranalloor Sudha Kartha, Rani Joseph



3.	Thermal and mechanical properties of polypropylene/titanium dioxide nanocomposites fibers. <i>Materials & Design</i> , Volume 37, 2012, Pages 537-542. Saisy Kudilil Esthappan, Suma Kumbamala Kuttappan, Rani Joseph
4.	Nanokaolin clay as reinforcing filler in Nitrile rubber, <i>International Journal of Scientific & Engineering Research</i> Volume 3, Issue 3, March-2012. Preetha Nair K., Rani Joseph
5.	Effect of aluminium hydroxide, chlorinated polyethylene, decabromo biphenyl oxide and expanded graphite on thermal, mechanical and sorption properties of oil-extended ethylene-propylene-diene terpolymer rubber. <i>Material & Design</i> , Volume 04, 2012, Pages 80-89. Ajalesh Balachandran Nair, Philip Kurian, Rani Joseph
6.	Effect of titanium dioxide on the thermal ageing of polypropylene. <i>Polymer degradation and stability</i> , Volume 97, Issue 4, 2012, Pages 615-620, Saisy Kudilil Esthappan, Suma Kumbamala Kuttappan, Rani Joseph
7.	Ethylene-propylene-diene terpolymer/hexa fluoropropylene-vinylidene fluoropropylene. <i>Polymer degradation and stability</i> , Volume Design, Volume 36, 2012, Pages 767-778. Ajalesh Balachandran Nair, Philip Kurian, Rani Joseph
8.	Characteristics of Dual Amplified Spontaneous Emission from MEH-PPV solutions G. Sreelekha, G. Vidya, K. Geetha, Rani Joseph, S. Prathapan, P. Radhakrishnan, C. P. G. Vallabhan and V. P. N. Nampoore, Accepted in <i>International journal of Optics and Photonics</i> .
9.	Laser resonant modes from MEH-PPV dissolved in tetrahydrofuran. G. Sreelekha, G. Vidya, K. Geetha, M. S. Ebin, Rani Joseph, S. Prathapan, P. Radhakrishnan, C. P. G. Vallabhan and V. P. N. Nampoore, Accepted in <i>International journal of Photonics</i> .
10.	Evaluation of absolute fluorescence quantum yield of MEH-PPV using laser induced thermal lens technique G. Sreelekha, G. Vidya, Rani Joseph, S. Prathapan, P. Radhakrishnan, C. P. G. Vallabhan and V. P. N. Nampoore, Accepted in <i>Asian journal of Spectroscopy</i> .
11.	Dielectric Behavior of Aluminium Hydroxide Filled Oil-Extended Ethylene-Propylene-Diene-Monomer Rubber Composites in Microwave Fields. Ajalesh Balachandran Nair Ullas G. Kalappura, Philip Kurian and Rani Joseph. Accepted in <i>Polymer Engineering and Science</i> .
12.	Microwave studies of selected thermoplastic conducting polymers <i>Journal of Applied Polymer Science</i> . Lakshmi K., Honey John, Rani Joseph, K. T. Mathew, K. E. George Volume 124, Issue 6, pages 5254-5259
13.	HAF/Silica/Nanoclay "Ternary" Masterbatch and HAF/Silica Binary Masterbatch from Fresh Natural Rubber Latex." Sasidharan Krishnan, Rosamma Alex, and Thomas Kurian; <i>Rubber Chemistry and Technology</i> (in press)
14.	Studies on non-regulated safe binary accelerator system for efficient vulcanization of natural rubber, K. Abhitha, Philip Kurian, Thomas Kurian, and L. Jayabalan, <i>Progress in Rubber,Plastics and Recycling Technology</i> . 29: (2) 99- 108, 2013.



15	Mechanical, Thermal and Morphological Studies on Partially Bio- degradable and Photodegradable LLDPE-Bio filler Blends. Thomas Kurian, New Age Science and Technology for Sustainable Development and 3 rd Annual Conference of Indian JSPS Alumni Association, August 6-7, 2012, CSIR_ National Environmental Engineering Research Institute (NEERI), Nagpur, India.
16	Industrial Applications of Natural Rubber- Opportunities and Challenges. Thomas Kurian, National Seminar on Green Materials, February 27 – March 1, 2013, Bishop Moore College, Mavelikara, India.
17	“Non – carcinogenic CureSystem for Natural Rubber”; Paper presented on National Conference on “RecentTrends in Material Science and Technology – 2013”(NCMST 2013) conducted during July 10 – 12, 2013 at IIST (Valiamala) campus, Thiruvananthapuram, India. Abhitha K.; Philip Kurian; Thomas Kurian; Jayabalan L.
18	“Natural Rubber-A Wonderful Green Material”; AICTE-MHRD-TEQIP Sponsored FDP on Green Chemistry: Frontiers and Challenges (17 th – 21 st June 2013), Department of Chemistry, NIT Calicut, India. Thomas Kurian.
19	Non-Carcinogenic Binary Accelerator based Vulcanisation System for Natural Rubber” (Paper won the 12 th Prof. K.V.Thomas Endowment National Award - 2013); K. Abhitha, Thomas Kurian, Philip Kurian, and L. Jayabalan; Novel Concepts in Computational and Supramolecular Chemistry (11 to 12 December, 2013), Sacred-Heart College, Thevara, Kochi, India.
20	Effect of blend composition and mixing shear on nanoclay modified PP/HDPE blend by response surface methodology, Anjana R., K. E. George, Chemference National conference, Dept. of chemical engineering IISc Bangalore
21	Effect of surface modification of nanoclay in PP/HDPE/ glass fiber nanoclay hybrid composite; Anjana R., K. E. George, NATCON (National technological congress)
22	Review paper on preparation, characterization and application of polymer nanocomposite; Renjusha, Lovey Jacob, ; Anjana R., K. E. George, NATCON (National Technological Congress)
23	Synthesis and Characterization of Conducting Composites of Polypyrrole/ Polypyrrole-Coated Short Nylon Fiber and Natural Rubber, Pramila Devi D. S., Jabin Thekkedath, Sunil K. Narayanan Kutty, <i>Polymer-Plastics Technology and Engineering</i> . 2012, 51, 823-831.
24	Mechanical, Thermal, and Microwave Properties of Conducting Composites of Polypyrrole/Polypyrrole-Coated Short Nylon Fibers with Acrylonitrile Butadiene Rubber, D. S. Pramila Devi, Ajalesh B. Nair, T. Jabin, Sunil K. N. Kutty, <i>Journal of Applied Polymer Science</i> . 2012 (in press)
25	Effect of short Nylon-6 fibres on Natural rubber toughened polystyrene – Ms. Jayalatha Gopalakrishnan
26	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



27	Synthesis characterization of conducting composites of polypyrrole / polypyrrole –coated short nylon fiber and natural rubber, Pramila Devi, D. S., Jabin Thekkedath, Sunil K. Narayanankutty, Polymer-Plastics Technology and Engineering, 51, 823-831, 2012
28	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, J. of Appl., Polym. Sci., 126, 1965-76, 2012
29	“HDPE-ash nanocomposites”. Ayswarya E. P., Beena T. Abraham, Eby Thomas Thachil (Journal of Applied Polymer Science, vol. 124, 1659-1667, 2011).
30	Utilization of waste expanded polystyrene: Blends with silica-filled natural rubber- Renju Vaikathusseril Sekharan, Beena Thattekatt Abraham, Eby Thomas Thachil Materials & Design, Volume 40, September 2012, Pages 221-228.
31	Rice husk ash - A valuable reinforcement for high density polyethylene - Materials & Design, Volume 41, October 2012, Pages 1-7 E. P. Ayswarya, K. F. Vidya Francis, V. S. Renju, Eby Thomas Thachil.

b. Books

Sl. No.	Name of Book
1.	Practical guide to Latex Technology – Author – Dr. Rani Joseph; Publishers - Smithers Rapra, U.K.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. Thomas Kurian	<ol style="list-style-type: none"> 1. “Biopolymers and Green Composites- Emerging Science & Technology (BPGC 2013)”; September 27, 2013 , Centre for Biopolymer Science & Technology (CBPST- a unit of CIPET), Kochi, Kerala. 2. “National Conference on Organisational Behaviour and HR Practices”; December 06, 2013, Bharat Matha Institute of Management, Kochi, India. 3. New Age Science and Technology for Sustainable Development and 3rd Annual Conference of Indian JSPS Alumni Association, August 6-7, 2012, CSIR_ National Environmental Engineering Research Institute (NEERI), Nagpur, India. 4. Industrial Applications of Natural Rubber- Opportunities and Challenges, National Seminar on Green Materials, February 27- March 01, 2013, Bishop Moore College, Mavelikara, India. 	Participant



	5. Natural Rubber-A Wonderful Green Material AICTE-MHRD-TEQIP Sponsored FDP on Green Chemistry: Frontiers and Challenges (17 th – 21 st June 2013), Department of Chemistry, NIT Calicut, India.	
Ms.Jayalatha Gopalakrishnan	National Seminar on Advanced Polymers Capacity Buildings for Women Mangers in Higher Education : Sensitivity, Awareness – motivation (workshop)	Participant
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

13. 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

14. 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

15. 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

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 Shipbuilding 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 of this department with Rostock University, Germany dates back to 1978 and remains as an important milestone in the growth of this department. Currently the Department has entered into a 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 this 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. Krishanan	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.	Name	Funding	Guide	Area of Work
1	Bindumol T. V.	UGC - JRF	Dr. C. G. Nandakumar	Stochastic Finite Element analysis of plates
2	Vikas V. Shenoy		Dr. C. G. Nandakumar	Investigation on Analysis Design & Construction Management of Port and Harbor Structure
3	Prabha C.		Dr. C. G. Nandakumar	Analysis of Stiffened Cylindrical Shell with Openings
4	Cdr. P. K. Sathesh Babu		Dr. A. Mathiazhagan	Corrosion Assessment of Ship Structures
5	P. P. Lalu		Dr. K. P. Narayanan	Numerical stimulation of 2 part under water towing system
6	Baiju Sasidharan		Dr. C. G. Nandakumar	Numerical investigation on Strategy and performance of welded joints



7	Manoj G. Tharian		Dr. C. G. Nandakumar	Structural Analysis of Container ships
8	Kavitha P. E.		Dr. K. P. Narayanan	Structural Engg. Soil structure interaction of ship birthing structures
9	Cdr. Nitin Agarwala		Dr. EMS Nair	Numerical Investigation of Accounted structure interaction for SMART Naval ships
10	Deepu V. S.		Dr. K. P. Narayanan	Structural Analysis of liquefied Natural gas carriers
11	Lathi Karthi		Dr. EMS Nair	Buckling of corrugated plates
12	Jayaram S.		Dr. K. Sivaprasad	Design of Ships and offshore structures
13	Manju Dominic		Dr. C. G. Nandakumar	Investigations on Strength of Non metallic composite hull
14	Smitha K. K.		Dr. C. G. Nandakumar	Failure Investigations on composite shells
15	Rajani T. V.		Dr. K. Sivaprasad	Non linear Dynamic Analysis of Offshore Structures
16	Prasanth K.		Dr. K. Sivaprasad	Analysis of Fluid Structure Interaction effects on shiphull
17	Dileoplal		Dr. K. P. Narayanan	Reliability based Engineering design in shipbuilding
18	Shine U. P.		Dr. E. M. S. Nair	Fatigue and Fracture studies on structural components

**5. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Assistants	3
3	Typists	2 (1 vacant)
4	Clerical Asst	1 (Vacant)
5	Peon	2 (1 vacant)
6	Asst. Librarian	1
7	Professional Assistant	1
8	Store Keeper	1
9	Sweeper	2

6. Technical Personnel

Sl. No.	Designation	No. of Posts
1	Technical Officer Gr. I	1
2	Technical Assistant Gr.II	1
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	1	41
2	M.Tech (CASAD)	6	12	18

8. Research Facilities**a. Laboratories (Major equipments available)**

Electrochemical Workstation for corrosion studies, Fluid Mechanics, material testing, Instrumentation, Computer lab.

Workshops: Carpentry, M/C Shop, Welding shop, Fitting shop and Model making.

b. Library

No. of books and journals as on 31st March of the Previous Year	Additions during the current year
Books: 9499	124
Journals: Foreign - 5, Indian - 10	



9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Tan Nga Kok	Director, HR ST Engineering Singapore	
2	P. K. Tiwari	Country Head, India ST Engineering, India	
3	John Yao	Sr. Manager HR, ST Marine Singapore	
4	Hazal Goh	Manager, HR, ST Engineering	
5	J. Jisuji	Head of HR, Mitsubhishi Heavy Engineering	
6	G. Raghuram	Vice Chancellor, Indian Maritime University	
7	Naokiueda	General Manager, Ship & Ocean Engineering Division, MHI	
8	Lieda Nobora	Chairman & President of Class NK Japan	
9	Kinoshiza Tetsuya	Managing Director, Class NK	
10	Toshio Kurashiki	General Manager, Business Planning Department, Class NK	
11	A. V. Pradhan	Regional Manager, India region Class NK	
12	Capt. Joseph C. D.	BSM India, Powai, Mumbai	
13	N. K. Gupta	Dept. of Applied Mech., IIT Delhi	

10. Publications

a. Papers

Sl. No.	Name of Paper
1.	Sivaprasad K., Dileep K. Krishnan, C. G. Nandakumar, " Eco-Aqua: Solar Powered Slow Speed Houseboat for Kerala Backwaters", National Technological Congress, RIT Kottayam, March 2013.
2.	G. T. Manoj, C. G. Nandakumar, " Hat Stiffened Plates for Ship Building", International Journal of Applied Engineering Research and Development, ISSN 2250 - 1584, Vol. 3, issue 1, March 2013 pp 1-10.
3.	B.Santhosh, C. G.Nandakumar, and S. Sundararajan, "Thermal Properties of 3D Woven and Braided Composites for Hot Structure Applications", Journal of Mechanical Engineering, February 2013.
4.	Sivaprasad K., Jayaram S., C. G. Nandakumar, "Recycling of Decommissioned Naval Fleet", International Journal of Innovative Research and Development (ISSN 2278-0211), Vol 1 Issue 10, December 2012, pp 318-329.



5.	Prasobh P. S., C. G. Nandakumar, "Influence of Soil-Structure Interaction on Fatigue Life of Offshore Structures", International Journal of Innovative Research and Development (ISSN 2278-0211), Vol 1 Issue 10, December 2012, pp 264-274.
6.	Sivaprasad K., C. G. Nandakumar, "Expert system for Ship Recycling", International Journal of Maritime Engineering, Vol 154, Part A4, Oct-Dec 2012 pp A169-A177.
7.	Jayaram S., Sivaprasad K., C. G. Nandakumar, "Recycling of Composite Marine Structures", Proceedings of 28th National Convention of Mechanical Engineers and National Seminar on Emerging Technologies in Product Development for Safe and Sustainable Mobility, Coimbatore, September 2012, pp B65-B68.
8.	Nandagopan O. R., Ranjith Kumar, M. R. Rajesh, K. Manoharan, C. G. Nandakumar, "Nonlinear Behaviour of Perforated Plate with Lining", Defence Science Journal, Vol. 62, No. 4, July 2012, pp 248-251.
9.	Nandagopan O. R., Ranjith Kumar S., C. G. Nandakumar, "Free Vibration Analysis of Plain and Perforated Plates Submerged in Water", Proceedings of 19th International Congress on Sound and Vibration, Vilnius, Lithuania, July, 2012.
10.	Sivaprasad K., Role of Alumni Associations in the Holistic Development of Engineering Institutions, AICERA 2012, Amaljyothi Engineering College, Kanjirappally, Kerala, India, July 2012.
11.	K. Sivaprasad, Ajay Asok Kumar, Roles of Alumni Associations in Professional Development of Engineers in Maritime Technology, Proceedings of International Seminar on the Education and Professional Development of Engineers in the Maritime Industry, 14-15 November 2012, Southampton, UK.
12.	Sivaprasad Kodungallur, Vipin Vijayan, Praveen Viswanath, India as a Hub of Maritime Technology Education in South East Asia, Proceedings of International Seminar on Education & Professional Development of Engineers in the Maritime Industry, 26 -27 February, Singapore.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. C. G. Nandakumar	1. National Technological Congress 2013 Rajiv Gandhi Institute of Technology Kottayam, 1-2 March, 2013	Delegate
Dr. C. G. Nandakumar	2. National Conference on Recent Advances in Civil Engineering, Division of Civil Engineering, School of Engineering Cochin University of Science and Technology, November 29 to December 1 2012.	Delegate



Dr. C. G. Nandakumar	3. XXVIII National Convention of Mechanical Engineers and National Seminar on Emerging Technologies in Product Development for Safe and Sustainable Mobility, PSG College of Technology, 3-5 September 2012.	Delegate
Dr. K. Sivaprasad	1. National Technological Congress 2013 Rajiv Gandhi Institute of Technology Kottayam, 1-2 March, 2013.	Delegate
Dr. K. Sivaprasad	2. International Conference cum Exhibition on Technology of the Sea, Indian Maritime University, Visakhapatnam, 6th-8th December 2012.	Delegate
Dr. K. Sivaprasad	3. XXVIII National Convention of Mechanical Engineers & National Seminar on Emerging Technologies in Product Development for Safe and Sustainable Mobility, PSG College of Engineering Coimbatore, September 2012.	Delegate
Dr. Dileep Krishnan	1. National Technological Congress 2013 Rajiv Gandhi Institute of Technology Kottayam, 1-2 M.	Delegate

12. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator/Activists (s)
1	Kerala Inland Water Rule Implementation - Approved Centre for Certification of Drawings for Inland vessels of Kerala	Dr. Ing. K. P. Narayanan Dr. Dileep K. Krishnan Dr. Ing. S. K. Pyarilal Dr. K. Sivaprasad Dr. Ing. C. B. Sudheer Dr. Ing. K. Roby

13. Consultancy Work

Sl.	Name of Consultancy	Name of	Sponsoring
1	Study of Hydrodynamic Performance and Structural Analysis of Underwater Towed Systems. NPOL, DRDO	Dr. C. G. Nandakumar	NPOL, DRDO
2	Testing approval of boats as per KIV rules 2012 Design approval of Boats as per KIV rules 2010	Dr. S. K. Pyarilal Dr. S. K. Pyarilal	
3	Boat Design Consultancy	Dr. K. Sivaprasad and Dr. Dileep Krishnan	Kerala Tourism Development Corporation



4	Boat Design and Construction Survey and Inspection	Dr. K. Sivaprasad	Kerala Tourism Development Corporation
5	Techno- Economical Feasibility Study	Dr. K. Sivaprasad and Dr. Dileep Krishnan	State Water Transport Department Government of Kerala Alappuzha
6	Boat Design and Construction Survey and Inspection	Dr. K. Sivaprasad	Department of Forest, Government of Kerala
7	Design Survey and Inspection	Dr. K. Sivaprasad and Dr. Dileep Krishnan	Department of Ports Government of Kerala
8	Training Consultancy	Dr. K. Sivaprasad and Dr. Dileep Krishnan	Training classes for Engineers of Major Shipyards under Ministry of Defense Production Government of India
9	Ship Design	Dr. K. Sivaprasad and Dr. Dileep Krishnan	Design of 90m River sea Vessel for IWAI Government of India, Ministry of Surface Transport New Delhi
10	Inland Vessel Design	Dr. K. Sivaprasad and Dr. Dileep Krishnan	FACT Udyogamandal
11	Boat Construction Survey and Inspection	Dr. K. Sivaprasad and Dr. Dileep Krishnan	Steel Industrials Limited Kerala, (SILK) Azhheckal Kannur





DEPARTMENT OF STATISTICS

1. Brief History

The Department of Statistics was established in 1996 by the bifurcation of the School of Mathematical Sciences. The Department offers a four semester M.Sc. Programme in Statistics and an M.Tech Programme in Engineering Statistics besides research programmes leading to Ph.D degree. The thrust areas of research in the department include Distribution Theory, Bayesian Inference, Time Series Analysis, Inference in Stochastic Processes, 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 Department has been identified as a Centre for organizing refresher courses 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 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 was 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 '4400,000/- 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 one major research project sponsored by DST is completed and another one is ongoing. The Department has so far conducted FOUR International Seminars, TWO workshops at International level besides several national conferences. The 31st Annual Convention of Indian Society for Probability and Statistics and was an International Conference on Statistics, probability and Related Areas held during December 19-22, 2011. A 4-day workshop on the Free Statistical Software R was conducted during 14-17, February 2012 in the Department. A Workshop on Simulation Model Development has been conducted in the department during 16-18, December 2012. Also, a 2-day workshop on Workshop on Statistical Analysis of Time Series data with applications on 14-16, January 2013 in the Department for the benefit of teachers, researches scholars and the students.

**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	Head & Associate Professor	M.Tech, Ph.D	Industrial Engineering TQM, Reliability Simulation Modelling
4.	Dr. Asha Gopalakrishnan	Associate Professor	M.Sc, M.Phil Ph.D.	Distribution theory Discrete Reliability theory
5.	Dr. P. G. Sankaran	Associate 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.	Vineshkumar B.	Lecturer on deputation	M.Sc, Ph.D	

4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Ajith S. Nair	-	Dr. S. M. Sunoj	Characterization of probability models using weighted distributions.
2.	Anjana. S	DST INSPIRE	Dr. P. G. Sankaran	Modelling and Analysis of Life Time Data
3.	Anjana V. (P. T.)	-	Dr. N. Balakrishna	Intervention Analysis in Time Series



4.	Joshy C.G. (P. T.)	-	Dr. N. Balakrishna	Statistical methods for fore casting
5.	Linu M. N. (P. T.)	-	Dr. S. M. Sunoj	Weighted Distributions
6.	M. Rajavel (P. T.)	-	Dr. K. C. James	A study on evaluation of the statistical quality control in fisheries
7.	Midhu N. N.	-	Dr. P. G. Sankaran	Survival Analysis
8.	Muhammed Anvar P.	Moulana Azad National Fellowship for Minority Students UGC - JRF	Dr. N. Balakrishna	A study on the methods and models for analyzing Financial Time Series
9.	Prasad S. (P. T.)	-	Dr. P. G. Sankaran	Reliability analysis
10.	Preeth M. (P. T.)	-	Dr. N. Unnikrishnan Nair	Distribution theory
11.	Preetha Kumari P. V. (P. T.)	-	Dr. P. G. Sankaran	Survival Analysis
12.	Preethi John	-	Dr P. G. Sankaran	Distribution Theory-Families of Bivariate exponential and related distributions
13.	Rejani P. P. (P. T.)	-	Dr. P. G. Sankaran	Survival Analysis
14.	Shiji K.	DST PURSE	Dr. N. Balakrishna	Financial Time Series
15.	Sreejith T. B. (P. T.)		Dr. S. M. Sunoj	Distribution Theory
16.	Sreelakshmi N.	KSCSTE Kerala Govt.	Dr. K. R. Muraleedharan Nair	Distribution Theory
17.	Ranganath C. G.	DST PURSE	Dr. N. Balakrishna	Modelling and Analysis of Value at risk in Financial Time Series
18.	Vincent Raja A.	-	Dr. Asha Gopalakrishnan	Reliability Modelling
19.	Vinesh Kumar B. (P. T.)	-	Dr. N.Unnikrishnan Nair	Reliability analysis

**5. Administrative Personnel**

Sl. No.	Designation	No. of Posts
1	Section Officer	1
2	Professional Assistant Gr. I	1
3	Senior Grade Assistant	2
4	UD 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	10	35	45
2	M.Tech Engineering Statistics	6	4	10
3	Ph.D	11	8	19

7. Research Facilities**a. Laboratories**

- i. Computer Lab (New) with 23 Computers
- ii. Computer Lab (Old) with 23 Computers
- iii. Internet facility
- iv. Metrology Laboratory

b. Library

No. of books and journals as on 31st March of the Previous Year	Additions during the current year
Books: 2820	Books: 142
Journals: Indian - 8, Foreign - 7	

8. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Prof. Bovas Abraham	University of Waterloo, Canada	Under SAP Programme
2	Prof. Tata Subba Rao	University of Manchester, UK	Under SAP Programme
3	Prof. Fabrizio Ruggeri	Italy	Under SAP Programme
4	Prof. Nalini Ravishankar	University of Connecticut, USA	Under SAP Programme
5	Prof. K. Suresh Chandra	University of Madras	Under SAP Programme
6	Prof. T. V. Ramanathan	University of Pune	Under SAP Programme



7	Prof. Sat N. Gupta	University of North Carolina, USA	UUnder SAP Programme
8	Prof. K. Muraleedharan	M. S. University, Baroda	Under SAP Programme
9	Dr. Arindom Chkraborthy	Vishva Bharathi University	Under SAP Programme
10	Prof. David D. Hanagal	University of Pune	Under SAP Programme
11.	Prof. R. N. Rattihalli	Central University of Rajastan	Under SAP Programme

9. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Modelling and Analysis of recurrent event data with multiple causes	Anisha P.	Dr. P. G. Sankaran

10. Publications

a. Papers

Sl. No.	Name of Paper
1.	Sunoj S. M. and Linu M. N. (2012): Dynamic cumulative residual Renyi's entropy, <i>Statistics</i> , Germany, 46 (1), 41-56, ISSN: 0233-1888
2.	Sunoj S. M. and Sreejith T. B. (2012): Some results on reciprocal sub tangent in the context of weighted models, <i>Communication In Statistics- Theory and Models</i> , USA, 41, 1397-1410, ISSN: 0361-0926.
3.	Sunoj S. M. and Linu M. N. (2012): On bounds of some dynamic information divergence measures, <i>Statistica</i> , Italy, anno LXXII (1): 23-36.
4.	Sunoj S. M. and Sankaran P. G. (2012): Quantile based entropy function <i>Statistics and Probability Letters</i> , USA, 82, 1049-1053, ISSN: 0167-7152.
5.	Navarro J., Sunoj S. M. and Linu M. N.: Characteristics of Bivariate models using some dynamic conditional informations divergence measures <i>Communication in Statistics-theory and Methods</i> , USA, ISSN: 0361-0926 (To appear)
6.	Sunoj S. M. and Linu M. N.: Cumulative measure of uncertainty for conditionally specified models, <i>Calcutta Statistical Assocoation bulletin</i> India, ISSN: 0008-0683 (to Appear)
7.	Nair N. U., Sunoj S. M. and Sankaran P. G.: Quantile based stop-loss transform and its applications, <i>Statistical Methods and Applications</i> , Italy ISSN: 1618-2510, DOI 10.1007/s10260-012-0213-4.
8.	S. M. Sunoj, P. G. Sankaran, A. K. Nanda: Quantile based entropy function in past lifetime, <i>Statistics and Probability Letters</i> , USA, ISSN: 0167-7152 (to appear).



9.	Nair N. U., Sunoj S. M. and Sankaran P. G.: Quantile based reliability aspects of partial moments, <i>Journal of the Korean Statistical Society</i> , Korea, ISSN: 1226-1392 (To appear).
10.	Dr. N. Balakrishna: Sequential Interval Estimation of the limiting Interval Availability for a Bivariate Stationary Dependand Sequence. (With Angel Mathew). <i>Statistics</i> , 46 (2), 185-196, 2012.
11.	Dr. N. Balakrishna: Development of Product Autoregressive Models (With A. J. Lawrance). <i>Jr. of Indian Statistical Association</i> , Vol. 50, Page 1-20, 2012.
12.	Dr. N. Balakrishna: Product Autoregressive models for non-negative variables (With B. Abraham). <i>Statistics and Probability Letters</i> , Vol. 82 1530-1537, 2012.
13.	Dr. N. Balakrishna: Inverse Gaussian Distribution for modelling conditional durations in Finance, (With T. Rahul) <i>Communications in Statistics Simulation</i> . 2013.
14.	Dr. Asha Gopalakrishnan and Jagathnathkrishna K. M. (2013): Inequality measures for Bivariate distributions with load sharing dependence. <i>Calcutta Statistical Association Bulletin</i> . (To appear).
15.	N. Unnikrishnan Nair, P. G. Sankaran, and B. Vinesh Kumar: Govindarajalu distribution and its properties, <i>Communication in Statistics-theory & Methods</i> , 41, 4391-4406, 2012.
16.	P. G. Sankaran and Sreeja V. N.: Proportional Hazards model for successive duration times under informative censoring, <i>Communication in Statistics-theory & Methods</i> , 41, 262-280, 2012.
17.	N. Unnikrishnan Nair, P. G. Sankaran and M. Preeth: Reliability aspects of discrete equilibrium distributions, <i>Communication in Statistics-theory & Methods</i> , 41, 500-515, 2012.
18.	E. P. Sreedevi & P. G. Sankaran: A semiparametric Bayesian approach for the analysis of competing risks data, <i>Communication in Statistics-theory & Methods</i> , 41, 2803-2818, 2012.
19.	P. G. Sankaran, M. Manoharan and Anisha P.: Non parametric estimator of survivor function of paired recurrent events, <i>Statistical Methodology</i> , 9, 501-512, 2012.
20.	P. G. Sankaran & Anisha P.: Additive hazards models for recurrent event data with multiple causes, <i>Statistics and Probability Letters</i> , 82 (7) 1454-1462, 2012.
21.	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.
22.	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.
23.	James K. C.: Some Aspects of Domain Specific Conceptual Modeling for simulation of Logistic Terminal Operations, <i>Proceedings of the World congress on Engineering and Computer Science 2012</i> , pp 1372-1376, ISBN 978-988-19251-6-9, ISSN 2078-0958.
24.	James K. C.: Domain Specific Conceptual Modeling for Logistic Terminal Operations, <i>Proceedings of the National Conference in Manufacturing and Logistic Management (NCMLM 2012)</i> .



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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Asha Gopalakrishnan	"National seminar on Modern Statistical Tools in Fisheries", School of industrial Fisheries, CUSAT, March 7-9, 2013.	Invited speaker
Dr. Asha Gopalakrishnan	"Statistical Analysis of Time Series Data With Applications", Dept. of Statistics CUSAT, Jan 14-16, 2013.	Participant
Dr. Asha Gopalakrishnan	"An extension of the Freund's Bivariate distribution to model load sharing systems" International Symposium on Business and Industrial Statistics (ISBIS 2012) held in Bangkok, Thailand, June 17-21, 2012.	Paper presentation
Dr. Asha Gopalakrishnan	Workshop on Statistical Analysis of Time Series Data with applications, CUSAT January 14-16, 2013.	Participant
Dr. N. Balakrishna	National Workshop on mathematical Modelling and Analysis of Financial Data organized by the Department of Statistics University of Pune, 24-29 September 2012.	Resource person
Dr. N. Balakrishna	International conference on Optimization Modeling and Applications, Talk on Applications of stable Autoregressive Models in Signal processing. University of Delhi November 29-December 1, 2012.	Invited speaker
Dr. N. Balakrishna	National conference on Statistics for Twenty first century, University of Kerala, December 10-12, 2012. Talk on Stable Autoregressive Model and its applications	Invited speaker
Dr. N. Balakrishna	Invited talk on Parameter Estimation in some Multiplicative Error Time Series Models, ICONFROST-2012 and 32 nd Annual conference of Indian Society for probability and statistics (ISPS) Pondicherry University, December 21-23, 2012.	Invited speaker
Dr. N. Balakrishna	Annual conference of International Indian Statistical Association held at Chennai January 2-5, 2013, A talk on Stochastic Volatility Processes Generated by Product Autoregressive Models.	Invited speaker
Dr. N. Balakrishna	National conference on Recent Advances in Statistics with Application in Finance and Actuarial Science, Central University of Rajasthan, Kishengarh, Ajmer, February 22-23, 2013. A talk on Multiplicative Error Models for Financial Time Series.	Invited speaker



Dr. S. M. Sunoj	Workshop on Advanced Stochastic models and its applications, Department of Statistics S.V University, Tirupathi, India, August 9-10 2012.	Participant
Dr. S. M. Sunoj	Workshop on Reliability Theory and Survival Analysis, Department of Mathematics and Statistics, IIT, Kanpur, Dec 3-5, 2012.	Invited speaker
Dr. S. M. Sunoj	International conference on frontiers of statistics and its Applications in conjunction with XXXII Annual convention of Indian Society for Probability and Statistics Dept. of Statistics, Pondicherry University Dec 21-23, 2012.	Invited speaker
Dr. S. M. Sunoj	Workshop on Statistical Analysis of Time Series Data with applications, CUSAT January 14-16, 2013.	Participant
Dr. P. G. Sankaran	International symposium on business and industrial statistics, Chulalongkorn University Bangkok, June 17-21, 2012.	Participant
Dr. P. G. Sankaran	Workshop on reliability, survival Analysis and Industrial Statistics, University of Pune Nov 9-10, 2012	Participant
Dr. P. G. Sankaran	Workshop on Reliability Theory and Survival Analysis, IIT, Kanpur, Dec 3-5, 2012.	Participant
Dr. P.G Sankaran	National conference on Statistics for 21 st Century, University of Kerala, Dec 10-12 2012.	Participant
Dr. P. G. Sankaran	International conference on Statistics Science and Society:New challenges and Oppurtunites, University of Madras, Chennai January 2-5, 2013.	Participant
Dr. P. G. Sankaran	Workshop on Statistical Analysis of Time Series Data with applications, CUSAT January 14-16, 2013.	Participant
Dr. K. C. James	Workshop on Statistical Analysis of Time Series Data with applications, CUSAT January 14-16, 2013.	Participant
Dr. K. C. James	Presented paper in " The World Congress on Engineering and Computer Science 2012" Berkeley, SF, USA, Oct 24-26, 2012.	Paper Presentation
Dr. K. C. James	Presented a paper in National Conference in Manufacturing and Logistics Management (NCMLM 2013), Malaviya National Institute of Technology, Jaipur, March 8-9, 2013.	Paper Presentation



12. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dileep Kumar M. Praveen K. Rakhi Chandran	Second Prize- XXXI Annual convension of ISPS-2012 held at Pondichery University	ISPS

13. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
1.	FIST (II Phase)	DST	30	Dr. K. C. James Head of the Department
2.	Modelling and Analysis of Financial Time Series	DST	18.8 (For 3 years)	Dr. N. Balakrishna
3.	SAP (II Phase)	UGC	44 (For 5 years)	Dr. N Balakrishna (Co-ordinator)

14. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1.	Financial Time series	Dr. N. Balakrishna
2.	Reliability studies on Sonar Transducer Encapsulant Materials	Dr. Asha Gopalakrishnan

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Workshop for Nodal Officers All India Survey on Higher Education	16, Oct 2012	Dr. N. Balakrishna	MHRD/ CUSAT
2.	Workshop on Statistical Analysis of Time Series data with applications	14-16 January 2013	Dr. N. Balakrishna	UGC, CSIR RBI, DST
3.	Workshop on Simulation Model Development	16-18 December 2012	Dr. K. C. James	DST PURSE Programme





SCHOOL OF ENGINEERING

1. Brief History

School of Engineering was established in 1979 as School of Technology for offering Part-time M.Tech. in Civil, Mechanical, Electrical and Chemical Engineering to enable practicing Engineers in and around Kochi to pursue post graduate education. 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 this School. Considering the increased demand of student community, this 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) Course were started in Civil and Mechanical Engineering Branches in 2012.

Doctoral Programme is offered in the School in 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 169 Doctoral, 6 Master of Engineering (By Research), 100 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 of campus.

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:

- i. B.Tech ii. M.Tech. (Part-Time and Full-Time) iii. 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	Ms. 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. Professor	Assistant	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	PhD	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	C. S. & Engineering
3	Dr.Latha R. Nair	Assistant Professor	M.Tech	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	M.Terch	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 & Head	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
5	Dr. Binu Paul	Associate Professor	Ph.D	Microwave
6	Mr. Unni A. M.	Associate Professor	M.Tech	Electronics and Communication
7	Dr. Abdulla P.	Associate Professor	Ph.D	Microwave Electronics
8	Dr. Jibukumar M. G.	Associate Professor	Ph.D	Opto Electronics
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	M.Tech.	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	Head & Professor	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 (On LWA)	Associate Professor	Ph.D	Industrial Safety Engg.

Branch : Applied Sciences & Humanities

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



5. Visiting Faculty

Sl. No.	Name	Designation	Topic of Lecturer	Date of Visit
1	Mr. Thomas Chacko	GM, Engineering and Advisory Services, KRL	Industry Institute Interaction-Scope and Challenges-What the Industry looks for from the academia A manufacturing Industry Perspective	16/07/2012
2	Mr. Venugopala Kurup	DGM, Engineering and Construction, KRL	Industry Institute Interaction-Scope and Challenges-Curriculum, An Industrial Perspective	16/07/2012
3	Mr. Sivakumar G.	Director, Kerala State Productivity Council	Industry Institute Interaction-Scope and Challenges-Scope of Industry-Academia interaction in the present economic scenario	16/07/2012
4	Mr. Girish A. S.	Head (HR), Apollo Tyres Ltd.	Industry Institute Interaction-Scope and Challenges-Industry Institution Interaction-HR Dimension	16/07/2012
5	Mr. Sebastian M. S.	Director-Operations, Eastern Group of Companies	Industry Institute Interaction-Scope and Challenges-TQM Perspective in Industry Institute Interaction.	16/07/2012
6	Prf. Dr. Ayay Chakrabarty	Vice Chancellor, BIT, Mesra, Ranchi	Electromagnetic Interference and electromagnetic compatibility	20/09/2012
7	Dr. Uttam Kumar		Geo Spatial Data mining	28/09/2012
8	Mr. Raju Thomas	Retired Chief Engineer, FACT	Vibration analysis on rotating equipments	17/10/2012
9	Prof. Prabhakaran Nair	NIT Calicut	Finite element analysis	5/10/2012
10	Mr. A. K. Das	BPCL	Fire and Safety in refineries	8/10/2012
11	Mr. Ketan Dande	Expert from start up village	Innovation and Entrepreneurship	8/1/2013
12	Mr. Sijo Kuruvila George	CEO Start up Village	Initiation of startup village	16/01/2013
13	Dr. Babu J. Alappatt	Prof, IIT Delhi	Recent advancement in solid waste management	30/01/2013
14	Dr. Gangan Pratap	Director NISCAIR	Finite element analysis	15/02/2013
15	Mr. Kamalasanan P. K.	Senior Divisional Engineer, BSNL	Telephony Switching	5/3/2013

**6. Research Scholars**

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Meril George		Dr. Beena K. S.	Geo-Environmental Engineering
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	Specilisation 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 Misonry 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	Bindu V.		Dr. R. Gopikakumari	
42	Hari V. S.		Dr. Jagathy Raj V. P.	Dr. R. Gopikakumari
43	Anantha Narayanan S.		Dr. Jagathy Raj V. P.	
44	Sumi M .		Dr. S. Mridula	
45	Mini P. R.		Dr. S. Mridula	
46	Bindu C. J.		Dr. S. Mridula	
47	Saira Joseph		Dr. Binu Paul	
48	Rabiya Rasheed		Dr. Saju K. K.	
49	Shemi P. M.		Dr. Abdulla P.	
50	Ajimsha Maideen		Dr. Abdulla P.	
51	Jasmine P. M.		Dr. Abdulla P.	
52	Raphika P. M.		Dr. Abdulla P.	
53	Ratheesh P. M.		Dr. R. Gopika Kumari	
54	Preetha Basu		Dr. R. Gopukakumari	
55	Manju B.		Dr. R. Gopukakumari	
56	Jaya V. L.		Dr. R. Gopukakumari	
57	Shelbi Joseph		Dr. Jagathy Raj V. P.	
58	Deepa P.		Dr. Rekha K. James	
59	Manikandan K.		Dr. Jibukumar M. G.	
60	Rajesh Mohan R.		Dr. S. Mridula	
61	Unni A. M.		Dr. Jibukumar M. G.	
62	Latha K. N.		Dr. Jibukumar M. G.	
63	Tripti C.		Dr. Jibukumar M. G.	
64	Shamla B.		Dr. Jibukumar M. G.	
65	Bindu P. (Palakkal)		Dr. Jibukumar M. G.	
66	Chikku Abraham		Dr. Babita Roslind Jose	
67	Biju K. S.		Dr. Jibukumar M. G.	
68	Jaison Jacob		Dr. Babita Roslind Jose	
69	Bindumol E. K		Dr. C. A. Babu	Power System
70	Suresh Kumar M. G.		Dr. C. A. Babu	Power System



71	Vineetha C. P		Dr. C. A. Babu	Power System
72	R. Rajesh Babu		Dr. C. A. Babu	Power System
73	Bindu S. J.		Dr. C. A. Babu	Power System
74	Deepa Sankar		Dr. C. A. Babu	
75	Anand S. R.		Dr. C. A. Babu Dr. Jagathy Raj V. P.	
76	Joseph K. D.		Dr. Asha Elizebeth Daniel	
77	Athira M.		Dr. Asha Elizebeth Daniel	
78	Shaija P. J.		Dr. Asha Elizebeth Daniel	
79	Arun Prasad K.M.		Dr. Usha Nair	
80	Rajani S.H.		Dr. Usha Nair	
81	Shanu N.		Dr. Usha Nair	
82	Leena T. Timothy		Dr. Usha Nair	
83	Rajeevan A. K.		Dr. Usha Nair	
84	Surya Susan Alex		Dr. Asha Elizebeth Daniel	Communication Engineering
85	Parvathy R.		Dr. Asha Elizebeth Daniel	Communication Engineering
86	Roy V. Paul		Dr. P. S. Sreejith	
87	Latha P. G.		Dr. P. S. Sreejith	Impact of energy conservation measures on power quality
88	Sunil Kumar G.		Dr. P. S. Sreejith	Investigation of crash worthiness of Honey comb core
89	Sunil Kumar K.		Dr. P. S.Sreejith	Advanced modeling of the tools made of rapid prototype
90	V. Vijayachandran Nair		Dr. V. N. Narayanan Nampoothiri Prof. M. R. Anantharaman	Application of Magneto Rheological Materials for Disaster Management
91	Oommen Thomas		Dr. V. N. N. Namboothiri	Modelling & Analysis of sheet fed offset printing machine



92	Mubarak A. K.		Dr. Tide P. S.	
93	Jyothisankar P. R.		Dr. Tide P. S.	
94	Bindu M. D.		Dr. Tide P. S.	
95	Sandhya M.		Dr. Tide P. S.	
96	Jiji K. S.		Dr. Jayadas N. H.	
97	Manoj George		Dr. Jayadas N. H. Dr. K. E. George	
98	Mahipal D.		Dr. Jayadas N. H.	Enhancement of Lubricating properties of vegetable oils using raw particles
99	Tom Zacharia		Dr. Jayadas N. H.	
100	Bijesh Paul		Dr. Jayadas N. H.	
101	Salaji S.		Dr. Jayadas N. H.	
102	James K. J.		Dr. M. Bhasi Dr.V. N. N. Nampoothiri	
103	Jiby Varghese		Dr. P. S. Sreejith	
104	Sreenivas P.		Dr. P. S. Sreejith	
105	Prameela Kumari K.		Dr. P. S. Sreejith Dr. Jagathy Raj V. P.	
106	Jayadeep Kumar J.		Dr. James Varghese	
107	Santhosh Kumar S.		Dr. James Varghese	
108	Sunil A. S.		Dr. Tide P. S.	
109	Ramesh A.		Dr. G. Madhu	Energy Management
110	Praveensal C. J.		Dr. G. Madhu	Musculoskeletal disorders
111	Mahesa Rangaraj R.		Dr. M. N. Vinodkumar	Human factors Engineering
112	Ushakumary E. R.		Dr. G. Madhu	Waste water treatment
113	Georgekutty C. K.		Dr. George Mathew	Construction Management
114	Binu P. P.		Dr. M. N. Vinodkumar Dr.K.E.George	Nano-polymer composites
115	Prince Mathew		Dr. George Mathew	Structural Engg.
116	Bindhu B. K.		Dr. G. Madhu	Waste water treatment
117	Biju Augustine P.		Dr. M. Bhasi	Forecasting Planning and Control



118	Nirmal Job A.		Dr. K. E George Dr.G.Madhu	Polymer composites
119	Ambilikumar C. K.		Dr. M. Bhasi	Supply chain management
120	Binu M. Issac		Dr. George Mathew	Concrete structures
121	Suresh Babu N.		Dr. George Mathew	Concrete structures
122	Anilkumar K. R.		Dr. M. N.Vinodkumar	Supply chain management
123	Thomas T.		Dr. M. N. Vinodkumar	Safety management
124	Sajeena Beevi B.		Dr. G. Madhu Dr. D. K. Sahoo	Solid waste management
125	Fasnabi P. A.		Dr. G. Madhu	Advanced oxidation processes
126	Benny Joseph		Dr. George Mathew	Concrete technology
127	Thomas Paul		Dr. D. K. Sahoo Dr. Glory Joseph	Structural Engineering
128	Praveen Mathew		Dr. D. K. Sahoo Dr. Glory Joseph	Structural Engineering
129	Jayasree P. Kuttamassery Mana		Dr.G.Madhu Dr.D.K. Sahoo	Biological Waste water treatment
130	Thajudeen H.		Dr. M. N. Vinodkumar	
131	Vinodkumar Jacob		Dr. M. Bhasi	Quality practices of software
132	Padmavathy K. S.		Dr. G. Madhu Dr. D. K. Sahoo	Nanotechnology for waste water treatment
133	Haseena P. V.		Dr. G. Madhu Dr. D. K. Sahoo	Nitrate removal from water and wastewater
134	Jesna Anwar		Dr. Abdulla P.	
135	Geeja K. George		Dr. Subha V. Dr. Abdu Rahiman K. U.	An Investigation to Manual Sandmining from Periyar River
136	Lekshmi M. S.		Dr. Subha V. Dr. Deepa G. Nair	Use of Natural Fibres in Building Construction
137	Neena Sunny		Dr. Roy M. Thomas	Environmental issues in fish industries



138	Usha S.		Dr. Deepa G. Nair Dr. Subha V.	Geopolymer Composites as a sustainable alternative
139	Varghese K. O.		Dr. Deepa G. Nair	Application of waste materials in Construction
140	Veena V.		Dr. Sobha Cyrus	Volume change Behaviour of Liner Soils
141	Babu P. Kuriakose		Dr. M. N. Vinodkumar	Intelligent Lighting Control System based on ergonomic research
142	Manoj N.		Prof. G. Madhu Dr. K. E. George	Weldline behavior of Polymer blends and composites.
143	Femina T. B.		Dr. Shahana T. K.	A study on the application/ use of Data Mining Techniques in the field of Medicine
144	Sheena S.		Dr. Sheena Mathew	Application on Image Processing
145	Preethi Sebastian		Dr. Usha Nair Dr. M. R. Radhakrishna Panicker	Modelling and Control of renewable energy systems
146	Anjit T. A.		Dr. P. Mythili	Microwave Image for Breast Tumor Detection
147	Anu A. R.		Dr. Abdulla P.	Improved coupling of dielectric resonator antenna fed by planar slots
148	Anuradha P. V.		Dr. Babita Roslind Jose	Intelligent Medical Image Processing Techniques and Analysis
149	Jayakrishnan K. R.		Dr. Shahana T. K.	Performance improvement of delta-sigma data converters



150	Jilu George		Dr. Babita Roslind Jose	Medical Image registration for the diagnosis of tumors
151	Jithendra K. B.		Dr. Shahana T. K.	Hardware efficient embedded secure communication system
152	Mahesh V. V.		Dr. Shahana T. K.	VLSI Signal Processing Systems
153	Mohamed Salih K. K.		Dr. Binu Paul Dr. Rekha K. James	
154	Paul Ansel V.		Dr. Babita Roslind Jose	System Level Analysis and design of Re-configurable sigma Delta Analogue to Digital Converters
155	Purushothaman K. G.		Dr. Rekha K. James	VLSI Communication
156	Rema N. R.		Dr. P. Mythili	Transformation Techniques for Image Processing
157	Sabarinath G.		Dr. Babita Roslind Jose	Non-linearity analysis of Programmable oversampled Sigma Delta Modulator for 4G Wireless Receivers
158	Arun C.		Dr. Biju N.	
159	D. Prekasan		Dr. K. K. Saju	Characterisation of Synovial Fluid
160	Jayasree K. S.		Dr. K. C. James Dr. V. N. Narayanan Nampoothiri	Optimizing strategy for production distribution and supply chain of certain industrial Scenarion



161	Jibi Job		Dr. Biju N.	Design and analysis of an innovative pick-and place robotic manipulator
162	Manu M. John		Dr. James Varghese	A study on Consumer Awareness in Energy Efficiency Standards
163	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
164	Rejeesh C. R.		Dr. K. K. Saju	A study into the development of coconut fibre based composite Boards
165	Reghuraj A. R.		Dr. K. K. Saju	Black Oxide Coating on Surgical Stainless Steel
166	Sanchu S.		Dr. Biju N.	Study and Analysis of Cryogenic Treated Cutting Tools
167	Thilakan T. B.		Dr. P. S.Sreejith	Sustainable Manufacturing
168	Sushil Cherian		Dr. James Varghese	Dynamical Simulation and modeling of ultra supercritical thermal power plants
169	B. Indulakshmi		Dr. G. Madhu	Process Control



7. 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

8. 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

9. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	Ph.D			
2	M.Tech (FT)			
	1. Civil Engineering	8	10	18
	2. Mechanical Engineering.	18	0	18
3	B.Tech (Civil)	82	18	100
4	B.Tech (CS)	68	31	99
5	B.Tech (EC)	58	42	100



Sl. No.	Programme of Study	Men	Women	Total
6	B.Tech (EEE)	57	12	69
7	B.Tech (IT)	65	37	102
8	B.Tech (ME)	99	0	99
9	B.Tech (SE)	68	0	68

10. Research Facilities

a. Laboratories (Major equipments available)

Name of the laboratory/ workshop	Major equipment
Civil Engineering	
Strength of materials lab	UTM, Fatigue testing Machine, Machines for Hardness testing
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
Environmental Engg. Lab	Spectrophotometers, Flame Photometer, BOD Incubator, COD Analyser, Electronics Analytical Balances, Muffle Furnace, Oven, Gas chromatograph
Mechanical Engineering	
CAD lab	CNC trainer lathe, Robotic arm
Computer programming lab	ANSYS AutoCAD
Fluid Mechnics 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 Cyliner Air Compressor, Multi Stage Single Cylinder Air Compressor
Heat and mass transfer lab	R&A /c Equipments
Electronics & Communication Engineering	
Microprocessor lab	Microprocessor kit, Micro 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
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: 33777 Journals: 44	Books: 871 Journals: 44

11. Distinguished Visitors

Sl. No.	Name	Designation	Topics of Lecturer	Date of Visit
1	Mr. Thomas Chacko	GM, Engineering and Advisory Services KRL	Industry Institute Interaction-Scope and Challenges-What the Industry looks for from the academia a manufacturing Industry Perspective	16/07/2012
2	Mr. Venugopala Kurup	DGM, Engineering and Construction KRL	Industry Institute Interaction-Scope and Challenges-Curriculum An Industrial Perspective	16/07/2012
3	Mr. Sivakumar G.	Director, Kerala State Productivity Council	Industry Institute Interaction-Scope and Challenges-Scope of Industry-Academia interaction in the present economic scenario	16/07/2012
4	Mr. Girish A. S	Head (HR) Apollo Tyres Ltd.	Industry Institute Interaction-Scope and Challenges-Industry Institution Interaction-HR Dimension	16/07/2012
5	Mr. Sebastian M. S.	Director-Operations Eastern Group of Companies	Industry Institute Interaction-Scope and Challenges-TQM Perspective in Industry Institute Interaction	16/07/2012
6	Prof. Dr. Ayay Chakrabarty	Vice Chancellor BIT, Mesra, Ranchi	Electromagnetic Interference and electromagnetic compatibility	20/09/2012
7	Dr. Uttam Kumar		Geo Spatial Data mining	28/09/2012
8	Mr. Raju Thomas	Retired Chief Engineer, FACT	Vibration analysis on rotating equipments	17/10/2012



9	Prof. Prabhakaran Nair	NIT Calicut	Finite element analysis	5/10/2012
10	Mr. A. K. Das	BPCL	Fire and Safety in refineries	8/10/2012
11	Mr. Ketan Dande	Expert from start up village	Innovation and Entrepreneurship	8/1/2013
12	Mr. Sijo Kuruville George	CEO Start up Village	initiation of start up village	116/01/2013
13	Dr. Babu J. Alappatt	Prof. IIT Delhi	Recent advancement in solid waste management	30/01/2013
14	Dr. Gangan Pratap	Director, NISCAIR	Finite element analysis	15/02/2013
15	Mr. Kamalasanan P. K.	Senior Divisional Engineer, BSNL	Telephony Switching	5/3/2013

12. Ph.Ds. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1.	Design, Analysis and realization of zero-cogging permanent-magnet brushless DC motor for spacecraft applications	Praveen R. P.	Dr. Jagathyraj V. P. Dr. G. Madhu
2	Development of a system for concurrent product and process design for a machine tool factory	Thankachan T. Pullan	Dr. M. Bhasi Dr. G. Madhu
3.	Qualitative airflow modelling and analysis of data centre air conditioning as multiple jet array	Premnath R.	Dr. G. Madhu
4.	An analysis of work related stress factor in selected industries in Kerala, India	Satheesh Kumar K.	Dr. G. Madhu
5.	Influence of additives on the characteristics of stone matrix asphalt	Bindu C. S.	Dr. K. S. Beena
6.	Analysis of system signals based on cross recurrence method for system dynamics characterisation	Jacob Elias	Dr. V. N. Narayanan Namboothiri
7.	An approach towards the development of an efficient symmetric key encryption scheme	Paul A. J.	Dr. P. Mythili
8.	Behaviour of laterised normal and self compacting concrete subjected to elevated temperatures	Mathews M. Paul	Dr. George Mathew



13. Publications
a. Papers

International Journal

Sl. No.	Department	Paper Name	International Journal	ISSN/ISBN/ ACCN No.	Author/s	Volume No.	Page No.
1	Civil Engineering	Improvement of Shear strength of Loose Sandy Soils	Grouting Journal of Ground Improvement		Anitha G. P. Abraham B. M. Issue Sridharan A.	Vol. 166	
2	Civil Engineering	Coir fibre as a stabilizing additive in Stone Mastic Asphalt	International Journal for Earth Sciences and Engg		Beena K. S. Bindu C. S.	Vol. 4 No.1	
3	Civil Engineering	Biological Sulphate reduction with hydrogen in a Jet loop bofilm reactor	International Journal of Scientific and research publications	2250-3153	Dr. Renu Pawels	Volume 3 Issue 6	
4	Civil Engineering	Assessment of technological options for solid waste treatment in Kerala	International Journal of Scientific and research publications 2250-3153		Dr. Renu Pawels	Volume 3 Issue 8	
5	Civil Engineering	Sustainable Solid Waste Management Solutions to Kochi City, India Through the Environmental Management Tool Ecological Footprint Analysis	International Journal of Civil, Structural Environmental Engineering Research and Development (IJCSEIERD)	2249 6866	Athira Ravi Subha V. and Infrastructure	Vol. 3 Issue 1	67-78
6	Civil Engineering	Coir geotextile for slope stabilization and cultivation A case study in a highland region of Kerala, S. India	Physics and Chemistry of the Earth		Subha Vishnudas Hubert H. G. Savenije Pieter Vander Zaag K. R.	Vol. 47-48	135-138



7	Civil Engineering	Watershed development practices for ecorestoration in a tribal area A case study in Attappady hills, S. India	Physics and Chemistry of the Earth		Subha Vishnudas Hubert H. G. Savenije Pieter Van der Zaag	Vol. 47-48	58-63
8	Computer Science	System for Syntactic Structure Transfer from Malayalam to English	The International Journal of computer applications		Latha R. Nair iRAFIT	Vol.	26-30
9	Computer Science	Design and development of a Malayalam to English translator- A transfer based approach	International journal of Computational Linguistics (IJCL)		Latha R. Nair	Vol. 3 issue 1	
10	Computer Science	A Novel Decision Tree Algorithm for Numeric Datasets C 4.5*Stat	International Journal of Advanced Computing		Dr.sudheep Elayidom M.	36 (1)	1120-1123
11	Electronics and Communication	Time Domain Modeling of a Band Notched Antenna for UWB Applications	Journal of Systemics Cybernetics and Informatics		Mridula S. Paul Binu, Mythili P. Mohanan	Vol. 10 No. 3	pp. 24-28
12	Electronics and Communication	Faster Techniques to Evolve Wavelet Coefficients for Better Fingerprint Image Compression	International Journal of Electronics		Shanavaz T. K. Mythili P.		



13	Electronics and Communication	A Genetic Algorithm based Fuzzy C Mean Clustering Model for Segmenting Microarray Images	International Journal of Computer Applications	0975 8887	Biju V. J. Mythili P.	Vol. 52 No.11	pp. 42-48
14	Electronics and Communication	Chipless RFID Tag using Multiple Microstrip Open Stub Resonators	IEEE Trans. Antennas and Propagation		Nijas C. M. Dinesh R. Deepak U. Abdul Rasheed Mridula S. K. Vasudevan P. Mohanan	Vol. 60 No. 9	pp. 4429 4432
15	Electronics and Communication	Time Domain Modeling of a Band-Notched Antenna For UWB Applications	Journal of Systemics Cybernetics and Informatics		S. Mridula Binu Paul P. Mythili P. Mohanan	Vol.10 No. 3	pp. 24-28
16	Electronics and Communication	Planar Ultra Wideband Antenna with modified slotted ground plane	International journal of RF and Microwave Computer Aided Engineering Wiley, USA		Sarah Jacob Shameena V. A. Mridula S. C. K. Aanandan K. Vasudevan P. Mohanan		
17	Electronics and Communication	Time Domain Modeling of a Band-Notched Antenna for UWB Applications	Journal of Systemics Cybernetics and Informatics		S. Mridula Binu Paul P. Mythili P. Mohanan	Vol. 10 No. 3	pp. 24-28
18	Electronics and Communication	A Compact CPW fed Slot Antenna for Ultra Wide Band applications	International Journal of Electronics and Communication		Shameena V. Sarah Jacob Mridula S. Anju Pradeep Lindo A. O. P. Mohanan	A. 66	189-194
19	Electronics and Communication	A Slope Compensated Current Mode Controlled Boost Converter DOI 10.1007/978-3-642-32112-2_9	Lecture notes in Computer Science (Springer) ICECCS	ISBN 978-3-642-32111-5	K. G. Remya Chikku Abraham Babitha R. Jose	Pages 69-76	



20	Electronics and Communication	Cellular Automata Approach for Spectrum Sensing in Energy Efficient Sensor Network Aided Cognitive Radio DOI 10.1007/978-3-642-32112-2_9	Lecture notes in Computer Science (Springer) ICECCS	ISBN 978-3-642-32111-5	Jaison Jacob Babita R. Jose	Pages 54-61	
21	Electronics and Communication	Biswas Busy tone contention protocol: a new high-throughput and energy-efficient wireless local area network medium access control protocol using busy tone Wiley	International Journal of Communication Systems		Jibukumar M. Raja Datta P. K. Biswas	G.Vol. 25 Issue 8	pages 991-1014
22	Electrical and Electronics	Commercial Impact and Optimum Capacity Determination of Pumped Storage Power Plant for a practical Power System	International Journal of Emerging Electric Power Systems		P. G. Latha S. R. Anand Imthias Ahamed Member IEEE		
23	Information Technology				Jyothilakshmi M. S. Philip Samuel		
24	Information Technology	Ant Colony Optimization Module for Scheduling of Resource Constrained Construction Project	The Master-bulders		Ms. Binsu C. Kovoor	Vol. 14	pp 50-56



25	Mechanical Engineering	Defect Detection in Pipes using Tone Burst Eddycurrent Thermography	Bindt Insight	1354-2575	Biju N. Ganesan N. Krishna- murthy Balasubra- maniam C. V. Krishnan	54 (9)	pp 500- 504
26	Mechanical Engineering	Defect Szing Simulation Studies for the Tone-Burst Eddy current Thermography using GA based Inversion	JNDT	0195-9298	Biju N. Ganesan N. Krishna- murthy C. V. Krishnan Balasubrama- nam	31	pp 342- 348
27	Mechanical Engineering	Chapter 11 Natural Oil based Lubricants in Green Tribology- Biomemetics Energy Conservation and Sustainabality	Green Energy and Technology Series-Springer Publication	287-329	Sathwik Chatra K. R. Jayadas N. H. Kailas S. V.		
28	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)		Bijesh P. Jayadas N. H.	4 (1)	44 - 53
29	Mechanical Engineering	FEM based Virtual Proto typing and Design of Third Harmonic Excitation System for Low Voltage Salient Pole Synchronous Generators	IEEE Transactions on Industry Applications (Accepted)		Jiji K. S. Jayadas N. H. Babu C. A.		



30	Mechanical Engineering	Cross recurrence quantification analysis of input and output signals for the detection of chatter in turning	DOI: 10.1007/s/1071-013-1124-0		Jacob Elias, V. N. Narayanan Namboothiri		
31	Mechanical Engineering	Fired Heater Integration into Total Site and Multiple Fired Heater Targeting	Applied Thermal Engineering		J. Varghese S. Bandyopadhyay	42	111-118
32	Mechanical Engineering	Improved area energy targeting for fired heater integrated heat exchanger networks	Chemical Engineering Research and Design		J. Varghese S. Bandyopadhyay	90	213-219
33	Safety & Fire Engineering	A decomposition analysis on CO ₂ emission of Indian cement industries	International Journal of Environmental Engineering and Management		A. Ramesh G. Madhu B. Deepak	Vol. 3 No. 1	pp. 23-36
34	Safety & Fire Engineering	Analysis and multinomial regression modelling of work stress in chemical industries in Kerala State of India	International Journal of Industrial Engineering and Technology		K. Satheesh Kumar G. Madhu	Vol. 4 No. 1	pp. 69-78
35	Safety & Fire Engineering	Linking SME performance with the use of forecasting planning and control: Empirical findings from Indian firms	European Journal of Scientific Research		Biju Augustine M. Bhasi G. Madhu	Vol. 73 No.1	pp 86-105



36	Safety & Fire Engineering	Use of planning and controlling in manufacturing industries: A review	International Journal of Operations Management and Information Technology		Biju Augustine M. Bhasi G. Madhu	Vol. 2	pp. 1-38
37	Safety & Fire Engineering	Hazop study for process plants: A generalized approach	International Journal of Emerging Technology and Advanced Engineering		Smera Maria Poulose G. Madhu	Vol. 2 Issue 7	
38	Safety & Fire Engineering	Analysis and modelling of work stress in chemical industries in Kerala, India	International Journal of Management		K. Satheesh Kumar G. Madhu	Vol. 3 Issue 2	pp. 43-53
39	Safety & Fire Engineering	Removal of copper and nickel from aqueous solutions using natural adsorbents	Pollution Research		T. J. Thomas G. Madhu	31 (4)	687-691
40	Safety & Fire Engineering	Energy audit of thermal utilities in a cement plant	International Journal of Mechanical Engineering		A. Ramesh Leo A. J. G. Madhu	Vol. 2 Issue 2	22- Nov.
41	Safety & Fire Engineering	influence of organic loading rates on aerobic granulation process for the treatment of wastewater	Journal of Clean energy Technologies		B. K. Bindhu G. Madhu	Vol. 1 No. 2	
42	Safety & Fire Engineering	Decision support tool for lean product and process development	Production Planning & Control		Thankachan T. Pullan M. Bhasi G. Madhu	Vol. 24 No. 6	449- 464
43	Safety & Fire Engineering	Efficiency factors of recycled concrete bottle-shaped struts	Structures & Buildings (In press)		Sahoo D. K. Singh B. Mathew P. Bhargava P.		



44	Safety & Fire Engineering	Efficiency factors of recycled concrete aggregate concrete bottle-shaped struts	ICE-Construction Materials 10.1680/coma 11.00027		Singh B. Sahoo D. K. Bhargava P.		
45	Safety & Fire Engineering	An appraisal of design provisions for bottle-shaped struts	Magazine of Concrete Research		Sahoo D. K. Singh B Bhargava P.	64 (7)	pp. 647- 656
46	Safety & Fire Engineering	Synergic Impact on Slippage Cost and Time in Construction Project	International Journal of Engineering Science and Technology	e- ISSN: 0975- 5462 (p-ISSN: 2278- 9510)	C. K. George- kutty George- Mathew	Vol. 4 No. 7	pp 75-86
47	Safety & Fire Engineering	Hall Marks in Construction Material Management: A Literature review	IOSR Journal of Mechanical and Civil Engineering	ISSN: 2278- 1684	C. K. George- kutty George- Mathew	Vol. 2 Issue 1	pp 13-23
48	Safety & Fire Engineering	research Methodology for Material Optimization in Construction projects	International Journal of Engineering research & Technology	ISSN: 2278- 01	C. K. George- kutty George- Mathew	Vol. 1 Issue 6	
49	Safety & Fire Engineering	Influence of Aggregate Content on the Behavior of Fly Ash Based Geopolymer Concrete	Scientia Iranica Transaction A: Civil Engineering		Benny Joseph George- Mathew	Vol. 19 Issue 5	pp 1188- 1194
50	Safety & Fire Engineering	Mix design methodology for laterized self compacting concrete and its behaviour at elevated temperature Construction and Building Materials			George Mathew Mathews M. Paul	Vol. 36	pp 104- 109



51	Safety & Fire Engineering	Synergic Impact on Slippage Cost and Time in Construction Project	International Journal of Engineering Science and Technology	e-ISSN: 0975-5462 (p-ISSN: 2278-9510)	C. K. Georgekutty George Mathew	Vol. 4 No. 7	pp 75-86
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International Conference Papers

Sl.	Department	Proceedings	International	Page	Author/s	Venue
1	Civil Engineering	Coir geotextile enclosed Stone column	International Conference on Ground Improvement and Ground Control ICGI-2012	pp. 781-786	Beena K. S. Unni Kartha G.	Wollongong Australia
2	Civil Engineering	Strengthening of Railway embankment-a case study	International Conference on Ground Improvement and Ground Control ICGI-2012	pp. 453-458	Jayakumar P. Gopalarishnan Nair T. K. Beena K. S	Wollongong Australia
3	Civil Engineering	Ground Improvement using Stone Columns	Fifth International Conference on Geotechnical Earthquake Engineering		Beena K. S.	San Deigo California USA
4	Civil Engineering	Effect of soil structure interaction on Seismic loads of framed structures	International Conference on Innovations in Civil Engineering		Dr. Glory Joseph	SCMS School of Engineering and Technology Kerala,India
5	Civil Engineering	Solid Waste treatment Technologies-Challenges and Opportunities of kerala	Asian conference on Civil material & Environmental Science (ACMES 2013)	343-355	Dr. Renu Pawels	Tokyo



6	Electronics and Communication	Enhancement of Calcification in Mamogram using Volterra Series based Quadratic filters	International Conference on Data Science & Engineering		Hari V. S. JagathyRaj V. P. R. Gopikakumari	Department of computer Science, CUSAT
7	Electronics Institute and Communication Technology	SMRT: A new placement approach for N a power of 2	International conference INDICON 2012		Jaya V. L. Preetha Basu R. Gopikakumari	Rajagiri of
8	Electronics and Communication	Accepted for Presentation	International conference INDICON 2012		Bindu V. A . Unnikrishnan R. Gopikakumari	Rajagiri Institute of Technology
9	Electronics and Communication	Towards the development of a new wavelet for ECG classification	IEEE international conference on Power, Signals Controls and Computation (EPSCICON)	pp. 1-5	Baby Paul K. T. Shanavaz P. Mythili	
10	Electronics and Communication	A faster 2D technique for the design of combinational digital circuits using Genetic Algorithm	IEEE international conference on Power Signals Controls and Computation (EPSCICON)	pp. 1-5	Vijayakumari C. K. Mythili P.	
11	Electronics and Communication	A socio friendly approach to the analysis of emotive speech	International Conference on Technology and System Design 2011, Procedia Engineering	Pages 577-583	Agnes Jacob Mythili P.	
12	Electronics and Communication	ECG noise removal using GA tuned sign-data least mean square algorithm	IEEE International Conference on Advanced Communication Control and Computing Technologies (ICACCCT)		Baby Paul P. Mythili	



13	Electronics and Communication	Evolution of Better Wavelet Coefficients for Fingerprint Image Compression Using Cropped Images	International Conference on Advances in Computing and Communications (ICACC)	pp. 126-129	K. T. Shanavaz P. Mythili	
14	Electronics and Communication	An approach for side lobe reduction in conventional beamformers	IEEE INDICON 2012 Kochi		Mini P. R. S. Mridula P. Mohanan	
15	Electronics and Communication	Design of Compact Reversible Decimal Adder using RPS Gates	Second World Congress on Information and Communication Technologies		Rekha K. James K. Poullose Jacob SreelaSasi Trivandrum India	
16	Electronics and Communication	Performance Analysis of Feedback Architecture and Input Feed Forward Architecture in Non-Ideal Low Pass Sigma Delta Modulators	Second International Workshop on Advances in Computing and Communications		Sabarinath G. Paul Ansel Babita R. Jose Kochi	
17	Electronics and Communication	A Review on Medical Image Registration and Transformation Techniques	Second International Workshop on Advances in Computing and Communications		Jilu George Babita Roslind Jose Kochi	
18	Electrical and Electronics	Analysis and Design of a Single Stage Single Switch Power Factor Converter to reduce Bus Voltage Stress with High Input Power Factor and Fast Output Voltage Regulation	Thirteenth IEEE Workshop on Control and Modeling for Power Electronics (IEEE COMPEL 2012)		C. A. Babu S. J. Bindu	Kyoto Japan



19	Electrical and Electronics	An Improved Excitation System for Low Voltage Salient Pole Generator Utilizing Third Harmonic Power	EE Centenary Conference IISc Bangalore	pp 27-32	C. A. Babu Jiji. K. S. Jayadas. N. H.	
20	Electrical and Electronics	A Reinforcement Learning approach to Hydrothermal Scheduling Problem	ISDA 2012 (12 th International Conference on Intelligent Systems Design & Applications)	181-186	P. G. Latha T. P. Imthias Ahamed P. S. Sreejith	
21	Information Technology	SQL Stor: Blockage of Stored Procedure SQLInjection Attack Using Dynamic Query Structure Validation	International Conference on Intelligent Systems Design and Applications ISDA 2012		Sruthy Manmadhan (kadayiruppu sngist-cs assistant) T. M. Manesh Varghese Paul	SOE CUSAT
22	Information Technology	An Implementation of a Newpublic key System based on RSA which leads hackers solve multiple hard problems to break the cipher	International Conference on Intelligent Systems Design and Applications ISDA 2012		Rasmi P. S. (toch it assistant) Varghese Paul	SOE CUSAT
23	Information Technology	Improving Design Quality by Automatic Verification of Activity Diagram Syntax	International Conference on Intelligent Systems Design and Applications ISDA 2012		Renu George Philip Samuel	SOE CUSAT
24	Information Technology	Coverage Based Route Maintenance in MANET Routing Protocol	International Conference on Intelligent Systems Design and Applications ISDA 2012		Jisha G. Philip Samuel	SOE CUSAT



25	Informtion Technology	Translation of Behavioral Models To Source Code	International Conference on Intelligent Systems Design and Applications ISDA 2012		Sunitha E. V. Philip Samuel	SOE CUSAT
26	Informtion Technology	Domain Ontology Based Class Diagram Generation From Functional Requirements	International Conference on Intelligent Systems Design and Applications ISDA 2012		Jyothislakshmi M. S. Philip Samuel	SOE CUSAT
27	Mechanical Engineering	Defect sizing from TBET data-A Simulation Study	Review of Progress in Quantitative NDE		Biju N. Ganesan N. Krishnamurthy C.V.Krishnan Balasubramanam	Denver, Colarado USA
28	Mechanical Engineering	Prediction of Performance Characteristics of Salient Pole Synchronous Generators by Finite Element Method	International Conference on Manufacturing Technology and Management		Jiji K. S. Jayadas N. H. C. A. Babu	Toch Institute if Science & Technology Arakkunnam
29	Mechanical Engineering	FEM based Design of Third Harmonic Excitation System for Low Voltage Salient Pole Synchronous Generators	15th International on Electrical Machines & Systems (ICEMS 2012)		Jiji K. S. Jayadas N. H. C. A. Babu	Sapporo Japan

National Conference

Sl. No.	Department	Proceedings Name	International Conference Name	Page No.	Author/s	Venue
1	Civil Engineering	Wave Hindcasting Using Numerical Prediction Models- A Review	National conference RACE 2012		Rani Tenison Abdu Rahiman K. U. Subha V.	CUSAT India



2	Civil Engineering	Advances in Wastewater Treatment using membrane bioreactor Technology- A review	National conference RACE 2012	146-151	Dr. Renu Pawels	CUSAT India
3	Civil Engineering	Consequence Modelling and Vulberability Mapping of Hazardous Chemical storages	National conference RACE 2012	153-162	Dr. Renu Pawels	CUSAT India
4	Civil Engineering	Sand Mining from Rivers: Bless or Curse to Society- An overview	National conference RACE 2012 CUSAT, India		Geeja K. George Subha V. Abdu Rahman K. U.	
5	Civil Engineering	The Feasibility of Using Banana Fibres as a Construction Material-An Overview	National conference RACE 2012		M. S. Lekshmi V. Subha	CUSAT India
6	Civil Engineering	Multi Objective Optimisation of Water Distribution Networks	National conference RACE 2012		Sindhu H. Abdurahiman K. U. Subha V.	CUSAT India
7	Civil Engineering	Wave Hindcasting Using Numerical Prediction Models-A Review	National conference RACE 2012		Rani Tenison Abdu Rahiman K. U. Subha V.	CUSAT India
8	Electronics and Communication	Compact Ultra Wide Band Filter Using Chip Inductors and CSRRs	APSYM 2012		Bindu C. J. Anju Pradeep S. Mridula	CUSAT
9	Electronics and Communication	Chipless RFID tag based on Spurline resonators	APSYM 2012		Sumi M. Nijas C. M. Dinesh R. S. Mridula	CUSAT



10	Electronics and Communication	Wide Band Filter Using Chip Inductors and CSRRs	APSYM 2012 CUSAT		Bindu C. J. Anju Pradeep S. Mridula	
11	Electronics and Communication		APSYM 2012 CUSAT		Sarin.V. P. Nishamol M. S. Rohith K. Raj Anju Pradeep K. Vasudevan	
12	Safety & Fire Engineering	Behaviour-based safety management in the construction industry	Fifth CUSAT National Conference on Recent Advances in Civil Engineering (RACE-2012)	pp. 281-286	Sahoo D. K.	Cochin India

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. M. R. Radhakrishna Panicker	16th International Conference on Strength of Materials- IISc. Bangalore	Paper Presentation
Dr. Beena K. S.	International Conference on ground improvement and ground control- University of Wellington, Sidney Australia	Paper Presentation
Dr. M. R. Radhakrishna Panicker	International Conference on Advancement and futuristic Trends in Mechanical and Material Engineering- Punjab Technical University-Jalandhar	Paper Presentation
Dr. Renu Powels	Asian Conference on civil material and environmental science- Tokyo Japan	Paper Presentation
Mr. Arun Kumar T.	international conference on technologies for sustainable waste water management- Vignana University, Guntur, Andhra Pradesh	Paper Presentation
Mrs. Latha R. Nair	International symposium on computer communication control and automation 3CA-SINGAPORE	Paper Presentation
Dr. P. Mythili	DSP Hardware	Participation
Dr. Binu Paul	DSP Hardware	Participation
Dr. Jibukumar M. G.	DSP Hardware	Participation
Mr. Arun Mohan	DSP Hardware	Participation
Mr. Unni A. M	DSP Hardware	Participation
Mr. Premkumar C. V.	DSP Hardware	Participation



Dr. Babitha Roseline Jose	DSP Hardware	Participation
Dr. Rekha James	DSP Hardware	Participation
Dr. Deepa Sankar	DSP Hardware	Participation
Dr. Gopikakumari	DSP Hardware	Participation
Dr. Shahana T. K.	DSP Hardware	Participation
Minu Thampi	DSP Hardware	Participation
Mage Reena Varghese	DSP Hardware	Participation
Dr. Gopikakumari	Imaging Techniques	Participation
Dr. P. Mythili	Imaging Techniques	Participation
Dr. S. Mridula	Imaging Techniques	Participation
Dr. Binu Paul	Imaging Techniques	Participation
Dr. Jibukumar M. G.	Imaging Techniques	Participation
Dr. Babitha Roseline Jose	Imaging Techniques	Participation
Mr. Premkumar C. V.	Imaging Techniques	Participation
Mr. Unni A. M.	Imaging Techniques	Participation
Dr. Rekha James	Imaging Techniques	Participation
Mrs. Sumitha E. C.	Imaging Techniques	Participation
Ashna N. H.	Imaging Techniques	Participation
Sheena S.	Imaging Techniques	Participation
Daleesha M. Viswanathan	Imaging Techniques	Participation
Dr. Sasi Gopalan	Imaging Techniques	Participation
Shelbi Joseph	Office Automation Tools and practices	Participation
Dr. Renumol V. G.	Office Automation Tools and practices	Participation
Binsu C. Kovoov	Office Automation Tools and practices	Participation
Santhosh Kumar M. B.	Office Automation Tools and practices	Participation
Sahiya A. A.	Office Automation Tools and practices	Participation
Nismimol E. A.	Office Automation Tools and practices	Participation
Anila V. P.	Office Automation Tools and practices	Participation
Riyas N. K.	Office Automation Tools and practices	Participation
Renjusha Arvind	Office Automation Tools and practices	Participation
Sabitha S. Nair	Office Automation Tools and practices	Participation
Ms. Deepthi T. D.	Office Automation Tools and practices	Participation
Dr. Job Thomas	Office Automation Tools and practices	Participation
Dr. K. P. Sankaranarayanan Nair	Innovation and Open source tools in IT	Participation
Dr. Varghese Paul	Innovation and Open source tools in IT	Participation



Renjusha Arvind	Innovation and Open source tools in IT	Participation
Nismimol E. A.	Innovation and Open source tools in IT	Participation
Sabitha S. Nair	Innovation and Open source tools in IT	Participation
Ms. Deepthi T. D.	Innovation and Open source tools in IT	Participation
Dr. Philip Samuel	Innovation and Open source tools in IT	Participation
Dr. M. R. Radhakrishna Panicker	Innovation and Open source tools in IT	Participation
Dr. Jayadas N. H.	Innovation and Open source tools in IT	Participation
Ms. Preetha S.	Innovation and Open source tools in IT	Participation
Ms. Ancy P. John	Innovation and Open source tools in IT	Participation
Mr. Pramod Pavithran	Innovation and Open source tools in IT	Participation
Dr. M. Radhakrishnan	Innovation and Open source tools in IT	Participation
Dr. K. K. Saju	Innovation and Open source tools in IT	Participation
Dr. V. N. Narayanan Namboodiri	Innovation and Open source tools in IT	Participation
Mr. Zubair P. H.	Innovation and Open source tools in IT	Participation
Mr. Binu V. P.	Innovation and Open source tools in IT	Participation
Mr. John C John	Innovation and Open source tools in IT	Participation
Ms. Mumthas	Innovation and Open source tools in IT	Participation
Ms. Sreela Sreedhar	Innovation and Open source tools in IT	Participation
Ms. Jomy John	Innovation and Open source tools in IT	Participation
Sariga Raj	Energy Conservation and Management	Participation
Shelbi Joseph	Energy Conservation and Management	Participation
Binsu C. Kovoor	Energy Conservation and Management	Participation
Dr. Shobha Cyrus	Energy Conservation and Management	Participation
Dr. Roy M. Thomas	Energy Conservation and Management	Participation
Dr. Deepa G. Nair	Energy Conservation and Management	Participation
Dr. Subha V.	Energy Conservation and Management	Participation
Dr. Bindu C. S.	Energy Conservation and Management	Participation
Dr. Abdu Rahiman K. U.	Energy Conservation and Management	Participation
Dr. Glory Joseph	Energy Conservation and Management	Participation
Dr. Renu Powels	Energy Conservation and Management	Participation
Dr. Job Thomas	Energy Conservation and Management	Participation
Dr. Deepa Balakrishnan	Energy Conservation and Management	Participation
Dr. Rekha James	Energy Conservation and Management	Participation
Dr. P. Mythili	Energy Conservation and Management	Participation
Dr. Babitha Roseline Jose	Energy Conservation and Management	Participation
Dr. S. Mridula	Energy Conservation and Management	Participation



Dr. Deepa Sankar	Energy Conservation and Management	Participation
Dr. Sahana T. K.	Energy Conservation and Management	Participation
Dr. Dhannnia T.	Energy Conservation and Management	Participation
Dr. C. A. Babu	Energy Conservation and Management	Participation
Dr. Asha E. Daniel	Energy Conservation and Management	Participation
Dr. Usha Nair	Energy Conservation and Management	Participation
Dr. V. N. Narayanan Namboodiri	Advanced Engineering Materials and their Application	Participation
Dr. Babitha Roseline Jose	Advanced Engineering Materials and their Application	Participation
Dr. K. P. Sankaranarayanan Nair	Advanced Engineering Materials and their Application	Participation
Joseph Alexander	Advanced Engineering Materials and their Application	Participation
Dr. Glory Joseph	Advanced Engineering Materials and their Application	Participation
Dr. Deepa Sankar	Advanced Engineering Materials and their Application	Participation
Mr. Joshy P. J.	Advanced Engineering Materials and their Application	Participation
Dr. Tide P. S.	Advanced Engineering Materials and their Application	Participation
Dr. Dipak Kumar Sahoo	Advanced Engineering Materials and their Application	Participation
Dr. Job Thomas	Advanced Engineering Materials and their Application	Participation
Dr. Jibukumar M. G.	Advanced Engineering Materials and their Application	Participation
Dr. Ramadass S.	Advanced Engineering Materials and their Application	Participation
Dr. Abdu Rahiman K. U.	Advanced Engineering Materials and their Application	Participation
Dr. Bindu C. S.	Advanced Engineering Materials and their Application	Participation
Dr. Subha V.	Advanced Engineering Materials and their Application	Participation
Dr. Deepa G. Nair	Advanced Engineering Materials and their Application	Participation
Mr. Premkumar C. V.	Advanced Engineering Materials and their Application	Participation
Dr. Deepa Balakrishnan	Advanced Engineering Materials and their Application	Participation



Dr. M. N. Vinod Kumar	Advanced Engineering Materials and their Application	Participation
Dr. Biju N.	Advanced Engineering Materials and their Application	Participation
Dr. Jacob Elias	Advanced Engineering Materials and their Application	Participation
Gireesh Kumaran Thampi B. S.	Advanced Engineering Materials and their Application	Participation
Mr. Unni A. M.	Advanced Engineering Materials and their Application	Participation
Dr. Beena K. S.	Advanced Engineering Materials and their Application	Participation
Dr. Usha Nair	Advanced Engineering Materials and their Application	Participation
Dr. Renu Powels	Advanced Engineering Materials and their Application	Participation
Mr. Vinod Kumar P. P.	Advanced Engineering Materials and their Application	Participation
Dr. George Mathew	Advanced Engineering Materials and their Application	Participation
Dr. Ajithkumar G.	Advanced Engineering Materials and their Application	Participation
Mr. Vinod Kumar P. P.	Electronic Design Tools and its applications	Participation
Dr. Binu Paul	Electronic Design Tools and its applications	Participation
Dr. Shahana T. K.	Electronic Design Tools and its applications	Participation
Dr. Deepa Sankar	Electronic Design Tools and its applications	Participation
Dr. Babitha Roseline Jose	Electronic Design Tools and its applications	Participation
Dr. P. Mythili	Electronic Design Tools and its applications	Participation
Dr. Binu Paul	Safety and Fire Protection in buildings	Participation
Dr. P. Mythili	Safety and Fire Protection in buildings	Participation
Dr. Deepa Sankar	Safety and Fire Protection in buildings	Participation
Dr. Babitha Roseline Jose	Safety and Fire Protection in buildings	Participation
Dr. Deepa G. Nair	Safety and Fire Protection in buildings	Participation
Dr. Subha V.	Safety and Fire Protection in buildings	Participation
Dr. Bindu C. S.	Safety and Fire Protection in buildings	Participation
Dr. Abdu Rahiman K. U.	Safety and Fire Protection in buildings	Participation
Dr. Job Thomas	Safety and Fire Protection in buildings	Participation
Binsu C. Kovoor	Safety and Fire Protection in buildings	Participation
Dr. Deepa Balakrishnan	Safety and Fire Protection in buildings	Participation



Dr. M. N. Vinod Kumar	Safety and Fire Protection in buildings	Participation
Dr. Tide P. S.	Safety and Fire Protection in buildings	Participation
Dr. A. B. Bhasi	Safety and Fire Protection in buildings	Participation
P. G. Latha	Safety and Fire Protection in buildings	Participation
Sheena K. M.	Safety and Fire Protection in buildings	Participation
Dr. Sheena Mathew	Safety and Fire Protection in buildings	Participation
Sheena S.	Safety and Fire Protection in buildings	Participation
Ancy Zachariah	Safety and Fire Protection in buildings	Participation
Dr. Roy M. Thomas	Safety and Fire Protection in buildings	Participation
Dr. S. Mridula	Safety and Fire Protection in buildings	Participation
Dr. Rekha James	Safety and Fire Protection in buildings	Participation
Anju Pradeep	Safety and Fire Protection in buildings	Participation
Dr. Dhannia T	Safety and Fire Protection in buildings	Participation
Dr. Ramadass S.	Safety and Fire Protection in buildings	Participation
Dr. Gopikakumari	Safety and Fire Protection in buildings	Participation
Mr. Unni A. M.	Safety and Fire Protection in buildings	Participation
Dr. Glory Joseph	Safety and Fire Protection in buildings	Participation
Sri. Nirmal Job A.	Safety and Fire Protection in buildings	Participation
Dr. George Mathew	Safety and Fire Protection in buildings	Participation
Dr. K. K. Saju	Safety and Fire Protection in buildings	Participation
Dr. Usha Nair	Safety and Fire Protection in buildings	Participation
Latha R Nair	Safety and Fire Protection in buildings	Participation
Dr. M. R. Radhakrishna Panicker	Safety and Fire Protection in buildings	Participation
Shelbi Joseph	Safety and Fire Protection in buildings	Participation
Dr. Varghese Paul	Emerging Trends in Embedded Systems and Applications	Participation
Dr. S. Mridula	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Abdu Rahiman K. U.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Renumol V. G.	Emerging Trends in Embedded Systems and Applications	Participation
Shelbi Joseph	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Sheena Mathew	Emerging Trends in Embedded Systems and Applications	Participation
Dr. P. Mythili	Emerging Trends in Embedded Systems and Applications	Participation
Mr. Premkumar C. V.	Emerging Trends in Embedded Systems and Applications	Participation



Anju Pradeep	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Binu Paul	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Bindu C. S.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Shahana T. K.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Subha V.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Deepa G. Nair	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Jibukumar M. G.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Babitha Roseline Jose	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Rekha James	Emerging Trends in Embedded Systems and Applications	Participation
Mr. Unni A. M.	Emerging Trends in Embedded Systems and Applications	Participation
Sheena S.	Emerging Trends in Embedded Systems and Applications	Participation
Santhosh Kumar M. B.	Emerging Trends in Embedded Systems and Applications	Participation
Ancy Zachariah	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Sudheep Elayidom	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Usha Nair	Emerging Trends in Embedded Systems and Applications	Participation
Ms. Preetha S.	Emerging Trends in Embedded Systems and Applications	Participation
Mr. Pramod Pavithran	Emerging Trends in Embedded Systems and Applications	Participation
Latha R. Nair	Emerging Trends in Embedded Systems and Applications	Participation
Anu M.	Emerging Trends in Embedded Systems and Applications	Participation
Mrs. Sumitha E. C.	Emerging Trends in Embedded Systems and Applications	Participation
Deepa Paul E. P.	Emerging Trends in Embedded Systems and Applications	Participation



Preetha M. S.	Emerging Trends in Embedded Systems and Applications	Participation
Mr. Arun Mohan	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Abdulla P	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Tide P. S.	Emerging Trends in Embedded Systems and Applications	Participation
Nismimol E. A.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Ajithkumar G.	Emerging Trends in Embedded Systems and Applications	Participation
Franklin Robert	Emerging Trends in Embedded Systems and Applications	Participation
Gireesh Kumaran Thampi B. S.	Emerging Trends in Embedded Systems and Applications	Participation
Mr. Joshy P. J.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. Jayadas N. H.	Emerging Trends in Embedded Systems and Applications	Participation
Dr. James Varghese	Emerging Trends in Embedded Systems and Applications	Participation
Anu M.	Advances in web technology using JAVA	Participation
Dr. Renumol V. G.	Advances in web technology using JAVA	Participation
Sariga Raj	Advances in web technology using JAVA	Participation
Deepa Paul E. P.	Advances in web technology using JAVA	Participation
Ancy Zachariah	Advances in web technology using JAVA	Participation
Binsu C. Kovoor	Advances in web technology using JAVA	Participation
Sheena S.	Advances in web technology using JAVA	Participation
Dr. Philip Samuel	Advances in web technology using JAVA	Participation
Shelbi Joseph	Advances in web technology using JAVA	Participation
Dr. Varghese Paul	Advances in web technology using JAVA	Participation
Riyas N. K.	Advances in web technology using JAVA	Participation
Sahiya A. A.	Advances in web technology using JAVA	Participation
Preetha S.	Advances in web technology using JAVA	Participation
Pramod Pavithran	Advances in web technology using JAVA	Participation
Latha R. Nair	Advances in web technology using JAVA	Participation
Dr. Sheena Mathew	Advances in web technology using JAVA	Participation
Dr. Sudheep Elayidom M.	Advances in web technology using JAVA	Participation
M. B. Santhosh Kumar	Advances in web technology using JAVA	Participation



Rafidha Rehiman K. A.	Advances in web technology using JAVA	Participation
Keerthy A. S.	Advances in web technology using JAVA	Participation
Facila Chinchu O	Advances in web technology using JAVA	Participation
Malathi S.	Advances in web technology using JAVA	Participation
Noufiamol K. V.	Sustainable technology in engineering	Participation
Soumya K. S.	Sustainable technology in engineering	Participation
Dr. Biju N.	Sustainable technology in engineering	Participation
Gireesh Kumaran Thampi B. S.	Sustainable technology in engineering	Participation
Dr. James Varghese	Sustainable technology in engineering	Participation
Dr. Saju K. K.	Sustainable technology in engineering	Participation
Usha Nair	Sustainable technology in engineering	Participation
Tintu Joy M.	Sustainable technology in engineering	Participation
Vishnu Sasidharan	Sustainable technology in engineering	Participation
Dr. Bindu C. S.	Sustainable technology in engineering	Participation
Dr. Dipak Kumar Sahoo	Sustainable technology in engineering	Participation
Dr. George Mathew	Sustainable technology in engineering	Participation
Dr. Sobha Cyrus	Sustainable technology in engineering	Participation
Dr. K. S.Beena	Sustainable technology in engineering	Participation
Dr. Abdu Rahiman K. U.	Sustainable technology in engineering	Participation
Mr. Arun Kumar T.	Sustainable technology in engineering	Participation
Dr. Glory Joseph	Sustainable technology in engineering	Participation
Dr. Job Thomas	Sustainable technology in engineering	Participation
Dr. Ramadass S.	Sustainable technology in engineering	Participation
Dr. Roy M. Thomas	Sustainable technology in engineering	Participation
Sri. Narasimha D. S.	Sustainable technology in engineering	Participation
Aiswarya Raphel	Sustainable technology in engineering	Participation
Junia Joseph	Sustainable technology in engineering	Participation
Ranjini Menon	Sustainable technology in engineering	Participation
Dr. Philip Samuel	Sustainable technology in engineering	Participation
Dr. Renumol V. G.	Sustainable technology in engineering	Participation
Dr. Varghese Paul	Sustainable technology in engineering	Participation
Dr. Beena K. S.	PLAXIS Advanced Course,IIT Chennai	Paper Presentation
Dr. Job Thomas	Video lecture generation and distribution using social network-NITTR Chandigarh	Participation
Dr. P. S. Sreejith	Self-Awareness and Higher Education goals-IIT Madras	Participation



Dr. S. Mridula	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Anju Pradeep	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Dr. Babitha Roseline Jose	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Dr. Shahana T. K.	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Dr. Deepa Sankar	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Ancy Zachariah	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Sheena S.	MDP-Enterprise Risk Management with Special Emphasis on Operational Risk Management-IIMK	Participation
Dr. Job Thomas	MDP-Publishing 2.0 Business Strategies for 21st century-IIMK	Participation
Binsu C. Kovoov	MDP-General Management Programme for Middle Level Managers-IIMK	Participation
Dr. Sudheep Elayidom	MDP-Business Intelligence-IIMK	Participation
Dr. K. P. Sankaranarayanan Nair	MDP-Business Intelligence-IIMK	Participation
Santhosh Kumar M. B.	MDP-Business Intelligence-IIMK	Participation
Sariga Raj	MDP-Agile Project Management-IIMK	Participation
Shelbi Joseph	MDP-Agile Project Management-IIMK	Participation
Dr. Renumol V. G.	MDP-Agile Project Management-IIMK	Participation
Dr. Abdulla P.	MDP-Entrepreneurship and New Ventures-IIMK	Participation
Dr. V. N. Narayanan Namboodiri	MDP-Entrepreneurship and New Ventures-IIMK	Participation
Mr. Premkumar C. V.	MDP-Entrepreneurship and New Ventures-IIMK	Participation
Dr. Jibukumar M. G.	MDP-Entrepreneurship and New Ventures-IIMK	Participation
Mr. Unni A. M.	MDP-Entrepreneurship and New Ventures-IIMK	Participation
Mr. Pramod Pavithran	MDP-Entrepreneurship and New Ventures-IIMK	Participation



Dr. Philip Samuel	MDP-Operational Excellence through Lean Six Sigma-IIMK	Participation
Dr. Sheena Mathew	MDP-Project Planning Implementation Monitoring and Evaluation:A Project Leadership Programme for High Performing Projects-IIMK	Participation
Joseph Alexander	MDP-Project Planning Implementation Monitoring and Evaluation:A Project Leadership Programme for High Performing Projects-IIMK	Participation
Dr. Binu Paul	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Rekha James	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Biju N.	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. C. A. Babu	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. George Mathew	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Dipak Kumar Sahoo	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Benny Mathew Abraham	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Jacob Elias	MDP-Self Management and Crisis Management-IIMK	Participation
Dr. Renumol V. G.	MDP-Communication Effectiveness Lab for Managers-IIMK	Participation
Santhosh Kumar M. B.	MDP-Personal Innovation Creative Thinking and Decision Making-IIMK	Participation
Dr. Varghese Paul	MDP-Timeless Leadership-IIMK	Participation
Dr. Usha Nair	MDP-Timeless Leadership-IIMK	Participation
Dr. Asha E Daniel	MDP-Timeless Leadership-IIMK	Participation
Dr. Sobha Cyrus	MDP-Timeless Leadership-IIMK	Participation
Dr. Gopikakumari	MDP-Timeless Leadership-IIMK	Participation
Dr. Job Thomas	MDP-Problem Solving and decision making-IIMK	Participation
Binsu C. Koor	MDP-Problem Solving and decision making-IIMK	Participation



16. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (in Rs.)	Investigator(s)
1	Modernization of Metrology Lab-MODROBS	AICTE	15,00,000	Dr. K. K. Saju
2	Bio Drying-A Sustainable Technology for Solid Waste Management	KSCSTE	8,68,000	Dr. Renu Powels
3	Modernization of Metrology Lab-MODROBS	AICTE	18,00,000	Dr. N. Biju
4	System – Level Design and Analysis of a reconfigurable Multi Standard Sigma-Delta Analog to Digital Converters for next Generation of Wireless Transceivers	KSCSTE	9,48,000	Dr. Babitha Roseline Jose
5	An investigation of the imitability of course recycled concrete aggregate for structural concrete	KSCSTE	10,50,500	Dr. Dipak Kumar Sahoo
6	Microwave Sensing of Soil Properties	CERD	19,000	Dr. S. Mridula
7	MOM Analysis and Experiments of Waveguide fed DRAs for	DST	25,92000	Dr. P. Abdulla
8	Enhancement of security using multimodal biometric solutions	TEQIP	50,000	Smt. Binsu C. Koor Assistant Professor
9	Design and development of a prototype morphological analyser for Malayalam language	TEQIP	50,000	Smt. Latha R. Nair Assistant Professor
10	Design and manufacture of an indigenous peristaltic pump for assisting orthopaedic surgical procedures	TEQIP	50,000	Dr. K. K. Saju Associate Professor
11	Treatment of waste water using nano materials	TEQIP	50,000	Dr. G. Madhu Professor
12	Compact low pass filter with sharp roll off rate using microstrip resonator	TEQIP	50,000	Dr. Abdulla P. Associate Professor
13	Properties of latex modified concrete incorporating fly ash	TEQIP	50,000	Dr. Glory Joseph Associate Professor
14	Miniaturised band pass filters for wireless applications	TEQIP	50,000	Dr. S. Mridula Associate Professor
15	Potential of demolished wastes as a sustainable building material	TEQIP	50,000	Dr. Deepa G. Nair Reader



16	Fully mechanised ratt for coir yarn	TEQIP	50,000	Dr. P. S. Sreejith Principal
17	Optical fiber gas sensors	TEQIP	50,000	Dr. Jibukumar M. G. Associate Professor
18	Optic fiber smart sensor	TEQIP	50,000	Sri. Unni A. M. Associate Professor
19	Artificial intelligence based expert system to study the life and longevity of a crop (Banana)	TEQIP	50,000	Sri. M. B. Santhosh Kumar Assistant Professor
20	Application of magneto rheological (MR) fluid in disaster management	TEQIP	50,000	Dr. Narayanan Namboothiri V. N. Associate Professor
21	Nonlinear studies on coupled systems using recurrence property	TEQIP	50,000	Dr. Jacob Elias Associate Professor
22	Factors influencing risky riding behaviour of two wheeler riders in Kerala	TEQIP	50,000	Dr. M. N. Vinodkumar Professor
23	Vibration based health monitoring and damage diagnosis of composite rotor blade structure	TEQIP	50,000	Dr. Biju N. Associate Professor
24	Study on the utilization of laterised geopolymer concrete in sustainable housing	TEQIP	50,000	Dr. George Mathew Associate Professor
25	Shear strength of GFRP reinforced concrete beams	TEQIP	50,000	Sri. Ramadas S. Lecturer (Selection Grade)
26	Characterization and use of artificial coarse aggregate in concrete	TEQIP	50,000	Dr. Job Thomas Reader
27	Near field UHF/microwave RFID tag with security	TEQIP	50,000	Smt. Anju Pradeep Associate Professor
28	Investigations into the design of microstrip antennas suitable for breast tumour detection	TEQIP	50,000	Dr. P. Mythili Associate Professor
29	Model studies on liquefaction of soils	TEQIP	50,000	Dr. Beena K. S. Professor
30	Enhancing quality of software through metrics and testing techniques	TEQIP	50,000	Dr. Philip Samuel Associate Professor


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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	Workshop- Industry Institute Interaction-Scope and Challenges	16/07/2012	Dr. A. B. Bhasi	TEQIP
2	International Conference on Data Science & Engineering	18/07/2012 to 20/07/2012	Computer Science	CUSAT
3	Seminar-Electromagnetic Interference and electro magnetic compatibility	20/09/2012	Dr. A. B. Bhasi	TEQIP
4	Seminar-Geo Spatial Data mining	28/09/2012	V. Damodaran	TEQIP
5	Seminar-Finite element analysis	05/10/2012	Dr. Saju K. K.	TEQIP
6	Seminar-Fire and Safety in refineries	08/10/2012	Dr. George Mathew	TEQIP
7	STTP-Energy Conservation and Management	05/11/2012 to 09/11/2012	P. G. Latha Sheena K. M.	TEQIP
8	STTP-Safety and Fire Protection in buildings	03/12/2012 to 07/12/2012	Dr. G. Madhu	TEQIP
9	Induction training programme for I and II Sem Students	14/11/2012 to 20/11/2012	Dr. Sasi Gopalan	TEQIP
10	International Conference ISDA 2012-International Conference on Intelligent Systems Design and Applications	27/11/2012 to 29/11/2012	Dr. Philip Samuel	CUSAT & Machine Intelligence Research Lab
11	National Conference- Fifth CUSAT National Conference on Recent Advances in Civil Engineering-RACE 2012	29/11/2012 to 01/12/2012	Dr. Benny Mathew Abraham	CUSAT
12	Seminar-Innovation and Entrepreneurship	08/01/2013	Dr. C. A. Babu	TEQIP
13	Seminar-Initiation of startup village	16/01/2013	Sheena K. M.	TEQIP
14	STTP-Advanced Engineering Materials and their Application	21/01/2013 to 25/01/2013	Dr. Saju K. K.	TEQIP
15	Seminar- Recent advancement in solid waste management	30/01/2013	Arun Kumar T.	TEQIP



16	Skill Development Programme for S4 & S6 Students	11/02/2013 to 26/02/2013	Dr. Sasi Gopalan	TEQIP
17	Seminar-Finite element analysis	15/02/2013	Dr. Saju K. K.	TEQIP
18	STTP-Emerging Trends in Embedded Systems and Applications	18/02/2013 to 22/02/2013	Vinod Kumar P. P. V. Damodaran	TEQIP
19	STTP-Office Automation Tools and practices	25/02/2013 to 01/03/2013	Dr. Philip Samuel	TEQIP
20	National Seminar on "Current Advances in RF and VLSI Engineering"	01/03/2013 to 02/03/2013	Dr. Binu Paul Dr. Rekha K. James	DOE, SOE
21	STTP-Innovation and Open source tools in IT	04/03/2013 to 08/03/2013	Santhoshkumar M. B. Dr. Renumol V. G.	TEQIP
22	Seminar- Telecommunication Systems	05/03/2013	Dr. Binu Paul Dr. S. Mridula	IEEE
23	STTP-Sustainable technology in engineering	18/03/2013 to 22/03/2013	Deepa G. Nair	TEQIP

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. RenuPawels 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.	Navel Base PWD, CPWD and Various Private agencies



Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
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
9	Vetting of the Structural Design of the proposed New International Arrival Block and Modification of existing ITB at Calicut Airport (Year 2012-13)	Dr. Glory Joseph Dr. Deepa Balakrishnan S.	KITCO Ltd. Kochi





SCHOOL OF ENVIRONMENTAL STUDIES

1. Brief History :

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. 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 is assisted under the UGC SAP program..

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.Sc. Environmental Technology: Stream 1 : Environmental Engineering
Stream 2 : Environmental Biotechnology
2. M.Tech. Marine Biotechnology (Sponsored by DBT – 4 semesters)
3. Ph.D.

3. Faculty Members

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



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	Asst. Professor	M.Sc., Ph. D.	Marine Biotechnology
9	Dr. T. P. Sajeevan	Asst. Professor	M.Sc. Ph. D	Marine Biotechnology

4. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Swapna P. Antony	DST Inspire faculty	Ph.D.	Biotechnology
2	Dr. Divya S. P.	Kothari fellowship	Ph.D.	Biotechnology
3	Dr. Gopalakrishnan	Kothari fellowship	Ph.D.	Biotechnology

5. Research Scholars

Sl. No.	Name	Supporting Agency	Guide	Area of Work
1	Renjith K.	Welcome Trust & CUSAT	Dr. I. S. Bright Singh	Microbiology
2	Deepesh V.	ICAR	Dr. I. S. Bright Singh	Microbiology
3	Dipson P. T.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
4	Anil Loveson	Self	Dr. S. Rajathy	Environmental Toxicology
5	Surekha Mol I. S.	CUSAT	Dr. I. S. Bright Singh	Environmental Biotechnology
6	B. Sreelakshmi	CUSAT & UGC	Dr. I. S. Bright Singh	Environmental Biotechnology
7	Sherly Thomas	Self	Dr. Harindranathan Nair M. V.	Waste Management
8	Haseeb M.	DBT & MoES	Dr. I. S. Bright Singh	Microbiology
9	Rose Mary Jose	NCAAH / MOES	Dr. I. S. Bright Singh	Microbiology
10	Sunitha Paulose	DBT	Dr. I. S. Bright Singh	Microbiology
11	Shyam Kumar R.	Self	Dr. S. Rajathy Dr. A. Mohandas	Toxicology



12	Anand M.	Self	Dr. Ammini Joseph Dr. I. S. Bright Singh	Environmental Biotechnology
13	Prem Gopinath	CUSAT	Dr. P. Natarajan Dr. I. S. Bright Singh	Microbiology
14	Divya Sivaji	CUSAT	Dr. Ammini Joseph	Environmental Biology
15	Jayesh P.	DBT / CUSAT	Dr. I. S. Bright Singh	Microbiology
16	Riya George	DOD / MoES	Dr. Rob H. Reed Dr. I. S. Bright Singh	Microbiology
17	Ammu Thomas	DOD / MOES	Dr. Rob H. Reed Dr. I. S. Bright Singh	Microbiology
18	Deepa G. D.	CUSAT	Dr. Dr. A. Mohandas Dr. I. S. Bright Singh	Marine Biotechnology
19	Haneesh K. R.	Self	Dr. Harindranathan Nair M.V.	Environmental Management
20	Sareen Sarah John	CUSAT	Dr. Rob H. Reed Dr. I. S. Bright Singh	Microbiology
21	Arun Augustine	Rajiv Gandhi Chair (RGC)	Dr. P. Natarajan	Environmental Biotechnology
22	Deepa S. Nair	CUSAT	Dr. P. Natarajan	Microbiology
23	Mercy Thomas	Self	Dr. V. Sivanandan Achari	Environmental Chemistry
24	Smitha S. V.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
25	Bindia Ravindran	CUSAT	Dr. V. Sivanandan Achari	Environmental Chemistry
26	Rojith G.	CUSAT	Dr. I. S. Bright Singh	Microbiology
27	Shibin O. M.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
28	Pillai Raji K.	RGC	Dr. P. Natarajan	Microbiology
29	Rakesh V. B.	CUSAT	Dr. Ammini Joseph	Environmental Biology
30	Smitha Sebastian	CUSAT	Dr. Ammini Joseph	Environmental Biology
31	Abesh Raghuvaram	RGC	Dr. Anitha Das	Environmental Microbiology
32	Anju S. G.	CUSAT	Dr. Suguna Yesodharan	Environmental Chemistry
33	Asha P.	CUSAT/DBT	Dr. I. S. Bright Singh	Microbiology
34	Amarnath A.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management



35	Chithra S. V.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
36	Reji George T.	Self	Dr. V. Sivanandan Achari	Environmental Chemistry
37	Hema C. Nair	Self	Dr. D. Padmalal Dr. Ammini Joseph	Environmental Biology
38	Sreekala M. S.	Self	Dr. S. Rajathy	Environmental Toxicology
39	Jayasree S.	UGC-SAP	Dr. V. Sivanandan Achari	Environmental Chemistry
40	Sanyo Sabu	CUSAT	Dr. A. Mohandas	Environmental Biology
41	Dhanya S.	UGC	Dr. Ammini Joseph	Environmental Biology
42	Preena P. G.	KSCSTE/DST INSPIRE	Dr. I. S. Bright Singh	Microbiology
43	Rajalakshmy A. S.	CUSAT	Dr. V. Sivanandan Achari	Environmental Chemistry
44	Adhem Shahin	Self	Dr. Ammini Joseph	Environmental Management
45	Ambili M. S.	SC/ST Welfare Fellowship	Dr. V. Sivanandan Achari	Environmental Chemistry
46	Anjana N. S.	CUSAT	Dr. M. V. Harindranathan Nair	Environmental Management
47	Ajitha V.	Self	Dr. S. Rajathy	Environmental Toxicology
48	Deepa P.	UGC	Dr. V. Sivanandan Achari	Environmental Chemistry
49	Gayathri P. V.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
50	Hariprasad N.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
51	Lakshmi G.	Self	Dr. Ammini Joseph	Environmental Biology
52	Jyothi K. P.	UGC	Dr. Suguna Yesodharan	Environmental Chemistry
53	Veena Vijayan	Self	Dr. Suguna Yesodharan	Environmental Chemistry
54	Vidyalakshmi K. P.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
55	Deepthi John	Self	Dr. Suguna Yesodharan	Environmental Chemistry



56	Phonsy P. D.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
57	Kiran Surya K. T.	Self	Dr. S. Rajathy	Environmental Management
58	Rajeev B.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
59	Sindhu Joseph	UGC	Dr. Suguna Yesodharan	Environmental Chemistry
60	Vineesh V.	Self	Dr. Suguna Yesodharan	Environmental Chemistry
61	Jisha Kumaran	Self	Dr. Valsamma Joseph	Marine Biotechnology
62	Dhaneesha M.	Self	Dr. Sajeewan T. P.	Marine Biotechnology
63	Ramya R. Nair	CUSAT	Dr. Valsamma Joseph	Marine Biotechnology

6. 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
6	Office Assistant (daily wages)	1
7	Sweeper-cum-Cleaner (daily wages)	1

7. Technical Personnel

Laboratory Assistant - 1

Technical Officer (Scientific Cadre) - 2 Nos.

Project Assistants - 5

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc	3	18	21
2	M.Tech Marine Biotechnology	4	6	10
3	Ph.D	21	42	63



9. 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) 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

c) Library: No. of books on 31 st March 2012	:	2392
Additions during the year 2012 – 13	:	124
Journals	:	16

10. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Kevin G. McGuigen	Dept. of Physiology and Medical Physics Royal College of surgeons Ireland	10-1-2013
2.	Dr. Syed Hashsham	Professor. Michigan State University, USA	1-4-2013

**11. Ph.Ds. Awarded**

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Proteases from an environmental isolate of <i>Pseudomonas aeruginosa</i> MCCB123 and their applications	Divya Jose	Dr.A.Mohandas
2	Molecular approaches for characterization of pathogenicity of vibrios with special reference to <i>Vibrio harveyi</i> from <i>Penaeus monodon</i> larval production system	B. Sreelakshmi	Dr. I. S. Bright Singh

12. Publications**a. Papers**

Sl. No.	Name of Paper
1	G. Rojith and I. S. Bright Singh, Delignification, Cellulose Crystallinity Change and Surface Modification of Coir pith Induced by Oxidative Delignification Treatment, International Journal of Environment and Bioenergy, 3 (1) : 46-55 (2012).
2	Rojith G. and Bright Singh I. S . Cellulose Crystallinity Change Assessment of Biochar Produced by Pyrolysis of Coir pith, Research Journal of Recent Sciences, Vol2 (ISC-2012), 1-6 (2013).
3	Rojith G. and Bright Singh I. S., Hydrogen Peroxide Pretreatment Efficiency Comparison and Characterisation of Lignin Recovered from Coir pith Black Liquor, Journal of Environmental Research and Development, Vol 7 (4) (2013).
4	Chithra S. V., Amarnath A., Smitha S. V., M. V. Harindranathan Nair (In press) Estimation of Effective Impervious surface area of Cochin Using Satellite Imagery, Research Journal of Recent Sciences.
5	Amarnath A., Adhem Shahin, Rakesh V. B., Rojith G. (In press) Preliminary Assessment of Degraded Kottayam Chira Wetland Using GIS and Its Developmental, Research Journal of Recent Sciences.
6	Smitha S. V., Haneesh K. R., Adhem shahin, M. V. Harindranathan Nair (In press). Sequestered Standing Carbon Stock in Selective Tree Species grown in CUSAT campus at Cochin, Research Journal of Recent Sciences.
7	Dhanya S., Smitha Sebastian and Ammini Joseph (2012). A survey of algal blooms in the ponds of Pallippuram, Kerala, India, International Journal of Environmental Sciences, 3 (3) : 1185-1193.
8	Rakesh V. B. and Ammini Joseph-Evaluation of pollution status of Chakkamkandam lake, India using Water Quality Index. Journal of Environmental Research and Development Volume 7. (3) - p - 1311 - 1315, (2013).
9	Jyothi K. P., Sindhu Joseph, Suguna Yesodharan and Yesodharan E. P., Periodic Change in the Concentration of Hydrogen peroxide Formed during the Semiconductor Mediated Sonocatalytic treatment of Wastewater: Investigations on pH Effect and Other Operational Variables. Res. J. Recent. Sci., 136-149 (2013).



10	Sindhu Joseph, Jyothi K. P., Suja P. Devipriya, Suguna Yesodharan and Yesodharan E. P., Influence of Reaction Intermediates on the Oscillation in the Concentration of insitu formed Hydrogen peroxide during the Photocatalytic Degradation of Phenol Pollutant in Water on Semiconductor Oxides., Res. J. Recent. Sci., 82-89 (2013).
11	Chaithanya E. R., Rosamma Philip, Naveen Sathyan, P. R. Anil Kumar, Swapna P. Antony, V. N. Sanjeevan, I. S. Bright Singh. 2012. A novel isoform of the hepatic antimicrobial peptide, Hepcidin (Hepc-CBI), from a deep sea fish, the spiny jaw green eye Chlorophthalmus bicornis (Norman, 1939): Molecular characterization and phylogeny. Probiotics & Antimicrobial Proteins, 5: 1-7. Impact Factor: yet to be calculated.
12	Jayesh P., Seena Jose., Rosamma Philip and I. S. Bright Singh 2012. A novel medium for the development of cell culture system from <i>Penaeus monodon</i> . Cytotechnology. DOI 10.1007/s 10616-012-9491-9. Impact Factor: 1. 207
13	Jayesh P., Seena Jose and I. S. Bright Singh 2012. Establishment of shrimp cell culture: Perception and orientation. Indian Journal of Virology, 23 (2): 244 -251. Impact Factor: 0.936
14	Sreedharan K., Rosamma Philip and I. S. Bright Singh 2012. Characterization and virulence potential of phenotypically diverse <i>Aeromonas veronii</i> isolates recovered from moribund freshwater ornamental fishes of Kerala, India. Antonie van Leeuwenhoek Journal of Microbiology. DOI 10.1007/s 10482-012-9786- z. Impact Factor: 2.091.
15	Afsal V. V., Swapna P. Antony, E. R. Chaithanya, I. S. Bright Singh and Rosamma Philip 2012. Two isoforms of antilipopolysaccharide factors identified and characterized from the haemocytes of portunid crab, <i>Portunus pelagicus</i> and <i>Scylla tranquebarica</i> . Molecular Immunology, 52:258 -263. Impact Factor: 3.023.
16	Afsal V. V., Swapna P. Antony, V. N. Sajeewan, P. R. Anil Kumar, I. S. Bright Singh and Rosamma Philip 2012. A new isoform of anti lipopolysaccharide factor identified from blue swimmer crab, <i>Portunus pelagicus</i> : Molecular characterization and phylogeny. Aquaculture, 356 – 357: 119-122. Impact factor: 2.044.
17	Manjusha K., P. Jayesh, Divya Jose, B. Sreelakshmi, P. Priyaja, Prem Gopinath, A. V. Saramma and I. S. Bright Singh 2012. Alkaline protease from non-toxicogenic mangrove isolate of <i>Vibrio</i> sp. V26 with potential application in animal cell culture. Cytotechnology. DOI 10.1007/s 10616-012-9472- z. Impact Factor: 1.207.
18	Sudheer N. S., Rosamma Philip and I. S. Bright Singh (2012). Anti white spot syndrome virus activity of <i>Ceripos tagal</i> aqueous extract in giant tiger shrimp <i>Penaeus monodon</i> . Archives of Virology, doi:10.1007/s 00705-012-1346-3. Impact Factor: 2.209.
19	Aparna Asok, Esha Arshad, C. Jasmin, S. Somnath Pai, I. S. Bright Singh, A. Mohandas and Abdlsziz Anas 2012. Reducing <i>Vibrio</i> load in <i>Artemia</i> nauplii using antimicrobial photodynamic therapy: a promising strategy to reduce antibiotic application in shrimp larviculture. Microbial Biotechnology, 5(1): 59-68. Calculated Impact Facor 2.6.
20	Seena Jose, P. Jayesh, N. S. Sudheer, Gigi Poulouse, A. Mohandas, Rosamma Philip & I. S. Bright Singh 2012. Lymphoid organ cell culture system from <i>Penaeus monodon</i> (Fabricius, 1798) as a platform for white spot syndrome virus and shrimp immune related gene expression. Journal of Fish Disease, 35 (5):321-324. Impact Factor: 2.00.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Rojith G.	'The 2 nd Korea – Indonesia Workshop and International Symposium on Bioenergy from Biomass' held at Puspipetek, Indonesia during 13 th -15 th June 2012 with focal theme as ' <i>Accelerating Research in Biomass based Bio fuel Production on Large Scale</i> '.	Oral Presentation
Rogith G.	'5 th International Congress of Environmental Research' held at Kuala Terengganu, Malaysia during 22 nd – 24 th November 2012 with focal theme as ' <i>Energy, Environment and Development</i> '.	Oral Presentation
Rogith G.	'2 nd International Science Congress' held at Mathura, Uttar Pradesh during 8 th -9 th December 2012 with focal theme as ' <i>Science and Technology- Challenges of 21st Century</i> '.	Oral Presentation
Rogith G.	'13 th National Training Course on Wind Energy Technology' on 12 th – 14 th December 2012 conducted by Centre for Wind Energy Technology, Chennai, Tamilnadu.	Participated
Dr. Rajalakshmi Subramanian Technical Officer	National seminar on Health and Environment-organized by Swadeshi Science Movement, Kerala and School of Marine Sciences CUSAT at School of Marine Sciences on 23 rd January 2013.	Organiser
Dr. Rajalakshmi Subramanian Technical Officer	An Awareness programme on Conservation of Mangrove Ecosystem' , supported by NEAC, Ministry of Environment and Forests was conducted at Govt.Higher Secondary School for Girls,Ernakulam on 28/12/2012 under the aegis of Shakti, a national movement for women	Organiser
Dhanya S. Smitha Sebastian	National Workshop on fresh water algae-Krishnamurthy Institute of Algology Chennai	Participant
Rakesh V. B.	5th International Congress of Environmental Research-University Malaysia Terrengganu	Oral presentation
Rakesh V. B.	2 nd International Science Congress-Mathura U.P.	Oral presentation
M. V. H. Nair	International Meet on 'Land Cover and Land Use Change Dynamics and its Impacts in south Asia: Focus on Water Resources'.	Delegate



Dr. M. V. Harindranathan Nair, Adhem Shahin Haneesh K. R. Amarnath A. Smitha S. V. Anjana N. S.	Asian Cities Adapt 2 nd Stakeholder Meeting (Impacts of Climate change in Target Cities in India and the Philippines and Local Adaptation Strategies)	Participants
Amarnath A. Chithra S. V. Smitha S. V.	International Science Congress, Mathura India	Oral presentation
Amarnath A.	UGC Sponsored training on 'Geospatial Technology and Applications', JSS University Mysore, India	Participated
Adhem Shahin Manjusha P. M.	Training on 'Remote Sensing and Geospatial Technologies for Land cover and Land use change studies and applications' Karunya University, India	Participated
Adhem Shahin	National Biodiversity Congress	Participated
Anju S. G. Jyothi K. P. Sindhu Joseph Phonsy P. D. Hariprasad N.	Second International Science Congress (ISCA-2012), Bon Maharaj Engineering College, Vrindavan, Mathura, Utter Pradesh	Paper presentation Paper Co-author participation
Dr. E. P. Yesodharan Dr. SugunaYesodharan Anju S. G., Jyothi K. P. Sindhu Joseph Phonsy P. D. Rajeev B. Hariprasad N.	25th Kerala Science Congress 2013 Technopark, Thiruvananthapuram	Participation Paper presentation Co-author participation Co-author participation
Anju S. G., Jyothi K. P. Sindhu Joseph Phonsy P. D. Rajeev B. Hariprasad N. Gayathri P. V. VeenaVijayan	"Workshop on Material Characterization at Nanoscale" organized by Sophisticated Test and Instrumentation Centre (STIC), Cochin University of Science and Technology	Participation
Anju S. G., Jyothi K. P. Sindhu Joseph Phonsy P. D., Rajeev B. Gayathri P. V. VeenaVijayan Deepthi John	National Seminar on "Current Trends in Chemistry (CTric-2013) organized by the Department of Applied Chemistry, Cochin University of Science and Technology (CUSAT)	Participation
T. Regi George P. Deepa M. S. Ambili	Seminar on Water Quality Assessment and Management of Kerala State	Participation



S. Jayasree A. S. Rajalakshmi	National Seminar on Current Trends in Chemistry	Participation
Dr. B. Sathyanathan	Biodiversity Congress, IISC, Bangalore	Poster presentation
Prof. I. S. Bright Singh	2 nd National Conference on Fisheries Biotechnology, Organized by National Academy of Agricultural Sciences, New Delhi and Central Institute of Fisheries Education Bombay, 203 November 2012	Presenter
Prof. I. S. Bright Singh	10 th Agricultural Science Congress, Soil Plant and Animal Health for Enhanced and Sustained Agricultural Productivity. National Academy of Agricultural Sciences, New Delhi	Presenter
Dr. Valsamma Joseph	UGC sponsored Orientation programme conducted by UGC-Academic Staff College from 28-6-2012 to 25-6-2012 at UGC Academic Staff College, University of Calicut	Participant

14. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Smitha S. V.	International best Poster presentation Award, International Science Congress, Mathura, India	International Science Congress Association
Anju S. G.	International best Oral presentation Award, International Science Congress, Mathura, India	International Science congress Association
Prof. I. S. Bright Singh	One-Time-Grant from University Grants Commission given to Senior Professors who have produced 15 Ph. Ds.	UGC
Ms. Preena P. G.	Best paper award National Seminar on 'Emerging Trends in Indian Aquaculture' 21-23 March 2013, organized	Department of Aquatic Biology and Fisheries University of Kerala
Ms. Sunitha Poulose	Best paper award National Seminar on 'Emerging Trends in Indian Aquaculture' 21-23 March 2013	Department of Aquatic Biology and Fisheries University of Kerala



15. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount (in lakhs)	Investigator(s)
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.	Department of Biotechnology, Government of India, Under SBIRI Scheme	15.0 lakhs	Prof. I. S. Bright Singh
2.	Polyhydroxy butyrate from marine microorganisms for biomedical and aquaculture applications. Period: 1-4-2012 to 31-3-2017.	Centre for Marine Living Resources and Ecology Ministry of Earth Science Government of India	87.0	Prof. I. S. Bright Singh
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	Department of Biotechnology, Government of India	46.07	Prof. I. S. Bright Singh
4.	Development and optimization of vaccines to protect shrimp from white spot syndrome virus (August 2009 to August, 2013)	Department of Biotechnology, Government of India	56.96	Prof. I. S. Bright Singh
5.	Young investigators programme in Biotechnology–identification and purification of cytotoxic and antimicrobial compounds from Cnidarians and Echinoderms (2009 June to 2012 June)	Kerala State Council for Science Technology and Environment	15.125	Dr. Valsamma Joseph
6.	Metagenomic approach to cloning and expression of endo and exo-glucanases and beta, 1-4 glycosidase from soil water system (28 th September 2010 to 27 th September 2013)	Department of Biotechnology, Government of India	40.02	Prof. I. S. Bright Singh



7.	Development of photobioreactors for mass production of marine microalgae as live feed in aquaculture systems. (Implemented at NCAAH)PI:	Kerala Biotechnology Commission Kerala State Council for Science Technology and Environment	21.516	Dr. Valsamma Joseph
8.	Bioprospecting for antitumor compounds from marine actinomycetes.	University Grants Commission	3.83	Dr. T. P. Sajeewan
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)	University Grants Commission	13.04	Dr. Valsamma Joseph
10.	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

16. Research Programmes and Activities

Sl. No.	Problem/Topic	Investigator(s)
1	UGC- SAP program on Zero Effluent discharge	Dr. I. S. Bright Singh Dr. V. S. Achari
2	DST-FIST Program	Dr. I. S. Bright Singh

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	World Environment Day- tree planting	One day	Director, SES	-
2	Orientation program for M.Sc. students	One day	Dr. V. S. Achari	PTA of SES





SCHOOL OF INDUSTRIAL FISHERIES

1. Brief History

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 a School since 1995 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 divisions 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 was approved by the University and the admissions commenced 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
8	Dr. Biji	Lecturer (Contract appointment)	M.Sc, Ph.D.	Industrial Fisheries



4. 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 <i>P.monodon</i> 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 <i>T. travancoricus</i>
6	Anwar 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	John Chembian	NIL	Dr. Saleena Mathew	Biological and Biochemical aspects of important oceanic squids in the Indian EEZ
11	Baiju K. K.	UGC	Dr. Thomson	Co management of marine fisheries in Kerala .
12	Greeshmam M. B.	NIL	Dr. M. Harikrishnan	Studies on Reproductive Biology and seed production of some <i>caridean</i> shrimps
13	Jinoy V. G.	NIL	Dr. Thomson	Fisheries Management
14	Ligi Thomas	NIL	Dr. Saleena Mathew	Isolation and characterization of Bioactive compounds from <i>crassostres readrasinis</i>
15	Liya Jayalal	CUSAT	Dr. A. Ramachandran	Impact of certification on consumer preference and sustainability of ornamental fish from Kerala



16	Renjith Kumar C. R.	NIL	Dr. B. Madhusoodana Kurup	Fishery biology of <i>G. thomassi</i> .
17	Dhanya P. R.	NIL	Dr. Saleena Mathew	Potential use of natural antimicrobials for the preservation of commercially important sea foods
18	Rosewine Joy	NIL	Dr. Thomson	Institutions and sustainable development of estuarine fisheries in Kerala.
19	Roshni K.	INSPIRE	Dr. B. Madhusoodana Kurup	Impact assessment of exotic fish invasion in indigenous fish biodiversity in Kerala.
20	Sindhu M. C.	STATE	Dr. A. Ramachandran	Comparison of Efficacy of Anesthetics for the transportation of Ornamental fishes
21	Soumya Subra De	CUSAT	Dr. A. Ramachandran	Quality management strategies for ornamental fish production
22	Subhasree Shankar	NIL	Dr. B. Madhusoodana Kurup	Laviculture of <i>M. rosenbergii</i> with reference to extrinsic factors
23	Treesa Varghese	NIL	Dr. Saleena Mathew	Role of autolytic enzymes on fish muscle protein during various processing conditions.
24	Venugopalan T. N.	NIL	Dr. A. Ramachandran	Ecolabelling as a tool for Sustainable Seafood Resource Management
25	Nidhin B.	CUSAT	Dr. M. Harikrishnan	Studies on the pattern of Recruitment of Marine fish larvae and juveniles to Cochin Estuary
26	Deepak Jose	CUSAT	Dr. M. Harikrishnan	A Molecular approach towards the characterization of hormones responsible for the chromatophore development in crustaceans and their silencing
27	Ajsa Parveen		Dr. Mini Sekharan	Food Safety Interventions for Fishery Based Microenterprises



28	Asha Raymond	CUSAT	Dr. A. Ramachandran	Seafood Safety Management with special reference to International Trade
29	Dana E. B.	CUSAT	Dr. Saleena Mathews	Process Optimization and Utilization of fish Protein Hydrolysate from various sources
30	Midhila Madhu		Dr. M .Harikrishnan	
31	Nashila Rahmaniya		Dr. Mini Sekharan	Study on Consumer Behaviour towards fish and fishery products marketed through selected Marketing Channels in India
32	Muhammed Rafeeque K. T.		Dr. Mini Sekharan	Food Safety Management Systems in the Seafood Industry in India
33	Susan Sukanya		Dr. K. T. Thomson	Adaptive Management of Marine Fishes in Southwest Coast of India
34	Swapnil Chatterjee		Dr. A. Ramachandran	Property Rights Issues of Fishermen in Selected District of West Bengal
35	Pradeep K.		Dr. T. V. Shankar Dr. Saleena Mathew	Protein Characterization and Functionality studies of mesopelagic fishes from Arabian Sea
36	Judine John Chacko		Dr. Mini Sekharan	Comparative study of intensive Ornamental Culture in Recirculatory Aquaculture System with traditional System

5. Administrative Personnel

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

**6. 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

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Sc.	7	12	19
2	M.F.Sc	10	10	20
3	M.Phil	-	10	10
4.	Ph.D	17	19	36

8. Research Facilities

- a. Laboratories :** Separate laboratories for Fishery biology & Aquaculture, Fish processing, Quality Control and Fishing technology. Major equipments include UV visible spectro photometers, High speed Centrifuge, Research microscope, Deep Freezers, Refrigerated Centrifuges, Camera attached microscopes, Electrophoretic units, Refractometers, Laminar flow, Micro pipette, Water still 6 ltr, Digital power pack PS 500, Refractometer & soil pH meter, TA plus food texture analyzer, Variable accupipette, microscope –students type ,HPLC, Gas chromatograph, Biophotometer, Ultra pure Water Purification System-Milli Q, Flake Ice Making Machine, PCR, Micro Centrifuge, Automatic Nitrogen/Protein Estimation System etc.

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 2181 Journals : 194	Books : 141 Journals : 50

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Prof. Dr. Acierno Raffaele Dr. Barca Amilcare	University of Salento, Lecce, Italy	For Research as part of PASSA Project funded by European Commission



10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Fish driven bioturbation as a viable aquaculture technology for increasing production and improving ecological sustainability of Giant Tiger Shrimp <i>Penaeus monodon</i> (Fabricius)	Joyni Jacob	Dr. B. Madhusoodana Kurup
2	Application of Biofloc Technology in aquaculture systems	Prajith K. K.	Dr. B. Madhusoodana Kurup
3	Systematic and stock assessment of deep sea fishes of Family Trichiuridae	Sajeevan M. K.	Dr. B. Madhusoodana Kurup

11. Publications

a. Papers

Sl. No.	Name of Paper
1	Liya Jayalal and Ramachandran A. (2012) Export Trend of Indian Ornamental Fish Industry, Agriculture and Biology Jl. of North America, Vol. 3 No. 11, 439-451. ISSN Print: 2151-7517, ISSN online: 2151-7525 (Impact Factor 0.940) 2011)
2	Bavinck M., Johnson D., Amarasinghe O., Rubinoff J., Southwold S. and Thomson Kaleekal (2012) "From Indifference to Mutual Support – A Comparative Analysis of Legal Pluralism in the Governing of South Asian Fisheries in <i>European Journal of Development Research</i> 27 December 2012;PP:1-20
3	Benjamin D., Rozario R. V., Kurup B. M. and M. Harikrishnan(2013) Rare bat fish species <i>Halicmetus ruber</i> , Alcock 1891 (Lophiiformes, Ogcocephalidae) from the Indian Exclusive Economic Zone. <i>J. Appl. Ichthyol.</i> (2013) 1-2 doi 1111/jai12199
4	Prasad G., Ali A., Harikrishnan M. and R. Raghavan (2012) Population dynamics of an endemic and threatened yellow catfish <i>Horab agrus brachysoma</i> (Gunther) from Periyar River, Southern Western Ghats, India. <i>Journal of Threatened Taxa</i> 4 (2) 2333-2342

b. Books

Sl. No.	Name of Book
1	Mini Sekharan & Ramachandran (2012) SOFI - Way Forward 2012, School of Industrial Fisheries, Cochin University of Science and Technology , 72 p.
2	Marine Biodiversity Status, Opportunities and Challenges, A. Ramachandran and Aneykutty Joseph (Editors), Directorate of Public Relations and Publications, Cochin University of Science and Technology and UGC, 118p. ISBN: 978-93-80095-32-5 (2012)
3	Maya Raman & Saleena Mathew (2012) – Study of chemical properties and evaluation of collagen in mantle, epidermal connective tissue and tentacle of Indian Squid, <i>Loligo duvanceli Orbigny</i> , <i>J.Food Sci.Technol</i> – DO I 10.1007/s.13197 – 012 – 0671-6

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. Dr. A. Ramachandran	Mainstreaming Ocean Research for Ocean and Resources Management, Kochi, Organised by The Bay of Bengal Large Marine Ecosystem Project of FAO & Government of India	Delegate and participant
Prof. Dr. A. Ramachandran	Sustainable Ornamental Fish – Way Forward, International Conference on Sustainable Ornamental Fisheries, 23-25 th March. Cochin University of Science and Technology	Chairman and presenter of Research Paper
Prof. Dr. Saleena Mathew	Seafood by-product valorization – an overview under Indian context, at University of Salento, Lecce, Italy as part of PASSA Project, June 2012	Presenter of Research paper
Prof. Dr. Saleena Mathew	Secondment to PASSA Project at University of Salento, Lecce, Italy for one month from 8 th June to 8 th July, 2012 Research work on Effect on fish feed with incorporated residue from Fish protein hydrolysates from Tuna on digestive enzyme activity of juveniles of sea bream	Investigator
Prof. Dr. Saleena Mathew	Sustainable Ornamental Fish – Way Forward, International Conference on Sustainable Ornamental Fisheries, 23-25 th March. Cochin University of Science and Technology	Member, Organizing Committee
Prof. Dr. Saleena Mathew	National brainstorming workshop on 'Gender in Fisheries: A future Roadmap ' on 4 th April, 2012 at CIFT, Cochin	Panel Member
Prof. Dr. Saleena Mathew	Awareness workshop on Intellectual property rights for seafood Industry at Cochin on 30 th July, 2012, organized by MSME (Micro small & Medium Enterprise) Govt. of India & Industrial Fisheries Alumni Association	Participant
Dr. M. Harikrishnan	One day International Workshop on "Towards Development of Sustainable Aquaculture Practices" 29 th May, 2012 – School of Industrial Fisheries	Convener
Dr. M. Harikrishnan	National Seminar on "Health and Management" January 23, 2013 Organized by School of Marine Sciences, School of Industrial Fisheries and Swadeshi Science Movement, Kerala	Convener
Dr. M. Harikrishnan	Seminar on "Wetland Fisheries for Enhancing Livelihood" on 15 th January 2013 organized by School of Marine Sciences, School of Industrial Fisheries and Swadeshi Science Movement, Kerala	Convener



Dr. M. Harikrishnan	Seminar on "Marine Bioactive Compounds" 18 th January 2013 organized by School of Marine Sciences, School of Industrial Fisheries and Swadeshi Science Movement, Kerala	Convenor
Dr. M. Harikrishnan	National Seminar on Modern Statistical Tools in Fisheries 7-9 th March, 2013 organized by School of Industrial Fisheries	organizing committee member
Dr. M. Harikrishnan	International Conference on Sustainable Ornamental Fisheries – Way Forward SOFI-WF:2012, Cochin 23 rd to 25 th March, 2012.	organizing committee member
Dr. Mini Sekharan N.	Aquarama 2011 International ornamental fish accessories and exhibition and seminar	Invited talk' A Profile of Indian Ornamental Fish industry with special reference to concerns of key players
Dr. Mini Sekharan N.	Secondment to PASSA Project at University of Salento, Lecce, Italy for one month from 8 th June to 8 th July, 2012	Faculty Exchange Programme Participant
K. T. Thomson	IASC, JAPAN	Panel organizer

13. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	European Union Marie Curie Action "International Research Staff Exchange Scheme" (FP7-PEOPLE-IRSES-2008) Partnerships for sustainable shrimp aquaculture (PASSA) with University of Salento, Italy National Institute of Oceanography and Swansea University, Spain	European Union	Rs.26 lakhs	Prof. Dr. A. Ramachandran Principal Investigator
2	Post Graduate UGC Innovative Programme on Seafood Safety and Trade in School of Industrial Fisheries, Cochin University of Science and Technology	UGC	Rs.50 lakhs	Prof. Dr. A. Ramachandran Chief Coordinator & Prof. Dr. Saleena Mathew Deputy Co-ordinator



3	National Task Force on the development of Guidelines for the Green Certification of Fresh Water Ornamental Fishes appointed by the Marine Products Export Development Authority (MPEDA), Ministry of Commerce, Govt. of India	MPEDA, Ministry of Commerce		Prof. Dr. A. Ramachandran Member of the Task Force
4	Working Group on Science and Technology of the Kerala State Planning Board, policy document was prepared for the 12 th Plan for the State in the field of Science and Technology			Prof. Dr. A. Ramachandran Member
5	Working Group on Coastal Zone Management of the Bay of Bengal Large Marine Ecosystem (BOBLME) project comprising of eight Bay of Bengal Countries, contributions were made at different workshops, policy meetings and for locating a pilot ICM site in Pondicherry.			Prof. Dr. A. Ramachandran Member in the Working Group
6	Kerala State Coastal Zone Management Authority (KSCZMA) by the Ministry of Environment and Forest, Government of India and is now working actively for the KSCZMA.			Prof. Dr. A. Ramachandran Member
7	DST FIST Programme of School of Industrial Fisheries		46.50 lakhs	Co-ordinator
8	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

14. Research Programmes and Activities:

Sl.No.	Problems/Topics	Investigator(s)
1	Studies on the population dynamics, life history traits and microhabitat ecology of a critically endangered and endemic Bagrid Catfish, <i>Horabagrus nigricollaris</i> (Pethiyagoda and Kottelat, 1994)	Anwar Ali P. H. & Prof. Dr. A. Ramachandran
2	Impact of Certification on Consumer Preference and Sustainability of Wild Caught Ornamental Fishes from Kerala	Liya Jayalal & Prof. Dr. A. Ramachandran



3	Total Quality Management – in Ornamental Fisheries for Enhancing Production and Marketing	Soumya Subhra De & Prof. Dr. A. Ramachandran
4	Application of Anesthetic on the transportation of ornamental fishes	Sindhu M. C. & Prof. Dr. A. Ramachandran
5	Ecolabelling as a tool for Sustainable Seafood Resource Management	T. N. Venugopal & Prof. Dr. A. Ramachandran
6	Seafood Safety Management with Special Reference to International Trade	Asha Raymonds & Prof. Dr. A. Ramachandran
7	Efficiency of Coconut incorporated Feed in Scampi Juveniles	Swapnil Chatterji & Prof. Dr. A. Ramachandran
8	Impact of Trade Barriers in Indian Seafood exports	Shincy S. & Prof. Dr. A. Ramachandran
9	Role of autolytic enzymes on fish muscle protein during various processing conditions.	Treesa Varghese & Prof. Dr. Saleena Mathew
10	Process Optimization and Utilization of fish Protein Hydrolysate from various sources	Dana E. B. & Prof. Dr. Saleena Mathew
11	Potential use of natural antimicrobials for the preservation of commercially important sea foods	Dhanya P. R. & Prof. Dr. Saleena Mathew
12	Current status and future prospects of fish waste management in Cochin Corporation and Aroor Industrial Area.	Abhilash S. & Prof. Dr. Saleena Mathew
13	Protein Characterization and Functionality studies of mesopelagic fishes from Arabian Sea	Pradeep K. & Prof. Dr. Saleena Mathew
14	Isolation and characterization of Glycosaminoglycans from cephalopods and seafood discards	Liji Thomas & Prof. Dr. Saleena Mathew
15	Biological and Biochemical aspects of important oceanic squids in the Indian EEZ	John Chembian & Prof. Dr. Saleena Mathew
16	Effect of extracted natural antioxidant from grape (vilis vinifera) pomace on quality of yellow fin tuna (Thunnus albacores) meat during chilled storage	Panicker Ambili & Prof. Dr. Saleena Mathew
17	Economic and social impacts of fish migration in Kerala economy	Antony V. T. & Dr. K. T. Thomson
18	Co management of marine fisheries in Kerala .	Baiju K. K. & Dr. K. T. Thomson
19	Fisheries Management	Jinoy V. G. & Dr. K. T. Thomson
20	Institutions and sustainable development of estuarine fisheries in Kerala.	Roswine Joy & Dr. K. T. Thomson
21	Adaptive Management of Marine Fishes in Southwest Cost of India	Susan Sukanya & Dr. K. T. Thomson
22	Efficacy of squilla ensilage in growth and survival of fin fishes and shell fishes	Bijoy V. M. & M. Harikrishnan
23	Studies on recruitment of selected fish larvae in to Cochin back water	Nidhin B. & M. Harikrishnan



24	Studies on biology of <i>Carinotetraodon travancoricus</i>	Anupama K. M. & M. Hari Krishnan
25	Taxonomy and bionomics of Alpheid shrimps inhabiting Cochin backwater	Anilkumaar K. & M. Hari Krishnan
26	Studies on the behavior of chromatophores in <i>Macrobrachium rosenbergii</i> morphotypes	Deepak Jose & M. Hari Krishnan
27	Food Safety Interventions for Fishery Based Microenterprises	Ajsa Praveen & Dr. Mini Sekharan
28	Study on Consumer Behaviour towards fish and fishery products marketed through selected Marketing Channels in India	Nashila Rahmaniya & Dr. Mini Sekharan
29	Food Safety Management Systems in the Seafood Industry in India	Muhammed Rafeeq K. T. & Dr. Mini Sekharan
30	Comparative study of intensive Ornamental Culture in Recirculatory Aquaculture System with traditional System	Judine Joh Chacko & Dr. Mini Sekharan

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1	International Conference on Sustainable Ornamental Fisheries, 23-25 th March. Cochin University of Science and Technology	3 days	Prof. Dr. A. Ramachandran, (Chairman) & Dr. Mini Shekharan (Coordinator)	DST, UGC, Ministry of Earth Sciences, Govt. of India, MPEDA, NFDB, NABARD
2	National Seminar on Modern Statistical Tools in Fisheries 7-9 th March, 2013	3 days	Prof. Dr. Saleena Mathew	DST-PURSEUGC





SCHOOL OF LEGAL STUDIES

1. Brief History

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 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, Corporate Governance & Securities 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 of 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. programmes, started in 1994 as an evening programme has now been made as Semesterised, full time day 5 year (Hons.) twin degree programme. The School has been fortunate to attract scholars having experience and education at different parts of the world to be in its vibrant teaching faculty. In recognition of its capability to attain excellence in legal education, the UGC has selected it under the Special Assiatance Programme (SAP)

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. (in 14 specializations)
and Ph.D.

**3. Faculty Members**

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. N. S. Soman	Associate Professor & Director	LL.M., Ph.D. (Cochin)	Criminal Law, Human Rights, Constitutional Law, Jurisprudence, Land Laws
2	Dr. N. S. Gopalakrishnan	Professor	LL.M., Ph.D. (Cochin)	Commercial Law Criminal Law Intellectual Property Law
3	Dr. A. M. Varkey	Professor	M.A., LL.M. (Kerala) Ph.D. (Cochin)	Maritime Law Commercial Law
4	Dr. D. Rajeev	Associate Professor	M.A., LL.B. (Kerala) LL.M. Ph.D. (Cochin)	Administrative Law Constitutional Law
5	Dr. V. S. Sebastian	Associate Professor	B.A., (Kerala), LL.B.(Raipur) LL.M. , Ph.D (Cochin)	Labour Law Commercial Law
6	Dr. P. S. Seema	Assistant Professor	LL.M.(CUSAT), Ph.D (CUSAT)	Human Rights Law, Constitutional Law & Criminal Law
7	Smt. Vani Kesari	Assistant Professor	LL.M.	Administrative Law

4. Research Staff :

Sl. No.	Name	Designation	Qualification	Specialization
1.	Smt. Aarathi Ashok	Research Officer	LLM	IPR
2.	Smt. Madhuri Anand	Research Officer	LLM	IPR

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	P. S. Seema (P.T) (Ph.D awarded)		Dr. N. S. Soman	Farmers: The Victims of modernization: Challenges for Law in the third world
2	Binumole K. (P.T) (Ph.D awarded)		Dr. A. M. Varkey	Law as Transboundary movement of Hazardous Substances
3	Anitha O. S (F.T)		Dr. D. Rajeev	Tortions Liability for Violation of Human Rights



4	Jacob Joseph (P.T) (Thesis Submitted)		Dr. N. S. Soman	A critical study of the Legal Regime on G.M.O's with special emphasis on Transgenic Plants
5	Vani Kesari A (F.T)		Dr. N. S. Soman	Sanctity of Life in the context of Human Genetic Research
6	Preetha S. (P.T.) (Ph.D awarded)		Dr. A. M. Varkey	Company Law
7	Sindhu Soman (P.T.)		Dr. T. G. Ajitha	Intellectual Property protection of Ayurvedic preparatory: A study with special reference to Ayurvedic Industry.
8	Shanmugham D. Jayan (P.T.)		Dr. T. G. Ajitha	Legal Concept of Information in Digital Technology
9	Prabha S. Nair (F.T.) (Ph.D awarded)		Dr.N. S. Gopala krishnan	International initiatives for regulating access to genetic resources.
10	Saleena. K. B. (F.T.) (Ph.D awarded)		Dr. N. S. Gopala krishnan	Exceptions and Limitation to Intellectual Property Rights
11	Sreeja R. L. (P.T.)		Dr. G. Sadasivan Nair	Consumer Protection in online transaction.
12	Dinesh P. T. (P.T.)		Dr. V. S. Sebastian	Money laundering Laws – A study with special relevance to prevention of Money laundering in India.
13	Sony Vijayan (P.T.)		Dr. A. M. Varkey	Law on Control of Maritime Port Pollution-Indian Perspective
14	Anuja S. (P.T.)		Dr. D. Rajeev	Rights of Women in Domestic Relations – Law and Emerging Challenges
15	Binu Poornamodan Cholayil (P.T.)		Dr. V. S. Sebastian	Intellectual Property Law
16	Ambily T. (P.T.)	UGC RGNF	Dr. V. S. Sebastian	Labour Law – A legal and functional analysis of collective bargaining in Udyogamandal Industrial Area
17	Premsey P. N. (P.T.)		Dr. V. S. Sebastian	State Responsibility and Corporate Accountability under the Human Rights Treaties



18	Gifty Oommen (P.T.)		Dr. V. S. Sebastian	Right to Privacy – Human Rights
19	Regi Joseph (F.T.) (Under FIP)		Dr. V. S. Sebastian	Service and Working Conditions of Employees of unaided Schools in Kerala - A Study (Labour Law)
20	Lekshmi G. R. (P.T.)		Dr. V. S. Sebastian	Rights of minority under Indian Constitution
21	Pai Yogesh Anand (P.T.)		Dr. T. G. Ajitha	International Technology Standardization Patent Competition Law Addressing Gaps in the International Frame work
22	Dayana M. K. (P.T.)		Dr. A. M. Varkey	Land use Controls in Kerala
23	Dhnanalakshmy C. N. (P.T.)		Dr. V. S. Sebastian	Regulation of Crime in Cyber Space: Issues and Challenges
24	Naveen S. (P.T.)		Dr. D. Rajeev	Towards a Legal regime on Global warming
25	Dileep C. A. (F.T.) (Under FIP)		Dr. D. Rajeev	Protection of Witness in Criminal Proceedings
26	Tina K. Stephen (P.T.)		Dr. V. S. Sebastian	Changing concepts of Trade mark Law in the New Global Competitive Scenario
27	Anusree A. (F.T.) (Under FIP)		Dr. V. S. Sebastian	Emerging Role of Forensic Evidence in Criminal Justice System
28	Arya A. Kumar (P.T.)		Dr. D. Rajeev	Bioterrorism and the Right to Health – A study in the Human Rights Context
29	Joby Bhasker (P.T.)		Dr. D. Rajeev	Religious Practices under Indian Law
30	Aneesh V. Pillai (P.T.) (Ph.D Awarded)		Dr. V. S. Sebastian	Assisted Productive Technologies: Challenges to the Indian Legal system
31	Harigovind P. C. (P.T.)		Dr. A. M. Varkey	Indian Law on Clinical Trials - A Human Rights Perspective
32	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
33	Anju N. Pillai (F.T.)		Dr. A. M. Varkey	Corporate Managerial Accountability Through Disclosure Regulations



6. 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	Assistant	1 without post
6	LD Typist	1
7	Peons	3 (1 without post)
8	Sweeper Cum Cleaner	2 (1 without post)
LIBRARY		
1	Assistant Librarian (Sr. Grade)	1
2	Junior Librarian	1
3	Professional Asst. Gr. I	2
4	Library Assistants Gr. II	2

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	LL.M.	7	29	36
2	LL.B.	20	25	45
3	Ph.D.	0	1	1

8. Research Facilities:

a. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
28892	397

9. Ph.D.s Awarded : 4

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

Sl. No.	Name of Faculty	Name of Paper
1.	Dr. N. S. Gopalakrishnan	Access to Health care in India: Implications of Patent Law Journal of Indian Legal Thought, 2012
2.	Dr. D. Rajeev	NIL
3.	Dr. V. S. Sebastian	NIL
4.	Dr. N. S. Soman	1) Right to Sanitation as a Socio-Economic Right (chapter of a book – yet to be published) 2) An overview of Inquisitorial and Acquisitorial systems of criminal Justice Administration with special reference to India (Chapter in a book to be published)
5.	Smt. P. S. Seema	1) "Concept of Intellectual Property in the Indian Jurisprudence" – Accepted for publication by Religion & Law Review 2) "Prostitution-The Unnoticed dimension in the Indian Legal Scenarios" – Amity Law Review Vol. 8 No. 1 at P. 31
6.	Smt. Vani Keasri A.	NIL

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Prof. N. S. Gopalakrishnan	1. Indian Delegation to the 22 nd Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, Geneva, Switzerland, July 2012	Member
	2. Indian Delegation to the second Like-Minded Countries Meeting on Genetic Resources, Traditional Knowledge and Folklore, Bali, Indonesia, June 2012	Member
	3. Indian Delegation to the Diplomatic Conference to finalize the Treaty for the Protection of Audiovisual Performers, Beijing, June, 2012	Member
	4. Indian Delegation to the 21 st Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, Geneva, Switzerland, April 2012	Member
	5. International Conference on TK, TCE and GR, New Delhi, January 2013	Speaker



	<ol style="list-style-type: none"> 6. Workshop on Compulsory Patent Licensing, Max Plank Institute and Institutum Jurisprudentiae, Academia Sinica, Taipei, December 3-5, 2012 7. Workshop on WIPO Audiovisual Performance Treaty, FICCI, Mumbai May 2012 8. "Academic Programme for Judges from Sri Lanka", National Judicial Academy, Bhopal August 2012 9. Intellectual Property an Access to Knowledge Goods in the Era of Globalization, Government Law College, Ernakulam December 2012 10. Access to Medicine and Patent Law: New Challenges, Govt. Law College, Thrichur, February, 2013 	<p>Resource Person</p> <p>Invited Lecture</p> <p>Keynote Address</p>
Dr. V. S. Sebastian	<ol style="list-style-type: none"> 1. National Seminar on Uniform Civil Code: Problems and Perspectives. (Mar 22-24, NUALS, Kalamassery) 2. Interdisciplinary National Workshop on Forensic Science in Investigation & Trial 923-25 Jan 2013, GLC, Ernakulam) 3. National Seminar on Company Law (15-16 Mar 2013, NUALS, Kalamassery) 4. National Seminar on Envisioning a Legal Framework for Mainstreaming Environmental Conservation (11 & 12 March 2013, NUALS, Kalamassery) 5. National Seminar on Corporate Social Responsibility (16-18 March 2013, SLS, CUSAT) 	<p>Session Chair</p> <p>Session Chair</p> <p>Moderator</p> <p>Session Chair</p> <p>Director of the Seminar</p>
Dr. N. S. Soman	<ol style="list-style-type: none"> 1. Realization of Right to sanitation in India- Challenges and way forward- ELRS, New Delhi 2. U.G.C. sponsored National Seminar on Dialectics and Dynamics of Human Rights- Dayanand College of Law, Latur, Maharashtra 3. National Seminar on Access to Medicine and Patent Laws- Govt. Law College, Thrissur 4. National Seminar on Family as an Institution : Modern Realities and Trends in Law- SILT M. G. University, Kottayam 5. National Seminar on Company Law - NUALS, Kalamassery 6. National workshop on social and legal research 	<p>Presented Paper</p> <p>Presented Paper & Chaired Session</p> <p>Chaired Session</p> <p>Participated and Chaired Session</p> <p>Chaired Session</p> <p>Participated</p>



	<ol style="list-style-type: none"> 1. Protection of Children from Sexual Offences Act, 2012 – Critical Appraisal conducted by HRLN TVM 2. “Women Empowerment –Roel of Law” – Seminar conducted by M.G. University at St. Xaviers College, Aluva 3. “Protection of Plant Varieties and Farmers’ Rights Act-A Critical Appraisal”-conducted by Centre for Agriculture, NUALS at NUALS Kochi 	<p>Resource Person</p> <p>Resource Person</p> <p>Resource Person</p>
	<ol style="list-style-type: none"> 1. Representing School of Legal Studies, CUSAT attended the National level conclave on legal education conducted by Govt: of India , Ministry of Law and Justice New Delhi. 	Participated

12. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1.	MHRD Chair on IPR	Department of Higher Education MHRD, Govt. of India	45 Lakhs	Dr. N. S. Gopalakrishnan Co-ordinator & Chair Professor
2.	UGC- SAP	UGC	Rs.50 Lakhs	Dr. V. S. Sebastian Joint Co-ordinator

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Emerging Trends in Corporate Governance.	3 days	Anju N. Pillai	UGC

14. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	WIPO Academy Distant Learning Programme	Prof. N. S. Gopalakrishnan	World Intellectual Property Organization, Geneva





SCHOOL OF MANAGEMENT STUDIES

1. Brief history

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 is located twelve kilometers north east of the city of Kochi. It is in the main campus of the University at Thrikkakkara, right in the heart of the industrial belt of the State. The campus is about two kilometers east of South Kalamassery on NH 47 between Ernakulam and Alwaye.

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 program 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 program 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.	Operations Management, EDP, Materials Management
2	Dr. K. B. Pavithran	Professor	M.Com, PGDBA, Ph. D.	Finance/Accounting/ Strategic Management
3	Dr. C. V. Jayamani	Professor	M.Com., Ph.D.	General Management, Finance
4	Dr. James Manalel	Professor	M.B.M., Ph.D.	Finance Management, Banking, Management of Small Business
5	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.
6	Dr. Moli P. Koshy	Professor	M.Sc., M.B.A., Ph.D.	Marketing Management, Marketing Research, Consumer Behaviour, Strategic Marketing Entrepreneurship
7	Dr. Sebastian Rupert Mampilly	Professor	M.S.W., M.B.A., Ph.D.	HRM, Organisational Behaviour and Industrial Relations, Research Methodology
8	Dr. P. R. Wilson	Professor	M.Com., Ph.D.	Financial Management
9	Dr. K. Krishnan Nampoothiri	Associate Professor	M.Com., Ph.D.	Accounting, Banking, Co-operation, Business Communication, Finance
10.	Dr. D. Mavoothu	Associate Professor	M.B.A., D.L.L. Ph.D.	HRM ,Industrial Relations and Business Ethics
11	Dr. Rajitha Kumar S.	Associate Professor	M.Com., M.Phil., Ph.D.	Finance and General Management



12	Dr. Manoj Edward	Asst. Professor	B.Tech, M.B.A., Ph.D.	Operations and Service Management
13	Dr. Mohammed Aslam M. K.	Asst. Professor	M.Com., M.Phil., Ph.D	Finance Management and Accounting
14	Dr. Sam Thomas	Asst. Professor	B.Tech., M.B.A., Ph.D.	Systems and Finance
15	Dr. Zakkariya K. A.	Asst. Professor	M.A., M.B.A., P.G.D.I.B., Ph.D.	Organisational Behaviour, Marketing, & Sales Management, Managerial Skills Development

4. 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 organisatinal 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 Reference 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 Practies in Earnings Pershare 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 Entreprises



26.	Raihanath M. P.	Dr. K. B. Pavithran	Financial inclusion Programmes of Nationalized Banks: A study with reference to Opportunities and constrains 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 Enterpernural Success
32.	Deepa Babu K. G.	Dr. James Manalel	Astudy on the Development Strategies for women Entrepreneurs in the State of Kerala.
33.	Vinodan A.	Dr. James Manalel	Institutional Frame work of Tourism 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 Charge Management
40.	Jose Varghese	Dr. Manoj Edward	Influence of Customer Relationship Management Practices of Sales Fources 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 in	Dr. P. R. Wilson	Influence of Throw Away Culture 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 Custmoers 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 Managemet Thourgh HRM Intiative (Statergies) 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 scenerio in Kerala)
72.	Ajith Kumar R.	Dr. Muhammed Aslam M. K.	Information & Communication Systems Management
73.	Thasleena K. P.	Dr. Muhammed Aslam M. K.	Practicability 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 Oppurnity for Investment in the Golbel SED Economic, with special Emphasis on Mutual Funds



Sl. No.	Name of the Research Scholar	Name of the Research Guide	Topic
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

5. 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	1
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

6. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	MBA(FT)	33	28	61
2	MBA (IB)	33	25	58
3	MBA (Part Time)	19	3	22
4	MBA (Travel & Tourism)	33	28	61
4	M. Phil (Commerce)	-	6	6
5	Ph.D.	14	13	27

7. Research Facilities:

a. Laboratory:

Computers	:	28	Printers	:	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 : 41301	904
Journals : 26	26
7 Foreign Journals & Gift Journals	7

8. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Innovative Human Resources Practices and Selected HR Outcomes in Software Firms in Kerala	Binoy Joseph	Dr. Sebastian Rupert Mampilly
2	Global Value Chain Linkages of Manufacturing Export Firms: A Study of the Kannur Home Textile Industry.	Anoo Anna Anthony	Dr. Mary Joseph
3	A Study of Credit Guarantee fund trust for Micro and Small Enterprises with particular reference to Bank of Baroda in State of Kerala.	Habeeb Rahiman Varghese	Dr. K. George

9. Publications**a. Papers**

Sl. No.	Name of Paper
1	<p>Dr. Sebastian Rupert Mampilly</p> <ol style="list-style-type: none"> 'Relationship between Neo-five Personality Profile and Psycho-social Maturity exhibited by B-school students in Coimbatore', Far East Journal of Psychology and Business, # 2, Vol. 7 June 2012 (Co-authored Paper). 'Human Resource Management Innovations and Employee outcomes', The Twelfth International Conference on Knowledge, Culture and Change Management, University Centre, Chicago, USA, July 6-8, 2012 (Co-authored Paper). 'Satisfaction with HR Practices and Employee Engagement: A Social Exchange Perspective', Journal of Economics and Behavioural Studies, # 7, Vol. 4, July 2012 (Co-authored Paper). 'A Model for Student Mentoring in Business Schools', International Journal of Mentoring and Coaching in Education, # 2, Vol. 1, August 2012 (Co-authored Paper). 'Psychological Empowerment and Employee Engagement', Seventh National Conference on Business Research 2012, PSG Institute of Management Coimbatore, India. November 23-24, 2012. (Co-authored Paper)



2

Dr. M. Bhasi

1. Thankachan T. Pullan, M. Bhasi and G. Madhu, (June 2012),” Object – Oriented Modelling of Manufacturing Information System for Collaborative Design”, *Accepted by International Journal of Production Research*, Vol. 50, No. 12, 15 , 3328–3344 (Taylor & Francis)
2. Ambilikumar C. K., M. Bhasi, 2012, A Review of recent developments in supply chain coordination, *International journal of logistics and supply chain management* Volume 4, Number 1, 2012, pp.55-70
3. Biju Augustine and Meera Madhu (2012), “Planning and Performance : Empirical Studies on small and medium rubber and plastic sector firms”, *International Conference on Industrial Management* held at TOC H Institute of Technology on September, 2012.
4. Biju Augustine and Meera Madhu (2012), “Use of Forecasting in SMEs”, *National Conference on Modern Trends in Mechanical Engineering*, Department of Mechanical Engineering, SNGCE Kadayiruppu, 14-16 June 2012.
5. Biju Augustine and Jisha P. Sainuddeen (2012), “An exploratory study to link the influence of planning and control on SME performance”, *National Conference on Modern Trends in Mechanical Engineering*, Department of Mechanical Engineering, SNGCE Kadayiruppu, 14-16 June 2012.
6. Biju Augustine and Meera Madhu (2012), “Testing the use of a questionnaire survey instrument to link planning with SME performance : findings from rubber and plastic sector firms”, *Conference paper presented at the National Technological Congress (NATCON) organized at Rajiv Gandhi Institute of Technology, Kottayam on 9th February, 2013.*
7. Ayana Johny and M. Bhasi “A Study on Factors Affecting Information Technology Implementation Success with Reference to Banks in India, In the *National Conference on Banking and Finance* held at Bharata Mata Institute of Management, Kochi on 26th April 2013.
8. Vinodkumar Jacob, M. Bhasi, R. Gopikakumari, “Influence of Work related variables on human errors in measurement”, *International Journal of Electrical and Electronics Engineering Research*, Vol. 4(1), August 2012, Pp. 1 - 11.
9. Vinodkumar Jacob, M. Bhasi, R. Gopikakumari, “Error in Measuring Standards, Uncertainty in Type Approval and Verification in Legal Metrology” *Accepted for Publication by the Mediterranean Journal of Measurement and Control.*
10. Vinodkumar Jacob, M. Bhasi, R. Gopikakumari, “A Study of Measurement Errors and uncertainty in Legal Metrology”, *under review in Journal of Measurements and Control, Elsevier.*

REFEREED JOURNAL PAPERS

1. Biju Augustine, M Bhasi and G. Madhu (2012), “Linking SME’s performance with the use of forecasting, Planning and control : empirical findings”, *European Journal of Scientific Research (ISSN 1450-216X)*, Vol.73, No.1 pp. 86-105.



	<ol style="list-style-type: none">2. Biju Augustine : M Bhasi and G Madhu (2012), "Exploring the Forecasting Behaviour : Findings from Indian SMEs, International Journal of Emerging Technology and Advanced Engineering, (ISSN 2250-2459), Vol.2, No.3/42, 2012, pp 260-2673. Biju Augustine, M, Bhasi and G, Madhu (2012) "Use of Planning and controlling in manufacturing industries: a review", International Journal of Operations Management and Information Technology, Vol. 2, Nol.1 (2012), pp 1-38.4. Meera Madhu, Biju Augustine and Bhasi M., "Planning and Performance: Exploratory findings from Small and Medium Rubber and Plastic sector firms" International Journal of Mechanical and Industrial Engineering (ISSN 2231-6477), Vol. I (October 2012).5. Biju Augustine, M. Bhasi and G. Madhu, "A structural equation model to link the use of forecasting, planning and controlling with SME performance", paper submitted to the "Journal of Small Business and Enterprise Development", under review.
3	<p>Dr. K. A. Zakkariya</p> <ol style="list-style-type: none">1. Zakkariya K. A.; Anandakkuttan B. Unnithan and Manoj Edward (2013). An Empirical Analysis of Emotional Intelligence as a Determinant of Sales Executives' Performance. In G. Muruganantham (Ed.) "Marketing Dynamics", Aruna Publications, Chennai, p-410-417, (ISBN 978 93 81790 93 9)2. George Joseph and Zakkariya K. A. (2013). Role of HR Flexibility in Project Management Effectiveness. Rajagiri Management Journal. January 2013, Vol.7, No.1, P-60-68, (ISSN 0972-9968)3. Smarty Mukundan and Zakkariya K. A. (2013). Emotional Intelligence as a determinant of Conflict Style Adoption of Managers: A theoretical perspective. International Journal of Social Science & Interdisciplinary Research. Vol.2(2), February, p 148-154, (ISSN2277 3630).4. Deepthi Sankar and Zakkariya K. A. (2012). Trends and Patterns in Passenger Car Market of BRIC Countries. International Journal of Current Research. Vol.4, Issue.11, p 044-048 (ISSN 0975-833X).5. Chandra Vadhana R. and Zakkariya K. A. (2012). Does "Soft Skills" Matter for Indian B-Schools? (A Content Analysis of the Advertisement of Indian B-Schools to Identify the Major Focus Areas, with Specific Reference to Soft Skills Assessment and Development). International Journal of Business and Management Tomorrow (IJBMT). Vol.2, No.10 (ISSN:2249-9962).6. Farsana S. Hussain, Chandra Vadhana. R and Zakkariya K.A. (2012). Are Women Leaders Breaking the Gender-Stereotype? A Study On Emerging Androgynous Leadership Style among Women in the Context of Globalisation. International Journal of Physical and Social Sciences (IJPSS). Vol.2, Issue.10, p 105-123 (ISSN 2249-5894)



	7. Farsana S. Hussain; Zakkariya K. A. and Muhammed Aslam M. K. (2012). "An Emotional Intelligence Approach to Service Orientation in Banking Sector." International Journal of Social Science Tomorrow, Vol.1, No.4, (ISSN 2277-6168).
4.	<p>Dr. Sam Thomas</p> <ol style="list-style-type: none"> 1. Direct and Indirect Effect of Brand Credibility, Brand Commitment and Loyalty Intentions on Brand Equity, Economic Review – Journal of Economics and Business, Vol. X, Issue 2, November 2012 2. How do Indian Software Projects Perform? A Cross sectional Study, MANAGEMENT RESEARCH AND PRACTICE Vol. 5 Issue 2 (2013) pp: 43-53 3. A Discriminant Model for Classifying Software Project Performance , Int. J. of Information Technology Project Management (IJITPM)
5.	<p>Dr. S. Rajitha Kumar</p> <ol style="list-style-type: none"> 1. Sindhu K. P. & S. Rajitha Kumar & (2012), Investors' Preference on Mutual Funds – A Study, Research Scholar, Vol II, No. IV, December 2012 Scholars' Association of Kerala, p. 116-174 2. Sindhu K. P. & S. Rajitha Kumar & (2012), Risk Tolerance of Mutual Fund Investors in Kerala, Global Research Review, Vol II, No. II-A, December 2012 Scholars' Association of Kerala 3. S. Rajitha Kumar & Manesh N. A. (2012), A Study on Travel Motives and Preferences of Leisure Tourists, Trade Wind, Vol. 7, No. 1, December 2012, P. G. Department of Commerce, Newman College
6	<p>Dr. Manoj Edward</p> <ol style="list-style-type: none"> 1. An Empirical analysis of Emotional intelligence as a determinant of sales executive's performance. In G. Muruganatham (Ed) "Marketing Dynamics" Aruna publications , Chennai. ISBN: 978 93 81790 93 9. 2. "Motivations for using Trade Show as a Marketing Tool in Tourism" Published as Conference Proceedings (ISBN No. 978-93-82305-10-1): National Conference on Emerging Trends In Business held at Christ University Bangalore on Jan.28/29 2013 3. A Study of Exhibitor Firms at a Tourism Trade Show , (<i>Accepted for publication</i>) in International Journal of Marketing and Business Communication (ISSN No . 2277-484X) – approved for publication
7	<p>Dr. K. B. Pavithran</p> <ol style="list-style-type: none"> 1. Alex Dhanya and Pavithran K. B. "Extent of corporate risk disclosures in the annual report of Indian companies and its impact on cost of equity" VIth IIM Ahmedabad Doctoral Colloquium proceedings – January 2013 2. Epen Neetha J. and Pavithran K. B., "Retail Banking: Effect of factors on customer switching Behaviour" International Journal of Research in Commerce and Management, Vol 3 (2012), Issue No. 12 (December) 3. Alex Dhanya, Pavithran K. B. and Swetha George; "Factors Influencing Corporate Investments in Public sector and Private Sector" - Journal of Contemporary Research in Management (JCRM) Oct to Dec 2012.



8.	Dr. James Manalel Vinodan A and James Manalel, Economic Benefits of Ecotourism : A case Study of Parambikulam Tiger Reserve, Kerala, India, UNEP Report on Green Economy – 2013.
9.	Dr. Jagathy Raj International Journals <ol style="list-style-type: none">1. Sini Varghese and Jagathy Raj V. P., (2013), “3D View”, International Journal of Engineering Research and Technology(ISSN: 2278-0181), Vol.2, Issue 2, February2. Hari V. S., Jagathy Raj V. P. and Gopikakumari R., (2012), <i>Spatial Filtering of MRI Images for the Removal of Impulsive Noise Using Quadratic Volterra Filter</i>, International Journal on Communications Antenna and Propagation, August, Vol. 2, No. 4, pp 252-2583. Suresh Kumar B. and Jagathy Raj V. P.,(2012), <i>A Secure Email System Based on IBE, DNS and Proxy Service</i>, Journal of Emerging Trends in Computing and Information Sciences, Vol. 3, No. 9, September, pp 1271-12764. Praveen R. P., Ravichandran M. H., Sadasivan Achari V. T., Jagathy Raj V. P, Madhu. G., and Bindu G. R., (2012) “<i>A Novel Slotless Halbach Array Permanent Magnet Brushless DC Motor for Spacecraft Applications</i>”, IEEE Industrial Electronics, Vol. 59, No. 9, September, pp 3553-3560 (<i>Available in IEEE Explorer</i>)(<i>Impact factor: 3.439- ISI Thomason</i>)5. Suresh Kumar B. and Jagathy Raj V. P., (2012), <i>A Secure Email System Based on Identity Based Encryption</i>, International Journal of Wireless Communications and Networking Technologies, Vol. 1, No. 1, August-September, pp 1-3.6. Indu R. and Jagathy Raj V. P, (2012), “<i>Developing a Theoretical Framework for a Study on the Impact of Advertising Credibility of Consumer Healthcare Products</i>”, European Journal of Commerce and Management Research (EJCMR), Vol.1,Issue 1, pp 14-247. Balakrishna Menon P. and Jagathy Raj V. P.,(2012), “<i>Dominant Mean Percentage Square factors of the Consumer Purchase behaviour of Passenger Cars</i>”, International Journal of Research in IT & Management, Volume 2, Issue 5, May, (ISSN 2231-4334) pp 13-36.8. Balakrishna Menon P. and Jagathy Raj V. P.,(2012), “<i>Model Development and Validation for Studying Consumer Preferences of Car Owners</i>”, International Journal of Marketing and Technology, Haryana, India, ISSN: 2249-1058, May 2012, Volume 1, Issue 1 National Journals <ol style="list-style-type: none">1. Deepthi S., Archana G. S., and Jagathy Raj V. P., (2013), <i>Facial Expression Recognition using Artificial Neural Networks</i>, Journal of Computer Engineering (ISSN: 2278-0661, ISBN 2278-8727), Vol. 8, Issue 4(Jan-Feb), pp 1-6



	<ol style="list-style-type: none"> 2. Siji P. Joy, Sariga Raj and Jagathy Raj V. P., (2012), "<i>Design of Cloud Based SOA for Colleges and Universities</i>", Journal of Science and Society (ISSN No.0973-0206), Vol. 10, No.2, pp 201-210 3. Balakrishnan Menon, and Jagathy Raj V. P., (2013), "<i>Confirmatory Factor Modeling on Emerging Consumer Purchase Behaviour of Passenger Cars</i>", Indian Journal of Marketing, ISSN 0973-8703, Volume 43, No. 2, February (Double Blind Peer Reviewed Refereed Journal with IC value = 5.09). 4. Balakrishnan Menon, and Jagathy Raj V. P., (Aug 2012), "<i>Logistic Regression Modeling for Consumer Purchase Behaviour of Passenger Cars</i>", AIMA Journal of Management and Research, ISSN 0974-497, Volume 6, Issue 3/4, pp. 29-58, August. 5. N. R. U. K Kartha and Jagathy Raj V. P., (2012), "<i>Role of Organisational Learning and Knowledge Management in the Growth of Industries</i>", Erudition, Vol. 6, Issue 2: July, pp 32-36. 6. N. R. U. K Kartha and Jagathy Raj V. P., (2012), "<i>Organization Development for Technology Intensive Growth</i>", Erudition, Vol. 6, Issue 2: July, pp 59-62.
10	<p>Dr. Moli P. Koshy</p> <ol style="list-style-type: none"> 1. Health Insurance Marketing: Problems and Prospects The International Journal's Research journal of Social Sciences and Management, Singapore; Vol 2 No 5, 2012.

b. Books

Sl. No.	Name of Book
1	<p>Chapters in Edited Books</p> <p>Dr. V. P. Jagathi Raj</p> <ol style="list-style-type: none"> 1. Soumya Varghese and Jagathy Raj V. P., (2012), <i>HRM Practices for Environmental Sustainability, Paradigm Shift in Innovative Business Management</i>, published by CBA Publishers, Chennai, pp162-169 2. Syam S. and Jagathy Raj V. P., (2012), "<i>IT Governance in the Cooperative Sectors: The Cooperative Ecosystem and the Use of Infobase</i>", Digital Economy of India: Security and Privacy published by Serials Publication, New Delhi, pp 698-709 3. Ajithkumar K. and Jagathy Raj V. P., (2012), "<i>Review of Corporate management model for Defense R & D Programs</i>", Driving the Economy through Innovation and Entrepreneurship: Emerging Agenda for Technology Management published by Springer, pp 313-324

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. P. R. Wilson	International Conference on Leadership and Management through Spiritual Wisdom organized by School of Management Studies, Varanasi, CSHSE, California State University, Chaflin University, USA, PHD Chamber of Commerce and Industry, presenting the papers (1) Meditation and Executive Health and (2) Rootedness in God and Executive well being.	Paper Presentation
Dr. S. Rajitha Kuamr	<ol style="list-style-type: none">1. National Seminar on Changing Paradigms of Management Practices in India, Organised by SNES Institute of Management Studies and Research, Kozhikode on 10th August, 20122. Three Day Seminar on Perspectives of Research Methodology Organised by Govt. College Munnar, 12 -14 March 2013.3. National Seminar on Government's Role in Awareness Creation on Entrepreneurship among Women in India, Organised by P. G. Department of Commerce, Govt. Arts College, Thiruvananthapuram on 15th & 16 March 2013.4. National Seminar on Role of Media in Stimulating Youth Entrepreneurship, Organised by the Institute of Parliamentary Affairs, Govt. of Kerala in association with P. G. Department of Commerce, Govt. Arts College, Thiruvananthapuram on 22nd & 23rd March 2013.5. Orientation Programme organized for the MBA Students of Kerala University for Fisheries and Ocean Studies on 26.3.2013.	<p>Session Chair</p> <p>Resource Person</p> <p>Session Chair</p> <p>Session Chair</p> <p>Invited Talk</p>
Dr. K. B. Pavithran	<ol style="list-style-type: none">1. Alex Dhanya and Pavithran K. B. Paper presented in the XVI Annual Convention of Strategic Management Forum organized by Indian Institute of Management, Kozhikode -"Corporate Disclosure Strategies and Cost of Equity" – May 22 – 24, 2013	



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. B. Pavithran	<ol style="list-style-type: none"> 2. Alex Dhanya and Pavithran K. B. Paper presented in ICEMIM, International Conference organized by Vellore Institute of Technology, Vellore “Understanding individual investor's behavior with financial information disclosed on the web site” – April 19th – 20th, 2013 3. Raihanath M. P. and Pavithran K. B., Presented a paper on” Performance of Commercial Banks with special reference to Kannur District in the second era of Financial Inclusion” in the UGC sponsored National Conference on Banking and Finance Conducted by Rajagiri Centre for Business School, Kakkanadu, Cochin on 20th February 2013. 4. Alex Dhanya and Pavithran K. B. Paper presented in 6th Annual Doctoral Colloquium organized by Indian Institute of Management, Ahmedabad - “Extent of corporate risk disclosures in the annual report of Indian companies and it's impact on cost of equity” - January 7th - 9th, 2013 5. Raihanath M. P. and Pavithran.K. B., Presented a paper on” Innovations in Higher Education- A path to boost “ on 28-06-2012 in the NAAC sponsored National Seminar on Innovative Practices for Quality Economic Development Enhancement in Educational Institutions Conducted by PRNSS College Mattanur on 28th and 29th June 2012 	Paper Presentation
Dr. Sebastian Rupert Mampilly	<ol style="list-style-type: none"> 1. Workshop on Research Methodology and Data Analysis for Teachers and Research Aspirants, Department of Management Studies, Sree Narayana Guru Institute of Science and Technology (SNGIST), Ernakulam, April 27 – 28, 2012. 2. AICTE sponsored Staff Development Programme on Research Methodology and Advances in Computing, Department of MCA, Union Christian College, Aluva, Ernakulam, May 14-25, 2012. 3. Workshop on Problem Formulation and Data Analysis in Social Science Research, 	



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Sebastian Rupert Mampilly	<p>Career Guidance Cell and Research & P.G. Department of Commerce, St. Peter's College, Kolencherry, Kerala, November 5-7, 2012.</p> <p>4. ICSSR sponsored National Level Course in Research Methodology, School of Management Studies, Cochin University of Science and Technology, January 16 - 25, 2013.</p> <p>5. ICSSR sponsored workshop on Research Methodology: Application of Research Methods and Statistics, Inter University Centre (IUCDS), Mahatma Gandhi University, Kottayam, Jan. 28 – Feb. 1, 2013.</p> <p>6. National Seminar on 'Perspectives of Research Methodology', Government College, Munnar, sponsored by Directorate of Collegiate Education, Government of Kerala, March 12 – 13, 2013.</p>	Resource Person
Dr. Moly P. Koshy	<p>1. National Conference on Emerging Trends in marketing, BMIM, Kochi.</p> <p>2. BMIM National Conference, Marh13, 2013, Organic Market - Need of the Future (Dr. Moli P. Koshy, Heerah Jose)</p>	<p>Session Chair</p> <p>Paper Presented</p>
Dr. Sam Thomas	<p>1. National Conference on Information System: Emerging Trends and Technologies, Cochin 13th Feb 2013</p> <p>2. National Conference on Information System: Emerging Trends and Technologies, Cochin 13th Feb 2013</p> <p>3. IFIP WG 8.6 Conference Bangalore (India),</p>	<p>Session Chair</p> <p>Paper Presented</p>
Dr. V. P. Jagathi Raj	<p>International conference Proceedings</p> <p>1. Shine K. George, Jagathy Raj V. P. and Santhoshkumar G., (2012), "<i>Ontology based framework for news extraction in visual media</i>", Proceedings of International Conference on Data Science and Engineering (ICDSE) held at CUSAT during 18-29, July, pp 342-345.</p> <p>2. Hari V. S., Jagathy Raj V. P. and Gopikakumari R., (2012), <i>Enhancement of Calcifications in Mammograms using Volterra Series based Quadratic Filter,</i></p>	



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. V. P. Jagathi Raj	<p>Proceedings of International Conference on Data Science and Engineering(ICDSE) held at CUSAT during 18-29, July, pp.-137-144.</p> <p>3. Praveen R. P., Ravichandran M. H., Sadasivan Achari V. T., Jagathy Raj V. P, Madhu. G., and Bindu G. R., (2012), "<i>Performance Optimization of an Internal Rotor PMSM Motor for High Performance Applications</i>", Proceedings of IEEE International Conference on Advances in Signal Processing and Communication – SPC2012, organized by ACEEE USA Section, May 30,31 & June 01.</p> <p>4. Hari V. S., Jagathy Raj V. P. and Gopikakumari R., (2012), "<i>Spatial Filtering of MRI Images for the Removal of Impulsive Noise using a Quadratic Volterra Filter</i>", Proceedings of IEEE International Conference on Advances in Signal Processing and Communication – SPC2012, organized by ACEEE USA Section, May 30,31 & June 01.</p> <p>5. Praveen R. P., Ravichandran M. H., Sadasivan Achari V. T., Jagathy Raj V. P, Madhu. G., Bindu G. R. and Gylson Thomas, (2012), "<i>Performance Optimization of an Internal Rotor PMSM Motor for High Performance Applications</i>, Proceedings of the International Conference (SPC2012) on Advances in Signal Processing and Communication to be held on May 30,31 & June 01, 2012 at Las Vegas, USA.</p> <p>6. Syam S. and Jagathy Raj V. P., (2013), "<i>Airworthiness Monitoring of Aircraft - a Rule Based Approach to Task Management</i>", 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>7. Ajithkumar K. and Jagathy Raj V. P. (2012), "<i>Review of Corporate management model for Defense R & D Programs</i>", Proceedings of International Conference on Technology Management organized by IISc Bangaluru, 18-20, July, pp 19</p>	Paper Presentation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. K. A. Zakkariya	Presented a Paper titled "An Empirical Analysis of Emotional Intelligence as a Determinant of Sales Executives' Performance" in the National Conference on "Recent Trends in Marketing-Opportunities and Challenges" organised at National Institute of Technology, Tiruchirappalli on 20 th February 2013	Presenter
Dr. Manoj Edward	<ol style="list-style-type: none"> 1. "Influence of Relationship Orientation on Individual Sales Performance" in 6th Doctoral Colloquium, Indian Institute of Management, Ahmedabad, January 7 to 9, 2013. 2. An Empirical analysis of Emotional intelligence as a determinant of sales executive's performance, National conference on 'Recent trend in marketing opportunities and challenges', Organised at NIT, Trichy. on 20-2-2013. 3. "Motivations for using Trade Show as a Marketing Tool in Tourism'. National Conference on Emerging Trends In Business held at Christ University Bangalore on Jan.28/29 2013. (Received best paper award) 4. "Managing Innovations in the Twenty First Century" in 2nd International conference on Emerging Markets and Issues in Management Organized by VIT University, Vellore, 19-20 April, 2013. 	

11. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Dr. Zakkariya K. A.	Most Prominent Alumni Award, 2012	MES Asmabi College Alumini Association,
Alex Dhanya and Dr. Pavithran K. B.	Best Paper Award (XVI Annual Convention of Strategic Management Forum)	IIM Kozhikode

12. Sponsored Research Projects

Sl. No.	Title	Sponsoring Agency	Amount lakhs	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.



13. 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

14. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1.	Providing Parking facilities at Metro Stations in Aluva-Pettah route in Kochi	Dr. P. R. Wilson	Kochi Metro Rail Ltd.
2	Study of scope of re-starting of ferry service and facilities to passengers	Dr. P. R. Wilson	Kerala State Inland Navigation Corporation Ltd.
3.	Study on Branded Drugs Purchase and Distribution	Dr. V. P. Jagathiraj	KMSCL, Govt. of Kerala, Thiruvananthapuram.





KUNJALI MARAKKAR SCHOOL OF MARINE ENGINEERING

1. Brief History :

1. Marine Engineering Division was started under the School of Engineering of Cochin University in September 2003.
2. It was upgraded to an independent Department called Kunjali Marakkar School of Marine Engineering in July 2007.
3. Shifted to the new Marine Engineering complex on 7th July, 2007.
4. Got ISO-9001:2000 Certificate in March, 2007.
5. Official inauguration of the building complex by the Hon. Chief Minister of Kerala Sri V.S Achuthanandan, on 28th November 2007.
6. Benchmarking of the School by Grading Organization 'CARE' has been done on 05th March, 2012 and graded as CARE Grade I. "OUTSTANDING"
7. All passed students of I, II, III & IV batches placed on board ships of various Shipping Companies.
8. 62% passed students of Vth batch (2008) placed on ships of various Shipping Companies
9. Approval from DGS obtained for all faculty members.
10. Control System Lab work completed.
11. On-board Training in 'Ship-in-Campus' commenced.
12. 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.
13. Ship-in-Campus was certified by D.G. Shipping for Afloat Training.
14. Annual intake increased from 40 & 80 students from 2012-13 onwards for this AICTE & DGS approval already obtained.

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.ClassI(M)	Refrigeration Marine Machinery Design
3	Prof. N. G. Nair	Course-in- Charge	B.Sc(Engg.),M.E.O. ClassI(M)	Marine Auxiliary Machinery, Gas turbines
4	Mr. R. Venugopal	Marine Engineer	B.Tech, MBA, M.E.O.ClassI(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	Mrs. Joansey Varghese	Lecturer	B.E., MBA	Electrical and Electronic Engineering
9	Mr. John T.	Lecturer	B.Tech	Mechanical Engineering
10	Mrs. Chinchu Grace Luckose	Lecturer	B.Tech	Electronics and Communications
11	Mr. Mipin T. P.	Lecturer	B.Tech	Mechanical Engineering

4. 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

**5. Students Enrollment**

Sl. No.	Programme of Study	Men	Women	Total
1	B.Tech Marine Engineering	40	-	40

6. 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
5072	Nil

7. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1	Mr .G. Reghuram	Vice Chancellor,Indian Maritime University.	
2	Mr. Katharini Walker	Master MarinerNMIT, Nelson New Zealand.	



8. Publications :

1.	Prof. (Dr.) P. V. Sasikumar Published a technical paper on "MLC-2006-Its impact and importance to shipping Industry", in the technical journal "Voyage" of Maritime Big T V.
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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	1. "Metamorphosis of safety culture of Sea" during world Maritime Day Celebrations on 25.09.2012 2. "Air Pollution from ships" of institute of Marine Engineers (India) Cochin on 23.11.2012 3. "Future Propulsion Systems" of Mohammed Sadak Marine Engineering College, Kilakarai, Tamil Nadu on 28.02.2013. 4. National Seminar on "STCW-2012-Impacts and implications" at K M School of Marine Engineering on 17.01.2013.	Presentation Presentation Presentation Participant
2	Prof. (Dr.) P. V. Sasikumar	1. Conducted and attended one day national seminar on "STCW-2012-Impacts and implications" at K M School of Marine Engineering on 17.01.2013. 2. "IT for Humanity " at the international seminar conducted by Aries Marine (IT Division) on 6 th April, 2013.	Presentation

10. Seminar/Conference/Workshop/Refresher Courses Conducted by the Department

Title of the Seminar/	Event Date	National/ International	Funding Agency	Co-ordinator
STCW-2012-Impacts and implications	17.01.2013	National	University	Dr. P. V. Sasikumar

11. Consultancy Work :

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Survey Vessel" M.V. NIRDESHAK"	Prof. (Dr.) K .A. Simon Prof. N. G. Nair	Kerala Hydrographic Dept.
2	"OCEAN ARROW"	Prof. (Dr.) P. V. Sasikumar	Kerala Hydrographic Dept.





INTERNATIONAL SCHOOL OF PHOTONICS

1. Brief History

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.

2. Programmes of Study/Research

- 1 M.Tech (Opto-electronics and Laser Technology)
- 2 Ph.D (Photonics and related areas)

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. P. Radhakrishnan	Professor	M.Sc, Ph.D	Laser Technology, Fiber Optics
2.	Dr. C. P. Girijavallabhan	Emeritus Professor	M.Sc, Ph.D	Opto-electronics and Laser Spectroscopy
3.	Dr. V. P. N. Nampoori	Emeritus Professor	M.Sc, Ph.D	Laser Spectroscopy, Non-linear Optics
4.	Dr. M. Kailasnath	Professor and Director	M.Sc,M.Phil, M.Tech, Ph D	Polymer optical fibres & Laser Technology



4. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
a. Full time Research Scholars				
1.	Suneetha Sebastian		Dr. M. Kailasnath	Fibre Optics
2.	Bini P. Pathrose	UGC-NET	Dr. A. Mujeeb	Biophotonics
3.	Misha Hari	KSCSTE	Dr. P. Radhakrishnan	Photonic Materials
4.	Mathew S.	DST PURSE	Dr C. P. Girijavallabhan	Nanophotonics
5.	Bejoy Varghese	UGC	Dr. V. M. Nandakumar	Non linear Dynamics
6.	Indu Sebastian	KSCSTE	Dr. Sheenu Thomas	Chalcogenide glasses
7.	Ratheesh R.	Uty.	Dr. A. Mujeeb	Speckle interferometry
8.	Divya S.	INSPIRE	Dr. A. Mujeeb	Nanophotonics
9.	Bobby Mathews	Uty.	Dr. P. Radhakrishnan	FO bio sensors
10.	Pradeep Chandran	Project	Dr. V. P. N. Nampoori	Bio Photonics
11.	Linslal C. L.	UGC	Dr. M. Kailasnath	Fibre Optics
12.	Jaison Peter	UGC	Dr. M. Kailasnath	Fibre Optics
13.	Sabitha P. V.	UGC	Dr. V. P. N. Nampoori	Nanophotonics
14.	Aparna Thankappan	Nano Centre Project	Dr. V. P. N Nampoori	Nanophotonics
15.	Musfir P. N.	KSCSTE	Dr. Sheenu Thomas	Chalcogenide glasses

b. Part time Research Scholars

1.	Linesh J.		Dr.V. P. N. Nampoori	Fiber Optics Sensors
	Libish T. M.	FIP	Dr. P. Radhakrishnan	Fibre optic Devices
2.	Sreeja S.		Dr.P Radhakrishnan	Laser matter interactions
3.	K. J. Thomas		Dr. P. Radhakrishnan	Fabrication & characterisation of polymer fiber based devices
4.	Rejeena I.		Dr.P. Radhakrishnan	Laser matter interactions

5. 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

**6. Technical Personnel**

Sl. No.	Designation	No. of Posts
1.	Store keeper Gr.III	1
2.	Instrument Technician	1

7. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1.	M.Tech (OE & LT)	7	2	9
2.	Ph.D	2	4	6
3.	M.Sc	14	6	20

8. Research Facilities:**a. Laboratory**

- 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

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 3328	158
Journals : 23	

9. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Thomas Chakkupurackal	Michigan University	A lecture on "Nanotechnology Advancement"
2.	Dr. Radhakrishna Prabhu	Robert Gordon University	A lecture on "Optical Sensors"
3.	Dr. Harilal S. S.	Purdue University	A lecture on "Recent trends induced Plasma"
4.	Prof. C Von Borczyskowski	Chemintz University of Technology	A lecture on "Dynamic processes on nanostructured surfaces and interfaces"

10. Ph.D.s Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Application of imaging to study the Evolution and Dynamics of Laser produced Plasma from Solid and Thin Films Li Targets	Mr. Sony George	Dr. V. P. N. Nampoori
2	Photonic Applications of Biomaterials with special Reference to Biopolymers and Microbes	Ms. Nitheyaja B.	Dr. V. P. N. Nampoori

11. Publications

a. Papers

Sl. No.	Name of Paper
1.	"Impact of Intermediate localized states on nonlinear absorption of Ga-Ge-Se nanocolloidal solution" Indu Sebastian, S. Divya, V. P. N. Nampoori, P. Radhakrishnan and Sheenu Thomas Appl. Phys. Letter 102, 0311115 (2013)



2.	"Nonlinear optical studies of DNA doped Rhodamine 6G-PVA films using picosecond pulses" Sasidharan sreeja, Balan Nithyaja, Debasis Swain, V. P. N. Nampoori, P. Radhakrishnan and Soma Venugopal Rao Optics and Photonics Journal 2012, 2, 135-139
3.	"Synthesis of monocrystalline zinc oxide microrods by wet chemical method for light confinement applications" Aparna Thankappan, S. Mathew, Erni Rolf, Debajeet Bora, Artur Brain, V. P. N. Nampoori. Physica E44 (2012) 2118-2123.
4.	"Effect of betanin natural dye extracted from red beetroot on the non-linear optical properties of ZnO nanoplates embedded in polymeric matrices" Aparna Thankappan, Sheenu Thomas and V. P. N. Nampoori journal of applied physics 112,123104(2012)
5.	"Interfacial edge dislocation interaction with free-surfaces in nanocrystals" A. Kumar, K. G. Kavitha and A. Sbramanian Journal of Nanoscience and Technology Vol. 12, 5096-5101,2012
6.	"A long period grating based biosensor for the detection and estimation of cholesterol" Bobby Mathew C., T. M. libish, J. Linesh, P. Biswas, S. Bandyopadhyay, K. Dasgupta, P. Radhakrishnan "International conference on fiber optics and Photonics, OSA 2012.
7.	"Pulsed laser ablation in methacrylate to produce spherical gold nanoparticles and fluorescent nanodots" Suneetha Sebastian, Animesh Aryan, Sooraj S., V. P. N. Nampoori and M. Kailasnath. "International conference on fiber optic and photonics, OSA 2012.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Indu Sebastian	INUP Workshop IEEE-ICOE, Belgaum NCAMA-Trichi	Oral poster presentaion
Divya S.	INUP Workshop IEEE-ICOE, Belgaum NCAMA-Trichi.	Oral poster presentaion
Suneetha Sebastian	IEEE-IOOE, Belgaum Photonic 2012, IIT Madras NLS -21 BARC, Mumbai NCAMA-NIT Trichi, IAPT	Oral poster presentaion
Pradeep Chandran C.	Photonics 2012, IIT Madras NLS -21, BARC Mumbai, ILA short course, BARC, Mumbai	Paper presenter & Participant
Bejoy Varghese	Photonics 2012, IIT Madras	Participation only
Bobby Mathew C.	Photonics 2012, IIT Madras	Participation only
Jaison Peter	NLS 21, BARC, Mumbai	Paper Presentation
Bini P. Pathrose	IEEE-ICOE, Belgaum ICMST-2012, Pala	Participation only



Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. M. Kailasnath	Annual Photonics Workshop 2013	Coordinator
Dr. M. Kailasnath	Recent Advance in Communication Systems, Sree Krishna College, Coimbatore	Invited speaker
Dr. M. Kailasnath	Annual Conference of Indian Association of Physics Teachers, 23 rd November 2012	Participant

13. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Ms. Chithira S.	PSI Award	ISP
Mr. Raju Kumar	Nalanda Endowment Prize	ISP
Mr. Kumar Saurav	C. V. Raman Award	ISP

14. Sponsored Research Projects

name of the Project	Funding Agency	Funding Agency	Duration	Total Amount Rs.
Establishment of newnational MEMS design centres	Dr P. Radhakrishnan	ADA	3 years	11.16 lakhs
Development of microstructured optical fiber and studies on ultrafast processes	Dr. P. Radhakrishnan	KSCSTE	3 years	16.00 lakhs
Nonlinear dynamics of semiconductor lasers	Dr. V. M. Nandakumaran	BRNS	3 years	10.719 lakhs
Development of photonic devices using biopolymers	Dr. V. P. N. Nampoore	CSIR	3 years	14.46m lakhs
Optical properties of rare earth doped chalcogenide glasses	Dr. Sheenu Thomas	KSCSTE	3	9.5 lakhs
Nanomaterials for multipolarNon-linear optics	Dr. P. Radhakrishnan	DSTIndo-Finland scheme	3 years	27.26 lakhs

**15. 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. Kailasnath, Dr. C. P. Girijavallabhan, Dr. A. Mujib 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

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Optics Fair	2 days	Dr. P. Radhakrishnan	ISP-SPIE &ISP-OSACapters
2.	Annual Photonics Workshop-2013	2 days	Ms. Priyamvada	UGC
3.	National Science day Celebration	1 day	Dr. M. Kailasnath	University Fund





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 BTech 4 year course students and three year MCA course students are continuing their studies here.

The All India Council for Technical Education had sent inspection teams on various occasions for assuring the infrastructure facilities and are 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	Associate Professor & Principal	PhD	ME
11	Meera. A R	Assistant Professor	M.Tech	CS
12	Minimole. A	Sel. Gr. 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



19	Shiny Paul	Associate Professor	M.Tech	EEE
20	Shiyas C. R.	Assistant Professor	M.Tech	ME
21	Dr.Sunilkumar N.	Sel. Gr. 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.	Associate Professor	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	1
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	40	245
	EC	298	42	340
	EE	211	29	240
	IT	159	51	210
	ME	245	1	246
	Civil	139	49	188
2	MCA	106	80	186

7. Research Facilities:**a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
12433	694



8. Publications

a. Papers

Sl. No.	Name of Paper
1	Manoj V. J, Elezabeth Elias. Artificial bee colony algorithm for the design of multiplier-less nonuniform filter bank transmultiplexer. Information Sciences Volume 192, 1 June 2012, Pages 193-203
2	Senthil Prakash M. N., Binod Chandra . Numerical Estimation of Shallow Water Resistance of a River-Sea Ship using CFD International Journal of Computer Applications Volume 71- No.5, May 2013
3	N. Sunilkumar, S. R. Reid ,R. M. Vasu, G. Lalmoni and D. Roy. Wrinkled and slack membranes: nonlinear 3D elasticity solutions via smooth DMS-FEM and experiment. International Journal for Numerical Methods in Engineering. Volume 90, Issue 10, pages 1233-1260, 8 June 2012
4	Preetha Mathew K., Sachin Vasant, Sridhar Venkatesan, C. Pandu Rangan. A Code-Based 1-out-of-N Oblivious Transfer Based on McEliece Assumptions. Information Security Practice and Experience Lecture Notes in Computer Science Volume 7232, 2012, pp 144-157
5	Preetha Mathew K., Sachin Vasant, Sridhar Venkatesan, C. Pandu Rangan An Efficient IND-CCA2 Secure Variant of the Niederreiter Encryption Scheme in the Standard Model. Information Security and Privacy. Lecture Notes in Computer Science Volume 7372, 2012, pp 166-179
6	Shiyas C. R. and Madhusudanan Pillai V.: A non-linear programming model for the machine grouping and a genetic algorithm based solution methodology. International Journal of Computer Applications, Vol. 38, No 8, 2012, 37 – 41. (Foundation of computer science, USA)
7	Shiyas C. R. and Madhusudanan Pillai V.: A zero-one integer programming model for the design of manufacturing cells, International Journal of Engineering Science and Technology, Vol. 4, 2012, No 1, 148 – 154. (Engg, journal publications, India)

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Sunilkumar N.	International Conference at RIT kottayam	Reviewer
Dr. Senthilprakash M. N.	International Conference at College of Engineering Adoor	Reviewer





CENTRAL OFFICE FOR UNIVERSITY HOSTELS

1. Brief History

The following 9 hostels have been functioning under the supervision of the Central Office for University Hostels:

- | | | | |
|-----------------------|----------------------|----------------------|----------------------|
| (i) Hostel No. I | Sanathana (for boys) | (ii) Hostel No. III | Aiswarya (for girls) |
| (iii) Hostel No. IV | Siberia (for boys) | (iv) Hostel No. V | Sarovar (for boys) |
| (v) Hostel No. VI | Athulya (for girls) | (vi) Hostel No. VII | Anaswara (for girls) |
| (vii) Hostel No. VIII | Sagar (Boys) | (viii) Hostel No. IX | Anagha (Girls) |
| (ix) Hostel No. X | (Ananya) | | |

From July 2012 onwards the Cochin University Marine Sciences (CUMS) Hostel has also been attached to the Central Office for University Hostels.

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. A new hostel for OBC boys constructed by the District SC/ST Welfare Department is ready for handing over to the University.

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 and Ananya 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 |

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 giving priority number.

In the 2012-13 academic year, admission to the above 10 hostels had been given as detailed below:



Sl. No.	Hostel	Capacity	Intake			
			SC/ST OEC	OBC	General	Total
1	Hostel No. I Sanathana	162	28	61	60	149
2	Hostel No. III Aiswarya	164	17	75	85	177
3	Hostel No. IV Siberia	106	16	51	48	115
4	Hostel No. V Sarovar	256	30	88	137	255
5	Hostel No. VI Athulya	114	21	36	73	130
6	Hostel No. VII Anaswara	300	42	168	123	333
7	Hostel No. VIII Sagar	88	80	10	1	91
8	Hostel No. IX Anagha	96	72	29	9	110
9	Hostel No. X Ananya	86	19	65	6	90

The Hostel Office was working with 30 staff members including 1 Warden, 10 Assistant Wardens, 19 Sweepers (on daily wages), 4 Matrons of hostels, 1 Section Officer, 1 Assistant (on daily wages) and 1 Peon in the office having a budget allocation of Rs.31,42,000/-. The average monthly cash transaction of the Office was Rs.15.5 lakhs including the ABLC bills of SC/ST/OEC students for the financial year 2011-12.

The staff position in the 2012-13 academic year was as follows:

I. Chairman, Council of Wardens Dr. S. Prathapan, Professor, Dept. of Applied Chemistry

II. Assistant Wardens:

1. Dr. V. Sivanandan Achari, Senior. Lecturer., School of Environmental Studies (Hostel No. I - Sanathana)
2. Dr. B. Lakshmi, Professor, Department of Mathematics (Hostel No. III - Aiswarya)
3. Mr. G. Santhoshkumar, Senior Lecturer, Department of Computer Science (Hostel No. IV - Siberia)
4. Dr. P. Arunachalam, Professor, Dept. of Applied Economics (Hostel No. V - Sarovar)
5. Dr. K. Ajitha, Professor, Department of Hindi (Hostel No. VI - Athulya)
6. Ms. Malalathi S., Lecturer, Dept. of Computer Applications (Hostel No. VII - Anaswara)
7. Mr. Sasi Gopalan, Reader in Mathematics, SOE (Hostel No. VIII - Sagar)
8. Ms. K.M. Sheena, Reader, Division of Electrical Engg., SOE (Hostel No. IX - Anagha)
9. Dr. Moli P. Koshy, Professor, School of Management Studies (Hostel No. X - Ananya)

A Hostel Advisory Committee with the following members had been constituted:

- (i) The Registrar (Convener)
- (ii) The Chief Warden
- (iii) Assistant Wardens
- (iv) The University Engineer
- (v) The University Union Chairman (Members)

The other two hostels were under the supervision of various Depts. 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

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 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 bases.

Email

The mail server is hosted in house and email facility is extended to all teachers, staff, research fellows and post graduate students of the campus.

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.

Projects completed

- Connectivity up gradation from the existing bandwidth of 24 Mbps to 30 Mbps at the main campus and 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 infrastructure 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.

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 take initiatives with the help of teaching departments to give out 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.

**Advanced Networking Lab**

An advanced networking lab is another priority. This is required for conducting advanced research in the area of networking.

2. Administrative Personnel

Sl. No.	Designation	No. of Posts
1	Hon. Director	1
2	Assistant	1
3	Sweeper/Cleaner	1

3. Technical Personnel : 3 Nos (On working arrangement from Department of Computer Sciences)

4. Research Facilities**a. Computer Lab (Major Equipments)****i) Computers, Servers, Printers & Network Components**

Sl. No.	Item	Quantity
	Server	
01	IBM X3650	2
02	HPDL580G5, HP proliant	1
03	Keltron Q9550	3
04	Keltron Xeon E5405	5
05	Keltron Xeon E5520	5
06	DELL Rack mountable server	8
07	PC	25
08	Laserjet Printer	2
09	Managed switches for networking	50
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

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 the 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) is for batches of students from a school. Science Talent And Total Capacity Development Programme (STDP) is 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 undertake 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. Mohanan	Hon. Asst. Director	M.Sc., Ph.D	Electronics
3.	Dr. V. P. N. Nampoori	Hon. Additional Director	M.Sc., Ph.D	Optoelectronics

3. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Assistant	1
2.	Typist	1 (Vacant)
3.	Peon	1
4.	Sweeper-cum-Cleaner	1 (Vacant)

**4. Students Enrollment**

Sl. No.	Programme of Study	Men	Women	Total
1	One Day Attachment Programme (ODAP)			1,59,032
2	Science Talent and Total Capacity Development Programme (STDP)			5,300

5. Research Facilities :**a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 10342 Journals : 12	Books : 169

6. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. P. S. Veeraraghavan	Director, VSSC, Trivandrum.	23/05/2012
2.	Prof. V. N. Rajasekharan Pillai	Executive Vice President, KSCSTE, Trivandrum.	04/09/2012
3.	Mr. P. Ratnakara Rao	Deputy Director VSSC, Trivandrum.	28/11/2012.

7. Awards/Honours/Fellowships etc. received

Name of Recipient	Name of Fellowship/Honour/Award	Awarding Agency
Prof. K. G. Nair	Fellow Swadeshi Science Award.	National Academy of Sciences, India, Allahabad.

8. 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



9. 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

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Sastraposhini: Teachers' Training Programme	25 th , 26 th , & 27 th March 2013	-	KSCSTE, Thiruvananthapuram
2.	"House hold electrical and electronic gadgets; important precautions and maintenance clues for frequent users."	20/12/2012	-	Plan Fund





UNIVERSITY EMPLOYMENT INFORMATION & GUIDANCE BUREAU

- 1. Brief History** : 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

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 Facilities :

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 Seminar on Personality Development & Career Guidance.	Co-ordination
	2. One Day Seminar on How to Attend Competitive Exam & Career Guidance	
	3. Personality Development & Soft Skill Improvement.	
	4. Soft Skill Improvement. & Personality Development	
	5. Soft Skill Improvement & Parenting	

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Coaching Class for Bank Probationary Officer / Management Trainee	15 Days	U E I & G B	U E I & G B
2.	UGC-NET/JRF Humanities Paper – I Coaching	15 Days	U E I & G B	U E I & G B
3.	Coaching Class for Bank Probationary Officer & Clerk	15 Days	U E I & G B	U E I & G B





UNIVERSITY LIBRARY

1. Brief History

The Cochin University Library was established in 1977 as a central agency for meeting the information requirements of the academic community of the University and for collection, organization and dissemination of information. 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 sciences and technology. At the same time books of general interest in various subject fields are not neglected either.

CUSAT library has restructured its services to face the threat and boon that result from the rapid proliferation of electronic information resources. Library LAN has been a part of Campus Wide Network, which has made it possible for the academic community of 30 departments to access information from their location itself. As a part of the free/open source software movement in CUSAT, the University Library has migrated from ADLIB library software into KOHA open source integrated library system. The bibliographic records of books, journals and theses in the Library can now be accessed globally through WebOPAC (<http://opac.cusat.ac.in>).

The Library offers Loan service, Inter-Library Loan, Literature Search, Reference Search, Compilation of Bibliographies, Reprographic Service, Reprint Service, Conference Alert Service, New Addition Alert Service, Patent Information and Consultancy Service.

CUSAT Library has campus wide IP enabled access to online journals under the UGC-INFONET DIGITAL Library Consortia and INDEST Consortia. The UGC initiated UGC-INFONET project provides access to electronic journals and database over the internet executed by INFLIBNET. Under this project electronic full text access is provided to scholarly literature of all major areas of learning like Science Direct, ACS, IOP, Taylor & Francis, RSC, Wiley publications, Nature, Project Muse, Project Euclid, Web of Science...etc. Members can avail the service of UGC-INFONET, JCCC portal (an e-journals gateway to Indian Universities & Colleges) which also provides ILL between various Universities in India. Access to Online journal archives to Science Direct (4 subject), RSC, AIP are also included.

Under the INDEST consortia setup by the MHRD, online access is available to ASPP. In addition to this, CUSAT Library is also subscribing online databases like ACM, Crisil, SciFinder, Manupatra, Emerald extra (Management & Library Science), Proquest databases, Proquest Dissertations and Theses database, CMIE Prowess-database, JSTORE, ASCE journals,...etc. IEEE-IEL digital Library(3 users) which provides full-text access to IEEE publications published since 1988. CUSAT members have access to online journal archives from the Springer, Wiley, Cambridge & Taylor & Francis.



The services and facilities provided by the library are published in the library website <http://library.cusat.ac.in/>. The links to the online journals and databases subscribed are provided in the library e-journals portal.

University library is a member of DELNET (Developing Library Network) providing access to DELNET databases of books, periodicals, theses etc. available among the various member libraries. Members can avail inter library loan service and document delivery service from DELNET for books and journal articles not available in the University Library.

The library also houses an Institutional Repository "Dyuthi", supported by the Department of Scientific and Industrial Research, where the research publications and Ph.D theses of the University is available online to the public. It also provides open access to institutional research output by self-archiving it.

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	521	603	1124

**5. Research Facilities :****a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 75801	2728
Journals : 152	
Online Data Bases : 14	
Indian Journals : 51	
News Papers : 10	

6. Distinguished Visitors

Sl. No.	Name	Affiliation	Remarks
1.	Graziano Krath	Librarian, Yale University	

7. Publications**a. Papers**

Sl. No.	Name of Paper
1	Caliber 2013 "Library vision 2020 Moving towards the future"- Dr. Beena C.
2	National Conference on Managing Indian Media Libraries and Archives (AMLANC) – 2013 on 4 th to 5 th February 2013- Dr. Beena C.
3	Sheeja N.K. (2012), Sheeja N.K, Susan Mathew, Sreerekha S. Pillai and Surendran Cherukodan (2013) Collection and Assets Management: <i>One University library's Journey to the Future</i> , In <i>Proceedings of International CALIBER 2013</i> , INFLIBNET, Gandhi Nagar
4	Surendran Cherukodan, Santhosh Kumar V., Humayoon Kabeer and Sheeja N. K. (2013) The Problems of Retrieval and Quality of Online Catalogues: An Analytical Study of Typographical Errors, In <i>Proceedings of International CALIBER 2013</i> , INFLIBNET, Gandhi Nagar
5	Sheeja N. K. (2012), "Knowledge Management Practices in University Libraries: A Case Study of CUSAT", In <i>Dynamics Of Librarianship in the Knowledge Society Festschrift In Honour Of Prof. B. Ramesh Babu</i> , B. R. Publishing Corporation: Delhi



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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Dr. Beena C.	Traditional Knowledge Management systems in Fisheries 30 th October 2012 – 31 st October 2012	Participant
	Indian Council for Agricultural Research (ICAR) and Kerala University of Fisheries and Ocean Science (Invited talk on Knowledge Management)	Resource Person
	National Conference on Managing Indian Media Libraries and Archives (AMLANC) – 2013 on 4 th to 5 th February 2013	Participant
	Caliber 2013 “Library vision 2020 Moving towards the future”	Participant
Dr. Susan Mathew K.	National Seminar on “Library and Web tools for E-Learning and Teaching” organized by College of Horticulture, Kerala Agricultural University, Thrissur in association with the Kerala Library Association, June 25, 2012	Resource person -Topic:“E-Learning and Continuing Education in LIS”
	XXV IASLIC (Indian Association of Special Libraries and Information Centres) National Seminar 2012 on “Intellectual Property Rights Problems and Prospects with Special Reference to Library and Information Services” organized by Rangapillai Library, Pondicherry University, Puducherry during December 10-13,	Participant
	National Conference on “E-resources and E-learning: Challenges and Opportunities for Libraries” 01–02 February 2013 Organized by Department of Library and Information Science & C H M K Library ,University of Calicut	Participant with paper“Changing Role of Academic Libraries in the E-learning Environment: Issues and Challenges”



Name of Participant	Name of Seminar/Conference/Workshop	Role
	9th International CALIBER "Library Vision 2020: Moving Towards the Future".organized by INFLIBNET Centre, Gandhinagar, Gujarat during 21-23 March 2013.	Participant with paper"Collection and Assets Management: One University Library's Journey to the Future" Joint authors : Sheeja N. K., Susan Mathew K., Sreerekha S. Pillai and Surendran Cherukodan
Liny Varghese	<p>UGC-INFLIBNET, SCIENCE DIRECT-Elsevier- 3rd, University Forum meeting on July 13, 2012 at New Delhi</p> <p>Two day workshop on "Information delivery systems in academic and research institutions" jointly organized by International Centre for Free and Open Source Software (ICFOSS) and Rajagiri College of Social Sciences, Kalamassery on 24th and 25th September 2012.</p> <p>One day Workshop of E-Learning organised by Department of Technical Education at College of engineering, Thrissur on 11th, December 2012</p> <p>One day workshop on "DSpace" jointly organized by the Kerala University of Fisheries and Ocean Studies, Panagad, and Kerala Library Association Ernakulam region on 19th January 2013.</p> <p>Two day workshop on "Koha" jointly organized by Rajagiri College of Social Sciences, Kalamassery and Kerala Library Association Ernakulam region on 7th & 8th March 2013.</p>	<p>Participant</p> <p>Resource Person</p> <p>Resource Person</p> <p>Resource Person</p> <p>Resource Person</p>
Sheeja N. K.	<p>IASLIC XXV National Seminar, Organised by Pondicherry University, December 10-13, 2012</p> <p>National Conference on "E-infrastructures in Libraries" Organised by SVPITM, Coimbatore, 21st December 2012</p>	Participant



Name of Participant	Name of Seminar/Conference/Workshop	Role
	National Conference on E-resources and E-learning: Challenges and Opportunities for Libraries, Organised by Department of Library and Information Science, & C.H.M.K. Library, University of Calicut, February 1-2, 2013	
Aparna Varma J.	One day workshop on "DSpace" jointly organized by the Kerala University of Fisheries and Ocean Studies, Panagad, and Kerala Library Association Ernakulam region on 19 th January 2013.	Participant
Anoop Varma G.	One day workshop on "DSpace" jointly organized by the Kerala University of Fisheries and Ocean Studies, Panagad, and Kerala Library Association Ernakulam region on 19 th January 2013. Two day workshop on "Koha" jointly organized by Rajagiri College of Social Sciences, Kalamassery and Kerala Library Association Ernakulam region on 7 th & 8 th March 2013.	Participant Participant

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	User Awareness Programme	26th Feb. 2013 (One Day)	University Librarian	CUSAT





INTERNATIONAL RELATIONS AND ACADEMIC ADMISSIONS

The CAT 2012 admission procedure was completed in the month of September 2012 and normally the next years notification (CAT 2013) was published in the month of January. A total amount of Rs. 3.87 crores was collected towards the cost of application/registration fee. As the in the case of previous years, CAT 2013 examination was conducted at 26 centres all over India and also a centre at Middle East.

1. As part of the Emerging Kerala 2012 meet held at Kochi from 12.09.2012 to 24.09.2012, an International Relations Group (IR-Group) was constituted by the Government of Kerala to identify the challenges experienced by various Universities in foreign collaborations and to come out with a concrete proposal to streamline the process involved. CUSAT is represented in the IR-Group by the Vice-Chancellor.

The Vice-Chancellor has nominated Dr. Sunil K Narayanankutty, Professor & Head, Department of Polymer Science & Rubber Technology and Dr. Sam Thomas, Lecturer, School of Management Studies to represent CUSAT in the IR-Group.

2. A Memorandum of Understanding was signed with the Universidad Juarez Autonoma De Tabasco (UJAT), Mexico.

As part of this MoU, a Mexican delegation visited the School of Industrial Fisheries, CUSAT to learn more about the natural prawn habitats. Followed by an academic visit by two students from UJAT, Mexico to the School of Industrial Fisheries.

3. The following Universities have expressed their interest in entering into academic partnerships with CUSAT and meetings held: Missouri University of Science & Technology, USA; Adana Science & Technology University, Turkey; Government of Eritrea; Ambo University, Ethiopia.
4. For the academic year 2012-2013, we continue to receive Italian contribution from the Italian Ministry of Foreign Affairs towards the teaching of Italian Language in CUSAT.
5. As part of the Memorandum of Understanding signed with the University of Bergen, Norway; the Nansen Environmental Research Centre India, Kochi; and the Nansen Environmental & Remote Sensing Centre, Bergen, Norway, 3 PhD candidates at CUSAT, one each at the Department of Physical Oceanography,



Department of Atmospheric Sciences and Department of Marine Biology, Microbiology & Biochemistry have been selected for the Nansen Fellowship.

6. For the academic year 2012-2013, one ICCR Scholar and one Self-financing student took admission in CUSAT.
7. The US Consul General Ms. Jennifer A Mcintyre, from Chennai, made a one day visit to CUSAT and held a meeting with the Vice-Chancellor and also visited the Inter University Centre for IPR Studies.
8. United States India Educational Foundation (USIEF) coordinated the visit of US higher education administrators from various institutions in US who made a one day visit to CUSAT, holding a meeting with the Vice-Chancellor, Teaching and Non-teaching staff.
9. The Unit of IRAA coordinated with various outside agencies and successfully ensured the smooth conduct of their examinations. The Outside agencies included the University of Hyderabad, Indian Institute of Astrophysics, Tata Institute of Fundamental Research, JEST, GATE (IITM).





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.	Annual Photonics Workshop (APW-2013) International School of Photonics	27-28 Feb. 2013	Dr. M. Kailasnath	UGC
2.	CARVE-2013 Division of Electronics Engineering School of Engineering	1-2 March 2013	Dr. Binu Paul and Dr. Rekha K. James	UGC
3.	C-Tric-2013 Department of Applied Chemistry	22-23 March 2013	Dr. N. Manoj	UGC



Sl. No.	Title	Duration	Coordinator	Funding Agency
4.	National Seminar on 'Creativity in the Era of Globalization' Department of Culture and Heritage	13-14 March 2013	Dr. Brinda Bala Sreenivasan	UGC
5.	OMTAT-13 Department of Physics	2-5 Jan. 2013	Prof. M. K. Jayaraj	UGC/ DST/ KSCSTE/ DAE/DRDO
6.	National Seminar on 'Bioinformatics in Marine Biology, Microbiology and Biochemistry' Department of Marine Biology, Microbiology and Biochemistry	12.03.2013	Dr. Rosamma Philip	UGC
7.	State level Seminar on STCW 2010 by KMSME	17.01.2013	Prof. K. A. Simon	UGC
8.	Three day National Workshop on Science Communication & Science Journalism for Media Studies Centre for Science Communication	5, 6 & 7 Feb. 2013	Dr. S. Anilkumar	UGC/ KSCSTE
9.	National Seminar AQUASEM-2013 Department of Chemical Oceanography	21-23 March 2013	Dr. Chandra Mohanakumar	UGC
10.	National Seminar "Ram Vilas Sharma" Department of Hindi	7-8 Jan. 2013	Dr. K. Vanaja	UGC
11.	National Conference on Indian Language Computing (NCILC-2013) Department of Computer Applications	19-20 Jan. 2013	Dr. K. V. Pramod	UGC/CSIR/ KSCSTE
12.	National Symposium on Antennas and Propagation (APSYM-2012) Department of Electronics	17-19 Dec. 2012	Dr. K. Vasudevan	UGC/ KSCSTE/ CSIR
13.	One-day Workshop on "Nuclear Energy Awareness for Media Persons Centre for Science Communication	23 Aug. 2012	Dr. S. Anilkumar	DST



Sl. No.	Title	Duration	Coordinator	Funding Agency
14.	National Conference on Algebra and Number Theory (NCANT-2012) Department of Mathematics	16-18 August 2012	Dr. P. G. Romeo	DAE
15.	National Symposium on "Emerging Trends in Biotechnology" Department of Biotechnology	12-13 Dec. 2012	Dr. Saritha G. Bhat	UGC
16.	5 th National Conference on Recent Advances in Civil Engineering (RACE 2012) School of Engineering	29.11.2012 to 01.12.2012	Dr. Benny Mathews Abraham	UGC
17.	One-Day awareness programme on the topic "Technological Advances for Rural Development and Transformation of Living Conditions of Rural Women"	09.04.2012	Dr. Manoj P. K.	KSCSTE
18.	Seminar & Lab to field Programme on Mangrove Propagation and Conservation Department of Marine Biology, Microbiology and Biochemistry	12.07.2012	Dr. S. Bijoy Nandan	DOECC/ KSPCB
19.	Workshop on Statistical Analysis of Time Series Data with Applications Department of Statistics	14-16 Jan. 2013	Dr. N. Balakrishnan	DST/CSIR/ RBI
20.	Group Interaction Workshop of PI DST Fast-Track Projects in Engineering Science School of Engineering	23.02.2013	Dr. P. Abdulla	DST
21.	National Seminar on "Green Tourism in India" Department of Applied Economics	30.06.2012	Dr. Manoj P. K.	KSCSTE
22.	National Science Day Oration on 'Genetically Modified Crops and Food Security: Issues & Prospects' Directorate of Public Relations and Publications	07.02.2013	Dr. S. Anilkumar	KSCSTE



Details of Projects Implemented During the Financial Year 2012-13

Sl. No.	Principal Investigator	Funding Agency	Duration	Total Grant Sanctioned
1	Dr. S. Sugunan	University Grants Commission	3 YEARS	1,980,000
2	Dr. Jyotishkumar P.	Department of Science & Technology	5 YEARS	8,300,000
3	Dr. Swapna P. Antony	Department of Science & Technology	5 YEARS	8,300,000
4	Dr. I. S. Bright Singh	University Grants Commission	18 MNTS	700,000
5	Dr. Valsamma Joseph	University Grants Commission	3 YEARS	1,303,800
6	Dr. Saritha G. Bhatt	University Grants Commission	3 YEARS	1,440,800
7	Dr. D. Rajasenana	University Grants Commission	2 YEARS	589,000
8	Dr. V. C. Kuriakose	University Grants Commission	3 YEARS	1,265,500
9	Dr. Sajeevan T. P.	University Grants Commission	2 YEARS	383,000
10	Dr. Bijoy S. Nandan	University Grants Commission	3 YEARS	1,224,300
11	Dr. P. Arunachalam	University Grants Commission	2 YEARS	564,600
12	Dr. I. S. Bright Singh	Department of BioTechnology	3 YEARS	1,500,000
13	Dr. Bijoy S. Nandan	Ministry of Earth Sciences	5 YEARS	29,615,000
14	Dr. P. R. S. Pillai	Ministry of Earth Sciences	5 YEARS	26,435,000
15	Dr. I. S. Bright Singh	Ministry of Earth Sciences	5 YEARS	8,700,000
16	Dr. M. Harikrishnan	Ministry of Earth Sciences	5 YEARS	8,020,000
17	Dr. A. V. Saramma	Ministry of Earth Sciences	5 YEARS	7,900,000
18	Dr. Sujatha C. H.	Ministry of Earth Sciences	5 YEARS	6,600,000
19	Dr. A. A. Mohammed Hatha	Ministry of Earth Sciences	5 YEARS	6,050,000
20	Dr. A. A. Mohammed Hatha	Ministry of Earth Sciences	5 YEARS	7,000,000
21	Dr. Rosamma Philip	Ministry of Earth Sciences	5 YEARS	12,000,000
22	Dr. M. R. Anantharaman	Department of Science & Technology	3 YEARS	4,501,160
23	Dr. Ramesh babu T.	Department of Science & Technology	3 YEARS	12,450,000



Sl. No.	Principal Investigator	Funding Agency	Duration	Total Grant Sanctioned
24	Dr. P. Radhakrishnan	Department of Science & Technology	3 YEARS	2,726,000
25	The Head	Department of Science & Technology	5 YEARS	5,200,000
26	Dr. M. S. Jayakumar	Indian Council of Social Science Research	18 months	509,550
27	Dr. Bijoy S. Nandan	Department of BioTechnology	3 YEARS	4,222,909
28	Dr. I. S. BrightSingh	Department of BioTechnology	3 YEARS	4,606,959
29	Dr. K. K. Saju	All India Council for Technical Education	5 YEARS	1,500,000
30	Dr. Biju N.	All India Council for Technical Education	1 YEAR	1,800,000
31	Dr. N. S. Sudheer	Kerala State Council for Science Technology & Environment	2 YEARS	100,000
32	Dr. I. S. BrightSingh	National Fisheries Development Board	1 YEAR	1,505,800
33	Dr. K. G. Nair	Kerala State Council for Science Technology & Environment	1 YEAR	2,000,000
34	Dr. K. G. Nair	Kerala State Council for Science Technology & Environment	1 YEAR	200,000





DIRECTORATE OF PUBLIC RELATIONS AND PUBLICATIONS

The Directorate of Public Relations and Publications has done a commendable work during the period 2012 – 2013 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 2013 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 and to 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 8th 3-day National Workshop on Science Communication and Science Journalism for students of media studies was conducted by the Directorate in active collaboration with the Centre for Science Communication from 5th February 2013.

As part of the National Science Day Celebrations, a National Science Day Oration was organized by the Directorate where Dr. Lekha Sreekantan, Associate Professor, Department of Biotechnology, College of Agriculture, Kerala Agricultural University, Vellayani, Thiruvananthapuram delivered a talk on Genetically Modified Crops on 7th February 2013.

The Directorate released January & June 2013 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 around 6 books during the period of report. Many books were edited by the Director, Public Relations and Publications. The Directorate has published more than 95 books till date from its inception during the year 2005.

The books published during 2012-13 are listed below-

1. Proceedings of the National Symposium: Emerging trends in Biotechnology
Editor: Dr. Padma Nambisan, Dr. Saritha G. Bhatt
ISBN No. 978-93-80095-39-4
2. Proceedings of APSYM 2012
Editors: Prof. K. G Nair, Prof. C. K. Anandan, Pof. K. Vasudevan, Prof. P. Mohanan
ISBN No. 978-93-80095-40-0
3. Proceedings of the National conference on Indian Language Computing NCILC 2013
Editor: Dr. B. Kannan, Smt. Malathi S., Smt. Keerthi A.S., Smt. Rafida Rahiman K. A.
ISBN No. 978-93-80095-41-7
4. Proceedings of the National Seminar on Creativity in the Era of Globalisation.
Editors: Smt. Brinda Baala Srinivasan
ISBN No. 978-93-80095-42-4
5. Samakalika Hindi Dalit Kadha
Author: Dr. R. Sasidharan
ISBN No. 978-93-80095-43-1
6. Sasthram Varunna Vazhikal
Editors: Dr. S. Anilkumar
ISBN No. 978-93-80095-44-8





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 area 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 “Preparation of a Science and Technology Handbook-cum-Scientific Technology Guide for Journalists in Malayalam” 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 Handbook.

During the initial period of the year 2012-13 the Centre collaborated with the Directorate of Public Relations and Publications in successfully conducting the 8th 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. Dr. Ramachandran Thekkedath, Vice-Chancellor, CUSAT delivered the opening remarks at the inaugural session on 5th February 2013 and Dr. V. Ajit Prabhu (Joint Director, KSCSTE) delivered the keynote address at the workshop.



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 lecture on “Genetically Modified Crops and Food Security - Issues and Prospects” by Dr. Lekha Sreekantan, Associate Professor, Department of Biotechnology, College of Agriculture, Kerala Agricultural University, Vellayani, Thiruvananthapuram.

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

The Sophisticated Test and Instrumentation Centre (STIC) is an autonomous institution (estd. 1995) 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)

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 E1	M.Sc, Ph.D	Calibration, Testing
3.	Mr. Paul V. John	Scientist C	M.Tech	Calibration, Testing
4.	Ms. Sreeja V.	Scientist C	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
2.	Uma S.	KSCSTE	Dr. Jacob Philip	Photothermal effect in nanosolids
3.	Jayalakshmy M. S.	DST/ CUSAT	Dr. Jacob Philip	Nanocomposite sensors
4.	Saumya H.	DST/ CUSAT	Dr. Jacob Philip	Photothermal Instrumentation
5.	Mathew M.	N/A	Dr. Jacob Philip	Speech signal processing
6.	Nizamuddeen Kunnath	CSIR	Dr. Jacob Philip	Polymer-piezoceramic nanocomposites
7.	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**

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 (IRD L)

Major equipment available are :

Sl.No.	Equipment	Sl.No.	Equipment
1	500 MHz Digital Storage Oscilloscope	30	High Voltage Probes
2	150 MHz Digital Storage Oscilloscope	31	Logic State Analyser*
3	8½ digit Digital Multimeter	32	Photoacoustic Spectrometer ⁼
4	True RMS 4½ digit Multimeter	33	Ultrasonic Interferometer ⁼
5	Portable Pneumatic Pressure Source	34	Photopyroelectric Spectrometer ⁼
6	Portable Hydraulic Pressure Source	35	Electrical Conductivity Measurement set up ⁼ .
7	High Temperature Bath	36	Scanning Electron Microscope with EDS*
8	7-Dial Decade Resistance Box	37	Ultrapure Water Distillation unit*
9	5-Dial Decade Resistance Box	38	400 MHz FT-NMR Spectrometer*
10	Data Logger	39	Single Crystal X-Ray Diffractometer*
11	Universal Testing Machine	40	High Temperature Furnace
12	Standard Multi-parameter Source	41	N Type Thermocouple
13	Standard Platinum Resistance Thermometer	42	Set of Long Gauge blocks and Surface plate
14	Standard S-type thermocouple	43	Dead Weight Test Calibrator
15	Low Temperature Bath	44	Thermocouples
16	Universal Testing Machine	45	Portable Calibrator
17	Decade Capacitance Box	46	Multifunction Calibrator
18	Decade Inductance Box	47	Scale and Tape Calibration Unit
19	CHN Analyser*	48	High Voltage Tester
20	GC Mass Spectrometer*	49	Impedance Analyzer
21	ICP-AES Spectrometer*	50	SAXS Attachment for XRD*
22	Thermal Analyser DSC*	51	TG/DTA with Autosampler
23	Thermal Analyser DTA/ TGA*	52	Microbalance
24	UV-VIS-NIR Spectrophotometer with internal DRA*	53	Impedance Analyzer
25	FT-IR Spectrometer*	54	Various Plastics Testing equipment (a dozen in numbers)
26	X-ray powder Diffractometer*	55	Mercury Analyser*
27	Temperature/ humidity cyclic chamber	56	Microbalance – Two Nos.
28	Teraohm Meter ³		
29	3φ Power Analyser		



E. In addition, a wide variety of minor instruments and facilities are available in STIC.

* Instruments in SAIF (supported by DST)

= Instruments brought under different projects

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
1150	2

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

a. Papers in Peer-reviewed Journals 2012-13

Sl. No.	Name of Paper
1.	T. Joseph, S. Uma, J. Philip and M. T. Sebastian, Dielectric, thermal and mechanical properties of Sr ₂ ZnSi ₂ O ₇ based polymer/ceramic composites, J. Mater Science: Mater Electronics 23 (2012) 1243-54
2.	M. R. Nisha and J. Philip, Dependence of particle size on the effective thermal diffusivity and conductivity of nanofluids: role of base fluid properties, Heat and Mass Transfer 48 (2012) 1783–1790
3.	G. Sreekantha, S. Chandralingamb, Jacob Philip, M. S. Jayalakshmy, Reji Philip, Kishore Sridharan, R. Santhosh Kumar and Ginson P. Joseph, Investigations on the electrical, thermal and optical properties of the nonlinear optical allylthiourea mercury chloride single crystals, Materials Research Bulletin 47 (2012) 4043–4047
4.	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
5.	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)



6.	J. Philip, Thermal impedance analysis of possible influence of concrete structures on earth's energy balance and global warming, <i>On a Sustainable Future of the Earth's Natural Resources</i> (ed: Mu. Ramkumar), Springer Earth System Sciences, DOI 10.1007/978-3-642-32917-3_10, Springer-Verlag Berlin Heidelberg, pp169-177 (2013)
7.	M. R. Nisha and J. Philip, Thermal conduction in polymeric nanofluids under mean field approximation: role of interfacial adsorption layers, <i>Phys. Scr.</i> 88 (2013) 015602-08
8.	R. K. Balachandar, S. Kalainathan, P. G. Aravindan, Shibu M. Eappen and J. Podder, "4-[2-(4-Ethoxyphenyl)ethenyl]-1-methylpyridinium naphthalene-2-sulfonate, <i>Acta Crystallographica</i> E69, (2013). o722
9.	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 Sciences</i> , 20, (2013) 92-96
10.	M. Daniel Sweetlin, Shibu M. Eapen, S. Perumala and S. Ramalingom, Poly [13-b-alanine-aqua-14-sulfatodilithium] <i>Acta Cryst.</i> E68 (2012), 206-207

Conference Proceedings

Sl. No.	Name of Paper
1.	J. Jagannath Bhat, Relevance of Instrument Stability in lieu of its accuracy specifications, Proc. 8 th International Conference on Advances in Metrology
2.	H. Soumya and J. Philip, A method and a gadget to measure thermal diffusion rates in films and coatings, Proc. 24 Kerala Science Congress, Kottayam (2012)
3.	J. Philip, Thermal impedance analysis of possible influence of concrete structures on Earth's energy balance and global warming, Proc. Int. Conf. on Earth – Future, Periyar University, Salem (2012)
4.	J. Philip, M. S. Jayalakshmy and M. R. Nisha, Effective thermal conductivity of condensed polymeric nanofluids (nanosolids): Role of interfacial scattering, Proc. Nat. Seminar on Advances in Materials Science (MS University, Tirunelveli, 2012)
5.	S. Uma and J. Philip, Thermal properties of poly and nano crystalline forms of multiferroic Bismuth Ferrite across magnetic transitions, Proc. 24 Kerala Science Congress, Kottayam (2012)
6.	H. Soumya and J. Philip, Thermal Diffusion in thin Coatings and Plates under Dimension Control, Proc. 25 Kerala Science Congress, Trivandrum (2013)
7.	N. Kunnath and J. Philip, Dielectric and Thermal Properties of Hydrothermally Synthesized Nanocrystalline Sodium Potassium Bismuth Titanate, Proc. 25 Kerala Science Congress, Trivandrum (2013)
8.	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)



9.	M. S Jayalakshmy and J. Philip, LiTaO ₃ /PVDF Nanocomposites for Pyroelectric Infrared Detection Applications, Proc. 25 Kerala Science Congress, Trivandrum (2013)
10.	Adarsh K. J. and G. Madhu, Surface modified polypropylene fibre coated with chitosan and application as removal of heavy metals from industrial waste water, Proc. 3 rd International Multicomponent Polymer Conference (IMPC 2012)
11.	Stability Analysis and Temperature Effect on the Settling Chamber Pressure of a Hypersonic Wind Tunnel. Rajani S. H., Bindu M. Krishna, Usha Nair, IEEE International Conference on Computational Intelligence and Computing Research. (ICCIC 2012)
12.	Analysis and design of H-infinity controller for a hypersonic wind tunnel. Rajani S. H., Bindu M. Krishna, Usha Nair, International Conference on Control System and Power Electronics – CSPE 2012

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 19.02.2013. DST, New Delhi	Project presentation
Dr. Jacob Philip	Project Review meeting of DST at VIT, Vellore	Project presentation
Dr. Jacob Philip	Kerala Science Congress during 28-31.01.2013 Technopark, Trivandrum	Invited Speaker Session Chairman
Ms. Jayalakshmi M. S.	Kerala Science Congress during 28-31.01.2013 Technopark, Trivandrum	Paper Presentation
Mr. Nissamuddeen Kunnath	Kerala Science Congress during 28-31.01.2013 Technopark, Trivandrum	Paper Presentation
Ms. Soumya H.	Kerala Science Congress during 28-31.01.2013 Technopark, Trivandrum (won the Best paper award in Physical Science for her paper entitled "Thermal diffusion in thin coatings and plates under dimension control" (H. Soumya and J. Philip))	Paper Presentation
Dr. Jacob Philip	TECHFEST organized by KSCSTE at RIT, Kottayam	Expert Member in the Judging Committee
Dr. Jacob Philip	St. Joseph's College of Engineering and Technology, Palai, Sree Venkateswara University, Tirupati, Academic Staff College, University of Kerala, Trivandrum, Bharathidasan University, Tiruchirappally, Janakiammal College, Sivakasi, FISAT, Angamaly etc	Invited Speaker



Dr. Jacob Philip	Delivered a talk on 'Calibration requirements as per ISO 17025' at RIT, Kottayam at a programme organized by District Industries Centre, Kottayam	Invited Speaker
Dr. J. Jagannath Bhat	8 th International Conference on Advances in Metrology at NPL, New Delhi	Participant
Dr. Jacob Philip	Gave an invited talk in the International Conference on Materials Science and Technology held at St. Thomas College, Palai in June 2012.	Invited Speaker
Dr. Jacob Philip	NAAC Peer team member to visit St. John's College of Engineering, Kurnool (AP) and Cummin's College of Engineering, Pune.	Assessor

12. Awards/Honors/Fellowships etc. received

Ms. Soumya H won the Best paper award in Physical Science for her paper entitled "Thermal diffusion in thin coatings and plates under dimension control" (H. Soumya and J. Philip) at Kerala Science Congress, during 28 – 31.01.2013, Technopark, Trivandrum

13. 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)

14. 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



Sl.No.	Problems/Topics	Investigator(s)
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
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

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Two Day workshop on Material Characterization at Nanoscales	25-26 Mar. 2013	Dr. Jacob Philip	N/A

16. Consultancy Work

No. of Calibration and Testing work done : 2,924
 No. of users (most are industries) : 317

No. of Sample analysis done : 17,341
 No. of users (most are researchers) : 1521





DEPARTMENT OF PHYSICAL EDUCATION

1. Brief History :

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. At this esteemed University, we believe 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 2012-2013. 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.

2. Faculty Member

- **Dr. Ajith Mohan K. R.** - Asst. Director & Head of the Department

Coaches on assignment:

1. **Sri. Mohanachandran N. J.**- Badminton Coach (Kerala State Sports Council)- Shuttle Badminton team.
2. **Sri. Arun raj**-Ernakulum District Cricket Association- Cricket team.
3. **Sri. Xaviour Loise**- Ernakulum District Volley Ball Association- Volley Ball team
4. **Sri. Prajith Baskar**-Basket ball team
5. **Sri. Vipin Anto** –Foot Ball team.

3. 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)

4. 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 & 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 Annamalai University, Thiruvananthapuram.
2. Cricket held at Manipal University, Karnataka & reached pre-Quartar level.
3. Basket Ball held at Dr. NTR University, Vijayawada, Andra Pradesh.
4. Volley Ball held at SRM University, Chennai, Tamilnadu.
5. Shuttle Badminton held at JNTU, Kakkinada, Andra Pradesh & attained first position for the first in the history of CUSAT.
6. Table Tennis held at Kannur University, Coimbatore, Tamilnadu & the women team reached quartar final.
7. Chess Tournament held at Calicut University, and attained fifth (7th) position.

All India Inter University Competitions

1. CUSAT Shuttle Badminton Team won the All India Inter University Shuttle Badminton Championship held at MD University, Rohthak, Haryana.
2. CUSAT Taekwondo team participated in the All India Inter University Taekwondo Championship held at Punjab University, Chadigarh.
3. CUSAT Fencing team participated in the All India Inter University Fencing Championship held at Punjabi University, Patiala, Punjab.
4. CUSAT Best Physique team participated in the All India Inter University Best Physique Championship held at Mohan Lal Sukhadia University, Udaipur.
5. CUSAT Power Lifting team participated in the All India Inter University Best Physique Championship held at Mohan Lal Sukhadia University, Udaipur.
6. CUSAT Judo team participated in the All India Inter University Judo Championship held at Panjab University, Chandigarh.
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 GNDU, Amritsar, 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.



“30th Cusat Annualtrack & Field and Games Meet-2012-13”

The 30th CUSAT Inter-Collegiate Track & Field and Games MEET-2012-13 of University for the academic year 2012-13 was conducted with pomp and show from 2nd to 16th February 2013. The vibrant and kaleidoscopic Meet was successfully organized with the active participation 2500 students from 27 affiliated colleges and various departments .

Cochin University of Science and Technology 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, Cochin University of Science and Technology. The Individual championship for Men section was won by **Mohammed Rafi** , College of Engineering, Kidangoor and for Women section was won by **Sheryl Thomas** of College of Engineering, Kaloorppara .

The Meet commenced with Track and field events . Opening ceremony was inaugurated by Pro-Vice Chancellor Dr. Godfrey Louis in the presence of Registrar Dr. Ramachandran, Dr. Zakriya. K.A, Syndicate Members, Finance Officer, Shri. Sabastian Ouseph along with the march past of athletes.

Prize distribution was done by Hon. Vice Chancellor of Cochin University of Science and Technology in the presence of Dr. Job Kuruvilla, Director ToCH Institute of Science and Technology, Dr. Sreejith .P.S, Principal , School of Engineering, Nithin.S , General Secretary, Students Union on 16th February 2013 at SMS Auditorium, Cochin University of Science and Technology

Achievements:

- (a) CUSAT Shuttle Badminton team attained first position in the South zone Inter University as well as All India Inter Badminton Championship held at JNTU. Kakkinada, Andra Pradesh and MD University, Rohtak, Haryana respectively which was the first of its kind in the history of Cochin University of Science and Technology. The current Shuttle Badminton team is an extremely young unit which exudes confidence that is at levels way past their age. It has a pool of talented players who will not go unnoticed in times to come.
- (b) Cusat Shuttle Badminton Team has won the “Revels Cup All India Inter Engineering Shuttle Badminton Tournament-2013” held at Manipal University, Karnataka

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.

5. Publications**a. Papers**

Sl. No.	Name of Paper
1	“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

6. 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.	Attended International Workshop on Sports Management, Organized by, SAI-LNCPE, Thiruvananthapuram	Participant

7. Role of Faculty in International/National organizations/Editorial Boards

Name of Faculty	Name of Organization	Role
Dr.Ajith Mohan.K.R	Tvpm 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





DEPARTMENT OF YOUTH WELFARE

1. Brief History

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 conceived with an aim to promote cultural and social life among the university community from the beginning of the University, under the headship of 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.

2. Programmes of Study/Research

The Department is conducting short-term courses in performing arts, soft skills and personality development with an objective of achieving 4 C's – Competence, Creativity, Confidence and Compassion.

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr. P. K. Baby	Director, Students Welfare	M.A. (Econo.); M.B.A; M.Phil; Ph.D	Finance / General Management

4. Visiting Faculty

Sl. No.	Name	Designation	Qualification	Specialization
1.	Sri. Ojas S. V.	Freelance Theatre Trainer	M.Sc. Bio Diversity	Physical Theatre

5. Administrative Personnel

Sl. No.	Designation	No. of Posts
1.	Director, Students Welfare	1

6. 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 'Emerging International Business Order' organized by School of Management Studies, Cochin University of Science and Technology, Kochi – 22 on 30 th and 31 st March, 2012.	Co -Author

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

Sl. No.	Title	Duration	Coordinator	Funding Agency
1.	Green Room-Cultivating Creativity	4 Days Residential	Dr. P. K. Baby	Cochin University of Science and Technology

8. Other Programmes / Activities

Sl. No.	Title	Duration
1.	23rd International rating Chess Tournament	<p>The 23rd CUSAT International rating chess tournament, jointly organised by the CUSAT Chess Club, Department of Youth Welfare, Department of Physical Education and the Cochin University Union held at the CUSAT's Kunjali Marakkar School of Marine Engineering hall from May 21 to 25.</p> <p>The event, which has a total prize fund of Rs.1.5 lakh, offered Rs 25,000 for the winner.</p>
2.	Monsoon Madness: Monsoon Camp	<p>Department of Youth Welfare in association with Department of Forests and Wild life, Government of Kerala has organized a monsoon camp – 'monsoon madness' for selected students of the University from 13th to 15th July, 2012 at Chimmony Wildlife sanctuary.</p> <p>The primary goal of the camp was to provide the students an opportunity to immerse them into nature and to get a better sense of understanding and appreciation about the resources and deep beauty of nature. There were a total of 45 campers that included 42 students and 3 staff members. Dr. P.K Baby, Director, Youth Welfare and Dr. M Bhasi, Director, School of Management Studies accompanied the team. The Serene and beautiful Chimmony wildlife sanctuary, located in the Western Ghats, is one of the world's 25 bio-diversity hot-spots, the haven of innumerable species of endangered plants and animals.</p>



Sl. No.	Title	Duration
		<p>Eminent environmental activists, social workers and forest officers led the trekking and classes. The campers went for trekking in the forest that lasted for about 5 hours. During the trekking the campers saw the phenomenal beauty of nature that comprised of uncountable species of insects, birds, monkeys, giant squirrels, snakes, waterfalls, streams, animal footprints etc. After the trekking the campers were shown another documentary called "HOME" that left them thinking about what humankind has done to this miraculous planet of the universe and what they have to do now to make it right. The camp provided the fundamentals for personal and inter-personal improvement with sportsmanship, leadership, and teamwork.</p>
3.	<p>Reel Earth: Environmental Film Festival of CUSAT (EFFC 2012)</p>	<p>Aiming to encourage debate on environment-related subjects among students and the public, the youth welfare department in Cochin University of Science and Technology organized a documentary film festival, 'Reel Earth: Environmental Film Festival of Cusat 2012', from September 24 to 28. Dr. A Ramachandran, Registrar of cochin university of Science and Technology inaugurated the festival at School of Marine Sciences auditorium, Lakeside campus on Foreshore Road at 03.00 PM on 24th September. 'Tropical Rainforests,' a movie on rain forests in Australia, Costa Rica, French Guiana and Malaysia directed by Ben Shedd screened on the inaugural day after the official function. Dr. P.K Baby, Director, Students Welfare welcomed the gathering and Mr. Akhil V proposed vote of thanks.</p> <p>'Plastic Cow' by Kunal Vohra which looks at the impact of plastic bags screened at School of Management Studies on September 25. 'An Inconvenient Truth' directed by Davis Guggenheim, a multi-media presentation by Al Gore, a long-time environmental activist and former US vice-president that portrayed the scientific facts behind global warming was screened at the the School of Management Studies auditorium on Wednesday. 'BBC: The Mountains of Monsoon' by Tim Martin</p>



Sl. No.	Title	Duration
		<p>and 'Deep Sea' by Howard Hall, narrated by Johnny Depp and Kate Winslet, were be screened on Thursday and Friday respectively.</p> <p>'Reel Earth: Environmental Film Festival of Cusat 2012' organised by Department of Youth Welfare, Cochin University of Science and Technology brought to light the various green issues plaguing the world today.</p>
4.	Unifest : South Zone Inter University Youth Festival 2011-12	<p>Cochin University of Science and Technology bagged Music overall Championship and first runner up in all events in the <i>Gulfest 2012 - South Zone Inter University Youth Festival</i> organized by Association of Indian Universities and Ministry of Youth Affairs & Sports, Govt. of India held at Gulberga University, Gulberga, Karnataka from 15th to 19th December 2012. The first part of the <i>Gulfest 2012</i> began with the cultural procession led by managers of 23 universities in South India. The centre of attraction in the procession were the 'thiruvathira kali' and 'pulkali' presented by Cochin University of Science and Technology, Kerala.</p> <p>A team of 40 contingents under the leadership of Dr. P.K. Baby, Director, Students Welfare, Department of Youth Welfare participated in the programme. It is the first time in the history of the University that the team winning overall either in arts or Sports events. Dr. Samson David, Deputy Secretary, Association of Indian Universities and Prof. E.T.Puttaiah, Vice Chancellor of Gulberga University and Prof. S . L. Hiremath, Registrar, Gulbarga University distributed prizes. The team reached the campus on Thursday evening. Dr. Ramachandran Thekkedath, Hon'ble Vice Chancellor, Dr. Godfrey Louis, Pro-Vice Chancellor of Cochin University of Science and Technology, Dr. A Ramachandran, Registrar, CUSAT and Sri. Sebastian Ouseph, Finance Officer congratulated the team in their victory.</p> <p>Results:-</p> <ul style="list-style-type: none">• Over all runners up in South India.• Music group Chamionship.



Sl. No.	Title	Duration
		<p>First Prizes:-</p> <ul style="list-style-type: none"> • Light vocal solo - Mr. Arun Naik, Toc H, Institute of Science and Technology. • Eastern Classical Solo - Kalesh V, Toc H, Institute of Science and Technology. . • Mimicry - Mr. Akhiljith. A, Dept. of Instrumentation, CUSAT. • Mime - Aruna A., Ishak Rahman, Hena Titus, Fahad K. A., Gokulakrishnan R. and Kavya S. <p>Second Prizes:-</p> <ul style="list-style-type: none"> • Debate - Ms. Amrutha Raj (SLS, CUSAT) , and Joel Andrews (Kochi, Medical College). . • Western Music Group - Arun Naik , Kalesh V., Justin C., Jerish Thomas, Mithu S. Valsan, Charles Binny, Aswathy P. S. & Ayyappa Thejus. <p>Third Prizes:-</p> <ul style="list-style-type: none"> • Classical Instrumental Percussion - Mr. Venkita Raman, M. G. College of Engineering, Trivandrum. . • Classical Instrumental Non percussion - Nikhil P. N., SoE, CUSAT. • Western Vocal Solo - Charles Binny, CUCEK, Kuttanad. . • Classical Dance - Mithun Mohandas, SoE, CUSAT.
5.	National Integration Camp at Jai Narain Vyas University, Jodhpur	<p>Five students from our University attended the 15th All India Inter University National Integration Youth Camp conducted by the Foundation for Amity and National Solidarity (FANS) from 23rd to 27th December 2012 held at Jai Narain Vyas University, Jodhpur. The camp provided a golden opportunity for the students to interact with various culture, heritage and tradition of the Country. Students from 20 states (27 Universities) participated in the camp. National level political, religious and cultural leaders interacted with the students. I have received highly appreciable feedback from the students with respect to the camp.</p>



Sl. No.	Title	Duration
6.	Road Show: 'ATM' (Auto Tharum Money) in Association with "Kappa TV"	Department of Youth Welfare. Cochin University of Science and Technology in association with "Kappa TV", one of the leading entertainment channels in the state organized a road show in the campus named 'ATM' (Auto Tharum Money) on 21 st and 22 nd Januray 2013. ATM (Auto Tharum Money) was a quiz game show for the youngsters. It was done in an auto-rickshaw through the campus. Five questions were given to the students who traveled in the auto rickshaw. For the first 4 questions right participants got Rs 50/- and for the last question prize money was Rs 100/-. The programme telecasted all over the world.
7.	Green room III: Cultivating creativity	<p>Department of Youth Welfare, Cochin University of Science and Technology has organised Green Room III- Cultivating Creativity, an innovative camp for learning various skills through theatre from 11th to 14th January, 2013. The programme aimed to bridge the gaps in the traditional class room oriented education system, where students are facing intrapersonal and interpersonal problems related to academic, family, peers or career. The major objective of the programme was to improve the quality of life through empowering students to enhance their creativity by challenging stereotypes and discrimination. The camp covers importance of theatre in social construction, society and theatre, soft skills, group behaviour, mind control, voice modulation, personality development, verbal and non-verbal communication etc.</p> <p>The inaugural session commenced at 03.30 P M at Hindi Auditorium on 11th January, 2013. Dr. Godfrey Louis, Pro-Vice Chancellor chaired the session. Dr. Ramachandran Thekkedath, Honourable Vice Chancellor inaugurated the programme. Sri. K.A Zakkaria, Member of Syndicate, Dr. A Ramachandran, Registrar and Sri. Mansoor Ali, Cahirman, University Union spoke on the occasion. Dr. P.K Baby, Director Student's Welfare welcomed the gathering and Smt. Brinda Bala Sreenivasan, Head of the Department, English and Foreign Languages proposed vote of thanks. The programme on the day 1 started with</p>



Sl. No.	Title	Duration
		<p>a though provoking talk on Talk on ART, CULTURE AND SOCIETY by Dr. Sunil P. Ilayidom, one of the leading writer and critique in the state. Dr. R. Sasidharan, Head of the Department of Hindi chaired the Session. The first day ended with food and camp evaluation.</p> <p>The second day started with the ice-breaking session led by Dr. P. K. Baby, Director, Students Welfare. Sri. Ojas S. V., Theatre activist from Pune handled sessions on the theme 'how to dissent'. Saying NO beautifully to certain situations are tough compared to say YES. Mrs. Ranjini, one of the famous actress interacted with the students in the third day. The programme was a mix of improving communication, creative thoughts, music and learning teamwork.</p>
8	All India Inter University Youth Festival	<p>Cochin University of Science and Technology has bagged the group championship in Theatre and Group runners-up in the literary events at the 28th National Inter University Youth Festival organized by Association of Indian Universities and Ministry of Youth Affairs & Sports, Govt. of India held at Kalyani University, West Bengal from 05th to 09th February, 2013.</p> <p>A team of 25 contingents under the leadership of Dr. P.K. Baby, Director, Students Welfare, Department of Youth Welfare participated in the programme. The team started from the campus of 02nd February and reached Kalyani on 05th February morning. The University team participated in six events, Mimicry, Mime, Classical Vocal Solo- Hindustani, Karnatic, Light Vocal Solo - Indian, Group Song Western and Debate. The team bagged prizes in all the events participated. It is the first time in the history of the University that the team winning group overall at national level either in arts or Sports events. Dr. Samson David, Deputy Secretary, Association of Indian Universities and Prof. Dilipkumar Mohanta, Vice Chancellor of Kalyani University distributed prizes. The team reached the campus on 12th evening.</p>



Sl. No.	Title	Duration
		<p>Prizes won:-</p> <ul style="list-style-type: none">• Theatre Overall Championship -• First Runner Up in literary events <p>First Prizes-</p> <ul style="list-style-type: none">• First prize in Mimicry - Mr. Akhiljith A, Dept. of Instrumentation, CUSAT-• First prize in Mime - Aruna A., Kavya S. (School of Legal studies), Ishak Rahman, Gokulakrishnan R., Ayyappathejus, Nikhil P. N. (School of Engineering) Hena Titus (Toc H, Institute of Science and Technology), and Fahad K. A. (Dept. of Polymenr science and Rubber Technology). <p>Second Prizes-</p> <ul style="list-style-type: none">• Second Prize in Debate - Ms. Amrutha Raj (School of Legal Studies, CUSAT) , and Joel Andrews (Cochin Medical College, Kalamasery).• Second Prize Group Song Western - Arun Naik, Kalesh V. (Toc H, Institute of Science and Technology) , Justin C., Jerish Thomas, Mithu S. Valsan, Aswathy P. S. & Ayyappa Thejus (School of Engineering, CUSAT), Charles Binny (CUCEK, Kuttanad, Alappuzha)-• Second Prize in Classical Vocal Solo - Kalesh V., Toc H, Institute of Science and Technology. <p>Third Prize.</p> <ul style="list-style-type: none">• Third Prize in Light Vocal Indian - Mr. Arun Naik, Toc H, Institute of Science and Technology.





CENTRE FOR THE STUDY OF SOCIAL EXCLUSION AND INCLUSIVE POLICY

1. Brief History :

The Centre has, since the starting of its formal work in February 2009, engaged in building the required intellectual infrastructure 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 in its research for inclusive policy the '*Process-Status- Process*' approach i.e. identify and examine the process that led to social exclusion, evaluate the present status/magnitude of social exclusion and chart out processes to achieve the desired level of social inclusion. The Centre has identified as its core 'research themes' a) 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 will be a) Tribal Communities in Kerala b) Resource Based Industries in Kerala c) Rural Population in Kerala d) Workers in Unorganized Sectors in Kerala.

2. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. D. Rajasenan	Hon: Director	Ph.D Economics	Economics
2	Dr. M. S. Jayakumar*	Assistant Professor	Ph.D Sociology	Sociology

* Relieved on 04/10/2012 A.N.

3. Research Staff

Sl. No.	Name	Designation	Qualification	Specialization
1.	Binu P. Paul**	Research Associate	Masters in Business Economics	Economics
2	Bijith George Abraham	Research Assistant	Masters in Business Economics	Economics
3	Rajesh R.***	Research Assistant	Masters in Business Economics	Economics

** Relieved on 26/05/2012 A.N.

*** Relieved on 30/06/2012 A.N.

**4. Research Facilities****a. Library**

No. of books and Journals as on 31st March of the previous year	Additions during the current year
Books : 249	Books : 50

5. 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. Brent Swallow	Professor, Department of Sociology, University of Alberta, Canada	Research discussions

6. Publications**a. Books**

Sl. No.	Name of Book
1	Community Based Ecotourism in Kerala (2012)
2	Sustainable Livelihood and Fishing Sector in Kerala: Role of SHGs and Co-operatives (2012)

b. CSSEIP Research Articles

Sl. No.	Name of Research Articles
1	D. Rajasenan and Rajeev B. (2013), Economics of Barge-Based Inland Container Transportation: The Case of Southern Kerala, The Journal of Institute of Public Enterprise, Institute of Public Enterprise, India.
2	D. Rajasenan and Rajeev B. (2013), Stakeholder's Perception of Coconut Palm Insurance Scheme: A Study on the Coastal States of India, CORD Semi-annual R & D journal, Vol. 29, No. 1, Asian and Pacific Coconut Community (APCC), Jakarta, Indonesia.
3	D. Rajasenan, Varghese Manaloor and Bijith George Abraham (2012), Tourist Profiles and Characteristics vis-à-vis Market Segmentation of Ecotourism Destinations in Kerala, Journal of Economics and Sustainable Development, Vol 3, No 14, 2012, IISTE, New York.
4	D. Rajasenan, Varghese Manaloor and Bijith George Abraham (2012), Socio-Economic Aspects of Sustainable Ecotourism Development: The Case of Kerala, Research on Humanities and Social Sciences, Vol 2, No 11, 2012, IISTE, New York.



5	D. Rajasenan and Rajeev B. (2012), Coconut Palm Insurance Scheme: an Empirical Evaluation. Indian Coconut Journal, Coconut Development Board (CDB), Ministry of Agriculture, Govt. of India, Kochi, 55 (6) 32-33.
6	D. Rajasenan and Binu P. Paul (2012) Unsustainable Exploitation and the Importance of Fisheries Management- An Analysis of Kerala Marine Fishery, Asian African Journal of Economics and Econometrics, Vol-12 No 2 July-Dec, 2012 issue.
7	Parvathy P. and D. Rajasenan (2012), 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.
8	D. Rajasenan and Bijith George Abraham (2012) Livelihood security and Socio-economics of Community Based Ecotourism (CBET) in Kerala, South Asian Journal of Socio-Political studies, January - June, Vol XII, No.2.
9	Parvathy P. and D. Rajasenan (2012), From Market Concentration to Market Diversification: WTO and the Marine Products Exports from Kerala- Using ARIMA Method, Developing Country Studies, Vol 2, No.6, 2012, IISTE, New York.
10	D. Rajasenan and Rajeev B. (2012) 'Fishery Commodity Chain Trap vis-à-vis Global Quality Standards: An Analysis of the Kerala Marine Fishery', Developing Country Studies, Vol 2, No.5, 2012, IISTE, New York.
11	D. Rajasenan and Bijith George Abraham (2012) 'Effectiveness of Coconut Palm Insurance Scheme in the coastal belts of India – A SWOT Analysis', Indian Journal of Applied Research, IJAR issue, Volume 1, Issue 9, June.
12	D. Rajasenan and Rajeev B. (2012) 'Livelihood Security of Traditional Fishermen of Kerala: Analysing and Identifying the Roles of Self Help Groups', Indian Journal of Applied Research, IJAR issue, Volume 1, Issue 7, April 2012.

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
D. Rajasenan	Estimation of Coconut Production in Kerala, CDB, Ernakulam	Presented papers
D. Rajasenan	Workshop on Consumer Awareness, Indian Institute of Public Administration, New Delhi	Paper presented
D. Rajasenan	Lecture Series to Under Graduate Students, University of Alberta, Canada, on 'Kerala Economy' and 'Migration and Social Exclusion', 2012	Lecture Delivered
D. Rajasenan	Methodology for the all India Survey for the Minority Community and as part of Social Inclusion, NISCAIR in Collaboration with the Planning Commission of India, New Delhi-2012.	Discussion & paper presentation



Name of Participant	Name of Seminar/Conference/Workshop	Role
Bijith George Abraham and Rajeev B.	Link between the Socio-Economic Indicators and Standard of Living of Scheduled Tribes in Kerala, 2012	Paper presented
M. S. Jayakumar and Rajesh R.	Inclusion Far Away: Scrutinizing the factors contributing to further Exclusion of Tribes in Kerala, 2012	Paper presented

8. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Community Participation in Eco-tourism and Inclusive Development in Kerala (ongoing)	UGC	Rs. 5,89,000/-	Dr. D. Rajasenan
2	Exclusion on the Edge: A Study on Emigration-induced of Elderly in Kerala (ongoing)	ICSSR	Rs. 5,09,550/-	Dr. M. S. Jayakumar (Principal Investigator)/ Dr. D. Rajasenan (Co-investigator)

9. Consultancy Work

Sl. No.	Name of Consultancy	Name of Consultant	Sponsoring Agency
1	Survey for the Estimation of Coconut Production in Kerala-Kollam District (Completed)	Dr. D. Rajasenan	CDB
2	Survey for the Estimation of Coconut Production in Kerala-Ernakulam District (Completed)	Dr. D. Rajasenan	CDB





COCHIN UNIVERSITY UNION

1. Brief History :

It is the University Union Office, under the guidance of Honorary Treasurer that co-ordinates and maintains the Election to the University Union. As soon as the University Order appointing Chief Returning Officer is released the Election process gains its momentum. Dr. Unni A.M. was the Chief Returning officer for 2012-13 .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 could elect two representatives to the University Union. The preparation of constituency wise Electoral roll was done by University Union Office strictly according to the University and Supreme Court directions in this regard. Students who lacked required percentage 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 were required to the vacancies of the respective constituencies are received at the Returning officer by the time prescribed for it. Returning Officers had made arrangements at Department for Election through Ballot if the more valid nominations were received at his than required for each constituency. The Election to the constituency of Research Scholars were done at the University Union Office. After the free and fair election the following were elected members:

1	Chairman/Chairperson	MANSOOR ALI BBA (LLB Hons.) VI Sem. SLS, CUSAT, Kochi-22
2	Vice-Chairman	NIDHEESH JOSEPH M. A. IV Sem. Economics CUSAT, Kochi-22
3	General Secretary	NITHIN S. LLM II Sem, Legal Studies, CUSAT, Kochi-22.
4	Secretary	SHIJUN. B.Tech. (E&C) IV Sem., School of Engineering, CUSAT, Kochi-22
5	Executive Committee Member	SIRAJUDHEEN N. B.Tech. IV Sem. Instrumentation, CUSAT, Kochi-22.
6	Executive Committee Member	ARUN K. P. M.Sc. II Sem. (Marine Geophysics), CUSAT, Kochi-16.



7	Executive Committee Member	NEBIL DIVAY B.Tech. IV Sem. (EC), CUCEK
8	Executive Committee Member	SUDEEP A. MBA II Sem. School of Management Studies, CUSAT, Kochi-22
9	Executive Committee Member	PRANAV T. S. B.Tech. IV Sem., KM School of Marine Engineering, CUSAT, Kochi-22

Cochin University Union inaugural ceremony was held on 18th February 2013 at the Open Air Auditorium. The function was inaugurated by the noted Malayalam poet of post modern era Sri. Kureepuzha Sreekumar. The University Union conducted various other programmes as follows:

1. Onam Celebrations
2. 'Sargam' – Arts festival 2012-13
3. Film Festival conducted in CUCEK Campus
4. Fresher's Day of SOE
5. Published Union's Magazine

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. Programme 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 & Coordinator	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

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, PhD	Bioinformatics
9	Dr. Satyanarayana Gummadi	Associate Professor, Department of Biotechnology, IIT, Madras	M.Tech, PhD	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

5. Research Staff:

- A) Dr. Divya S. P.UGC – Kothari Fellowship – Development of a polyclonal cocktail vaccine against Aeromonosis in fresh water ornamental fishes. 10-7-2012 to 9-6-2015
- B) Dr. Gopalakrishnan. UGC – Kothari Fellowship – Biofilm disruption in shrimp hatchery systems with biosurfactants. 12-7-2012 onwards.

6. Research Scholars

Sl. No.	Name	Funding Agency	Guide	Area of Work
1	Mr. Renjith K.	None	Prof. I. S. Bright Singh	Environmental Microbiology
2	Ms. Priyaja P.	Ph.D. Degree awarded	Prof. I. S. Bright Singh (Co Guide)	Marine Biotechnology
3	Mr. Deepesh V.	Part time	Dr. I. S. Bright Singh	Environmental Biotechnology
4	Ms. Surekha mol I. S.	Thesis submitted	Dr. I. S. Bright Singh	Environmental Biotechnology
5	Ms. Vrinda S.	Thesis submitted	Dr. I. S. Bright Singh (Co Guide)	Marine Biotechnology
6	K. S. Sunish	Thesis submitted	Dr. A. Mohandas & Dr. I. S. Bright Singh	Marine Biotechnology
7	Mr. Haseeb M.	Thesis submitted	Dr. I. S. Bright Singh	Environmental Microbiology
8	Ms. Rose Mary Jose	CUSAT	Dr. I. S. Bright Singh	Environmental



9	Ms. Sunitha Paulose	Thesis submitted	Dr. I. S. Bright Singh	Environmental Biotechnology
10	Mr. Prem Gopinath	DST - PURSE	Dr. P. Natarajan & Dr. I. S. Bright Singh	Environmental Microbiology
11	Mr. Jayesh P.	Ph. D. Degree Awarded	Dr. I. S. Bright Singh	Environmental Biotechnology
12	Ms. Riya George	CUSAT	Dr. Rob H. Reed & Dr. I. S. Bright Singh	Environmental Microbiology
13	Ms. Ammu Thomas	CUSAT	Dr. Rob H. Reed & Dr. I.S.Bright Singh	Environmental Biotechnology
14	Ms. Deepa G. D.	CUSAT	Dr. A. Mohandas & Dr. I. S. Bright Singh	Marine Biotechnology
15	Mr. Devassy Christo	DBT	Dr. Valsamma Joseph	Metagenomics
16	Ms. Ramya R. Nair	UGC -JRF	Dr. Valsamma Joseph	Metagenomics
17	Ms. Sanyo Sabu	CUSAT	Dr. Valsamma Joseph	Marine Algal Biotechnology
18	Ms. Asha P.	DBT	Dr. I.S.Bright Singh	Marine Biotechnology
19	Ms. P. G. Preena	DST – Inspire	Dr. I. S. Bright Singh	Marine Biotechnology
20.	Ms. B. Sreelakshmi	Ph.D. Degree Awarded	Dr. I. S. Bright Singh	Environmental Biotechnology
21.	Ms. Divya Jose	Ph.D. Degree Awarded	Dr. A. Mohandas & Dr. I.S.Bright Singh	Environmental Microbiology
22.	Mr. Arun Augustin	CUSAT	Dr. Valsamma Joseph	Marine Biotechnology
23.	Ms. Jisha Kumaran	KSCSTE	Dr. Valsamma Joseph	Marine Biotechnology
24.	Ms. Dhaneesha M.	CUSAT	Dr. T. P. Sajeevan	Marine Biotechnology
25.	Ms. Sareen Sarah John	DST Women Scientist Programme	Dr. Rob H. Reed and Dr. I.S.Bright Singh	Environmental Biotechnology
26.	Mr. Rojith G.	CUSAT	Dr. I. S. Bright Singh	Environmental Biotechnology
27.	Ms. Deepa S. Nair	DST - PURSE	Dr. P. Natarajan & Dr. I. S. Bright Singh	Marine Biotechnology



7. Administrative Personnel

Sl. No.	Designation	No. of Posts
2	Office Assistant (daily wages)	1
5	Sweeper-cum-Cleaner (daily wages)	1

8. Student Enrollment

Sl. No.	Programme of Study	Men	Women	Total
1	M.Tech. Marine Biotechnology	4	6	10
2	Ph.D.	8	19	27

9. 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

10. Distinguished visitors

Sl. No.	Name	Affiliation	Remarks
1.	Dr. Syed Hashsham	Professor. Michigan State University	1-4-2013
2.	Dr. Kevin McGuigan	Royal College of Surgeons in Ireland	9-1-2013

11. Ph.D. Awarded

Sl. No.	Title of Thesis	Name of Research Scholar	Supervising Guide
1	Pyocyanin (5-Methyl – 1-hydroxyphenazine) produced by <i>Pseudomonas aeruginosa</i> as antagonist to Vibrios in aquaculture: Over expression, downstream process and toxicity	Priyaja P. (Reg. no. 2877)	Dr. Rosamma Philip & Dr. I. S. Bright Singh
2	Proteases from an environmental isolate of <i>Pseudomonas aeruginosa</i> MCCB 123 and their applications	Divya Jose (Reg. No.3065)	Dr. A. Mohandas & Dr. I. S. Bright Singh

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

Sl. No.	Peer Reviewed Journals
1.	Chaithanya E. R., Rosamma Philip, Naveen Sathyan, P. R. Anil Kumar, Swapna P. Antony, V. N. Sanjeevan, I. S. Bright Singh. 2012. A novel isoform of the hepatic antimicrobial peptide, Hepcidin (Hepc – CBI), from a deep sea fish, the spiny jaw green eye <i>Chlorophthalmus bicornis</i> (Norman, 1939): Molecular characterization and phylogeny. <i>Probiotics & Antimicrobial Proteins</i> , 5: 1-7. <i>Impact Factor: yet to be calculated</i>
2.	Jayesh P., Seena Jose., Rosamma Philip and I. S. Bright Singh. 2012. A novel medium for the development of cell culture system from <i>Penaeus monodon</i> . <i>Cytotechnology</i> . DOI 10.1007/s 10616 – 012 – 9491 – 9. <i>Impact Factor: 1.207</i>
3.	Jayesh P., Seena Jose and I. S. Bright Singh. 2012. Establishment of shrimp cell culture: Perception and orientation. <i>Indian Journal of Virology</i> , 23(2): 244 - 251. <i>Impact Factor: 0.936</i>
4.	Sreedharan K., Rosamma Philip and I. S. Bright Singh. 2012. Characterization and virulence potential of phenotypically diverse <i>Aeromonas veronii</i> isolates recovered from moribund freshwater ornamental fishes of Kerala, India. <i>Antonie van Leeuwenhoek Journal of Microbiology</i> . DOI 10.1007/s 10482 – 012 – 9786 – z. <i>Impact Factor: 2.091</i> .
5.	Afsal V. V., Swapna P. Antony, E. R. Chaithanya, I. S. Bright Singh and Rosamma Philip. 2012. Two isoforms of antilipopolysaccharide factors identified and characterized from the haemocytes of portunid crab, <i>Portunus pelagicus</i> and <i>Scylla tranquebarica</i> . <i>Molecular Immunology</i> , 52:258 -263. <i>Impact Factor: 3.023</i>
6.	Afsal, V. V., Swapna P. Antony, V. N. Sajeewan, P. R. Anil Kumar, I. S. Bright Singh and Rosamma Philip. 2012. A new isoform of anti lipopolysaccharide factor identified from blue swimmer crab, <i>Portunus pelagicus</i> : Molecular characterization and phylogeny. <i>Aquaculture</i> , 356 – 357: 119-122. <i>Impact factor: 2.044</i>
7.	Manjusha K., P. Jayesh, Divya Jose, B. Sreelakshmi, P. Priyaja, Prem Gopinath, A. V. Saramma and I. S. Bright Singh. 2012. Alkaline protease from non – toxigenic mangrove isolate of <i>Vibrio</i> sp. V26 with potential application in animal cell culture. <i>Cytotechnology</i> . DOI 10.1007/s 10616 -012-9472 – z. <i>Impact Factor: 1.207</i>
8.	Rojith G. and Bright Singh I. S. (2012) Lignin recovery, biochar production and decolourization of coir pith black liquor. <i>Research Journal of Recent Sciences</i> , 1:270 – 274. <i>Impact Factor: Still Computing</i> .
9.	Sudheer N. S., Rosamma Philip and I. S. Bright Singh. (2012). Anti white spot syndrome virus activity of <i>Ceripos tagal</i> aqueous extract in giant tiger shrimp <i>Penaeus monodon</i> . <i>Archives of Virology</i> , doi:10.1007/s 00705-012-1346-3. <i>Impact Factor: 2.209</i>
10.	Aparna Asok, Esha Arshad, C. Jasmin, S. Somnath Pai, I. S. Bright Singh, A. Mohandas and Abdlsziz Anas. 2012. Reducing <i>Vibrio</i> load in <i>Artemia</i> nauplii using antimicrobial photodynamic therapy: a promising strategy to reduce antibiotic application in shrimp larviculture. <i>Microbial Biotechnology</i> , 5(1): 59-68. <i>Calculated Impact Factor 2.6</i>
11.	Seena Jose, P. Jayesh, N. S. Sudheer, Gigi Poulouse, A. Mohandas, Rosamma Philip & I. S. Bright Singh. 2012. Lymphoid organ cell culture system from <i>Penaeus monodon</i> (Fabricius, 1798) as a platform for white spot syndrome virus and shrimp immune related gene expression. <i>Journal of Fish Disease</i> , 35(5):321-324. <i>Impact Factor: 2.00</i>



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

Participant(s)	Programme	Role
Prof. I. S. Bright Singh	2 nd National Conference on Fisheries Biotechnology, Organized by National Academy of Agricultural Sciences, New Delhi and Central Institute of Fisheries Education, Bombay, 203 November 2012	Presenter
Prof. I. S. Bright Singh	10 th Agricultural Science Congress, Soil, Plant and Animal Health for Enhanced and Sustained Agricultural Productivity. National Academy of Agricultural Sciences, New Delhi	Presenter
Dr. Valsamma Joseph	UGC sponsored Orientation programme conducted by UGC – Academic Staff College from 28-6-2012 to 25-6-2012 at UGC Academic Staff College, University of Calicut	Participant
Dr. T. P. Sajeevan	1. UGC-Sponsored National Seminar on “Bioinformatics in Marine Biology: Next Generation Sequencing Technologies and Applications, Dept. of Marine Biology, Microbiology and Biochemistry, CUSAT.	

14. Awards/Honours/Fellowships etc. received :

Name of Awardee	Particulars
1. Prof. I. S. Bright Singh	One –Time – Grant from University Grants Commission given to Senior Professors who have produced 15 Ph. Ds of which last five have been produced during the last five years. The grant consist of Rs. 7 lakhs to be spend over a period of 18 months for augmenting Research
2. Ms. Preena P. G. (Research Scholar)	Best paper award for the paper entitled” Aerobic denitrification potential of nitrifying bacterial consortia for activation nitrifying bioreactors in recirculating aquaculture system” presented during the National Seminar on ‘Emerging Trends in Indian Aquaculture’ 21-23 March 2013, organized by Department of Aquatic Biology and Fisheries, University of Kerala, Kariavattom, Trivandrum 695 581
3. Ms. Sunitha Poulse (Research Scholar)	Best paper award for the paper entitled” Optimization of culture conditions for the production of single cell protein from marine yeast Candida MCCF 101 as feed supplement in aquaculture” presented during the National Seminar on ‘Emerging Trends in Indian Aquaculture’ 21-23 March 2013, organized by Department of Aquatic Biology and Fisheries, University of Kerala, Kariavattom, Trivandrum 695 581.

**15. 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 microorganisms 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
4.	Development and optimization of vaccines to protect shrimp from white spot syndrome virus (August 2009 to August, 2013) PI: Prof. I.S.Bright Singh	Department of Biotechnology, Government of India.	56.96
5.	Young investigators programme in Biotechnology - identification and purification of cytotoxic and antimicrobial compounds from Cnidarians and Echinoderms (2009 June to 2012 June) PI: Dr. A.S.Sabu	Kerala State Council for Science Technology and Environment	15.125
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 2013) 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. 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. 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



16. 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
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 microalga 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
9	Devassy Christo	Dr. Valsamma Joseph	Metagenomic approach to cloning and expression of endo and exoglucanases and beta, 1-4 glycosidase from forest eco system
10	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
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. Ancy Varghese	Dr. Valsamma Joseph	Polysaccharides from marine unicellular red alga <i>Dixoniella griesa</i> : Characterization and Application
2	Mr. Mantosh Kumar	Dr. T. P. Sajeevan	Bioprospecting for neural protecting compounds from marine environment
3	Ms. Vinaya K. K.	Dr. Valsamma Joseph	Molecular characterization of cobalamine acquisition genes in marine microalgae
4	Ms. Gnana Dhivya R.	Dr. Valsamma Joseph	Metagenomic analysis of microbial communities associated with marine diatoms
5	Mr. Neelanchal Vaid	Dr. T. P. Sajeevan	Anti-bacterial and anti-viral compounds from marine actinomycetes against aquatic pathogens
6	Ms. Snigdha Gupta	Dr. T. P. Sajeevan	Bioprospecting for neuroprotectants from seaweeds.



17. 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 and Year	Amount in Rupees
April, 2012	Rs. 7,77,688.0
May, 2012	Rs. 35,403.0
June, 2012	Rs. 32,820.0
July, 2012	Rs. 31,537.0
August, 2012	Rs. 47,958.0
September, 2012	Rs. 24,415.0
October, 2012	Rs. 29,097.0
November, 2012	Rs. 31, 831.0
December, 2012	Rs. 44, 218.0
January, 2013	Rs. 54, 159.0
February, 2013	Rs. 30,422.0
March, 2013	Rs. 93,457.0
Total	Rs.12, 33,005.0

20. Extension Service:

Disease diagnosis and management aquaculture systems.

The Aquaculture Extension Cell of the Centre worked towards helping farmers in completing successful crops of *P. monodon*. 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.





INTER UNIVERSITY CENTRE FOR NANOMATERIALS AND DEVICES

1. Brief History

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.K. Sreekumar. 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	*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
3	Sanal K. C.	Government of Kerala	Dr. M. K. Jayaraj (Professor, Dept. of Physics)	Preparation of oxide Thin Films for the application of TTFT
4	*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
5	*Cisy Abraham	Government of Kerala	Dr. Manoj (Associate Professor, Dept. of Applied Chemistry)	Synthesis and study of new light harvesting molecules for solar cell applications
6	Aparna Thankappan	Government of Kerala	Prof: V. P. N. Nampoori (Emeritus Professor ISP)	Nanophotonics
7	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
8	Rajagopalan K.	Government of Kerala	Dr. Prathapachandra Kurup, (Professor, Dept. of Applied Chemistry)	Synthesis and Characterization of 2-benzoyl pyridine thiosemicarbazone with some transition metal and their decomposition
9	Suhadath K. K	Government of Kerala		

Cisy Abraham upto 06/02/2012, 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 (Applied Chemistry Dept. on 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. Laboratories

Facilities for research on Nanomaterials are available

b. Library

No. of books and Journals as on 31st March of the previous year	Additions during the current year
406 Books	4 Books

6. Publications

a. Papers

Sl. No.	Peer Reviewed Journals
1.	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.



Sl. No.	Peer Reviewed Journals
2.	"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
3	"Effect of betanin natural dye extracted from red beet root on the non linearoptical properties ZnO nanoplates embedded in polymeric matrices" J Appl. Phys. 112,123104 (2012) Aparna Thankappan, Divya S.,Sheenu Thomas and V. P. N. Nampoori
4	Synthesis of monocrystalline zinc oxide microrods by wet chemical method for light confinement applications" Physica E-44 (2012)2118-2123. Aparna Thankappan, Misha Hari,S.Mathew, Santhi Ani Joseph, Erni Rolf, Debajeet Bora, Artur Braun and V. P. N. Nampoori

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

Name of Participant	Name of Seminar/Conference/Workshop	Role
Anjali C. P.	"C Tric" ,Applied Chemistry Dept .,CUSAT	Participant
Cisy Abraham	"C Tric" ,Applied Chemistry Dept .,CUSAT	Participant
Sreekala P. S.	Sophasticated test and instrumentation Centre CUSAT	Participant
Anjali C. P.	National Seminar on Current Trends in Chemistry Dept.	Participant
Sreekala P. S.	PSG institute of advanced studies, Coimbatore	Participant
Sreekala P. S.	Seminar on "Nanotechnology for energy Environment and health"	Participant
Aparna Thankappan	Conference on "Optical limiting performance of ZnO nanoplates and nanoflakes ICMAT"	Participant
Aparna Thankappan	Conference on "Optical limiting performance of betanin natural dye NCMA"	Participant
Sreekala P. S.	Workshop on Material Characterization at Nano scales	Participant
Aparna Thankappan	Seminar on " High nonlinearity in silicon nitride films by Dr. Czaplíki Robert, Tampere Tech, University of Finland.	Participant
Aparna Thankappan	Seminar on LPG based Biosensor for the detection and estimation of cholesterol	Participant
Aparna Thankappan	Seminar on " Nanotechnology Advancement" by Dr. Thomas Chakupurackal	Participant
Aparna Thankappan	Seminar on " Return of Zeno " by Prof. V. P. N. Nampoori	Participant



Aparna Thankappan	Seminar on “ DNA Photonics : An exploration in search and development of DNA based Light Emitting Diodes”	Participant
Aparna Thankappan	Seminar on Design of Diode pumped solid state lasers by Dr. S. K. Sreenivasan Nair	Participant
Sanal K. C.	Growth and characterisation of p-type amorphous CuCrO _x thin films by rf magnetron co-sputtering , K.C. Sanal and M.K.Jayaraj, National seminar National Seminar on Emerging Trends in growth and characterization of single crystals and nanomaterials, 2013 march, SH college chalakudy.	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.	Growth of transparent conducting copper boron oxide thin films and fabrication of p-n hetero junction. K. C. Sanal and M. K.Jayaraj, National conference on Nanotechnology and Renewable energy (NSNRE-2013) October, K.E college, Mannanam, Kottayam	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 (NSNRE2013) October, K. Ecollege, Mannanam, Kottayam.	Participant
Sanal K. C.	Growth of copper chromium oxide thin films and fabrication of thin film transistors K. C. Sanal and M. K. Jayaraj, IUMRS, ICA 2013, Dec 16-20	Participant

8. 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

**9. Research Programmes and Activities:**

Sl.No.	Problems/Topics	Investigator(s)
1.	Hetrogeneous Catalysis	Anjali C. P.
2	Application of Electro chemical sensors for the determination of pharmaceuticals	Laina A. L.
3	Preparation of oxide Thin Films for the application of TTFT	Sanal K. C.
4	Synthesis and evaluation of catalytic activity of nano NiO and its composition	Anu A. M.
5	Synthesis and study of new light harvesting molecules for solar cell applications	Cisy Abraham
6	Nanophotonics	Aparna Thankappan
7	Microwave properties of nanomaterials	Sreekala P. S.
8	Synthesis and Characterization of 2-b enzoyz pyridine thiosemicarbazone with some transition metaz and their decomposition	Rajagopalan K.





INTER UNIVERSITY CENTRE FOR INTELLECTUAL PROPERTY RIGHTS STUDIES

Introduction

Inter University Centre for IPR Studies (IUCIPRS) is an autonomous institution established by the Government of Kerala in Cochin University of Science and Technology. This is one of the Inter University Centres conceived and implemented by the Department of Higher Education, Government of Kerala. But the IUCIPRS is unique among other Inter University Centres as it is administered by a Governing Council with the Minister for Education, Government of Kerala as the Chairman, the Vice Chancellor of CUSAT as Vice Chairman, and renowned academics from all over India, including Vice Chancellors of several Universities in Kerala as members.

Brief History

The Centre for IPR Studies, established in the School of Legal Studies of the Cochin University of Science & Technology in 2003, was 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 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.

Governing Structure of IUCIPRS

The IUCIPRS came into existence by the constitution of its first Governing Council constituted by the Government of Kerala by GO G.O. (Ms) No. 348/10/H.Edn. dated 13/10/2010 which was modified by G.O (Ms) No.235/11/ H.Edn. dated 23/09/ 2011. The following are the Governing Council Members:

1. Shri. P. K. Abdu Rabb, Hon'ble Minister for Education, Government of Kerala (Chairman).
2. Dr. Ramachandran Thekkedath, Vice-Chancellor, Cochin University of Science & Technology, (Vice-Chairman).
3. Vice-Chancellor, University of Kerala.
4. Vice-Chancellor, Kannur University.
5. Principal Secretary, Higher Education Department, Government of Kerala.
6. Director, Centre for Development Studies, Thiruvananthapuram.



7. Shri. Sunny P. Jose, Syndicate Member, Cochin University of Science and Technology.
8. Dr. P. G. R. Pillai, Syndicate Member, Cochin University of Science and Technology.
9. Dr. M. S. Valiathan, National Research Professor, Manipal University.
10. Dr. K. N. Chandrasekharan Pillai, Director, National Judicial Academy, Bhopal.
11. Dr. M. D. Nair, Consultant to Pharmaceutical Industry, Chennai.
12. Dr. Biswajit Dhar, Director General, Research and Information System for Developing Countries, New Delhi.
13. Dr. N. S. Gopalakrishnan, Director, IUCIPRS, Cochin University of Science and Technology, (Member Secretary).

The powers of the Governing Council were also approved by the Government of Kerala by its letter No.35733/B2/10/H.Edn dated 10/12/2010 and decided to transfer the funds for the Centre from Government of Kerala to the Accounts of the IUCIPRS through CUSAT. The following are the powers of the first Governing Council and the duly constituted subsequent Governing Councils:

1. To make such regulations as necessary for the proper functioning of the Centre.
2. The business and affairs of the Centre shall be carried on and managed by this Governing Council until a regular GC is constituted as per the regulations of the Centre.
3. This GC shall have all such powers and shall perform all such functions as are necessary for the achievement and furtherance of the objectives of the Centre.
4. To constitute an Executive Committee consisting of five members with the Vice Chancellor of CUSAT as the Chairman and Director of the Centre as the Member Secretary and three other members nominated by the first GC of which two shall be academics.
5. To authorize the Executive Committee to initiate academic activities
6. To appoint such staff as may be necessary for the functioning of the Centre with the prior approval of the Government.
7. To raise funds for the Centre by gifts, donations or otherwise including receiving of moneys, securities, instruments and or any other movable property for and on behalf of the Centre.
8. To make, sign and execute all such documents and instruments, as may be necessary for carrying on the management of the property or affairs of the Centre.
9. To assign from time to time such functions and duties and delegate such powers as it may deem fit to the Executive Committee;



10. To appoint one or more Auditors from a list of auditors registered with the Centre for auditing the accounts of the Centre every year and consider the reports of auditors;
11. To delegate any of its powers to the Committees or any Sub-Committee or Expert groups appointed by it from time to time or, to the officers of the Centre.

The first meeting of the Governing Council approved the Regulation for the functioning of the Centre and also constituted the Executive Committee of the Centre with five members. The Executive Committee is expected to look after the administration of the Centre. The following are the Executive Committee Members:

1. Dr. Ramachandran Thekkedath, Vice-Chancellor, Cochin University of Science & Technology, (Vice-Chairman).
2. Shri. Sunny P. Jose, Syndicate Member, Cochin University of Science and Technology.
3. Dr. K. N. Chandrasekharan Pillai, Director, National Judicial Academy, Bhopal.
4. Dr. M. D. Nair, Consultant to Pharmaceutical Industry, Chennai.
5. Dr. N. S. Gopalakrishnan, Director, IUCIPRS, Cochin University of Science and Technology, (Member Secretary).

There is also a Faculty Committee comprising of the Director and all faculty members of the Centre to take care of the academic activities of the Centre. The Executive Committee also constituted a Technical Committee on Construction with one of its members as Chairman to look into the construction activities of the Centre.

Objectives of the Centre

The main objective of IUCIPRS is to evolve into a research hub and resource centre of international repute to act as a think tank in the area of IPR and related subjects. It is meant to be a place facilitating interaction among researchers from different universities and research institutions in India and abroad. IUCIPRS aims at facilitating multidisciplinary teaching and research in the area of IPR and related subjects.

Activities

The main activities of the Centre include policy research support to both Central and State Governments, supporting/assisting Government of India in international negotiations, conducting extensive research in intellectual property related areas, conducting different types of academic programmes including full time Ph.D programmes with fellowships, facilitating multi-disciplinary research, undertaking post graduate courses for students of School of Legal Studies and for students from Science, Technology and Management disciplines of CUSAT, short-time fellowships for students from other universities who have registered for Ph.D on any IP related areas, visiting fellowships for eminent academics from India and abroad giving them an opportunity to associate with IUCIPRS by engaging in



teaching and research. In addition to this, we also organize various seminars, conferences and workshops on emerging issues on Intellectual Property Law and conduct training programmes for judges, professionals, scientists, students of other Universities in India etc. The Centre also extends support to scientists, industrialists and other technical experts from CUSAT and outside in obtaining different forms of IP protection. The Centre has been undertaking various research projects and publishing books and research papers from 2003 onwards.

A. Policy research

The Centre has prepared policy papers for the Government of India, Department of Industrial Policy and Promotion (DIPP) for negotiation on the Protection of Traditional Knowledge and Genetic Resources, April 2012; for the LMC meeting on GRTKF held in Bali June 2012; for the International Conference on GRTKF held in Delhi January 2013 and on the Scope of Government Intervention under Section 92 of the Indian Patents Act, 1970 for ensuring affordability of patented drugs.

The Centre has supported the Department of Higher Education, Government of India, in drafting the Copyright Rules 2012, prepared comments on the papers for the 24th SCCR, July 2012, 25th SCCR on November 2012 and 26th SCCR February 2013; prepared a detailed note for the negotiation of the Treaty on Audiovisual Performance for the Beijing Diplomatic Conference held on June 2012; prepared a detailed note for discussion of the issue of protection of broadcasting organizations in the SCCR meeting on July and November 2012; prepared comments and suggestions on the South African proposal for the 24th SCCR June 2012 and prepared text based comments on the Protection of Traditional Cultural Expressions, July 2012. The Centre also assisted the Law Department of Government of Kerala in identifying the subject matter that can be covered for the protection of traditional knowledge of Kerala.

B. Academic Activities

a. International Negotiations

Prof. N.S.Gopalakrishnan, the Director of the Centre was the Member of the Indian Delegation to the Diplomatic Conference to finalize the Treaty for the Protection of Audiovisual Performers, Beijing June 2012. He also represented India in the 22nd Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, July 2012; the second Like-Minded Countries meeting on Genetic Resources, Traditional Knowledge and Folklore, Bali, Indonesia, June 2012 and in the 21st Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, April 2012.

b. Ph.D Programme

As the beginning of the multidisciplinary research programme, students from the disciplines of Law, Political Science and Management were admitted in the Centre in February 2011. The following are the students registered with the faculty of the Center:

1. Chaithanya.E.P – “The Role of State in the Protection of Traditional Knowledge” (Prof. N. S. Gopalakrishnan & Prof. Sebastian Rupert Mampilly);



2. Narendran T. – “Intellectual Property Issues in Open Source Drug Discovery” (Prof. N. S. Gopalakrishnan);
3. Anson C. J., - “Marketing Challenges Face by Geographical Indications of Kerala(Prof. N. S. Gopalakrishnan & Prof. K. B. Pavithran)”;
4. Rujitha T. R., - “Patenting Life under U/S 3 J of Patent Act and Its Impact - A Proposal to Redefine” (Prof. N. S. Gopalakrishnan);
5. M. Sakthivel – “Protection of 4g Peer 2 Peer Technology Under Copyright: A Special Study With Reference To (Digital) Board Casting” (Prof. N. S. Gopalakrishnan);
6. Ms. Sindhu Soman – Intellectual Property Protection of Ayurvedic Preparations: A Study with special reference to Ayurvedic Industry (Dr. T. G. Agitha);
7. Mr. Shanmugham D. Jayan – Legal Concept of Information in Digital Technology (Dr. T. G. Agitha);
8. Yogesh A. Pai - International Technology Standardisation, Patents and Competition Law: Addressing Gaps in the International Legal Framework (Dr. T. G. Agitha).

c. Visiting Fellowships

Three eminent scholars from India, England & Italy were identified to be invited to the Centre in 2012-13. They are Dr. Shakeel Bhatti, Secretary, International Treaty on Plant Genetic Resources for Food and Agriculture, FAO, Rome, Dr. Meera T. Sundera Rajan, Magdlan College, Oxford and Dr. Shamnad Basheer, Professor, HRD Chair on IPR, NUJS, Kolkatta.

Dr. Shamnad Basheer was in the Centre for three months (September to Novmber 2012). He participated in the teaching of the IPR elective course, interacted with the Ph.D scholars, delivered a faculty seminar on the Novartis case pending before the Supreme Court. He also prepared a research paper.

d. PG Courses

The Centre offered two elective course on “Introduction to IPR: Patent Law and Practice” July 2012 and December 2012 for the Management students of CUSAT. 25 students took the course in the July course and 13 students in the December course. The Centre also offered two elective courses on “Patent Law, TRIPS Agreement and Access to Medicine” for the LL.M students of School of Legal Studies, CUSAT during the same period. 13 students took the course in the July course and 9 students in the December course.

e. Academic collaborations

The collaboration with Max Planck Institute for Intellectual Property and Competition Law, Munich continued in this year also. We assisted in the preparation of the Patent Declaration project and also on compulsory licences project.

f. Training/Workshop

One major programme of the IUCIPRS is to conduct seminars, conferences, workshops and training programmes in IPR related areas for the purpose initiating discussions on



current issues of various forms of IP, finding solutions to major challenges in IP, evolving policy framework in the context of international negotiations, imparting training to professionals, industrialists, teachers, judicial officers etc. The Centre along with the IPR Chair at CUSAT celebrated the IP Day, 26th April 2012 by organizing a Round Table on "Copyright Issues in the Entertainment Industry" and talk by Prof. (Dr.) Sitharamam Kakarala, Professor, CSCS, Bangalore on "Knowledge, Property Rights: A Critique of Contemporary Debates". Organized an One day Awareness Programme for Chartered Accountants on Intellectual Property Rights: Copyright and Trademark and the three day National workshop for Law Students – "Rethinking Intellectual Property Rights" – Theme 2013 "Patents and Access to Medicine for All" 9th to 12th January 2013.

g. Publications

The staff and research students of the Centre has participated in a number of national and international conferences, presented papers and published papers. The following are the important conference presentations and publications

Faculty

Prof. N. S. Gopalakrishnan

1. "Access to Health Care in India: Implications of Patent Law", *Journal of Indian Legal Thought*, 2012 (Forth coming)

Dr. T. G. Agitha

1. "Intellectual Property regime and developing country Health Concerns" 18 *Journal of Intellectual Property Rights*, March 2013 pp. 186-191 in the Column *Global Public Health and Intellectual Property*
2. "Global Public Health: Should the Trade Forum Reign?" 18 *Journal of Intellectual Property Rights*, January 2013 pp. 88-92 in the Column *Global Public Health and Intellectual Property*
3. "The Relevance of Global Convention on Health Research and Development", *Revista Eletrônica do IBPI – Nr. 7, Brazilian Institute of Intellectual Property*, December, 2012

Research Scholars

Yogesh A. Pai

- a. Opinion piece:** "A New Template for Pharma Research", *Hindu Business Line* (11th April, 2013), Available at: <http://www.thehindubusinessline.com/opinion/a-new-template-for-pharma-research/article4606742.ece?homepage=true>
- b. Conference Draft:** Private Proprietary Standards and Public Law: Invoking WTO's Competition Dimension to Avoid Global Market Distortion ASIL –IEL 2012 Conference, Washington-DC (November 16, 2012). Available at SSRN: <http://ssrn.com/abstract=2177064>



- c. *Book Essay:*** Patent and Trade Disparities in Developing Countries- Srividhya Ragavan (Oxford University Press, USA) (Hardcover) (2012) (November 16, 2012). *Forthcoming: Jindal Global Law Review*, 2013. Available at SSRN: <http://ssrn.com/abstract=2177065>
- d. *Conference working paper:*** The International Dimension of Proprietary Technical Standards: Through the Lens of Trade, Competition Law and Developing Countries (July 6, 2012). Society of International Economic Law (SIEL), 3rd Biennial Global Conference Working Paper No. 2012/40. Available at SSRN: <http://ssrn.com/abstract=2101689> or <http://dx.doi.org/10.2139/ssrn.2101689>

Sakthivel

- a. "Copyrightability of Sports Contents: Indian Scenario" - Entertainment Law Review 2012 (4) Sweet & Maxwell Publisher.
- b. Implementation of Right to Education as a Civil Right - A Critical Analysis - Amity Law Review Vol. 8 No. (2) July-December 2012 (in press)

Anson C. J.

- a. "Marketing Flexibilities in Geographical Indications (GI) and Trademark: a Comparative Study." *International Journal of Marketing, Financial Services & Management Research* 1 (11): 100–107. November, 2012
- b. "Geographical indications/ : a marketing stance." *International Journal of Economics, Commerce and Research (IJECR)* 2 (2): 11–17. ISSN:2250-0006 Vol.2, Issue 2 June 2012

Chaithanya E. P.

- a. "The Ownership over Common Property Resources: State versus Community Rights", *International Journal of Political Science, Law and International Relations (IJPSLIR)* Vol.2, Issue 1 Jun 2012.
- b. "Historical injustice toward Tribals: A Reflection on Forest Policies of India", *International Journal of Social Science & Interdisciplinary Research*, Vol.1 Issue 11, November 2012.

h. Conference Participation and Presentations

Faculty

Dr. N.S. Gopalakrishnan

Member of Indian Delegation

1. Member, Indian Delegation to the 22nd Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, July 2012



2. Member of the Indian Delegation to the second Like-Minded Countries meeting on Genetic Resources, Traditional Knowledge and Folklore, Bali, Indonesia, June 2012
3. Member of the Indian Delegation to the Diplomatic Conference to finalize the Treaty for the Protection of Audiovisual Performers, Beijing June 2012
4. Member, Indian Delegation to the 21st Inter Governmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore, WIPO, at Geneva, Switzerland, April 2012

Other Conferences:

5. Speaker, International Conference on TK, TCE and GR, New Delhi January 2013.
6. Workshop on Compulsory Patent Licensing, Max Plank Institute and Institutum Iurisprudentiae, Academia Sinica, Taipei, December 3-5, 2012. (Communicated a paper and power point).
7. Workshop on WIPO Audiovisual Performance Treaty, FICCI, Mumbai, May 2012.
8. Resource person, "Academic Programme for Judges from Sri Lanka", National Judicial Academy, Bhopal August 2012

Dr. T.G. Agitha (International)

1. "Issues and Challenges in the Digitization of Copyright Works" in the National Seminar on the Protection and Management of Copyright and Related Rights, November 1 and 2, 2012, Jakarta, Indonesia.
2. "Issues and Challenges of Orphan Works" in the National Seminar on the Protection and Management of Copyright and Related Rights, November 1 and 2, 2012, Jakarta, Indonesia.

Dr. Prabha S. Nair

1. "Protection of traditional medicine and Intellectual Property Rights at the First Local Traditional Healers Congress organised by the Centre for Folklore Studies, University of Calicut on 9th August 2012
2. 1 "Liabilities of Internet Service Providers under the Copyright Amendment of 2012" at the National Seminar on Copyright Amendment Law of 2012 organised by the ILS Law College, Pune during 25-26 August 2012
3. "Introduction to IPR with Special Reference to Patents" at the National Seminar on Biotechnology and Information Technology , 22-23 of January 2013 organised by PG and Research Department of Zoology, Government Victoria College, Palakkad, Kerala
4. "Access and Benefit Sharing in the Western Ghats Region in Light of the Gadgil Report" at National Seminar on Envisioning a Legal Framework for Mainstreaming Environmental Conservation organised by the Centre for Environment and Law, National University of Advanced Legal Studies, Cochin on 11th March 2013.



Research Scholars

Yogesh Anand Pai

- a. Discussant- National Seminar on 'Measuring Benefits of Competition Policy Reforms in India', 21st March 2013, *organised by Consumer Unity & Trust Society, New Delhi*
- b. Panellist - "Educational Roundtable Discussion on Innovation", George Washington University and US- India Business Council and US Chamber of Commerce, December 13, 2012, USIEF, Fulbright House, New Delhi
- c. 'Private Proprietary Standards and Public Law: Invoking WTO's Competition Dimension to Avoid Global Market Distortion' ASIL –IEL 2012 Conference, Washington-DC (November 16, 2012) 29 Nov. to 1 December 2012.
- d. 'India's Post-TRIPS Regime for Pharmaceutical Patents: Promoting Innovation and Access' *Global Mondays, forthcoming* 26th Nov. 2012, University of Washington, Seattle
- e. 'Addressing the International Dimension of Proprietary Technical Standards: Through the Lens of Trade, Competition law and Developing Countries' in *3rd Biennial Conference of the Society of International Economic Law*, National University of Singapore, Singapore (12-14th July 2012) 'Open Standards for the Internet' in Roundtable on Emerging Issues in Indian IP Law, organised by University of Pennsylvania School of Law and National Law School of India University, Bangalore (17th July 2012)

Sakthivel

- a. "*Impact of ICT on Communication to the Public*" presented at the International conference on International Environmental Law, Trade Law, Information Technology Law and Legal Education organised by Faculty of Law, Banaras Hindu University, Varanasi. (2nd & 3rd March, 2013)
- b. "*Access to Medicine and Indian Patents Act: An Overview*" presented at the National Seminar on Access to Medicine and Patent Laws organised by Govt. Law College, Thrissur. (26th-27th February, 2013)
- c. "*Educational Activism of the Indian Judiciary*" presented at the National Seminar on National Seminar on Judicial Activism and Judicial Self Restraint" organised by University School of Law and Legal Studies, Guru Gobind Singh Indraprastha University, New Delhi. (16th-17th November, 2012)

Anson C. J.

- a. "Geographical indications – marketing strategies & promotion techniques" in the Workshop on Post_GI Initiatives for Brand Promotion through Market Linkage and Containment of Infringement of Selected Craft Indications of Kerala organised by the Ministry of Textiles, Government of India on 4th October 2012
- b. "Brand Equity of geographical indications of Kerala : an empirical study" in the seminar on National seminar on WTO, FTAs and impact on agriculture and allied sectors organized by the Agri (WTO cell) department, Govt of Kerala on 17th and 18th January, 2013

**Narendran**

- a. "Open Source Approach to Drug Discovery : Meeting the Challenges of global public Health" at the International Conference on Global Public Health and Social Work organized by Rajagiri Institute of Social Sciences, January 2013.
- b. "Recognizing Tribal People's Human Right for Bio-cultural Resource Protection : Rethinking Indigenous Rights Jurisprudence" at the International seminar on Future of Human Rights, Humanity and Culture in Emerging globalised World organized by All Indian Rights Organization and Indian Association of Social Scientists, December 2012.
- c. "Concept of Liability in Indian Environmental Jurisprudence" at the International Conference on Good Governance, Sustainable Development and Environmental Justice in SAARC Region organized by University of West Bengal, December 2012.

Chaithanya E. P.

"Whether the Market has Changed the Role of State with Special Reference to the Indian Scenario", in 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.

C. Visitors to the Centre

Ms. Jennifer McIntyre, Consul General of the US Consulate General, Chennai, visited IUCIPRS to understand the functioning of the Centre on 19th March 2013.

D. Student internship

The Centre also intership to the students from CUSAT and other institutions to utilize the facilities of the Centre. This is to encourage law students of LL.B and LL.M to undertake research and other activities relating to IPR. The following students did internship with the Centre:

- a. Mr. Snehashish Ghosh, LL.B, School of Law, Christ Universtity, Bangalore
- b. Ms. Mahima Rathi, LL.B, National Law University, Jodpur
- c. Ms. Aparajitha Das, LL.M, National Law University, Jodpur
- d. Ms. Anu Bhuvan, LL.B, School of Legal Studies, CUSAT

E. IPR Facilitation

The Centre is also offering limited free service to the needy to acquire various intellectual property rights by way of filing patent, copyright, trademark, design etc. The staff and research scholars of Cochin University seek advice from the Centre on IPR matters, particularly on patent. A number of persons from outside University often consult the Centre seeking advice on IPR related issues. Majority are local inventors seeking clarification on how to obtain patent. The Centre eventually will undertake this work on a regular basis.



F. Administrative Actions

There were two meetings of the Governing Council were in October 2012 and March 2013. There were six meetings of the Executive Committee in 2012-13 They were held in of the June, September, October, November 2012 and two in February 2013. There were also five meetings of the Technical Committee on Construction during this period. The office of the Centre is functioning in the two modified rooms (4000 sq.ft) provided in the SLS building of CUSAT. The following are the staff of the Centre:

Faculty of the Centre

1. Dr. N.S. Gopalakrishnan, Director (Deputation from CUSAT to MHRD Chair on IPR, CUSAT)
2. Dr. T.G. Agitha, Associate Professor, (on working arrangement from Government Law College, Ernakulam)
3. Dr. Prabha S. Nair, Research Officer, IUCIPRS (Contract basis)

Administrative Staff of the Centre

1. Mr. Vincent Joseph, Administrative Officer (Contract basis joint on January 2013).
2. Mr. Joe Joseph, Assistant Librarian (Junior Librarian of CUSAT on additional charge).
3. Ms. Anupama, Library Professonal, IUCIPRS (Contract basis).
4. Ms. Misha, Administrative Assistant, IUCIPRS (Contract basis).
5. Mr. Muhammed Rakhip (June to August 2012) and Shameer T.A (February 2013 onwards) Cleaner-cum-Peon (Contract basis)
6. Mrs. Clara Vandrek, Steno-cum-documentation assistant, MHRD Chair on IPR (Contract basis)
7. One Group – D staff (Daily wages on MHRD Chair on IPR from September 2012 to January 2013)

G. Construction

The Technical Committee for Construction chaired by Mr. Sunny P. Jose met in June, September, October, November 2012 and February 2013 to monitor the work of the construction of IUCIPRS Complex. The Committee recommended the relase of instalments to BSNL for construction of ground floor and also recommended to award of the work of the first floor to BSNL. The construction of the ground floor is expected to be over by June 2013 and first floor by July 2013.

H. Accounts (2012-13)

As per the audited statement of accounts of the IUCIPRS for the financial year 2011 -12 IUCIPRS received a total income of Rupees 39,829,170/= and incurred an expenditure of Rupees 23,019,882/=. The balance of Rupees 16,809,288/= was carried forward to the financial year 2012-13. The audited statement is attached.





INTER UNIVERSITY CENTRE FOR THE DEVELOPMENT OF MARINE BIOTECHNOLOGY

1. Brief History :

The Ocean, which is called the “mother of origin of life”, is also the source of structurally unique natural products that are mainly accumulated in living organism. Chemical investigations on natural products of marine origin can lead to the discovery of bioactive compounds of unique structure which can be developed as highly potential life saving drugs - 80% of the earth’s living organisms are found in the sea and this rich sources of bioactive compounds remains relatively untapped. Modern technologies have opted vast area of research for the extraction of natural products from sea. The application of these compounds is not limited to the branch of pharmacology but also has industrial (such as adhesive proteins and agricultural agents) and academic (laboratory tools like fluorescent proteins) relevance. OECD definition of biotechnology is “The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services”.

In the international scenario; India is one among the 12 mega biodiversity countries. Among the Asian countries India is perhaps the only one that has a long record of inventories of coastal and marine biodiversity dating back to at least two centuries. So far 486 species of sponges, 240 species of cnidarians, 3370 species of mollusca, 200 species of bryozoans have been described in India. Despite this rich biodiversity, the invertebrates remain under investigated out of 16,000 new products from marine sources, of which Indian contribution is less than 100.

The School of Marine Sciences of the Cochin University of Science and Technology is one of the pioneer institution offering research and teaching in all aspects of Marine Sciences. The School which was established in 1938, the first in india in this field, have five Departments viz., Department of Atmospheric Sciences, Dept of Chemical Oceanography, Dept of Marine Biology, Microbiology and Biochemistry, Dept of Marine Geology and Geophysics and the Dept of Physical Oceanography. Due to the high complexity of the Marine System and the interdependency of various factors which govern the system, Majority of the teaching and research programmes in the School of Marine Sciences are interdisciplinary. Marine Biotechnology is a field emerged from this interdisciplinary character.

The objectives of the Inter University Centre for Development of Marine Biotechnology are

- Developing novel drugs; Marine Natural products
- Producing diagnostic devices for monitoring health
- Discovering new types of composite materials, biopolymers and enzymes for industrial use;
- ensuring safety of aquaculture and fisheries;
- Providing new techniques for management of marine environments



The Centre has a fully furnished laboratory, well equipped with sophisticated instruments: LCMS, GCMS, FTIR, Refrigerated centrifuge, Electrophoresis, Flash Chromatograph, In situ fermenter, Rotary evaporator, Lyophiliser and other minor equipments. Promoting the next generation of researchers and scientific workforce, training in the sophisticated instrumentation is one of the integral components of our scientific programs and as a part of it, we are supporting dissertation/research projects of post graduate students from different universities. The instrumentation facilities have been made available to the students of the universities across the state.

2. Programmes of Study/Research :

- i. Offering Electives in Marine Natural Products
- ii. Research – Major Initiatives of Research in the IUCDMB are
 - a) Isolation of bioactive compounds from marine invertebrates and aquatic plants – extraction, isolation and characterization of secondary metabolites from the invertebrates of marine environment collected from Lakshadweep Archipelago
 - b) Prediction the bio activity of compounds identified - The biological activities of the compounds identified from organisms can be predicted on the basis of structure-activity relationships using the soft ware PASS (*Prediction of Activity Spectra for Substances*), which was developed by Poroikov and Filimonov (2000)
 - c) Bioactive compounds from marine microorganisms - Antimicrobial activity of the isolates from sediments of estuarine and mangrove systems (Kirby Bauer method). Out of 38 actinomycete isolates 2 of them incubated in Marine actinomycetes broth showed antimicrobial activity.
 - d) Isolation and characterisation alpha-amylase inhibitors from marine sources - to identify, isolate and characterize alpha-amylase inhibitors from marine sources- Among eight species of mangroves *A. corniculatum* and *R. mucronata* showed extended inhibitory activity.
 - e) Biomaterials from marine invertebrates - Identification of compounds present in the marine invertibrates as sponge and soft coral

3. Faculty Members

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. N. Chandramohana kumar, Dept. of Chemical Oceanography	Professor and Hon Director	M.Sc., Ph.D.	Marine organic chemistry, Green Chemistry, Marine Biosensors /markers/ tracers, Bio-fuel cells, Bioactive compounds
2	Dr. S. Muraleedharan Nair Dept. of Chemical Oceanography	Associate Professor	M.Sc., Ph.D.	Marine organic compounds, Biosensors, Bio-fuel cells, Bioactive compounds and Marine Natural Products



Sl. No.	Name	Designation	Qualification	Specialization
3	Dr. Babu Philip Dept. of Marine Biology, Microbiology & Biochemistry	Professor	M.Sc., Ph.D.	Biochemistry, Bioactive Compounds
4	Dr. A. V. Saramma Dept. of Marine Biology, Microbiology & Biochemistry	Professor	M.Sc., Ph.D.	Biochemistry, Bioactive Compounds

4. Research Staff / Post Doctoral Fellow

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Vasundhara G.	Post Doctoral Fellow	M.Sc., Ph.D.	Biochemistry, Bioactive Compounds

5. Research Scholars

Sl. No.	Name	Funding Agency	Guide
1	Anuradha V.	State	Dr. S. Muraleedharan Nair
2	Byju K.	State	Dr. N. Chandramohanakumar
3	Prashobh Peter K. J.	CUSAT	Dr. S. Muraleedharan Nair
4	Nebula Murukesh	CUSAT	Dr. N. Chandramohanakumar
5	Resmi P.	MoES	Dr. N. Chandramohanakumar
6	Saritha S.	CSIR	Dr. S. Muraleedharan Nair
7	Kala K. Jacob	CUSAT	Dr. N. Chandramohanakumar
8	Hari Sankar H. S.	State	Dr. Babu Philip
9	Emilda Rosmine	State	Dr. A. V. Saramma
10	Gireesh Kumar T.	MoES	Dr. N. Chandramohanakumar

6. Research Facilities

a. Laboratories (Major equipments available)

UV-VIS Spectrometer, AAS, GC, CHN, Polarographic Analyzer, Laminar Flow Chambers, HPLC, LCMS, GCMS, FTIR, Lyophilizer, Bioreactor, Rotary Evaporator, Flash Chromatograph, etc



7. Publications

a. Papers

Sl. No.	Name of Paper
1.	Chemical characterization of the lipophilic extract of <i>Hydrilla verticillata</i> : a widely spread aquatic weed 2013. K. Byju, V. Anuradha, Emilda Rosmine, N. C. Kumar, S. M. Nair, Journal of Plant Biochemistry and Biotechnology 22, Issue 3, pp 304-311
2.	Metabolites and bioactivities of Rhizophoraceae mangroves, 2013. Murukesh Nebula, H. S. Harisankar and N. Chandramohanakumar, Nat. Prod. Bioprospect., 3, 207–232
3.	In silico biological activity of steroids from the marine sponge <i>Axinella carteri</i> , 2013. V. Anuradha, K. Byju, Rosmine Emilda, Gopinath Anu, S. M. Nair, N. Chandramohanakumar, K. J. Prashob Peter, T. R. Gireesh Kumar, G. Vasundhara, Med Chem Res (2013) 22:1142–1146

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

1.	Spatial variability of total Organic Carbon and apparent Oxygen Utilisation (A.O.U.) in the Reef waters of Kavaratti Island, Lakshadweep, Rajesh R., Anoop P. P., Anu Joy, Movitha M., Angel Mathew, Kumar N. C., Nair S. M. and Anu Gopinath, National Seminar AQUASEM 13, 21-23 March 2013, Organised by Dept of Chemical Oceanography, CUSAT
2.	Evaluation of Water Quality Parameters of Sastamkotta Lake, K. Byju, Rosmine Emilda, Ratheesh Kumar C. S., Renjith K. R., Gireesh Kumar T. R., Shaiju P., G. Vasundhara, S. M. Nair, N. C. Kumar, National Seminar AQUASEM 13, 21-23 March 2013, Organised by Dept of Chemical Oceanography, CUSAT
3.	Potability of Water in the Upper Reaches of River Periyar – A Brief Assessment, Anuradha V., G. Vasundhara, S. M., Nair, Kumar N. C., National Seminar AQUASEM 13, 21-23 March 2013, Organised by Dept. of Chemical Oceanography, CUSAT
4.	Food Flavanoids in Rhizophoraceae Mangroves from Southwest Coast of India, Nebula Murukesh, Hari Sankar H. S., Gireesh Kumar T. R., K. Byju and N. Chandramohanakumar, National Seminar AQUASEM 13, 21-23 March 2013, Organised by Dept of Chemical Oceanography, CUSAT

9. Sponsored Research Project :

Sl. No.	Title	Sponsoring Agency	Amount	Investigator(s)
1	Development of Marine	Kerala State Biotechnology	1000000	Dr. Chandramohanakumar Dr. S. M. Nair Dr. Babu Philip Dr A. V. Saramma
2	Sterols and Hopanoids as Organic Matter Biomarkers in Mangrove Ecosystems along Kerala Coast	STEC, Kerala	1109000	Dr. Chandramohanakumar Dr. S. M. Nair Dr. Pratapachandra Kurup



**PART - IV****ANNUAL ACCOUNTS OF THE UNIVERSITY**
STATEMENT SHOWING THE RECEIPTS AND EXPENDITURE FOR 2012-2013

Sl. No.	Items	Plan	Non-Plan	Total
	Opening fund balance as 01.04.2012	406,354,438	-307,649,744	98,704,694
I. RECEIPTS FOR 2012-13				
1	Internal Revenue (including fee receipts)		338,415,861	338,415,861
2	Grant from State Govt.	130,000,000	364,820,000	494,820,000
3	Grant from UGC	98,730,405		98,730,405
4	Grant from other GOI Sources	102,288,926		102,288,926
5	Grant from other Agencies	15,731,254		15,731,254
6	NSS Grant from State Govt.			0
7	Other grants from State Govt.	60,500,000		60,500,000
8	Scholarships/Prizes		241,070	241,070
9	New endowments		372,000	372,000
10	Interest on pension fund investments and new investments			
11	Net Debt Head Receipts (Excluding PF)			
	Debt Head Receipts 126,211,996			
	(Less) Debt Head Expenditure 114,617,179			
	Net Debt Head Receipts (Excluding PF)		11,594,817	11,594,817
	Total Receipts for 2012-13	407,250,585	715,443,748	1,122,694,333
II. EXPENDITURE FOR 2012-13				
12	Administrative Expenses			
a)	Salaries and other allowances		98,168,482	98,168,482
b)	Other revenue expenses	1,426,969	242,312,610	243,739,579
13	Examination Expenses			
a)	Salaries and other allowances		67,512,070	67,512,070
b)	Other revenue expenses	274,737	10,258,979	10,533,716



Sl. No.	Items	Plan	Non-Plan	Total
14	Academic Expenses			
a)	Salaries and other allowances	83,031	256,606,767	256,689,798
b)	Other revenue expenses	18,332,743	10,705,994	29,038,737
15	Other Auxiliary Expenses			
a)	Salaries and other allowances	0	38,592,585	38,592,585
b)	Other revenue expenses	7,581,432	39,317,110	46,898,542
16	Capital Expenses			
a)	Vehicles	0		0
b)	Computer & other Expenses	15,687,985		15,687,985
c)	Furniture	2,783,809		2,783,809
d)	Books & Journals	25,032,723		25,032,723
e)	Works	119,004,077		119,004,077
17	State Govt. Kerala Schemes	11,847,286		11,847,286
18	UGC-Bulk Grants & Schemes	22,680,150		22,680,150
19	Other GOI Sources	132,664,584		132,664,584
20	Scholarships/Fellowships/Prizes	46,466,270	10,793,140	57,259,410
21	Others (Bulk Grants & Schemes)	16,137,030		16,137,030
	Total Expenditure for 2012-13	420,002,826	774,267,737	1,194,270,563
	Closing fund balance as on 31.03.2013	393,602,197	-366,473,733	27,128,464
	PF receipts for 2012-13		143,070,584	
	PF expenditure for 2012-13		81,817,632	



**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	15,49,00,000/-
b.	Minor works '1-97-0-T-4-999'	70,00,000/-
4.	2-94-1-T School of Engineering	4,11,00,000/-
5.	2-94-2- Cochin University College of Engg. Kuttanad	1,18,00,000/-
6.	1-19-02- Upgradation of CUSAT	2,82,00,000/-
7.	2-94-4-T Kunjali Marakkar	3,03,00,000/-
8.	17-0- Engineering Dept. (Non Plan	5,75,95,000/-
	(Plan)	2,60,000/-

Major works started during this year

Sl. No.	Name of Work	Name of Contractor	PAC	Remarks
1.	Construction of Building for Industrial Fisheries.	M/s. B.S.N.L. Ltd.	4,45,10,910/-	25% advance released work not started.
2.	Construction of building ST Radar facility	M/s. B.S.N.L. Ltd.	2,76,80,000/-	Work in progress
3.	Construction of Compound wall	M/s. B.S.N.L. Ltd.	27,06,000/-	Work in progress
4.	Modernization of Central Library	M/s. B.S.N.L. Ltd.	5,12,96,000/-	Work started.



Contingencies and Other Expenses

Sl. No.	CB No.	Head of Account			Amount
1	CB No.1/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	34,988/-
2	CB No.12/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,42,309/-
3	CB No.13/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	14,92,220/-
4	CB No.14/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	3,30,106/-
5	CB No.17/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	54,806/-
6	CB No.27/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	15,47,176/-
7	CB No.28/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	59,372/-
8	CB No.30/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	2,12,693/-
9	CB No.32/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	8,704/-
10	CB No.34/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,71,087/-
11	CB No.35/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	100/-
12	CB No.38/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	8,454/-
13	CB No.48/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	20,010/-
14	CB No.54/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	11,92,369/-
15	CB No.55/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,39,594/-
16	CB No.56/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	3,25,048/-
17	CB No.61/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	29,286/-
18	CB No.SR.1/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	1,00,000/-
19	CB No.63/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	82,800/-
20	CB No.69/12-13	2-17-0-Q-1-007	Electricity charges	Francis Titus	15,000/-
21	CB No.70/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	11,169/-
22	CB No.71/12-13	2-17-0-Q-1-007	Electricity charges	Peejay Associates	3,000/-
23	CB No.77/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	2,010/-
24	CB No.79/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	9,67,751/-
25	CB No.82/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	81,900/-
26	CB No.85/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	2,49,986/-
27	CB No.88/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	38,616/-
28	CB No.93/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	14,130/-
29	CB No.SR.1 /12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	4,92,890/-
30	CB No.50/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	18,003/-



Sl. No.	CB No.	Head of Account			Amount
31	CB No.101/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	19,00,447/-
32	CB No.105/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	33,547/-
33	CB No.108/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,53,595/-
34	CB No.110/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,48,968/-
35	CB No.SR /12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	30,266/-
36	CB No.118/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	18,42,673/-
37	CB No.120/12-13	2-17-0-Q-1-007		Uty. Engineer	53,064/-
38	CB No.121/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,57,850/-
39	CB No.123/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,47,045/-
40	CB No.SR 5/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	54,000/-
41	CB No.139/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	18,071/-
42	CB No.144/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	55,007/-
43	CB No.146/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	19,37,554/-
44	CB No.150/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,32,602/-
45	CB No.154/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,80,395/-
46	CB No.159/12-13	2-17-0-Q-1-007	Electricity charges	U.E. adjustment bill	
47	CB No.167/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	862/-
48	CB No.168/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,68,115/-
49	CB No.169/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	1,78,119/-
50	CB No.170/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	19,01,646/-
51	CB No.171/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	61,979/-
52	CB No.183/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	9,148/-
53	CB No.186/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	20,62,376/-
54	CB No.187/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,94,081/-
55	CB No.188/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,45,088/-
56	CB No.189/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	89,900/-
57	CB No.195/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	54,000/-
58	CB No.201/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	8,041/-
59	CB No.207/12-13	2-17-0-Q-1-007	Electricity charges	Uty. Engineer	66,523/-
60	CB No.209/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	20,25,129/-
61	CB No.210/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	4,23,168/-



Sl. No.	CB No.	Head of Account			Amount
62	CB No.215/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	1,63,811/-
63	CB No.222/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	8,275/-
64	CB No.224/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	25,85,578/-
65	CB No.225/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	68,115/-
66	CB No.226/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	5,16,028/-
67	CB No.228/12-13	2-17-0-Q-1-007	Electricity charges	Spl. Officer, TVM	2,02,719/-
68	CB No.2/12-13	2-17-0-Q-1-006	Water charge	University Eng.	6,650/-
69	CB No.15/12-13	2-17-0-Q-1-006	Water charge	University Eng.	23,700/-
70	CB No.16/12-13	2-17-0-Q-1-006	Water charge	University Eng.	1,84,549/-
71	CB No.19/12-13	2-17-0-Q-1-006	Water charge	University Eng.	29,700/-
72	CB No.20/12-13	2-17-0-Q-1-006	Water charge	University Eng.	28,800/-
73	CB No.21/12-13	2-17-0-Q-1-006	Water charge	University Eng.	24,000/-
74	CB No.22/12-13	2-17-0-Q-1-006	Water charge	University Eng.	16,200/-
75	CB No.33/12-13	2-17-0-Q-1-006	Water charge	University Eng.	1,74,758/-
76	CB No.42/12-13	2-17-0-Q-1-006	Water charge	University Eng.	8,400/-
77	CB No.43/12-13	2-17-0-Q-1-006	Water charge	University Eng.	1,85,700/-
78	CB No.66/12-13	2-17-0-Q-1-006	Water charge	University Eng.	2,772/-
79	CB No.67/12-13	2-17-0-Q-1-006	Water charge	University Eng.	1,99,092/-
80	CB No.68/12-13	2-17-0-Q-1-006	Water charge	University Eng.	2,178/-
81	CB No.74/12-13	2-17-0-Q-1-006	Water charge	University Eng.	5,940/-
82	CB No.83/12-13	2-17-0-Q-1-006	Water charge	University Eng.	2,09,119/-
83	CB No.109/12-13	2-17-0-Q-1-006	Water charge	University Eng.	2,09,414/-
84	CB No.131/12-13	2-17-0-Q-1-006	Water charge	University Eng.	2,09,166/-
85	CB No.160/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	2,13,350/-
86	CB No.178/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	2,12,063/-
87	CB No.179/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	1,200/-
88	CB No.194/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	29,400/-
89	CB No.197/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	2,50,372/-
90	CB No.203/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	1,55,800/-
91	CB No.206/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	1,13,200/-
92	CB No.220/12-13	2-17-0-Q-1-006	Water charge	Asst. Eng., KWA	1,09,671/-



Sl. No.	CB No.	Head of Account			Amount
93	CB No.3/12-13	2-17-0-Q-1-001	Wages, Shimy M. V.	University Eng.	3,150/-
94	CB No.4/12-13	2-17-0-Q-1-001	Wages, Sujith C. S.	University Eng.	20,700/-
95	CB No.7/12-13	2-17-0-Q-1-001	Wages, Raman Nair/ Shameer	University Eng.	14,700/-
96	CB No.10/12-13	2-17-0-Q-1-001	Wages, Smitha/Anju	University Eng.	47,250/-
97	CB No.11/12-13	2-17-0-Q-1-001	Wages, Biju K.S.	University Eng.	23,000/-
98	CB No.23/12-13	2-17-0-Q-1-001	Wages, Rijas	University Eng.	21,300/-
99	CB No.37/12-13	2-17-0-Q-1-001	Wages, Rijas	University Eng.	5,100/-
100	CB No.47/12-13	2-17-0-Q-1-001	Wages, Wages Ciraj	University Eng.	37,800/-
101	CB No.60/12-13	2-17-0-Q-1-001	Wages, Arya, Shimy, Smitha K. P.	University Eng.	58,450/-
102	CB No.62/12-13	2-17-0-Q-1-001	Wages, Jameela K. P.	University Eng.	21,300/-
103	CB No.76/12-13	2-17-0-Q-1-001	Wages, Mohammed Asharaf, Sujith	University Eng.	17,700/-
104	CB No.111/12-13	2-17-0-Q-1-001	Wages, Dijo, Binoy, Rijas	University Eng.	32,700/-
105	CB No.119/12-13	2-17-0-Q-1-001	Wages, Ruphose, Binoy, Yasar Arafath	University Eng.	36,600/-
106	CB No.122/12-13	2-17-0-Q-1-001	Wages, Sreeja K. V.	University Eng.	19,500/-
107	CB No.133/12-13	2-17-0-Q-1-001	Wages, Sreejith	University Eng.	28,200/-
108	CB No.137/12-13	2-17-0-Q-1-001	wages	University Eng.	35,350/-
109	CB No.182/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	5,400/-
110	CB No.196/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	36,900/-
111	CB No.198/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	43,800/-
112	CB No.199/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	4,980/-
113	CB No.211/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	20,400/-
114	CB No.221/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	51,000/-
115	CB No.223/12-13	2-17-0-Q-1-001	Wages, Casual labour	University Eng.	9,300/-
116	CB No.5/12-13	2-17-0-Q-1-002	Telephone charge – Office	University Eng.	1,159/-
117	CB No.8/12-13	2-17-0-Q-1-002	Telephone charge – P. J. Sheela	University Eng.	1,291/-
118	CB No.57/12-13	2-17-0-Q-1-002	Telephone charge – Office	University Eng.	1,974/-



Sl. No.	CB No.	Head of Account			Amount
119	CB No.73/12-13	2-17-0-Q-1-002	Residential telephone charge	Sheela P.J	915/-
120	CB No.97/12-13	2-17-0-Q-1-002	Telephone charge – Office	University Eng.	1,558/-
121	CB No.136/12-13	2-17-0-Q-1-002	Telephone charge –	University Eng.	1,341/-
122	CB No.165/12-13	2-17-0-Q-1-002	Telephone charge – Office	Sheela P.J.	3,422/-
123	CB No.184/12-13	2-17-0-Q-1-002	Telephone charge – Official	University Eng.	1,136/-
124	CB No.218/12-13	2-17-0-Q-1-002	Telephone charge	University Eng.	1,261/-
125	CB No.6/12-13	2-17-0-Q-5-402	Tax (Jeep)	U.E.	3,510/-
126	CB No.72/12-13	2-17-0-Q-5-402	Renewal of Insurance Policy	U.E.	3,374/-
127	CB No.9/12-13	1-17-0-Q-2-104	Toner Cartridge purchase	U.E.	5,800/-
128	CB No.29/12-13	1-17-0-Q-2-104	Purchase of Toner	U.E.	5,600/-
129	CB No.40/12-13	1-17-0-Q-2-104	Split A/C.	M/s. Cool Care	27,150/-
130	CB No.40/12-13	1-17-0-Q-2-104	Purchase of Battery	M/s. Royal Battery	25,200/-
131	CB No.100/12-13	1-17-0-Q-2-104	Computer key board	Peejay Associates	1,36,800/-
132	CB No.115/12-13	1-17-0-Q-2-104	KSCCF Ltd.	Stationery	9,000/-
133	CB No.125/12-13	1-17-0-Q-2-104	Purchase of UPS	U.E.	6,600/-
134	CB No.126/12-13	1-17-0-Q-2-104	Purchase of UPS	U.E.	6,600/-
135	CB No.127/12-13	1-17-0-Q-2-104	Purchase of UPS	U.E.	6,000/-
136	CB No.128/12-13	1-17-0-Q-2-104	Purchase of UPS	U.E.	4,700/-
137	CB No.135/12-13	1-17-0-Q-2-104	Purchase of Split AC	M/s. Gem Light	56,290/-
138	CB No.138/12-13	1-17-0-Q-2-104	Purchase of Battery - D.G. set	M/s. Zoom Agencies	24,000/-
138	CB No.180/12-13	1-17-0-Q-2-104	Purchase of pump set	M/s. Periyar Trading M/s. P. S. Electric work	42,736/-
139	CB No.18/12-13	2-17-0-Q-1-010	Notification Advt.	M/s. Mathrubhumi Printing & Publishing	83,261/-



Sl. No.	CB No.	Head of Account			Amount
140	CB No.25/12-13	2-17-0-Q-1-010	Notification Advt.	M/s. Express Publication	1,40,493/-
141	CB No.45/12-13	2-17-0-Q-1-010	Notification Advt.	M/s. Express M/s. Mathrubhumi	1,11,328/-
142	CB No.51/12-13	2-17-0-Q-1-010	Notification Advt.	M/s. Malayala Manorama	80,640/-
143	CB No.58/12-13	2-17-0-Q-1-010	Notification Advt.	M/s. Malayala Manorama	17,280/-
144	CB No.59/12-13	2-17-0-Q-1-010	Notification Advt.	The Manager, Deshabhimani	3,332/-
145	CB No.64/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi & Deshabhimani	11,856/-
146	CB No.65/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi & Deshabhimani	10,512/-
147	CB No.84/12-13	2-17-0-Q-1-010	Notification Advt.	Malayala Manorama	12,960/-
148	CB No.89/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi & Deshabhimani	8,352/-
149	CB No.90/12-13	2-17-0-Q-1-010	Notification Advt.	Hindu Mathrubhumi	2,41,680/-
150	CB No.92/12-13	2-17-0-Q-1-010	Notification Advt.	Malayala Manorama	53,670/-
151	CB No.96/12-13	2-17-0-Q-1-010	Notification Advt.	Kerala Kaumudi Malayala Manorama	11,760/-
152	CB No.102/12-13	2-17-0-Q-1-010	Notification Advt.	General Manager, Hindu	1,79,280/-
153	CB No.112/12-13	2-17-0-Q-1-010	Notification Advt.	Express Publication	59,040/-
154	CB No.114/12-13	2-17-0-Q-1-010	Notification Advt.	Kerala Kaumudi Malayala Manorama	15,445/-
155	CB No.143/12-13	2-17-0-Q-1-010	Notification Advt.	Deshabhimani	1,999/-
156	CB No.147/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi	6,720/-
157	CB No.161/12-13	2-17-0-Q-1-010	Notification Advt.	The Hindu Malayala Manorama Kerala Kaumudi	27,240/-



Sl. No.	CB No.	Head of Account			Amount
158	CB No.174/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi Hindu	39,160/-
159	CB No.177/12-13	2-17-0-Q-1-010	Notification Advt.	Malayala Manorama Kerala Kaumudi	12,480/-
160	CB No.185/12-13	2-17-0-Q-1-010	Notification Advt.	Malayala Manorama Deshabhimani	12,024/-
161	CB No.204/12-13	2-17-0-Q-1-010	Notification Advt.	Mathrubhumi Kerala Kaumudi	39,600/-
162	CB No.216/12-13	2-17-0-Q-1-010	Notification Advt.	Deshabhimani Malayala Manorama	12,432/-
163	CB No.227/12-13	2-17-0-Q-1-010	Notification Advt.	Malayala Manorama Deshabhimani	12,432/-
164	CB No.26/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	30,087/-
165	CB No.44/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	21,356/-
166	CB No.49/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	6,995/-
167	CB No.53/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	1,992/-
168	CB No.78/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	6,995/-
169	CB No.87/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	217/-
170	CB No.94/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	1,770/-
171	CB No.103/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	6,995/-
172	CB No.140/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	1,900/-
173	CB No.157/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	6,990/-
174	CB No.193/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	6,933/-
175	CB No.205/12-13	2-17-0-Q-2-125	Fuel charge	University Eng.	2,030/-
176	CB No.80/12-13	1-17-0-Q-1-025	Annual Maintenance Contract	M/s. Futura Automation	1,340/-
177	CB No.106/12-13	1-17-0-Q-1-025	Annual Maintenance Contract	M/s. Futura Automation	2,384/-
178	CB No.107/12-13	1-17-0-Q-1-025	Repair/Maintenance	U.E.	535/-
179	CB No.124/12-13	1-17-0-Q-1-025	Repair/Maintenance	M/s. Futura Automation	2,175
180	CB No.132/12-13	1-17-0-Q-1-025	Repair/Maintenance	U.E.	1,491/-



Sl. No.	CB No.	Head of Account			Amount
181	CB No.142/12-13	1-17-0-Q-1-025	Toner purchase	U.E.	6,250/-
182	CB No.155/12-13	1-17-0-Q-1-025	Repair/Maintenance	M/s. Futura Automation	1,758/-
183	CB No.156/12-13	1-17-0-Q-1-025	Payment of Autocad	U.E.	6,500/-
184	CB No.162/12-13	1-17-0-Q-1-025	Purchase of toner	U.E.	3,900/-
185	CB No.164/12-13	1-17-0-Q-1-025	Purchase of Lift	M/s. Thyssenkrup Elevator, India	4,71,150/-
186	CB No.175/12-13	1-17-0-Q-1-025	Repair/Maintenance	M/s. Futura Automation	1,954/-
187	CB No.192/12-13	1-17-0-Q-1-025	Repair/Maintenance	M/s. Futura Automation	1,715/-
188	CB No.202/12-13	1-17-0-Q-1-025	Purchase of chair	U.E.	3,769/-
189	CB No.214/12-13	1-17-0-Q-1-025	Repair/Maintenance	M/s. Futura Automation	1,947/-
190	CB No.217/12-13	1-17-0-Q-1-025	Repair/Maintenance	Royal Print	1,150/-
191	C.B. No.95/12-13	1-01-0-Q-3-208	Training programme	U.E.	1,298/-
192	CB No.113/12-13	1-01-0-Q-3-208	“ “	U.E.	1,925/-
193	CB No.141/12-13	1-01-0-Q-3-208	“”	“”	1,312/-
194	CB No.181/12-13	1-01-0-Q-3-208	“”	U.E.	1,310/-
195	CB No.191/12-13	1-01-0-Q-3-208	“”	U.E.	2,618/-
196	CB No.52/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	72,035/-
197	CB No.75/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	3,399/-
198	CB No.86/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	14,409/-
199	CB No.87/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	5,619/-
200	CB No.91/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	1,000/-
201	CB No.99/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	122/-
202	CB No.134/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	1,030/-
203	CB No.208/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	11,696/-
204	CB No.213/12-13	2-01-0-Q-4-301	Medical reimbursement	U.E.	2,268/-
205	CB No.31/12-13	2-17-0-Q-5-401	Property tax	U.E.	81,189/-



Sl. No.	CB No.	Head of Account			Amount
206	SR 10 12-13	1-01-0-Q-2-105	Purchase of furniture		72,828/-
207	CB No.36/12-13	2-17-0-Q-1-009	Printing charges	U.E.	10,630/-
208	CB No.116/12-13	2-17-0-Q-1-009	Printing charges	U.E.	2,233/-
209	CB No.172/12-13	2-17-0-Q-1-009	Printing charges	U.E.	890/-
210	CB No.39/12-13	2-17-0-Q-2-140	Stationery articles	U.E.	15,784/-
211	CB No.115/12-13	2-17-0-Q-2-140	Stationery articles	U.E.	9,000/-
212	CB No.151/12-13	2-17-0-Q-2-140	Triveni articles	U.E.	6,975/-
213	CB No.152/12-13	2-17-0-Q-2-140	Triveni articles	U.E.	2,407/-
214	CB No.219/12-13	2-17-0-Q-2-140	Purchase of stationery	U.E.	7,706/-
215	CB No.46/12-13	2-17-0-Q-5-499	Miscellaneous charges	University Eng.	7,146/-
216	CB No.98/12-13	2-17-0-Q-5-499	Miscellaneous charges	University Eng.	9,209/-
217	CB No.129/12-13	2-17-0-Q-5-499	Purchase of UPS	University Eng.	3,200/-
218	CB No.130/12-13	2-17-0-Q-5-499	Purchase of UPS	University Eng.	6,400/-
219	CB No.145/12-13	2-17-0-Q-5-499	Purchase of UPS	University Eng.	9,833/-
220	CB No.148/12-13	2-17-0-Q-5-499	Daily wage pump operation	University Eng.	12,300/-
221	CB No.149/12-13	2-17-0-Q-5-499	Daily wage pump operation	University Eng.	16,800/-
222	CB No.153/12-13	2-17-0-Q-5-499	Purchase of plastic chairs	University Eng.	15,050/-
223	CB No.163/12-13	2-17-0-Q-5-499	Purchase of Laser Jet printer	University Eng.	5,800/-
224	CB No.166/12-13	2-17-0-Q-5-499	Purchase of	University Eng.	1,292/-
225	CB No.173/12-13	2-17-0-Q-5-499	Daily wage pump operation	University Eng.	2,700/-
226	CB No.190/12-13	2-17-0-Q-5-499	Purchase of miscellaneous articles	University Eng.	888/-
227	CB No.212/12-13	2-17-0-Q-5-499	Daily wage pump operation	University Eng.	5,400/-

**Contingencies and other expenses**

Sl. No.	Head of Account	Amount
1	2-17-0-Q-1-007	2,71,23,362/-
2	2-17-0-Q-1-006	26,05,194/-
3	2-17-0-Q-1-001	5,94,680/-
4	2-17-0-Q-1-002	14,057/-
5	2-17-0-Q-5-402	6,884/-
6	2-17-0-Q-2-104	3,56,476/-
7	2-17-0-Q-010	12,04,976/-
8	2-17-0-Q-2-125	94,260/-
9	2-17-0-Q-1-025	5,08,018/-
10	2-17-0-Q-3-208	8,463/-
11	2-17-0-Q-4-301	1,11,578/-
12	2-17-0-Q-5-401	81,189/-
13	2-17-0-Q-2-105	72,828/-
14	2-17-0-Q-2-009	13,753/-
15	2-17-0-Q-2-140	41,872/-
16	2-17-0-Q-5-499	96,018/-
	Total	3,29,33,608/-

Major Works

Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
		1-97-0-T-1-036		
1	CB No. 551/12-13	Urgent modification maintenance work to Electrical workshop for B.Tech students	Dept.	43,932/-
2	CB No. 554/ 12-13	Replacing all damaged wash hand basin in Marine Science campus.	Dept.	29,826/-
3	CB No. 559/12-13	Providing glazed partition door in dept. of Statistics	Dept.	16,708/-
4	CB No. 562/12-13	Providing Collapsible gate in School of Industrial Fisheries	Nazar A. S.	23,675/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
5	CB No. 569/12-13	Modification works in the basement floor of Central Library	Dept.	33,289/-
6	CB No. 570/12-13	Antitermite treatment to the Library of Mathematics dept.	Vinod O. T.	13,527/-
7	CB No. 575/12-13	Modification of synthesis lab and Analysis lab in dept. of Physics.	Sri. Meethen kunju	3,15,796/-
8	CB No. 577/12-13	Providing Aluminium windows for closing the old windows AC opening	Dept.	24,700/-
9	CB No. 588/12-13	Modification works for seat in SMS auditorium	S. S. Suresh kumar	2,51,189/-
10	CB No. 590/12-13	Renovation works to the toilet in G.F., F.F. and S.F. in SMS dept.	S. S. Suresh kumar	5,38,543/-
11	CB No. 594/12-13	Renovation works to the room No.17 in Physics dept.	Sri. P. V. Rajendran	1,44,343/-
12	CB No. 595/12-13	Maintenance of Library building in Marine Science campus	Sri. Suresh Kumar S. S.	2,21,180/-
13	CB No. 596/12-13	Urgent modification and maintenance to the Physics dept.	Sri. Rajendran P.V.	5,40,279/-
14	CB No. 755/12-13	Rewiring of School of Legal Studies	M/s. Saji Electricals	52,551/-
15	CB No. 765/12-13	Painting of inner verandh walls at IF building at Marine Science Campus	Shaji V. K.	6,696/-
16	CB No. 769/12-13	Urgent Modification and Maintenance work to the School of Management studies	Suresh Kumar S. S.	5,88,248/-
17	CB No. 779/12-13	Providing Aluminium glazed shutter for book shelves in the reading room in G.F. and first floor of Central Library	Vinod O. T.	2,93,933/-
18	CB No. 779/12-13	Construction of a toilet using in G.F. of Chemistry dept.	Sri. Meethen Kunju	2,94,601/-
19	CB No. 790/12-13	Urgent modification work to the common room for accommodating one IWC in dept. of Ship Technology	Sri. Polly Mathew	66,812/-
20	CB No. 791/12-13	Architectural fee of CELOS building	K. K. George	1,00,000/-
		Total		35,99,828/-
		1-97-1-T-4-603		
21	CB No. 552/12-13	Providing Anti termite treatment in Science Seminar Complex	Dept.	1,25,800/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
22	CB No. 553/12-13	Floor finishing, roofing, wooden joinery, W.S. and sanitary to S.S. complex	Sri. K. I. Thomas & Co.	3,94,654/-
23	CB No. 556/12-13	Acoustic consulting charges to S.S. complex	M/s. Acoustics and Logistics	97,225/-
24	CB No. 560/12-13	Pay Overseer engaged in S.S. complex	Dept.	8,000/-
25	CB No. 561/12-13	Providing light roofing work with space frame	M/s. Jyothi Mechanical Movement	5,93,037/-
26	CB No. 565/12-13	Pay of Overseer engaged in S.S. complex	Dept.	8,000/-
27	CB No. 567/12-13	Pay of overseer engaged in S.S.	Sri. K. I. Thomas & Co.	4,60,075/-
28	CB No. 574/12-13	Providing light roofing work with space frame	Dept.	8,000/-
29	CB No. 589/12-13	Pay of overseer engaged in S.S. complex	Shajahan P. K.	2,19,871/-
30	CB No. 593/12-13	Floor finishing work of arch steps in auditorium of S.S. complex	Dept.	26,681/-
31	CB No. 752/12-13	Petty painting work in Science Seminar Complex	Dept.	6,000/-
32	CB No. 762/12-13	Floor finishing work , roofing wooden joinery water supply & supply work	K. I. Thomas & Co.	9,41,407/-
33	CB No. 718/12-13	Floor finishing work , roofing wooden joinery water supply & supply work	K. I. Thomas & Co.	3,11,037/-
34	CB No. 780/12-13	Painting work to S.S Complex	Shajahan P. K.	1,33,607/-
35	CB No. 786/12-13	Providing PVC gutter to Science Seminar Complex	Dept.	16,880/-
36	CB No. 788/12-13	Providing Alu work and ceiling work	Cheriyar Varghese	5,60,064/-
37	CB No. 792/12-13	Supply and installation of acoustic and thermal insulation	P. A. Augustine	13,19,202/-
		III – 1-97-0-T-3-503		
38	CB No. 558/12-13	Repair work to Type I (5-8) Quarters	P. K. Sajeeb	2,77,446/-
39	CB No. 564/11-12	Toilet renovation work in B Type Quarters	Rajendran P. V.	4,01,635/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
40	CB No. 571/12-13	Leak proofing work in the Terrance and related repairing work to Type I (1-4) Quarters	Shajahan P. K.	3,50,896/-
41	CB No. 572/12-13	Providing collapsible gate in Type I unit (1-4) and (5-8)	Sri. M. V. Chacko	32,196/-
42	CB No. 583/12-13	Providing separate water meter supply line	Dept.	21,793/-
43	CB No. 766/12-13	Repairs and maintenance work to E type quarters 5-8	Sri. Shaji V. K.	6,76,074/-
44	CB No. 789/12-13	Rectification work done in type I quarters	Dept.	23,459/-
		Total		17,83,499/-
		1-97-0-T-2-406		
45	CB No. 768/12-13	Maintenance of Aiswarya Ladies Hostel	Poly Mathew	12,95,344/-
46	CB No. 772/12-13	Special repairs and Maintenance to Savanna Hostel	M. V. George	17,41,244/-
47	CB No. 12/13-12	Maintenance to Sanathana Boys Hostel	Nazar V. K.	16,74,139/-
48	CB No. 781/11-12	Maintenance to Athulya Ladies hostel George	Sri. M. V.	4,88,801/-
49	CB No. 785/12-13	Rectification and cleaning work to the toilets of Siberia hostel	P. K. Sajeeb	4,02,210/-
		Total		56,01,738/-
		1-97-0-T-4-602		
50	CB No. 568/12-13	Urgent painting works to the structure of Open Air auditorium	Nazar V. K.	1,00,633/-
51	CB No. 592/12-13	Providing curved light roofing to Open air auditorium	M/s. Jyothi Mechanical Movement	9,64,864/-
52	CB No. 751/12-13	Balance work of Open Air Auditorium in Thrikkakara campus	M/s. P. N. P. Construction	6,81,463/-
53	CB No. 756/12-13	Providing Poly carbonate sheet to the monitor portion of Open Air auditorium	Dept.	35,300/-
54	CB No. 758/12-13	Various petty works in Open air auditorium	Dept.	8,963/-
55	CB No.760 & 764/12-13	Expenses towards inauguration	C. A. K. Sound	1,32,171/- + 20,200/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
56	CB No. 767/12-13	Finishing works in Open air auditorium in connection with the inauguration of CUSAT Auditorium	Dept.	3,84,723/-
57	CB No. 787/12-13	Urgent painting work in the PEB structure in Open air auditorium	Nazar V. K.	83,855/-
		1-97-0-T-4-626		
58	CB No. 563/12-13	Light roofing work including chain link fencing for setting up of external gadgets and roof over the adjacent area of vinyl flooring.	Polly Mathew	9,06,459/-
		1-97-0-T-4-620		
59	CB No. 566/12-13	Consulting charges of KITCO for STP	M/s. KITCO	3,99,552/-
60	CB No. 581/12-13	Soil test charges of STP	M/s. Geo Foundation Kerala State	79,006/-
61	CB No. 584/12-13	Fee remitted in KSPCB for STP	M/s. Pollution Control board	51,000/-
62	CB No. 599/12-13	Consulting charge of KITCO.	KITCO	1,34,832/-
		1-97-0-T-4-998		
53	CB No. 573/12-13	Errection of borewells Ananya & Anaswara hostel	Dept.	1,15,404/-
54	CB No. 580/12-13	Errection of borewells in PS & RT	Dept.	1,11,579/-
55	CB No. 586/12-13	Errection of borewells Ananya Maintenance	Dept.	28,469/-
56	CB No. 587/12-13	Providing Kerb wall to the Volley ball Court	Sri. P. K. Sajeeb	94,625/-
57	CB No. 598/12-13	Providing venetian blind window in exam	Dept.	22,773/-
58	CB No. 753/12-13	Vinyl flooring in Ladies Gymnasium	Dept.	14,997/-
59	CB No. 757/12-13	Urgent painting work in DR room in Admn. Block	Dept.	11,924/-
60	CB No. 759/12-13	Fabrication and errection of Conference table in Registrar's Chamber	Dept.	1,32,000/-
61	CB No. 776/12-13	Providing light roofing to CUMS hostel	C. J. Joseph Franklin	10,73,220/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
62	CB No. 782/12-13	Providing roof extension of porch in new block of SLS	Sri. Suresh Kumar	92,594/-
63	CB No. 784/12-13 Company	Providing water tanks in all hostels	M/s. Asiatic Trading	2,21,555/-
		1-92-0-T-4-634		
64	CB No. 576/12-13	Construction of multipurpose sports arena in Thrikkakara campus	Joseph Franklin	13,52,233/-
64	SR 6/12-13	Construction of multipurpose sports arena in Thrikkakara campus	Dept.	17,56,904/-
		1-97-0-T-2-405		
65	CB No. 582/12-13	Drawing fees and permit charges in Municipality	Secretary, Kalamassery Municipality	10,311/-
		1-97-0-T-4-633		
66	CB No. 591/12-13	Providing ramps at all the buildings in Thrikkakara and Marine Science campus	Sri. Thoufique C. K.	13,33,132/-
		1-97-0-T-4-639		
67	SR 7/12-13	ST Radar facility (1 st)	M/s. B.S.N.L.	69,00,000
68	SR.11/12-13	ST Radar facility (1 st) Compound wall building 2 nd	M/s. B.S.N.L.	6,76,689/-
69		ST radar 2 nd		69,00,000/-
		1-97-0-T-1-047		
70	SR 9/12-13	Modernization of Central Library	M/s. B.S.N.L.	1,28,24,000/-
		1-97-0-T-4-629		
71	CB No. 600/12-13	Vertical extension to examination and general store	Sri. M. V. Chacko	15,99,076/-
		1-97-0-T-1-048		
72	SR No.	Building of Atmospheric Science	M/s. B.S.N.L.	11,27,728/-
		1-97-0-T-4-601		
72	CB No. 761/12-13	Construction of over turned Compound wall behind PS & RT dept.	Sri. K. M. Abdul Salam	48654/-
		1-97-0-T-4-636		
73	CB No. 770/12-13	Providing cabin in room 315 & 117 in Ad. Block	Sri. Rajendran P. V.	1,47,337/-



Sl. No.	CB No.	Head of Account & Name of Work	Name of Contractor	Amount
		1-97-0-T-4-628		
74	SR No.	Construction of building for students amenity centre	M/s. C.P.W.D.	1,56,43,964/-
		'1-97-0-T-1-036'		35,99,828/-
		'1-97-0-T-1-047'		12,82,400/-
		'1-97-0-T-1-048'		11,27,728/-
		'1-97-0-T-2-405'		10,311/-
		'1-97-0-T-2-406'		56,01,738/-
		'1-97-0-T-3-503'		17,83,499/-
		'1-97-0-T-4-601'		48,654/-
		'1-97-0-T-4-602'		24,12,172/-
		'1-97-0-T-4-603'		52,29,540/-
		'1-97-0-T-4-620'		6,64,390/-
		'1-97-0-T-4-626'		9,06,459/-
		'1-97-0-T-4-628'		1,56,43,964/-
		'1-97-0-T-4-629'		15,99,076/-
		'1-97-0-T-4-633'		13,33,132/-
		'1-97-0-T-4-634'		31,09,137/-
		'1-97-0-T-4-636'		1,47,337/-
		'1-97-0-T-4-639'		1,44,76,689/-
		'1-97-0-T-4-998'		19,19,140/-

Details of Minor Works executed for the year 2012-2013 - 1-97-0-T-4-999

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1.	CB.No. 301/12-13	Painting inside and dadoing the common entrance portion of Bank building	Sri. Polly Mathew	77,754/-
2.	CB. No. 302/12-13	Cost of erection of submersible pump in the bore well of Ad. office	Tris Marketing	35,783/-
3.	CB. No. 303/12-13	Urgent repairing works in Unit No.9 of Type II Quarters	Deptl.	40,250/-
4.	CB. No.304 & 305/12-13	Urgent repairing works in unit No.9 of Type II Quarters	Deptl.	18,717/-+ 31,175/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
5.	CB. No. 306/12-13	Renovation and maintenance to Savanna Teachers hostel	M/s. Forest Industries Travancore Ltd.	6,49,071/-
6.	CB. No.307, 308 & 314/12-13	Various Electrical materials to Engg. Dept. store	Deptl.	20,792/- 24,513/- 28,633/-
7.	CB. No. 309/12-13	Shifting of existing 110mm PVC water supply line	M/s. Sanitary Equipment Stores.	22,530/-
8.	CB. No. 310/12-13	Engaging casual labour for the disposal of waste from Thrikkakara campus	M/s. Nalanda Kudumbasree	35,000/-
9.	CB. No.311 & 312/12-13	Various Electrical petty works	Deptl.	60,845/-
10.	CB. No. 313/12-13	Providing FRP doors to replace the damaged Toilet doors to Bachelors hostel	Deptl.	15,472/-
11.	CB. No. 315/12-13	Setting up of Gadgets in the day care centre	Deptl.	46,458/-
12.	CB. No.316, 318 & 319/12-13	Purchase of Electrical materials and civil petty works	Deptl.	6750/- 36,876/- 26,712/-
13.	CB. No. 321/12-13	Demolishing old damaged weathering course over roof of C type quarters.	Deptl.	78,355/-
14.	CB. No. 326/12-13	Renovation works in SMS auditorium	Deptl.	10,315/-
15.	CB. No. 331/12-13	Disposal of waste in April 2012	M/s. Nalanda Kudumba sree	21,600/-
16.	CB. No. 334/12-13	Purchase of Electrical item	Deptl.	21,215/-
17.	CB. No.335, 336, 337 & 338/12-13	Purchase of various Electrical works and petty civil maintenance work.	Deptl.	31,882/- 32,371/- 33,454/- 40,756/-
18.	CB. No. 341/12-13	Maintenance of I joint of the 11 KV switching yard substation No.I	M/s. Delta Power Services	17,991/-
19.	CB. No. 342/12-13	Laying 40mm PVC pipes various overhead tank	M/s. Periyar Trading Company	14,030/-
20.		C.B. No.343/12-13 Electrical, civil, plumbing works in CUSAT campus	Various petty work – Deptl.	4,80,359/-
21.	CB. No. 344/12-13	Providing fencing around the existing volley ball court	Sri. Rajendran P. V.	2,55,073/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
22.	CB. No.345, 348/12-13	Waste disposal in CUSAT campus in June 2012	M/s. Nalanda Kudumbasree	35,000/- 8,400/-
23.	CB. No.347, 351, 354, 355 & 356/12-13	Purchase of materials for various works, cleaning light jungles, waste disposal	Deptl.	1,01,323/- 11,007/- 24,414/- 24,229/- 15,954/-
24.	CB. No. 357/12-13	Painting works of fish tank in IF M.S. campus	V. K. Nazar	50,469/-
25.	CB. No. 359/12-13	Providing Cupboard shutters in various lab of M.S. campus	S. K. Abdul Salam	1,23,634/-
26.	CB. No. 360/12-13	A/c. various Airconditioners	M/s. Orange	16,705/-
27.	CB. No.361, 362, 363, 364 /12-13	Various petty works executed civil & electrical	Dept.	6,981/- 13,313/- 13,352/- 14,634/-
28.	CB. No. 365/12-13	Colour painting work in crech	Deptl.	20,998/-
29.	CB. No. 366/12-13	Repair wooden cots	Deptl.	48,672/-
30.	CB No. 367/12-13	Renovation room for Asst. Director, Physical Education	Departmental	23,669/-
31.	CB No. 368/12-13	Installation of pump set for dept. of Computer Application	HOD, Computer Application	75,046/-
32.	CB No. 369 /12-13	Providing lining concrete & related works to septic tank in the west side of Ad. Building.	Sri. K. M. Abdul Salam	1,02,536/-
33.	CB No.370 & 375/12-13	Waste disposal and clearing light jungle in Thrikkakara campus	Deptl.	10,800/- 20,780/-
34.	CB No. 374/12-13	Work Disposal at Thrikkakara campus Electricals	M/s. Manikya	25,789/-
35.	CB No.381 & 382/12-13	Commissioning of bore well in the premises of Ladies hostel and purchase of materials.	M/s. Periyar Trading Co.	39,035/- 6,946/-
36.	CB No.385 & 386/12-13	Purchase of various plumbing and Electrical work to Engg. Dept. store	Dept.	28,671/- 8,682/-
37.	CB No. 387/-13	Repairing of 1 HP pumpset of dept. of Chemistry	Deptl.	1,500/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
38.	CB No. 388/2-13	Repair in the various toilet in Guest House	Deptl.	1,944/-
39.	CB No.389 & 390/12-13	Purchase of Plumbing materials to Engg. Dept.	Deptl.	14,412/-
40.	CB No. 394/12-13	Clearing of light jungle in the premises of Savanna & Sanathana hostel	Deptl.	8,805/-
41.	CB No. 395/12-13	Waste disposal at Thrikkakara campus	Deptl.	9,000/-
42.	CB No. 396/12-13	Repairing to mess furniture in Siberia hostel	Deptl	22,036/-
43.	CB No. 397/12-13	Light roofing work over second floor of Aiswarya ladies hostel	Sri. Poly Mathew	8,94,100/-
44.	CB No. 399/12-13	Purchase of panel board set with all attachment in PS & RT.	M/s. Periyar Trading Company	6,807/-
45.	CB No. 400/12-13	Providing UPS plug point exam section in 2 nd floor of Admn.	Ajayakumar K. S.	21,130/-
46.	CB No. 402/12-13	Work disposal in the Thrikkakara campus	Deptl.	9,900/-
47.	CB No. 407/12-13	Various petty civil works done in various depts..	Deptl.	29,855/-
48.	CB No. 409/12-13	Providing UPS power supply in Admn. Office	M/s. Shine star delta power	34,666/-
49.	CB No. 410/12-13	Various civil petty works in CUSAT campus	Dept.	39,381/-
50.	CB No. 411/12-13	Providing Aluminium partition in Micro processors lab in 3 rd floor Science block	Sri. O. T. Vinod	38,217/-
51.	CB No. 412/12-13	Supply of submersible pump in Siberia Hostel	Deptl.	14,979/-
52.	CB No. 413/12-13	Providing Airocon panel in the 2 nd floor of Admn. Office	Deptl	1,18,568/-
53.	CB No. 415/12-13	Setting up of ICT lab in the 1 st floor of Industrial Fisheries dept. in Marine Science Campus.	Sri. Vinod O. T.	62,687/-
54.	CB No. 416/12-13	Electrical connection to the new site of Science park (CSiS)	Sri. Biju T. Baby	1,55,284/-
55.	CB No. 417/12-13	Maintenance of 11 KV 315 KVA Indoor substation at Lakeside campus.	M/s. Delta Power Service	62,083/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
56.	CB No. 418/12-13	Asianet cable connection subscription for the year 2012-13	M/s. Asianet cable serice	12,432/-
57.	CB No. 419/12-13	Waste disposal of Marine Science campus	Deptl work	39,590/-
58.	CB No. 420/12-13	Various petty works – painting, cleaning light jungle etc.	Deptl.	21,164/-
59.	CB No. 421/12-13	Providing input electric connection to the newly purchased 20 KVA UPS for its battery charging in Central Library.	M/s. Elco Electricals	25,686/-
60.	CB No. 422/12-13	Various petty civil works in CUSAT campus	Deptl.	20,654/-
61.	CB No. 424/12-13	Various petty civil works in CUSAT campus	Dept.	51,776/-
62.	CB No. 425/12-13	Replacing damaged tile in SBT Thrikkakara	Dept.	14,002/-
63.	CB No. 427/12-13	Repair and maintenance work in room No.44	Deptl.	39,910/-
64.	CB No. 428/12-13	Replacing work of damaged ventilator, rent for JCB dept.	Dept.	42,303/-
65.	CB No. 429/12-13	Inaugural expense for Krishna Iyer chair	Deptl.	24,336/-
66.	CB No. 430/11-12	Various civil petty works done in cusat	Dept.	37,729/-
67.	CB No. 431/12-13	Providing collapsible gate in 2 nd floor of Exam	Sri. Shajan Joseph	65,501/-
68.	CB No. 432/12-13	Inauguration Krishna Iyer chair	Deptl.	32,237/-
69.	CB No. 433/12-13	Maintenance to the CUMS hostel at Lakeside campus	Sri. Shaji V. K.	7,88,998/-
70.	CB No. 435/12-13	Clearing light jungle and disposal of waste	Deptl.	21,485/-
71.	CB No. 436/12-13	Painting works in room No. 5, 6 & 12 in Ad. Block	Deptl.	40,114/-
72.	CB No. 438/12-13	Various maintenance works done in various depts..	Deptl.	21,186/-
73.	CB No.441 & 442/12-13	Installation of 2 HP mono block pumpset in the main pump house for the dept. of PS & RT.	M/s. Periyar Trading Company	38,959/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
74.	CB No. 443/12-13	Purchase of various Electrical item	Deptl.	14,960/-
75.	CB No.445 & 446/12-13	Petty works done in various depts..	Deptl.	52,745/-
76.	CB No. 449/12-13	Rectification works done in the post matric boys hostel in connection with the visit of MPs	Deptl.	1,33,500/-
77.	CB No. 450/12-13	Modification of Finance Officer's room in Ad. Office	Sri. A. S. Abdul Salam	2,20,126/-
78.	CB No. 451/12-13	Standardising of Main Electrical installation. Providing Electric connection directly from U.G. cable.	M/s. Delstar	2,14,381/-
79.	CB No. 452/12-13	Providing lining concrete and related work to septic tank in the west side of Ad. Building.	Sri. A. S. Abdul Salam	60,132/-
80.	CB No. 453/12-13	Laying rain water harvesting pipes from the roof top of SES block No.II in CSiS	Poly Mathew	1,06,726/-
81.	CB No. 454/12-13	Various petty works done in various depts.	Dept.	25,292/-
82.	CB No. 455/12-13	Purchase of various Electrical materials	Dept.	80,701/-
83.	CB No. 456/12-13	Purchase of Electrical item for the use of F.O.'s office	M/s. Gem Lights	36,495/-
84.	CB No. 458/12-13	Electrical work for safe guarding OH line from EHT Power lines	Sri. Biju T. Baby	3,39,364/-
85.	CB No.459 & 460/12-13	Various work done in Various depts.	Deptl.	31,562/-
86.	CB No. 461/12-13	Purchase of plumbing materials	Deptl.	11,640/-
87.	CB No. 462/12-13	Waste disposal for the month	Smt. Vanaja Kesavan	2,04,000/-
88.	CB No. 465/12-13	Various civil works done in various depts.	Deptl.	18,892/-
89.	SR /13/ 12-13	Antitermite treatment in the exam store of Ad. block	Dept	15,000/-
90.	CB No. 467/12-13	Urgent renovation works to Registrar's office	Sri. K. M. Abdul Salam	2,28,103/-
91.	CB No. 468/12-13	Repair & providing tube light fitting ceiling fan in Electronics dept. building	M/s. Elco Electricals	19,459/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
92.	CB No. 469/12-13	Various petty works done in various depts.	Deptl.	43,979/-
93.	CB No. 471/12-13	Providing tile flooring in Registrar's room	Dept.	1,59,559/-
94.	CB No. 472/12-13	Electrification of newly constructed lab in dept. of instrumentation	M/s. Elco Electricals	34,760/-
95.	CB No.473, 475, 477, 479, 480 and 482/12-13	Purchase of various Electrical and civil plumbing item	Dept	1,52,154/-
96	CB No. 481/12-13	Modification to room No.9 for shifting lab to the room in SES I	Polly Mathew	1,52,154/-
97	CB No. 483/12-13	Providing tile flooring to Registrar's and Finance section officers room	Sri. K. M. Abdul Salam	1,74,074/-
98	CB No. 485/12-13	Electrification to renovated Registrar's and Personal staff office	M/s. Poweron Engineering	2,02,901/-
99	CB No.488, 489/12-13	Various petty works in various depts..	Deptl.	36,066/-+ 19,668/-
100.	CB No. 491/12-13	Renovation of fire fighting system installed in Multistoried building.	M/s. Delta Power service	8443/-
101.				
102.	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	15768/-
103.	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	15231/-
104.	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	17071/-
105.	CB No. 462/12-13	Engaging casual labours for the waste disposal in Thrikkakara campus	M/s. Nalanda DWCA unit	35000/-
106.	CB No. 462/12-13	Tube well cleaning and cleaning of bore well and approach path	M/s. Bageeratha bore wells	12725/-
107.	CB No. 462/12-13	Purchase of 1no. of capacity box Marketing	M/s .TRIS	3641/-
108.	CB No. 462/12-13	Purchase of various plumbing and water supply materials to store	Dept.	19310/-
109.	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	19486/-
110.	CB No. 462/12-13	Purchase of various water supply & plumbing materials to Engg dept store	Dept.	76128/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
111	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	17047/-
112	CB No. 462/12-13	Various civil petty works done in cusat	Dept.	24958/-
113	CB No. 462/11-12	Various civil petty works done in cusat	Dept.	15643/-
114	CB No. 462/11-12	Various electrical petty works done in cusat	Dept.	18003/-
115	CB No. 462/11-12	Various civil petty works done in cusat	Dept.	17700/-
116	CB No. 462/11-12	Various civil petty works done in cusat	Dept.	42070/-
117	CB No. 462/11-12	Opto Electronics devices lab-dept of Physics-Electrification	Biju T. Baby	115612/-
118	CB No. 386/11-12	Repairing and servicing of air conditioners	M/s. Cool Care	8000/-
119	CB No. 389/11-12	Providing 3 ½ x300 sq mm UG cable from substation No. II to the SES block No. III	Biju T. Baby	404232/-
120	CB No. 390/11-12	Various civil petty works done in cusat	Dept	17371/-
121	CB No. 391/11-12	Various civil petty works done in cusat	Dept.	17554/-
122	CB No.392, 493, 494 & 495/11-12	Purchase of fitting and various petty works in depts., hostels etc.	Deptl.	44,306/-
123	CB No. 496/11-12	Purchase of light in hostel and premises and sports ground at Lakeside campus.	M/s. Gem Lights	19,600/-

Minor Works CUCEK Pulicunnu - 2-94-2-T-4-999

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1	CB No. 501/12-13	Various petty works done in CUCEK campus	Deptl.	21,071/-
2	CB No. 502/12-13	Replacing damaged PVC roofing sheet in library building	Deptl.	2,58,602/-
3	CB No. 503/12-13	Modification of class room MCA to seminar hall in	Sri. V. Pradeep	73,589/-
4	CB No. 504/12-13	Electrical installation of Ad. Block of CUCEK	Sri. Fancis Titus	15,000/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
5	CB No. 505/12-13	False ceiling work in Library building	Dept.	1,98,406/-
6	CB No. 506/12-13	Rent of JCB	Dept.	11,800/-
7	CB No. 507/12-13	Providing power located Aluminium sheet in drawing hall	Deptl.	3,49,555/-
8	CB No. 508/12-13	Raising the floor and ceiling of existing library building	T. G. Manoj Kumar	3,45,477/-
9	CB No. 509/12-13	Providing new false ceiling	Dept.	1,86,242/-
10	CB No. 510/12-13	Maintenance of dining hall	Dept.	18,113/-
11	CB No. 512/12-13	Urgent repairing works damaged windows in old building	Dept.	41,400/-
12	CB No. 513/12-13	Repairing damaged window old building	Deptl.	3,59,886/-
13	CB No. 514/12-13	Plumbing work in each floor of Multistoreyed building in CUCEK.	Sri. V. Pradeep	1,15,490/-
14	CB No. 522/12-13	Providing false ceiling and painting work to old Electronic lab	Deptl.	3,85,897/-
15	CB No. 516/12-13	Renovation and extension of existing canteen building		7,52,312/-
16	CB No. 519/12-13	Renovation and extension of existing canteen building		82,675/-
		2-94-2-T-4-900		
17	CB No. 520/12-13	Payment to Sri. Joseph Thomas for the Judgement in OS No.1488/06		62,599/-
		2-94-2-T-1-350		
18	CB No. 521/12-13	Electrification for UPS computer lab in 4 th floor		77,113/-
		'2-94-2-T-4-999'		23,80,528/-
		'2-94-2-T-4-903'		8,34,987/-
		'2-94-2-T-4-900'		62,599/-
		'2-94-2-T-1-350'		77,113/-



SOE Campus

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1	CB No. 601/12-13	Providing chain link fencing for the play ground - SOE campus.	Sri. Shiju K. Pau	4,97,026/-
2	CB No. 602/12-13	Various civil petty works done in SOE	Dept.	22,483/-
3	CB No. 607/12-13	Installation of battery guard in new lab block	Dept.	24,821/-
4	CB No. 608/12-13	Various petty works in SOE campus	Sri. Shaji V. K.	14,,460/-
5	CB No. 611/12-13	Finishing works in lecture hall Block No. I & II	Rajendran P. V.	5,93,583/-
6	CB No. 612/12-13	Renovation work to the CAD/CAM laboratory	Dept.	2,73,723/-
7	CB No. 613/12-13	Clearing the light jungle and over growth in SOE campus	Dept.	17,105/-
8	CB No. 614/12-13	Various petty civil works in SOE campus	Dept.	10,296/-
9	CB No. 616/12-13	Cutting over growth of grass and bushes from the premises of B.Tech Hostel	M/s. Periyar Trading Co.	6,915/-
10	CB No. 617/12-13	Digging 6.5" dia bore well near gents toilets	M/s. P. S. Electric and Engg. Dept.	84,415/-
11	CB No. 618/12-13	Providing foundation for machines in SOE	Shiji V. K.	14,239/-
12	CB No. 619/12-13	Various civil works executed in SOE campus.	Dept.	2,400/-
13	CB No. 620/12-13	Commissioning of borewell in SOE campus.	Deptl.	28,143/-
14	CB No. 626/12-13	Redirecting the existing U.G. cable from new canteen	M/s. Delta Power	16,868/-
15	CB No. 628/12-13	Clearing light jungle in various areas in SOE	Dept.	9,957/-
16	CB No. 629/12-13	Painting of Principal's room	Dept.	6,830/-
17	CB No. 632/12-13	Sealing the expansion joint in Industrial Fisheries in Environmental lab	Dept.	20,750/-
18	CB No.633 & 634/12-13	Covering roof of SOE canteen and clearing light jungle	Dept.	3500/-+ 16,398/-



Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
19	CB No.636, 637, 638 & 639/12-13	Various petty works executed in SOE campus and repairing of partition wall in the Seminar hall of new lab block.	Dept.	10,299/- 12,185/- 17,500/- 11,750/-
20	CB No. 640/12-13	Providing cross drain in the northern yard of Software Dept. , Engg. Block	Dept.	6,352/-
21	CB No. 642/12-13	Construction of steps from the yard of fire Engg. lab	Dept.	4,500/-
22	CB No. 645/12-13	Providing masonry hand rail to the stair case of SES Block No.I	Sri. P. K. Meethen Kunju	45,185/-
23	CB No. 649/12-13	Providing partition at the Principal's chamber at SOE and false ceiling work	Sri. Rajendran P. V.	1,17,718/-
24	CB No. 650/12-13	Construction of soak pit for B.Tech Men's hostel	Dept.	31,720/-
25	CB No. 652/12-13	Providing rain water harvesting tank for hydraulics lab in SOE Other petty purchase and works	Dept.	70,794/- 18,174/-
		Total		20,10,359/-
		K.M.S.M.E. – '2-94-4-T-2-406'		
26	CB No. 604/12-13	Permit fee remitted in Municipality	Secretary, Kalamassery Municipality	12,110/-
27	SR 8/12-13	Additional floor for Cadets hostel 2 nd instalment	C.P.W.D.	90,53,833/-
		2-94-4-T-4-999	Dept.	
28	CB No. 603/12-13	Various Civil & Electrical work in K.M.S.M.E. dept.	Dept.	2,000/-
29	CB No. 621/12-13	Various Civil & Electrical work in K.M.S.M.E.	dept.	9,000/-
30	SR No. 15/12-13	Deepening the existing open well in K.M.S.M.E. compound	Dept.	1,00,000/-
31	CB No. 627/12-13	Clearing light jungle in K.M.S.M.E. campus	Dept.	6,681/-
32	CB No. 630/12-13	Digging bore well in K.M.S.M.E.	Dept.	1,16,455/-



SOE Campus

Sl. No.	CB No.	Head of Account	Name of Work	Name of Contractor	Amount
1	CB No. 605/12-13	2-94-1-T-4-615	Permit fee for construction of SOE campus	Secretary, Kalamassery Municipality	4,032/-
2	CB No. 606/12-13	2-94-1-T-4-630	Permit fee for construction of OH tank	Secretary, Kalamassery Municipality	163/-
3	CB No. 609/12-13	2-94-1-T-4-476	Construction of B.Tech hostel	Deptl.	90,340/-
4	CB No. 610/12-13	2-94-1-T-4-606	Construction of retaining structure and drainage facility	Shajahan P. K.	6,89,116/-
5	CB No. 631/12-13	2-94-1-T-4-606	Construction of retaining structure and drainage facility	Shajahan P. K.	2,31,685/-
6	CB No. 635/12-13	2-94-1-T-4-387	False ceiling in Seminar hall 2 nd floor – Fire Engg. Lab	P. K. Sajeeb	93,168/-
7	SR 12/12/13	2-94-1-T-4-615	Construction of new canteen building 2 nd Instalment, C.P.W.D.	C.P.W.D.	30,19,800/-
8	CB No. 641/12-13	2-94-1-T-4-387	Providing Aluminium glazed louver at sides of truss and monitor roof of Fire & Safety lab.	Vinod O. T.	2,51,172/-
10	CB No. 643/12-13	2-94-1-T-4-387	Construction of Fire and Safety Lab	P.A. Augustine	21,18,944/-
11	CB No. 644/12-13	2-94-1-T-4-387	Construction of Fire and Safety Lab	P.A. Augustine	1,99,517/-
12	SR14/12-13	2-94-1-T-4-630	Construction of overhead tank and under Ground sump for SOE campus	C.P.W.D.	18,18,333/-
13	CB No. 647/12-13	2-94-1-T-4-387	Petty work done in Fire & Safety lab	Deptl.	3,000/-
14	CB No. 648/12-13	2-94-1-T-4-387	Providing Alu composit paneling in north & south side of Fire & Safety Engg. lab	O. T. Vinod	2,05,362/-
15	CB No. 651/12-13	2-94-1-T-4-387	Construction of Fire & Safety Engg. Lab	P.A. Augustine	1,91,364/-
16	SR No. 27/12-13	2-94-1-T-4-615	Construction of new canteen building	C.P.W.D.	30,19,800/-
		2-94-1-T-4-615			60,43,632/-
		2-94-1-T-4-630			18,18,496/-
		2-94-1-T-4-476			90,340/-
		2-94-1-T-4-606			9,20,801/-



Sl. No.	CB No.	Head of Account	Name of Work	Name of Contractor	Amount
		2-94-1-T-4-387			30,62,527/-
		2-94-1-T-4-999			20,10,359/-
		2-94-4-T-4-999			2,34,136/-
		2-94-4-T-2-406			20,10,359/-

CUSAT Upgradation - 1-19-2-T-1-383

Sl. No.	CB No.	Name of Work	Name of Contractor	Amount
1.	CB No.701/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	1,73,130/-
2.	CB No.703/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	52,64,159/-
3.	CB No.704/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	18,31,684/-
4.	CB No.712/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	21,88,295/-
5.	CB No.715/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	10,00,000/-
6.	CB No.721/12-13	1/3 rd portion of Software Engg. Block	M/s. P. N. P. Constructions	33,63,605/-
7.	CB No.702/12-13	2/3 rd portion of Software Engg. Block	Sri. Noble Mathew	32,17,355/-
8.	CB No.705/12-13	2/3 rd portion of Software Engg. Block	Sri. Noble Mathew	6,31,513/-
9.	CB No.713/12-13	2/3 rd portion of Software Engg. Block	Sri. Noble Mathew	63,03,336/-
10.	CB No.716/12-13	2/3 rd portion of Software Engg. Block	Sri. Noble Mathew	47,41,490/-
11.	CB No.719/12-13	2/3 rd portion of Software Engg. Block	Sri. Noble Mathew	15,67,922/-
12.	CB No.710/12-13	Painting work of 2/3 rd portion of Software Engg. block	Sri. Shaji V. K.	5,49,530/-
13.	CB No.717/12-13	Painting work of 2/3 rd portion of Software Engg. block	Sri. Shaji V. K.	3,23,085/-
14.	CB No.714/12-13	Water supply and sanitary work for the 2/3 rd portion of Software Engg. block		15,11,983/-
15.	CB No.718/12-13	Fixing name board and hand rail in the auditorium of Software Engg. block		42,639/-
16.	CB No.720/12-13	Electrification to Software Engg. Block	M/s. Delstar	23,21,207/-
		Total - 1-19-2-T-1-383		2,93,57,933/-





LIST OF RECOGNISED INSTITUTIONS

Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
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)	30 40 60 60		190
2	ER & DCI Institute of Technology, PB No. 6520 Vellayambalam, Trivandrum-695033	1. MCA 2. M.Tech.(VLSI Design & Embedded System)	60 18	0	78
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)	60 60 60 60 60 18 18	300	36
4	College of Engineering, Government ITI Campus, Attingal, Thiruvananthapuram-695101	1. B.Tech. (Computer Science & Engineering) 2. B.Tech. (Electronics & Communication Engineering)	60 60	120	
5	CONSPI Academy of Management Studies, Plankalamukku, Industrial Estate PO, Thiruvananthapuram-695109	1. MBA	60	0	60
6	M G 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)	60 60 60 60	240	



Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
7	College of Engineering, Kottarakkara, Kollam-691531	1. B.Tech. (Computer Science & Engineering.)	90		
		2. B. Tech(Electronics & Communication Engineering)	90	180	
8	College of Engineering, Perinad PO, Perumon, Kollam - 691501	1. B.Tech (Computer Science & Engineering)	60		
		2. B.Tech (Electronics & Communication Engineering)	120		
		3. B.Tech (Information Technology)	60		
		4. B.Tech (Mechanical Engineering)	60		
		5. B.Tech (Electrical & Electronics Engineering)	60		
		6. M. Tech (Computer & Information Science)	18		
			360	18	
9	College .of Engineering, Karunagapally, Kollam-690518	1. B.Tech (Computer Science & Engineering)	60		
		2. B. Tech (Information Technology)	45		
		3. B. Tech (Electronics & Communication Engineering)	60		
		4. M Tech in Computer Science with specialisation in Signal Processing	24		
		4. M Tech in Computer Science with specialisation in Image Processing	24		
			105	48	
10	T K M Institute of Technology, Musaliar Hills, Karuvelil, Ezhukone, Kollam	1. B. Tech (Computer Science & Engineering)	60		
		2. B. Tech (Electronics & Communication Engineering)	120		
		3. B. Tech (Biomedical Engineering)	60		
		4. B. Tech (Food Technology)	60		
		5. B. Tech (Mechanical Engineering)	60		
		6. B. Tech (Electrical & Electronics Engineering)	60		
		7. M. Tech (Computer & Information Science)	18		
		8. M. Tech (Software Engineering)	18		
		9. M. Tech Electronics (Signal Processing))	18		
		10.M. Tech Electronics (Optoelectronics & Communication)	18		
			300	72	



Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
11	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)	60 60 60 60	240	
12	College of Engineering, Adoor, Pathanamthitta-691523	1. B.Tech (Electronics & Communication Engineering) 2. B. Tech (Computer Science & Engineering) 3. B.Tech (Mechanical Engineering) 4. M Tech (Mechanical Engineering with specialisation in Thermal Engineering)	120 60 120 18	360	18
13	College of Engineering, Kolloppara, Pathanamthitta - 689603	1. B.Tech (Electronics & Communication Engineering) 2. B.Tech (Computer Science & Engineering) 3. B.Tech (Information Technology)	60 60 60	180	
14	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)	60 60 45 60 60 60	345	
15	College of Engineering, Poonjar Thekkekara PO, Poonjar, Kottayam - 686583	1. B. Tech (Computer Science & Engineering) 2. B. Tech (Electronics & Communication Engineering) 3. B. Tech (Information Technology)	60 60 60	180	
16	College of Engineering, Chengannur, Alappuzha - 689 121	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B. Tech (Electrical & Electronics Engineering) 4. B. Tech (Electronics & Instrumentation Engineering)	120 120 120 60		



Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
		5. M Tech (VLSI & Embedded System) 6. M Tech in Computer Science with specialisation in Image Processing	24 24	420	48
17	College of Engineering, Pallipuram, Cherthala, Alappuzha - 688541	1. B. Tech (Computer Science. & Engineering) 2. B. Tech (Electronics & communication Engineering.) 3. B. Tech (Electrical & Electronics Engineering) 4. M. Tech (Computer Sciece with specialisation in Computer & Information Science)	90 120 60 24	270	24
18	K V M College of Engineering and Information Technology, Kokkothamangalam, PB No.30, Cherthala, Alappuzha-688583	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)	120 30 60 60 60 60 60 60	300	210
19	College of Engineering, Munnar, PB No.45, County Hills,Munnar, Idukki-685612	1. B.Tech (Computer Science & Engineering) 2. B.Tech (Electronics & Communication Engineering) 3. B.Tech (Electrical & Electronics Engineering.)	60 60 60	180	
20	Model Engineering College, BMC PO, Thrikkakara, Ernakulam - 21	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)	120 120 60 60 60 60		



Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
		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))	24 18 18 24 18	480	102
21	The Co-operative Medical College, HMT Colony PO, Kalamassery, Ernakulam-683503	1. MBBS	100	0	100
22	CMC Nursing College, Campus of the Co-operative Medical College, Kalamassery, Ernakulam	1. B. Sc. (Nursing)	60	60	
23	Toch Institute of Science and Technology, Arakunnam, Ernakulam - 682313	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) 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. MBA	60 120 60 60 60 60 60 18 18 18 60	480	114
24	Central Institute of Fisheries, Nautical & Engineering Training, Fine Arts Avenue, Kochi - 682016	1. Bachelor of Fishing Science (Nautical Science)	20	20	
25	Bhavan's Royal Institute of Management, Off Hill Palace, Thripunithura, Ernakulam	1. MBA	60		60



Sl. No.	Name of the Institutions	Courses Offered	Sanctioned Intake 2012-13	Total	
				UG	PG
26	College of Engineering, Vadakara, Mandarathur PO, Vadakara, Kozhikode-673105	1. B.Tech.(Computer Science & Engineering)	60		
		2. B. Tech. (Electronics & Communication Engineering)	60		
		3. B. Tech. (Information Technology)	60		
		4. B. Tech. (Electronics & Instrumentation Engineering)	60		
		5. B. Tech. (Civil Engineering)	60		
		6. B. Tech. (Electrical & Electroncis Engineering)	60		
		7. MCA	60	360	60
27	College of Engineering, Eranholi, Thalassery, Kannur - 670107	1. B.Tech.(Computer Science & Engineering)	60		
		2. B. Tech(Electronics & Communication Engineering)	120		
		3. B. Tech(Information Technology)	60		
		4 B. Tech(Electrical & Electronics Engineeing)	60		
		5 B. Tech(Mechanical Engineering)	60	360	
28	College of Engineering, Thrikkaripur, Cheemeni, Kasargod - 671313	1. B.Tech (Computer Science & Engineering)	60		
		2. B.Tech (Electronics & Communication Engineering)	60		
		3. B.Tech (Information Technology)	30		
		4. B. Tech(Electrical & Electronics Engineering)	60		
		5. B.Tech (Civil Engineering)	60	270	
			7468		





ACADEMIC PROGRAMMES

Programme Name	Eligibility Criteria for Admission	Duration	Nature of Programme	Professional/ Non-Professional	Intake
Cochin University College of Engineering, Kuttanad Ph:0477-2707500		Faculty of Engineering			
B. Tech. Computer Sci. & Engg.	Pass in the Plus Two Examination of the State of Kerala with Mathematics, Physics and Chemistry as optional subjects or any other examination accepted as equivalent thereto securing a minimum of 50% marks in Mathematics and 50% marks in Mathematics, Physics and Chemistry put together.	8 Sem.	Full-Time (Self-financing)	Prof.	60
B. Tech. Electrical and Electronics Engg.					60
B. Tech. Electronics & Comm. Engg.					60
B. Tech. Information Tech					60
B. Tech. Mechanical Engg.					60
B. Tech. Civil Engg.					60
School of Engineering, Trikkakara Ph:0484-2556187		Faculty of Engineering			
B. Tech. Computer Sci. & Engg.	State of Kerala with Mathematics, Physics and Chemistry as optional subjects or any other examination accepted as equivalent thereto securing a minimum of 50% marks in Mathematics and 50% marks in Mathematics, Physics and Chemistry put together.	8 Sem.	Full-Time (Self-financing)	Prof.	60
B. Tech. Electrical & Electronics Engg.					60



B. Tech. Electronics & Communication Engg.					90
B. Tech. Information Tech.					90
B. Tech. Mechanical Engg					90
B. Tech. Safety & Fire Engg.					30

Kunjali Marakkar School of Marine Engineering
Ph:0484-2576606

Faculty of Engineering

B.Tech. Marine Engineering (Residential Programme)	<p>Pass in the Plus Two Examination of the State of Kerala or any other examinations accepted as equivalent thereto with Mathematics, Physics, Chemistry and English as separate subjects with a PCM average of not less than 60% marks and minimum 50% for Mathematics. Should have passed English at 10th or 12th Standards with 50% marks. (applicable to SC/ST candidates also)</p> <p>Vocational/Diploma students are not eligible to apply.</p> <p>Maximum age limit prescribed is 25 years as on 1st September of the year of admission. Eligibility for admission is based on the directions from the DG shipping.</p>	8 Sem.	Full-Time (Self-financing)	Prof.	40
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School of Engineering, Trikkakara Ph:0484-2556187		Faculty of Engineering			
M. Tech Civil Engineering	a) Should have passed B.Tech/ B.Sc Engg. Degree Examination in the respective branch with a minimum of 50% marks.	6 Sem.	Part-Time* (Cost-sharing)	Prof.	15
M. Tech Chemical Engineering	b) Candidates who have passed sections A and B examinations in respective/ allied branches conducted by Institution of Engineer's (India), Institution of Electronics and Telecommunication Engineers and Indian Institute of Chemical Engineers are also eligible for admission if they have an Engineering Diploma or a basic degree in Science.	6 Sem.	Part-Time* (Cost-sharing)	Prof.	15
M.Tech Electrical Engineering with specialization in Power Electronics	c) Should have a minimum of 2 years experience in the concerned field after acquiring qualifying degree. This may be relaxed if sufficient number of candidates with the minimum prescribed experience is not available.	6 Sem.	Part-Time* (Cost-sharing)	Prof.	13
M. Tech Mechanical Engineering	d) Open seats will be allotted on the basis of the score in Departmental Admission Test, marks obtained in the qualifying examination and experience.	6 Sem.	Part-Time* (Cost-sharing)	Prof.	15
Ph.D		*No Admission in 2013			



School of Environmental Studies Faculty of Environmental Studies
Ph:0484-2577311

M. Sc. Environmental Tech.

Stream 1. Env. Engg.	Graduate in Chemistry with Physics and Mathematics as subsidiaries or graduate in Engg. (Civil/Public Health / Environmental or Chemical) with 55% marks.	4 Sem.	Regular Day	Prof.	6
Stream 2. Env. Biotech	Graduate in Life Sciences/ Environmental Sciences/ Zoology/ Botany/ Microbiology with 55% marks.	4 Sem.	Regular Day	Prof.	6
M.Tech Marine Biotechnology (offered at National Centre for Aquatic Animal Health) (sponsored by Department of Bio-Technology, Government of India)	B.Tech/BE in chemical Engg., Bio-Chemical Engg., Industrial Biotechnology, Leather Biotechnology, Chemistry/ Biotechnology, Biomedical Engg., B.Pharma, Chemical Technology. or MSc. in Biotechnology, Marine Biotechnology, Life Sciences, Botany/Zoology/Biochemistry, Micro biology/Genetics, Biophysics, Microbial Genetics and Bioinformatics, Marine Biology/Aquatic Biology and Fisheries/Environmental Biotechnology/Mari culture with 60% marks or equivalent CGPA from any recognized Indian or foreign University(The selected candidates will be receiving a monthly stipend of Rs.8000/-)	4 Sem.	Regular Day	Prof.	8

For admission to M.Tech in Marine Bio-Technology, GATE score is not considered. Selection of candidates is done by Jawaharlal Nehru University (JNU) on behalf of Department of Bio-Technology, Government of India through a National Test along with all such examinations conducted by the JNU. For details visit JNU website: www.jnu.ac.in. For details on (NCAAH) please visit www.ncaah.org

Ph.D



Department of Culture and Heritage Ph:0484-2575180		Faculty of Humanities			
Certificate programmes in French / German / Japanese/ Russian	Pass in Plus Two or equivalent or ITI certificate. Previous knowledge of the language is not essential.	1 year	Part-Time	Non-Prof.	25
P.G. Diploma in Communicative English	Bachelor's degree in any discipline or any other examination recognized as equivalent there to with English as one of the subjects of study from a University	1 year	Part-Time	Non-Prof.	25
Diploma Programmes in French / German / Japanese/ Russian	Pass in Plus Two or equivalent and Certificate level knowledge in the language concerned.	1 year	Part-Time	Non-Prof.	10
Integrated Diploma in French/ German / Japanese/ Russian	Pass in Plus Two or equivalent. Previous knowledge in the language concerned is not essential.	1 year	Part-Time	Non-Prof.	20
Integrated Diploma in Italian	Pass in Plus Two or equivalent. Previous knowledge of the language concerned is not essential	1 year	Part-Time	Non-Prof.	25
M.A. Translation in German/ Russian	Bachelor's degree of any University recognized by CUSAT and diploma level knowledge in the language concerned.	1 year	Part-Time	Non-Prof.	5
Ph.D					



Department of Hindi Ph:0484-2575954		Faculty of Humanities			
M. A. Hindi Language and Literature	B.A./B.Sc.degree with Hindi as a subject of study with at least 45% marks in Hindi.	4 Sem.	Regular Day	Non-Prof.	28
M. Phil. Hindi	Master's Degree in Hindi with at least 55% marks.	2 Sem.	Regular Day	Non-Prof.	10
P. G. Diploma in Translation and Functional Hindi	Bachelor's degree with Hindi as one of the subjects.	1 year	Part-Time	Non-Prof.	28
Ph.D					

School of Legal Studies Ph:0484-2575465		Faculty of Law			
5 Year B.B.A. LL. B. (Hons.)	<p>i) Pass in Plus 2 examination with 60% marks in Science / Commerce group or 55% marks in Arts / Humanities.</p> <p>ii) Should not have completed 20 years of age on July 1st of the year of admission. 22 years in the case of SC / ST and OBC candidates.(For students who had taken their 10+2 or degree through distance or correspondence method are permitted to join the five year course, whereas those who received the course completion certificate through Open University Scheme without any basic qualifications, are declared ineligible for admission to this course)</p>	10 Sem.	Regular Day (Cost-sharing)	Prof.	30
LL. M.	Bachelor's degree in Law with at least 45% marks.	4 Sem.	Regular Day	Prof.	36
Ph.D					



School of Industrial Fisheries Ph:0484-2354711		Faculty of Marine Sciences			
M. Sc. Industrial Fisheries	Bachelor's degree in Fisheries/ Zoology/Botany with at least 55% marks in the optional subjects. Bachelor's Degree in Fisheries includes Industrial Fisheries/Aquaculture/Fishery Science/ Industrial Fish & Fisheries/ B.F.Sc (Nautical Science). ** Reserved for fishermen community *Sponsored by Kerala Fisheries Department	4 Sem.	Regular Day	Prof.	14+ 3**+ 2*
M.Phil. Fisheries Science	M.Sc Degree in Industrial Fisheries/Marine Biology/ Zoology/Aquatic Biology and Fisheries/Fishery Biology and Aquaculture/Capture and Culture Fisheries/Aquaculture/ M.F.Sc/M.Sc Applied Fisheries and Aquaculture/ M.Sc Aquaculture and Fish Proce- ssing or any other Post Graduate Degree in Fisheries and allied subjects with a minimum of 55% aggregate marks (or equivalent grade)	2 Sem.	Regular Day	Non- Prof.	10
Ph.D					

Department of Atmospheric Sciences Ph:0484-2353662		Faculty of Marine Sciences			
M. Sc. Meteorology	B.Sc. degree with Physics/ Mathematics as the main subject with 55% marks. Those with Mathematics as the main subject should have studied Physics as one of the subsidiaries and vice-versa.	4 Sem.	Regular Day	Prof.	12



M. Tech (Atmospheric Science)	i) M.Sc degree or its equivalent in Meteorology/Oceanography/ Mathematics/Physics/ Space Physics with a first class (60% marks) from any recognized University or Institution. ii) A valid GATE score or a pass in the Joint UGC - CSIR Test (NET) for JRF	4 Sem.	Regular Day	Non-Prof.	12*
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Ph.D *2 Sponsored Students

Department of Chemical Oceanography Faculty of Marine Sciences
Ph:0484-2382131

M. Sc. Hydroche- mistry	B.Sc Degree in Chemistry with Mathematics and Physics as subsidiaries or B.Sc. Degree of any University in Kerala with Polymer Chemistry/ Industrial Chemistry/ Petrochemicals/ Environment and Water Management as the main subject and Mathematics and Physics/Computer Science as subsidiaries, with a minimum of 55% marks in the respective main subject.	4 Sem.	Regular Day	Prof.	12
M. Phil. Marine Chemistry	Master's Degree in Chemistry or Hydrochemistry with 55% marks.	2 Sem.	Regular Day	Prof.	10

Ph.D

Department of Marine Biology, Microbiology & Biochemistry Faculty of Marine Sciences
Ph:0484-2368120

M. Sc. Marine Biology	B.Sc. degree with any branch of Life Sciences such as Aqua culture, Biochemistry, Biotechnology, Botany, Microbiology, Zoology etc. as a main subject or B.Sc. degree in Fishery Science with atleast 55% marks in the optional subjects.	4 Sem.	Regular Day	Prof.	19+1*
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M. Phil. Life Sciences	Master's degree in any branch of Life Sciences with 60% marks.	2 Sem.	Regular Day	Non-Prof.	6
Ph.D		*Reserved for Physically Challenged			

Department of Marine Geology and Geophysics Ph:0484-2366478		Faculty of Marine Sciences			
M. Sc. Marine Geology	B.Sc degree in Geology/ Mathematics / Physics / Chemistry with 55% aggregate marks in optionals. B.Sc degree with at least 55% aggregate marks with	4 Sem.	Regular Day	Prof.	10
M. Sc. Marine Geophysics	(a) Geology main with Mathematics and Physics or Chemistry as subsidiaries; (b) Physics main with Mathematics and Geology or Chemistry or Electronics as subsidiaries; (c) Mathematics main with Physics and Geology or Chemistry as subsidiaries.	4 Sem.	Regular Day	Prof.	10
Ph.D					

Department of Physical Oceanography Ph:0484-2363950		Faculty of Marine Sciences			
M. Sc. Oceanography	B.Sc.degree with Physics/ Mathematics as the main subject with 55% marks. Those with Mathematics as the main subject should have studied Physics as one of the subsidiaries and vice-versa.	4 Sem.	Regular Day	Prof.	12
M. Tech. Ocean Technology	(i) M.Sc. degree in Oceanography/ Physics / Marine Geology / Meteorology / Marine Geophysics / Environmental Sciences or M.Sc. (Tech) Degree in Marine Geophysics	4 Sem.	Regular Day	Prof.	812



	<p>or B.Tech or equivalent degree/AMIE in Civil Engineering/ Environ- mental Sciences with 60% marks from any recognized University or Institution.</p> <p>(ii) A valid GATE score with any of the subjects mentioned above as the second paper</p>				
Ph.D					

Department of Applied Chemistry Ph:0484-2575804		Faculty of Science			
M. Sc. Applied Chemistry	B.Sc. degree with Chemistry/ Polymer Chemistry/ Environmental Chemistry/ Industrial Chemistry/ Petrochemicals (main) with Mathematics as one of the subsidiary subjects with atleast 55% marks in the main subject.	4 Sem.	Regular Day	PNon-rof.	20
M. Phil. Chemistry	Pass in Master's degree examination in the concerned subject of any of the Universities approved by the University Grants Commission (UGC) or an examination accepted by the Academic Council as equivalent thereto and have obtained a minimum of 55% aggregate marks (or equivalent grade) in the examination.	2 Sem.	Regular Day	Non-Prof.	9
M. Tech. Industrial Catalysis	M.Sc. degree in (Chemistry / Applied Chemistry) or any other degree recognized as equivalent with at least a first class (60% marks) from any recognized University or institution with a valid GATE score.	4 Sem.	Regular Day	Prof.	15 (including 05 sponsored seat)
Ph.D					



Department of Biotechnology Ph:0484-2576267		Faculty of Science			
M. Sc. Biotechnology	Bachelor's degree in any branch of Life Sciences including Agricultural and Medical Sciences/ Chemical Sciences/ Chemical Engg. with minimum of 55% marks in aggregate.	4 Sem.	Regular Day	Prof.	12
Ph.D					

Department of Mathematics Ph:0484-2577518		Faculty of Science			
M. Sc. Mathematics	B.Sc. degree with Mathematics main with at least 55% marks for optional subjects taken together.	4 Sem.	Regular Day	Prof.	30
M.Phil (Mathematics)	M.Sc degree in Mathematics with at least 55% Marks, or equivalent grade.	2 Sem.	Regular Day	Non-Prof.	10
Ph.D					

Department of Physics Ph:0484-2577404		Faculty of Science			
M. Sc. Physics	B.Sc. degree with Physics main and Mathematics subsidiary with at least 55% marks in Physics.	4 Sem.	Regular Day	Non-Prof.	25
M. Phil. Physics	M.Sc. degree in Physics with at least 55% marks.	2 Sem.	Regular Day	Non-Prof.	8
Ph.D					

Department of Statistics Ph:0484-2575893		Faculty of Science			
M. Sc. Statistics	B.Sc. degree in Mathematics or Statistics main with at least 55% marks for optional subjects taken together.	4 Sem.	Regular Day	Non-Prof.	20



M.Tech. Engineering Statistics	B.Tech or equivalent degree or AMIE in any discipline or AMII with a first class (60%) from any recognised University or institution with valid GATE score.	4 Sem.	Regular Day	Prof.	8
Ph.D					

Department of Applied Economics Ph:0484-2576030		Faculty of Social Sciences			
M. Phil. Applied Economics	Pass in Master's degree examination in the subject concerned of any of the Universities approved by the University Grants Commission (UGC) or an examination accepted by the Academic Council as equivalent thereto and have obtained a minimum of 55% aggregate marks (or equivalent grade) in the examination.	2 Sem.	Regular Day	Non- Prof.	10
M.A. (Applied Economics)	Bachelor's degree in Economics with 55% marks in part III (Economics & Subsidiaries) or 60% marks with B.Com, BBA, BBM with Economics as one of the subject or B.Sc Mathematics or Statistics with 65% marks. Pass for SC / ST candidates.	4 Sem.	Regular Day	Non- Prof.	15
Ph.D					

School of Management Studies Ph:0484-2575310		Faculty of Social Sciences			
M. B. A. (Full- time)	Bachelor's degree in any subject with 50% marks in aggregate.	4 Sem.	Regular Day	Prof.	50
M. B. A. (Part- time)	(i) Bachelors degree in any subject with 50% marks in aggregate.	6 Sem.	Part-Time (Evening)	Prof.	30



	(ii) 50% of the seats are reserved for candidates having 3 years of supervisory/executive experience after taking the degree. (iii) In the absence of such candidates as mentioned in (ii) vacancies will be offered to any other candidates satisfying eligibility as per (i).				
M.B.A (International Business)	Bachelor's degree in any discipline recognized by the University with 50% marks in aggregate	4 Sem.	Regular Day	Prof.	30
M.B.A (Travel & Tourism)	Bachelor's degree in any subject with 50% marks in aggregate.	4 Sem.	Regular Day	Prof.	30
M. Phil. (Commerce)	Master's degree in Commerce with at least 55% marks.	2 Sem.	Regular Day	Non-Prof.	6
Ph.D					

Centre of Excellence in Lasers and Opto-electronic Sciences Faculty of Technology
Ph:0484- 2577540

5 year Integrated M. Sc. in Photonics	Pass in Plus Two examination of the State of Kerala with Mathematics, Physics and Chemistry as optional subject or any other examination accepted as equivalent thereto securing a minimum of 50% marks in Mathematics and 50% marks in Mathematics, Physics and Chemistry put together.	10 Sem.	Full-Time	Prof.	20
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Cochin University College of Engineering, Kuttanad Faculty of Technology
Ph:0477-2707500

M.C.A	Any graduate with Mathematics as one of the main or subsidiary subjects or graduate in Electronics/Computer Science/Computer Applications/Engineering/Technology with aggregate 55% marks in all subjects other than languages and humanities.	6 Sem.	Full-Time (Cost-sharing)	Prof.	30
			Full-Time (Regular)	Prof.	30



Department of Electronics Ph:0484-2576418		Faculty of Technology			
M. Sc. Electronic Science (with specialization in Artificial Intelligence, Robotics, Microwave Electronics and Computer Technology)	First Class B.Sc. degree (with not less than 60% aggregate marks) in Electronics or Physics.	4 Sem.	Regular Day Sponsored	Prof.	25
M. Tech. Electronics (with specialization in Digital Electronics, Microwave & Radar Electronics)	<p>i) B. Tech or equivalent degree /AMIE/AMIETE in Electronics and Communication Engineering / Electrical Engineering / Electronics and Instrumentation or M.Sc. degree in Electronics /Physics (with Electronics as specialization) with a First Class (60%) from any recognized University or Institution.</p> <p>ii) A valid GATE score in Electronics/Electronics and Communication Engg.</p> <p>iii) If sufficient numbers of candidates are not available in category (ii) above, candidates with GATE score in Electrical & Electronics Engg., Instrumentation, Electrical Engg. or Physics will be considered.</p> <p>In the absence of GATE qualified candidates Non GATE candidates can be admitted on the basis of a Departmental Admission Test (DAT)</p>	4 Sem.	Regular Day Sponsored	Prof.	20 05
Ph.D					



Department of Instrumentation Ph:0484-2575008		Faculty of Technology			
B. Tech. Course in Instrumentation Technology	The candidates shall have passed the plus two (12 th) examination of any state/national board with Mathematics, Physics and Chemistry or any other examination accepted as equivalent by the Cochin University of Science and Technology. The candidate shall have secured a minimum of 60% marks in Mathematics, Physics and Chemistry put together with at least 55% in Mathematics separately. The minimum eligibility for SEBC (belonging to Kerala State) is 55% for Mathematics, Physics and Chemistry put together with at least 50% for Mathematics.	8 Sem.	Regular Day	Prof.	28
M.Sc Instrumentation	B.Sc Degree in Instrumentation / Physics / Electronics with 60% marks from any recognized University	4 Sem.	Regular Day	Prof.	15
Ph.D					

Department of Polymer Science & Rubber Technology Ph:0484-2575723		Faculty of Technology			
B. Tech. in Polymer Science & Engineering	Pass in Plus Two examination of the State of Kerala with Mathematics, Physics and Chemistry as optional subjects or any other examination accepted as equivalent thereto securing a minimum of 50% marks in Mathematics and 50% marks in Mathematics, Physics and Chemistry put together.	8 Sem.	Regular Day	Prof.	20



M. Tech. Polymer Technology	<p>i) B. Tech or equivalent degree / AMIE in Polymer Science and Rubber Technology/ Chemical Engg. /Technology or M.Sc. Polymer Chemistry/ M.Sc. Chemistry with Polymer Chemistry specialization with a First Class (60% marks) from any recognized University or Institution.</p> <p>ii) A valid GATE score</p>	4 Sem.	Regular Day	Prof.	10
Ph.D					

Department of Ship Technology Ph:0484-2575714		Faculty of Technology			
B. Tech. Naval Arch. & Ship Building	Should have passed Plus Two (10+2) examination conducted in Kerala or the examination of any other University/ Board accepted by the Syndicate of the University as equivalent thereto in First Class with Mathematics, Physics and Chemistry as subjects of study. The candidate shall have secured a minimum of 50% marks in Mathematics as well as for Mathematics, Physics and Chemistry put together.	8 Sem.	Regular Day	Prof.	40 (12 seats reserved for Naval candidates)
M. Tech. Computer Aided Structural Analysis & Design	<p>i) B.Tech. or equivalent degree in Naval Architecture and Ship Building/ Civil Engineering/ Mechanical Engineering with a first class (60%) marks from any recognized University or Institution.</p> <p>ii) A valid GATE score.</p>	4 Sem.	Regular Day	Prof.	18
Ph.D					



International School of Photonics Ph:0484-2575848		Faculty of Technology			
M. Tech. Opto-Electronics and Laser Technology	i) Master's degree in Physics / Electronics/Photonics or B.Tech /B.E Degree in Electronics and Communication Engineering/ Electronics Engineering / Electrical Engineering / Electrical & Electronics with a first class (60%) from any recognized University or institution ii) A valid GATE score (in the concerned branch of study) iii) If sufficient numbers of candidate with GATE score in the concerned branch of study are not available, candidates with GATE score in Instrumentation will be considered. If sufficient numbers of GATE score holders are not available a pass in DAT is sufficient.	2 years	Regular Day	Prof.	10
Ph.D					

Department of Computer Applications Ph:0484-2576253		Faculty of Technology			
M. C. A.	Any graduate with Mathematics as one of the main or subsidiary subjects or graduate in Electronics/ Computer Science / Computer Applications / Engineering/ Technology with aggregate 55% marks in all subjects other than languages and humanities.	6 Sem.	Regular	Prof.	30
		6 Sem.	Cost-sharing	Prof.	30
Ph.D					



Department of Computer Science Ph:0484-2577126		Faculty of Technology			
M. Tech. Computer and Information Science	i) B.Tech or equivalent degree in any discipline/AMIETE/AMIE or M.Sc. in Physics with Electronics as special subject or M.Sc in Mathematics with a First Class (60 % marks) from any recognized University or Institution. ii) A valid GATE score.	4 Sem.	Regular Day	Prof.	14
M. Tech. Software Engg.	i) B.Tech or equivalent degree or AMIE/AMIETE in Computer Science/Information Technology or M.Sc. in Computer Software/Operational Research and Computer Applications or M.C.A. with a first class (60%) marks from any recognized University or Institution. ii) A valid GATE score.	4 Sem.	Regular Day	Prof.	13
M.Tech Computer Science with Specialization in Embedded Systems (Part- Time) (no admissions in 2012)	i) First Class B.Tech degree in Computer Science & Engineering / Electronics Engg. / Information Technology / Electrical Engg. or equivalent branches or M.C.A with 60% marks or equivalent CGPA ii) Minimum of 1 year experience in Industry / University / Institution recognized by appropriate statutory bodies.	4 Sem.	Part-time (evening)	Prof.	15
Ph.D					





EXAM RESULT

FINAL RESULTS - (Other than B.Tech courses) for the year 2013

Sl. No.	Courses Allotted	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	%
1	MBA-SMS	49	49	2	35		37	75.51%
2	MBA(PT)	27	27	1	14		15	55.56%
3	MBA(TT)	29	29	-	24		24	82.76%
4	MBA(IB)	29	28	2	21		23	82.14%
5	M.Tech-PS&RT (Polymr Technology)	12	12	9	3		12	100.00%
6	M.Tech-Ship Technology (CASAD)	16	16	5	11		16	100.00%
7	M.Tech-Ocean Technology –Dept. of Physical Oceanography	7	7	6	1		7	100.00%
8	MCA–DCA	112	110	23	26		49	44.55%
9	MCA–CUCEK							
10	5 Year Integrated M.Sc-Photonics-ISP	15	15	9	6	-	15	100.00%
11	M.Sc—Hydrochemistry	12	12	7	4		11	91.67%
12	M.Sc-Marine Biology	18	18	5	11	-	16	88.89%
13	M.Sc-Meteorology	12	12	1	10	-	11	91.67%
14	M.Sc-Marine Geology	8	8	1	5	-	6	75.00%
15	M.Sc-Marine Geophysics	10	10	1	9	-	10	100.00%
16	M.Sc-Oceanography	11	11	1	8	-	9	81.82%
17	M.Sc-Industrial Fisheries	20	20	6	14	-	20	100.00%
18	M.Sc-Environmental Technology	11	11	9	2	-	11	100.00%
19	M.Sc-Applied Chemistry	19	19	5	5	-	10	52.63%
20	M.Sc-Statistics	23	23	5	8	2	15	65.22%
21	M.Sc-Maths	35	33	4	15	1	20	60.61%
22	M.Sc-Biotechnology- Dept. of Biotechnology, CUSAT	27	27	7	12	-	19	70.37%
23	M.Sc-Biotechnology-KVM College	12	12	11	1		12	100.00%
24	M.Sc-Physics	23	23	13	8	2	23	100.00%
25	M.Phil-Physics	8	8	4	4		8	100.00%
26	MA-Hindi	26	26	11	15		26	100.00%
27	MA-Applied Economics	13	13	3	8		11	84.62%
28	M.Tech-Atmospheric Science	4	4	2	2		4	100.00%



Sl. No.	Courses Allotted	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	Remarks
M.Tech(FT) Courses of Recognized Institutions								
1	Data Security (Toc-H)	18	18	17			17	94.44%
2	Wireless Technology (TocH)	17	17	10	4		14	82.35%
3	Image Processing	54	54	48	1		49	90.74%
4	Computer & Information Science	53	53	45	4		49	92.45%
5	Signal Processing	54	54	47	6		53	98.15%
6	VLSI & Embedded System	87	87	74	10		84	96.55%
7	Software Engineering (SIST)	36	36	30	2		32	88.89%
8	Software Engineering (TKM-IT)	36	36	30	2		32	88.89%

Law Courses

Sl. No.	Courses Allotted	Registered No. of Candidates	Students Appeared for the Exam	Distinction	FC	SC	Total	Remarks
1	LLB(Hons)	23	23	2	16	2	20	86.96%
2	LL.M	27	27	-	26		26	96.30%



Cochin University of Science and Technology
B.Tech VIIIth Semester Examinations - April 2013 Collegewise Percentage of Results (Regular Students)

Sl. No.	College	Registered	Appeared	Dist	FC	SC	%
1	School Of Engineering , Cusat, Thrikakara	582	582	83	206	1	49.8
2	Cochin University College Of Engineering, Kuttanad	306	306	9	57	0	21.6
3	College Of Engineering, Chengannur	291	291	41	133	0	59.8
4	Model Engineering College, Thrikakara	388	388	141	128	0	69.3
5	College Of Engineering, Adoor	256	256	30	112	0	55.5
6	College Of Engineering, Kallappara	139	139	22	54	0	54.7
7	College Of Engineering, Poonjar	117	117	17	54	0	60.7
8	College Of Engineering, Kidangoor	281	281	40	104	0	51.3
9	College Of Engineering, Perumon	310	310	49	104	0	49.4
10	College Of Engineering, Karunagapally	116	116	14	59	0	62.9
11	College Of Engineering, Trikaripur	281	281	56	99	0	55.2
12	College Of Engineering, Thalassery	401	401	62	115	1	44.4
13	Co-operative Institute Of Technology , Vadakara	352	352	30	127	0	44.6
14	College Of Engineering, Munnar	183	183	20	73	0	50.8
15	Toc H Institute Of Science And Technology, Arakunnam	451	451	97	231	1	73
16	Tkm Institute Of Technology, Ezhukone, Kollam	250	250	27	90	0	46.8
17	College Of Engineering - Attingal	114	114	12	39	0	44.7
18	Sarabhai Institute Of Science And Technology, Vellanad	327	327	42	136	0	54.4
19	College Of Engineering - Cherthala	163	163	27	83	0	67.5
20	College Of Engineering - Kottarakara	113	113	21	54	0	66.4
21	M.g.college Of Engineering, Thiruvallam	204	204	17	52	0	33.8
	Total	5625	5625	857	2110	3	52.8

**LIST OF Ph.D. AWARDEES**

Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
1	Anna Dilfi K. F.	Dr. Thomas S. Kurian Professor, Department of Polymer Science And Rubber Technology CUSAT, Kochi - 22.	12.04.2012	"Linear Low Density Polyethylene Biodegradability Using Bacteria from Marine Benthic Environment and Photode Grafanillyt using Ultra Violet Light."	Techno- logy
2	G. Muraleedharan	D.Sc	24.09.2011	D.sc. Thesis "Contributions To Ocean Wave Climatology"	Marine Sciences
3	Nimmi K. P	Dr. Rani Joseph Professor, Department of Polymer Science And Rubber Technology CUSAT, Kochi - 22.	12.04.2012	"Studies on Methylene Blue Sensitized Poly (Vinyl Alcohol): Effect of Molecular Weight of the Polymenr and Crosslinking Agents on its Holographic Properties"	Techno- logy
4	Lovely Varghese	Dr. N. G. Devaki Professor, Department of Hindi, CUSAT Kochi-22.	12.04.2012	"Premchand Aur Jayashankar Prasad Ki Kahaniyom Ke Samvad Tatv Ka vishleshanatmak Anusheelan"	Humani- ties
5	Roja Sebastian	Dr. K. Y. Muhammed Salih, Professor (Rtd.) Department of Marine Biology Microbiology and Biochemistry CUSAT, Kochi - 16.	20.04.2012	"Biology of Flat Toadfish Colletteichthys Dvssumieri (Valenciennes, 1837) of Cochin Estuary"	Marine Sciences
6	Binu G. S.	Dr. K. Poullose Jacob Professor & Head Department of Computer Science, CUSAT, Kochi- 22.	25.04.2012	"Energy Management in Wireless Sensor Networks: A Cross Layer Channel Adaptive Approach Towards Performance Optimization"	Techno- logy



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
7	Mariamamma Chacko	Dr. K. Poullose Jacob Professor & Director School Of Computer Science Studies, CUSAT, Kochi- 22.	11.05.2012	"An Error-localization, Validation and Optimization Tool for Embedded Code Augmentation: An Architecture Oriented Approach"	Techno- logy
8	Jasmine Mathew	Dr. D. D. Ebenezer Scientist 'G'npol, Thrikkakara P.O. Kochi-21.	18.05.2012	"Acoustic Radiation and Scattering from Cylin- drical Bodies and Analysis of Transducer Arrays"	Science
9	Remya P. R.	Dr. K. Ajitha Associate Professor Department of Hindi CUSAT, Kochi - 22.	22.05.2012	"Samakaleen Kavitha Mein Praristhitik Vimarsh: Ek Adhyayan"	Humani- ties
10	Thara K. J.	Dr. R. Sajeev Reader, Department of Physical Oceanography CUSAT, Kochi - 16.	23.05.2012	"Response of Eastern Arabian Sea to Extreme Climatic Events with Special Reference to Selected Pelagic Fishes"	Marine Sciences
11	Krishna Kumar K. N.	Prof. G. S. L. H. V. Prasada Rao Professor, Agricultural Meteorology, Academy of Climate Change Education & Research, Kerala Agricultural University.	21.05.2012	"Coconut Phenology and Yield Response to Climate Variability and Change"	Marine Sciences
12	Gopakumar C. S.	Prof. G. S. L. H. V. Prasada Rao Professor, Agricultural Meteorology, Academy of Climate Change Education & Research, Kerala Agricultural University.	21.05.2012	"Impacts of Climate Variability on Agriculture in Kerala"	Marine Sciences



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
13	Smitha Mohanlal	Dr. A. Jayalekshmi Scientist F Organic Chemistry Section CST & D, NIIST, CSIR P.O. Pappanamcode Thiruvananthapuram	24.05.2012	"Phytochemical Investigations on 'Black Glumed' Njavara (Oryza Sativa L) The Medicinal Rice, as Compared to Staple Varieties and Evaluation of Their Antioxidant, Anti Inflammatory and Anticancer Effects"	Science
14	Ch. V. Chiranjivi Jayaram	Dr. A. N. Balchand Professor Department of Physical Oceanography CUSAT, Kochi - 16.	28.05.2012	"Remote Sensing the Signatures of Upwelling in South Eastern Arabian Sea"	Marine Sciences
15	Soni George	Dr. V. P. N. Nampoori Emeritus Professor Internation School of Photonics, CUSAT Kochi - 22.	28.05.2012	"Application of Imaging to Study The Evolution and Dynamics of Laser Produced Plasma from Solid and Thin Film LI Targets"	Techno- logy
16	Lorna R. Nayagam	Dr. H. S. Ram Mohan Professor, Department of Atmospheric Sciences, CUSAT Kochi -16	29.05.2012	"Studies On Rainfall Variability and the Influence of Orography and Land use on the Climate of Peninsular India"	Marine Sciences
17	Satheesh Kumar K.	Dr. G. Madhu Professor & Head Division of Safety & Fire Engineering, SOE CUSAT, Kochi-22.	06.06.2012	"An Analysis of Work Related Stress Factor in Selected Industries in Kerala, India."	Enginee- ring
18	Nisha M. R.	Dr. Jacob Philip Professor, Department of Instrumentation CUSAT, Kochi - 22.	08.06.2012	"Thermal Conduction in Polymeric Nanofluids and Nanosolids Controlled By Interfacial Scattering: Solutions to Some Related Problems"	Techno- logy
19	Renjini Joseph	Dr. K. Girish Kumar Professor of Analytical Chemistry, Department of Applied Chemistry, CUSAT, Kohi-22.	12.06.2012	"Development of Electrochemical Sensors For Various Pharmaceuticals"	Science



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
20	Surya L. S.	Dr. N. G. Devaki Professor, Department of Hindi, CUSAT Kochi-22.	15.06.2012	"Hindi Kavyabhasha Ka Swaroop Aur Vikas- Eithihasik Sarvekshan"	Humanities
21	Seema P. S.	Dr. N. S. Soman Associate Professor School of Legal Studies CUSAT, Kochi -22	26.06.2012	"Protection of Farmers Rights in India: Challenges for Law in the Context of Plant Breeders Rights"	Law
22	Florence M. A.	Dr. D. Rajasenan Professor, Department of Applied Economics CUSAT, Kochi -22.	27.06.2012	"Sustainability and Livelihood Issues of Vembanad Ecosystem Fisher Folk Communities with Special Reference to Muhamma and Thaneermukkam Villages"	Social Sciences
23	Newly Joseph	Dr. K. E. George Professor, Department of Polymer Science and Rubber Technology CUSAT, Kochi - 22.	02.07.2012	"Weld Line Behaviour of Modified PP, HDPE and their Blends"	Techno- logy
24	Divya Jose	Dr. A. Mohandas Emeritus Professor School of Environmental Studies, CUSAT Kochi - 22.	03.07.2012	"Proteases from an Environmental Isolate of Pseudomonas Aeruginosa MCCB 123 and their Applications"	Environ- mental Studies
25	Sreekumar V.	Dr. Meerabai M. Professor & Head Department of Applied Economics, CUSAT Kochi - 22.	03.07.2012	"A Study Convariations in Industrial Electricity Tariff and Regulatory Intervention in Kerala State"	Social Sciences
26	Aneesh K. N.	Dr. P. A. Shemin Aliyar Department of Hindi CUSAT, Kochi - 22	06.07.2013	"Swathantryothar Hindi Natakam Mein Badhalthe Parivarik Sandarbh"	Humanities
27	Anoo Anna Anthony	Dr. Mary Joseph T. Retd. Professor, School of Management Studies CUSAT, Kochi - 22.	09.07.2012	"Global Value Chain Linkages of Manufacturing Export Firms : A Study of the Kannur Home Textile Industry"	Social Sciences



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
28	Mahesh Kumar M. V.	Dr. K. Sreekumar Professor, Department of Applied Chemistry CUSAT Kohi-22.	21.07.2012	"Design and Synthesis of Conjugated Polymers For Photovoltaic Andchemcesensor Applications"	Science
29	Prabha S. Nair	Dr. N. S. Gopala krishnan, Director, Inter University Centre for IPR Studies, School of Legal Studies, CUSAT Kochi -22.	17.07.2012	"International Intiatives for Regulating Access to Genetic Resources"	Law
30	Prem Nath R.	Dr. G. Madhu Professor, Division of Safety and Fire Engineering, CUSAT Kochi-22.	24.07.2012	"Qualitative Air Flow Modelling and Analysis of Data Centre Air Conditioning as Multiple Jet Array"	Enginee- ring
31	Ratheesh Kumar C. S.	Dr. N. Chandramohana kumar, Professor, Department of Chemical Oceanography, School of Marine Sciences CUSAT, Kochi - 16.	06.08.2012	"Triterpenoids as Biomarkers of Mangrove Organic Matter in Cochin Estuarine System"	Marine Sciences
32	Saleena K. B.	Dr. N. S. Gopala krishnan, Director, Inter University Centre for IPR Studies, CUSAT Kohi - 22.	10.08.2012	"Exceptions and Limitations to Intellectual Property Rights with Special Reference to Patent and Copyright Law"	Law
33	Sujith R.	Dr. P. Mohanan Professor, Department of Electronics, CUSAT Kochi - 22.	24.08.2012	"Design and Development of Coplanar Waveguide Fed Antennas for Wireless Applications"	Techno- logy
34	Rejil T.	Dr. K. J. Joseph Professor (Rtd) Department of Marine Biology Microbiology & Biochemistry, School of Marine Sciences CUSAT, Kochi - 16.	06.09.2012	"Microalgal Vegetation in the Selected Mangrove Ecosystems of Kerala"	Marine Sciences



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
35	Anu Philip	Dr. Rajeev Kumar Associate Professor Department of Instrumentation, CUSAT Kochi - 22.	13.09.2012	"Preparation and Characterization of High-K Aluminium oxide Thin Films by Atomic Layer Deposition for Gate Dielectric Applications"	Techno- logy
36	Ramkumar P. B.	Dr. K. V. Pramod Head, Department of Computer Applications CUSAT, Kochi - 22.	03.10.2012	"A Study of Morphological Operators with Applications"	Techno- logy
37	Habeeb Rehiman P. A.	Dr. George Varghese Professor, School of Management Studies, CUSAT, Kochi - 22.	27.09.2012	"A Study of Credit Guarantee Fund Trust for Micro and Small Enterprises with Particular Reference to Bank of Baroda in State of Kerala"	Social Sciences
38	Nishamol M. S.	Prof. K.Vasudevan Dean, Faculty of Technology, Department of Electronics, CUSAT, Kochi - 22..	29.09.2012	"Design and Development of Reconfigurable Compact Cross Patch Antenna for Switchable Polarization"	Techno- logy
39	Paul A. J.	Dr. P. Mythili Associate Professor Division of Electronics School of Engineering CUSAT, Kochi - 22.	01.10.2012	"An Approach Towards the Development of an Efficient Symmetric Key Encryption Scheme"	Enginee- ring
40	Mathews M. Paul	Dr. George Mathews Associate Professor Division of Safety and Fire Engineering CUSAT, Kochi-22.	04.10.2012	Behavior of Laterised Normal and Self Compacting Concrete Subjected to Elevated Temperatures"	Enginee- ring
41	Harikrishnan E.	Dr. K. J. Joseph Professor (Rtd) and Research Guide Department of Marine Biology Microbiology & Biochemistry, School of Marine Sciences CUSAT, Kochi - 16.	09.10.2012	"Marine Microalgae in the Eez of India"	Marine Sciences



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
42	Bindu C. S.	Dr. K. S. Beena Professor, Division of Civil Engineering, SOE, CUSAT, Kochi-22.	12.10.2012	"Influence of Additives on the Characteristics of Stone Matrix Asphalt"	Enginee- ring
43	Dhannia T.	Dr. S. Jayalakshmi Professor, Department of Physics,CUSAT Kochi - 22.	19.10.2012	"Investigations on the Structural, Optical and Magnetic Properties of Nanostructured Cerium Oxide in Pure and Doped Forms and its Polymer Nanocomposites"	Science
44	Sajeewan M. K.	Dr. B. Madhusoodana kurup, Vice-Chancellor Kerala University of Fisheriesand Ocean Studies, Panangad Kochi-682506	19.10.2012	"Systematics, Life History Traits, Abundance Andstock Assessment of Cobia Rachycentron Canadum (Linnaeus, 1766) Occuring In Indian Waters With Special References To The Northwest Coast of India"	Marine Sciences
45	Prajith K. K.	Dr. B. Madhusoodana kurup, Vice-Chancellor Kerala University of Fisheries and Ocean Studies, Panangad Kochi-682506	22.10.2012	"Application of Biofloc Tecnology (Bft) in the Nursery Rearing and Farming of Giant Freshwater Prawn, Macrobrachium Rosenbergii (De Man)"	Marine Sciences
46	Sobhana Mathew	Dr. K. Girish Kumar Professor of Analytical Chemistry, Department of Chemistry, CUSAT Kochi - 22.	29.10.2012	"Development of Macrocyclics Based Electrochemical Sensors"	Science
47	T. H. Sajeesh	Dr. K. P. Vijayakumar Professor, Department of Physics, CUSAT Kochi - 22.	31.10.2012	"Spray Pyrolysed Tin Chalcogenide Thin Films: Optimization of Opto-electronic Properties of SnS for Possible Photovoltaic Application as an Absorber Layer"	Science



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
48	Renjusha S.	Dr. M. R. Prathapa Chandra Kurup Professor, Department of Applied Chemistry CUSAT, Kochi - 22.	03.11.2012	"Transition Metal Complexes Derived from Ketone Based N (4)-substituted Thiosemicarbazones: Crystal Structures and Spectral Studies"	Science
49	Korah P. Kuruvilla	Dr. C. S. Paulose Professor, Department of Biotechnology Director, Centre for Neuroscience, CUSAT Kochi - 22.	09.11.2012	"Serotonin Receptor Subtypes Functional Regulation and Oxidative Stress Mediated Apoptosis in 6-hydroxydopamine Lesioned Parkinsonian Rats: Functional Recovery with Serotonin, Gaba And Bone Marrow Cells"	Science
50	Nithyaja B.	Dr. V. P. N. Nampoori Emeritus Professor International School of Photonics, CUSAT Kochi - 22.	12.11.2012	"Photonic Applications of Biomaterials with Special Reference to Biopolymers and Microbes"	Technology
51	Hashim M.	Dr. N. G. K. Pillai ICAR, Emeritus Scientist C.M.F.R.I. Ernakulam North P.O. Kochi - 682 018.	16.11.2012	"Distribution, Diversity and Biology of Deep-sea Fishes in the Indian Eez"	Marine Sciences
52	Maheshwaran Sithambaresan	Dr. M. R. Prathapa Chandra Kurup Professor, Department of Applied Chemistry CUSAT, Kochi - 22.	26.11.2012	"Transition Metal Complexes of Some N ⁴ phenylsemic Carbazones: Crystal Structures and Spectral Studies"	Science
53	Shameena V. A.	Dr. P. Mohanan Professor, Department of Electronics, CUSAT Kochi - 22.	01.12.2012	"Design and Development of Compact Printed Ultra Wide Band Antennas"	Technology
54	Sajeev S. Nair	Dr. A. Krishnamoorthy Emeritus Professor Department of Mathematics, CUSAT Kochi - 22.	06.12.2012	"On (s,S) Inventory Policy with / without Retrial and Interruption of Service/Production"	Science



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
55	Sarin V. P.	Dr. K. Vasudevan Professor & Head Department of Electronics, CUSAT Kochi - 22.	01.12.2012	"Investigations on the Radiation Characteristics of Broadband Strip Loaded Slotted Microstrip Antennas."	Techno- logy
56	Nithin Viswambharan	Dr. K. Mohan Kumar Professor, Department of Atmospheric Sciences CUSAT, Kochi -16	10.12.2012	"Southern Hemispheric Features and their Teleconnection with Indian Summer Monsoon"	Marine Sciences
57	Sini P. J.	Dr. A. V. Saramma Associate Professor Department of Marine Biology, Microbiology and Biochemistry School of Marine Sciences, CUSAT Kochi - 16.	13.12.2012	"Investigations on Phaeocystis SP, A Harmful Bloom-forming Alga Isolated From Cochin Estuary'	Marine Sciences
58	Anisha P.	Dr. P. G. Sankaran Associate Professor Department of Statistics CUSAT, Kochi - 22.	13.12.2012	"Modelling and Analysis of Recurrent Event Data with Multiple Causes"	Science
59	Varghese Jacob	Dr. A. Krishnamoorthy Emeritus Professor Department of Mathematics, CUSAT Kochi - 22.	21.12.2012	"Queues with Customer Induced Interruption"	Science
60	Jessy Emmanuel	Dr. M. R. Prathapa Chandra Kurup Professor, Department of Applied Chemistry CUSAT, Kochi - 22.	28.12.2012	"Crystal Structures and Spectral Investigation of Aroylhydrazones and their Mixed Ligand Meal Chelates"	Science
61	Priyaja P.	Dr. Rosamma Philip Senior Lecturer Department of Marine Biology and Microbiology and Biochemistryschool of Marine Sciences CUSAT, Kochi - 16.	28.12.2012	" Pyocyanin (5-methyl- 1-hydroxyphenazine) Produced by Pseudomonas Aeruginosa as Antagonist to Vibrios in Aquaculture: Overexpression, Downstream Process and Toxicity"	Marine Sciences



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
62	Sreekanth J. Varma	Prof. S. Jayaleshmi Professor, Department of Physics, CUSAT Kochi - 22.	29.12.2012	"Investigations on Polyaniline Based Systems for Technologically Important Applications and some Novel Polymers as Prospective Candidates for Fabricating Polymer Light Emitting Diodes"	Science
63	Sudheep Elayidom M.	Dr. Sumam Mary Idicula Professor, Department of Computer Science CUSAT, Kochi - 22.	02.01.2013	"Design and Development of Data Mining Models for the Prediction of Manpower Placement in the Technical Domain"	Techno- logy
64	Deepa Sankar	Prof. Tessama Thomas Professor, Department of Electronics, CUSAT Kochi - 22.	02.01.2013	"Fractal Based Techniques for Classification of Mammograms and Identification of Microcalcification"	Techno- logy
65	Abdul Jaleel K. U.	Dr. R. Damodaran Professor (Retd.) Department of Marine Biology, Microbiology and Biochemistry School of Marine Sciences, CUSAT Kochi - 16.	03.01.2013	"Macrobenthos of the Continental Margin (200-1000m) of South Eastern Arabian Sea with Special Reference To Polychaetes"	Marine Sciences
66	Julie M. David	Dr. B. Kannan Associate Professor Department of Computer Applications, CUSAT Kochi - 22.	04.01.2013	"Statistical Machine Learning Techniques for the Prediction of Learning Disabilities in School-age Children"	Techno- logy
67	Smijin K. Soman	Dr. C. S. Paulose Professor, Department of Biotechnology Director, Centre for Neuroscience, CUSAT Kochi - 22.	14.01.2013	"Withania Somnifera and Withanolide a Mediated Restoration of AMPA and NMDA Receptor Function in Pilocarpine Induced Temporal Lobe Epilepsy"	Science



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
68	Jacob Elias	Dr. V. N. Narayanan Namboothiri, Associate Professor, Division of Mechanical Engineering, School of Engineering, CUSAT Kochi - 22.	18.01.2013	"Analysis of System Signals Based on Cross Recurrence Method for System Dynamics Characterization"	Engineering
69	Smitha S. L.	Dr. Rosamma Philip Senior Lecturer Department of Marine Biology, Microbiology and Biochemistry School of Marine Sciences, CUSAT Kochi - 16.	21.01.2013	"Process Optimization for the Production of Enzymes and Antibacterials from a Marine Fungus Penicillium Citrinum S36 Through Solid State Fermentation"	Marine Sciences
70	Jeeju P. P.	Prof. S. Jayaleshmi Professor, Department of Physics, CUSAT Kochi - 22.	29.01.2013	"Investigations on Some Technologically Important Polymer Nanocomposite Films and Semi Crystalline Polypyrrole Films"	Science
71	Neetha Joseph	Dr. Shanta Achuthankutty, Scientist GNIO, Regional Centre Kochi - 18.	29.01.2013	"Spatial and Temporal Variation of Microbial Community Structure In Surficial Sediments of Cochin Estuary"	Marine Sciences
72	Kusum Komal Karati	Dr. T. V. Raveendran Scientist 'G' NIO, Regional Centre kochi - 18.	30.01.2013	"Ecology of Chaetognaths in the Indian Fez"	Marine Sciences
73	Neson Varghese	Dr. U. Syamaprasad Scientist 'G' Senior Deputy Director Materials & Minerals Division, NIIST Thiruvananthapuram Pin: 695 019.	04.02.2013	"Studies on Transport and Magnetic Properties of Nano Particle Doped Mg B2 Super Conductor for Technological Applications"	Science
74	Raghul Subin S.	Dr. Sarita G. Bhat Head, Department of Biotechnology, CUSAT Kochi - 22.	05.02.2013	"Characterization of Polyhydroxyalkanoates Accumulating Vibrios from Marine Benthic Environments and Production Studies of Polyhydroxyalkanoates of Vibrio SP. BTKB33"	Science



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
75	Anitha M.	Dr. C. S. Paulose Professor, Department of Biotechnology Director, Centre for Neuroscience, CUSAT Kochi - 22.	15.02.2013	"Neuronal Degeneration in Streptozotocin Induced Diabetic Rats: Effects of Aegle Marmelose and Pyridoxine in Pancreatic β Cell Proliferation and Neuronal Survival"	Science
76	Thankachan T. Pullan	Dr. M. Bhasi Professor, School of Management Studies CUSAT, Kochi- 22.	15.02.2013	"Development of a System for Concurrent Product and Process Design for a Machine Tool Factory"	Engineering
77	Sreenivasan C.	Dr. A. Krishnamoorthy Emeritus Professor Department of Mathematics, CUSAT Kochi - 22.	01.03.2013	"Queueing Models with Vacations and Working Vacations"	Science
78	Praveen R. P.	Dr. Jagathy Raj V. P. Professor, School of Management Studies CUSAT, Kochi- 22.	06.03.2013	"Design, Analysis and Realization of Zero-cogging Permanent-magnet Brushless DC Motor For Spacecraft Applications"	Engineering
79	Bindhumol I.	Dr. K. Madhavan Nampoothiri, Scientist Biotechnology Division NIIST Trivandrum - 695 019.	08.03.2013	"Studies on Exopolysaccharide Production by Probiotic Lactic Acid Bacteria"	Science
80	Resmi E. A.	Dr. K. Mohan Kumar Professor, Department of Atmospheric Sciences, School of Marine Sciences, Cusat, Kochi -16	11.03.2013	"Sudden Stratospheric Warming and its Influence on the Tropical Atmosphere"	Marine Sciences
81	Suresh M.	Dr. U. T. S. Pillai Senior Principal Scientist, Materials & Minerals, Division NIIST Trivandrum - 695 019.	13.03.2013	"Grain Refinement Studies on Mg and Mg -ai Based Alloys"	Technology



Sl. No.	Name of Research Scholar	Guide/Research Centre	Viva Date	Title of Ph.D Thesis	Faculty
82	Preetha S.	Dr. A. M. Varkey Professor (Retd.) Dean, Faculty of Law, School of Legal Studies, CUSAT Kochi- 22.	15.03.2013	"Accountability of Corporate Managers: Role of Criminal Sanctions"	Law
83	Saisy K. Esthappan	Dr. Rani K. Joseph Professor, Department of PS & RT, CUSAT Kochi- 22.	16.03.2013	"Polypropylene Metaloxide Nanocomposites: Fiber Spinning and Evaluation"	Techno- logy
84	Kiran Kumar V. B.	Dr. M. N. Narayanan Namboodiri, Associate Professor, Department of Mathematics, CUSAT Kochi- 22.	22.03.2013	"Spectral Analysis of Bounded Self-adjoint Operstores- A Linear Algebraic Approach"	Science
85	Rajesh Menon M. R.	Dr. K. P. Vijaya Kumar Professor, Department of Physics, CUSAT Kochi- 22.	25.03.2013	"Fabrication and Characterization of Polymer Hetero Junction Solar Cells Using Sprayed Indium Sulfide Electon Selective Layer"	Science
86	Leena R.	Dr. K. Girish Kumar Professor of Analytical Chemistry, Department of Applied Chemistry CUSAT, Kohi-22.	25.03.2013	"Chemically Modified Glassy Carbon Electrode As Sensors For Various Pharmaceuticals"	Science





PRIZES / AWARDS / MEDALS

Thirty-Six 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 Metrology 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



SCHOLARSHIPS / FELLOWSHIPS

I. Scholarship

Sl No.	Name	Funding Agency	Amount	No of existing Scholars/Fellows
1	University Merit Scholarship	University	Rs 1200/- p.a	42
2	M.Phil Scholarship	University	Rs 1000/- per month for 10 months	60

II. Fellowship

Sl No.	Name	Funding Agency	Amount	No of existing Scholars/Fellows
1	University Junior Research Fellowship	University	1. Rs 7500/- per month for the first 2 years 2. Rs 9000/- per month for the next 1 1/2 years In both cases annual contingent grant of Rs 10000 is eligible	150
2	Post Doctoral Fellowship	University	Rs 12500/- per month for the academic year + Annual Contingent Grant of Rs 20000	7

