



# TEJUS

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NEWSLETTER OF THE COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY



Education Minister Sri.P.K.Abdurabb, Registrar, Sri.Nedumudi Harikumar, Syndicate Member, Cusat Vice Chancellor Dr.Ramachandran Thekkedath, Sri.K.Babu, Minister for Fisheries, Ports and Excise, Sri.V.K.Ibrahim Kunju, Minister for Public Works, Dr.Godfrey Louis, Pro-Vice Chancellor, Sri.K.M.Shaji MLA, Sri. Jamal Manakkadan, Chairman, Kalamassery Municipality, Sri.Lopus Mathew, Member Syndicate, and Adv.Anitha Latheef, Vice Chairperson, Kalamassery Municipality are on the dais.

reducing the unemployment rates which are still on the rise. More job-oriented courses are being considered which could guarantee employment as soon as the students qualify.

Sri.V.K.Ibrahim Kunju, Minister for Public Works, Govt.of Kerala, and Sri.K.Babu, Minister for Fisheries, Ports and Excise, Govt.of Kerala were the Guests of honour. Cusat Vice Chancellor Dr.Ramachandran Thekkedath presided over the function. Sri.K.M.Shaji, MLA and Syndicate Member, Cusat, Sri.Nedumudi Harikumar, Convenor, Syndicate Works Committee, Sri.Lopus Mathew, Convenor, Syndicate Finance Committee, Sri.Jamal Manakkadan, Kalamassery Municipal Chairman, and Adv.Anitha Latheef, Vice Chairperson, Kalamassery Municipality spoke on

## CUSAT Auditorium inaugurated

The inauguration of Cusat Auditorium was conducted with much fanfare and in the presence of several dignitaries on 29 October 2012. Sri.P.K.Abdurabb, Minister for Education, Govt. of Kerala inaugurated the Auditorium. In his speech, he said that school students will get the opportunity to attend a job-oriented course along with their plus two classes. Courses in IT, Tourism, Hospital Management and Accounting will be offered.

Similar opportunities will be provided to degree students also. Only selected Government schools and colleges will be having this facility which will provide two certificates for

students completing Plus two and Degree courses. This is aimed at



Cusat Vice Chancellor Dr.Ramachandran Thekkedath welcomes Sri.P.K.Abdurabb, Minister for Education, Sri.V.K.Ibrahim Kunju, Minister for Public Works & Sri.K.Babu, Minister for Fisheries and Excise to the dais. Dr.A.Ramachandran, Registrar, Sri.Lopus Mathew, Dr. K.A.Zacharia, Sri.K.M.Shaji, Sri.Nedumudi Harikumar, Dr.K.Sajan (Syndicate Members) & Dr.Godfrey Louis, Pro- Vice Chancellor, Cusat are also seen.

## Editorial...

Educationists and institutions the world over today are scrambling for guidance on how to go about reforming the very complex education system. They run into serious



lives on the whole.

There are reports saying that about 70 per cent of our educated youth are not employable. This low level of employability can partly be attributed to the lack of soft skills among the educated. Today many of

fundamental, universal and humane value system.

It is high time for the educational experts and national education bodies to get together and develop a value-based approach for the professional education sector. An educational

## *A Global Outlook Based on a Strong Value system-The Need of the Hour*

problems when attempting to correct different aspects one by one, like the captain of a ship navigating his vessel in rough seas.

Educational reforms are necessary at all levels, but they can be effective only when they target to imbibe human values in the educated. Education has to be value-based at the core and from the start.

The creation of technical geniuses with negligible practical skill sets and appropriate attitudes is a humongous waste. It would be quite beneficial for all concerned if science and technology education has inter-disciplinary content with the objective of producing down-to-earth human beings and model citizens. Most students of engineering are given very

limited training in humanities arts and management. They are quite unfamiliar or untrained with simple tasks like writing letters or reports and conversing with peers as well as superiors. They may, in future face severe difficulties in managing their jobs, their money and their

*It is high time for the educational experts and national education bodies to get together and develop a value-based approach for the professional education sector. An educational system with such an approach can help man to exist as an intelligent inhabitant instead of a mere commodity in this globalized economy. The need for this approach deserves a place in the agenda of any serious discussion on higher education and technical education.*

the engineering educational institutions are trying to provide soft-skills training to the students.

But soft-skills training alone need not necessarily instill human values in the student. In the emerging 'globalized' world the education systems need to aim at the generation of global citizens with a strong

system with such an approach can help man to exist as an intelligent inhabitant instead of a mere commodity in this globalized economy.

The need for this approach deserves a place in the agenda of any serious discussion on higher education and technical education.

### **Dr. Ramachandran Thekkedath**



Cusat Vice Chancellor Dr. Ramachandran Thekkedath initiates a child to the world of letters during Vidhyarambham on Vijayadashami Day organized by Malayala Manorama.

the occasion. Dr. Godfrey Louis, Pro-Vice Chancellor welcomed the gathering and Dr. A. Ramachandran, Registrar, proposed the vote of thanks.

The auditorium which cost Rs. 1 crore to the University has a floor area of 1532 sq.m. It has a spacious stage and can accommodate 1200 persons

in the audience. The University Engg. Dept had played a significant role in the completion of the project which is now a landmark in the campus.

“Blind development negating the environment will be disastrous to the earth and the eco system. The future generations also have a right to our natural resources. Programmes should give equal importance to development and environment. Discussions are required on this at various levels,” Sri. Thiruvanchoor Radhakrishnan, Minister for Home, Government of Kerala said.

He was inaugurating the Go-Green 2012 Management Festival organized by the MBA Travel & Tourism students of School of Management Studies, Cusat on 14 September. It is not right to behave with a vindictive attitude towards our



*Sri.Thiruvanchoor Radhakrishnan, Minister for Home delivers the inaugural speech at the 'Go-Green 2012' Management festival. Dr.M.Bhasi, Director, School of Management Studies, Dr.Godfrey Louis, Pro-Vice Chancellor, Cusat, and Dr.Manoj Edward co-ordinator are on the dais.*

## Natural resources should be preserved; Home Minister

earth. Natural resources should not be fully exhausted.

A sustainable development aimed at the needs of the society is required. While our educated youth seek employment in other states, there is an inflow of labourers for the unskilled

jobs available here in abundance. In order to stem the brain drain, new programmes aimed at sustaining the environment have to be developed and implemented to retain those leaving the state.

Dr. Godfrey Louis, Pro-Vice

Chancellor, Cusat presided while Dr. M. Bhasi, Director, SMS, Dr. Manoj Edward, Co-ordinator and Sri K. Renish, Chairman, Go Green-2012 spoke. Students conducted a Green March on Marine Drive to proclaim the importance of a green environment.

## Cusat Software to help detect breast cancer

When breast cancer rules as the second leading cause of mortality among women, here's some good news from Electronics researchers at Cochin University of Science and Technology (CUSAT).

Dr. Tessamma Thomas from the Department of Electronics at CUSAT, in association with researcher Deepa Shankar, has developed a software to help radiologists in breast cancer detection. The automated software will help to analyse mammograms and detect micro calcifications which are tiny deposits of calcium, with a size of often less than 0.5 mm in width, and are early indicators of

breast cancer, says Dr. Tessamma.

Currently, radiologists are relying on their eyes and brain for the detection process. The automatic mammogram classification and detection software package gives a classification accuracy of 98 percent and detection accuracy of 91.25 percent. “These results were secured after analyzing the mammogram data available in the MIAS and DDSM online database”, explained Dr. Tessamma. Researcher Dinesh Kumar, with the support of Dr. Tessamma, has developed another software to aid orthopedic surgeons in

scoliosis correction, which is claimed to be the first of its kind. Scoliosis is an abnormal lateral curvature of the spine.

“For the rectification of this spinal curve, a measure of the spine curvature (Cobb angle) is required. A new rule-based algorithm is developed for strategic vertebrae selection and Cobb angle and other scoliosis feature evaluations and measurements”, says Dr. Tessamma. Using visual features, retrieval of cases of patients having similar diagnosis and also cases with visually similar but different diagnosis is possible, she said.



*Sri.Hibi Eden MLA inaugurates the Master of Fisheries programme in Seafood Safety and Trade at School of Industrial Fisheries by lighting the ceremonial lamp. Dr.A.Ramachandran, Registrar,Cusat Vice Chancellor Dr.Ramachandran Thekkedath and Dr.K.Sajan, Syndicate member are also seen among other dignitaries.*

## Seafood Safety and Trade; P.G Programme inaugurated

The Master of Fisheries Science programme in Seafood Safety and Trade in Cusat was officially launched by Sri.Hibi Eden MLA, who is also a Syndicate member, at School of Marine Sciences auditorium in the Lakeside campus on 27 Sept 2012.

The course, which is being conducted by the School of Industrial Fisheries, under the aegis of an innovative programme of UGC in association with National Institute of Fish Post Harvest Technology and Training (NIFHATT) and Seafood Exporters Association of India (SEAI) has already commenced. The two-year course aims to develop manpower specialized in managerial skills and to extend state-of-the art research opportunities in emerging vistas related to seafood trade, seafood quality assurance and international trends.

“It is interdisciplinary and designed to mould professionals who are capable to tackle the challenges faced by the flourishing seafood industry and food industry in general. Those who

complete the course can take up entry level posts in seafood production, sales, marketing, quality assurance, food safety, total quality management import and export”, said Dr.A.Ramachandran, Registrar and co-ordinator of the Programme.

Cusat Vice-Chancellor Dr.Ramachandran Thekkedath presided over the function. Dr.K.Sajan,Syndicate Member

felicitated. Dr. A.Ramachandran, Cusat Registrar and Director of School of Industrial Fisheries, welcomed the gathering. Prof.Saleena Mathew, Deputy Co-ordinator proposed the vote of thanks

### Engineering edn: Scope enormous if quality is ensured

It is the need of the times to develop curricula based on the needs of the industry, but engineering colleges need not be the back office for industries, according to Cusat Vice Chancellor Dr. Ramachandran Thekkedath. By ensuring quality, the scope for engineering education can be enormous. The quality of education and students cannot be ensured merely by opening engineering colleges.

He was speaking after inaugurating the Seminar on Industry Institute Interaction organized by the School of Engineering, Cusat on 16 July 2012.Dr. Godfrey Louis, Pro-Vice Chancellor, Dr. A. Ramachandran, Registrar, Dr. K. Sajan, Syndicate Member, Dr. P.S. Sreejith, Principal, School of Engineering, Dr. G. Madhu and Dr.Bhasi A. B. spoke on the occasion.



*Sri.Mike Nithavrianakis,Deputy High Commissioner of United Kingdom(Chennai)is making a point with Cusat Vice Chancellor Dr.Ramachandran Thekkedath during his visit on 06 Nov. 2012*

# Beware of uncontrolled accumulation of information

## Cusat Vice Chancellor

Injudicious use of the stupendous collection of information obtained from the recent developments in IT can lead to unexpected information explosion, according to Cusat Vice Chancellor Dr. Ramachandran Thekkedath.

He was inaugurating the International Conference on Recent trends in Data Science and Engineering from 19 July 2012. The uncontrolled accumulation of information will cause information obesity. The situation is similar to the obesity and health problems caused in men by their over-indulgence in fast food.

Sri. Satheesh Babu, Chairman, Kerala Chapter of IEEE presided over the inaugural function while Dr. Poulouse Jacob, Head, Department of Computer Science, Dr. K. Vasudevan, Dean, Faculty of Technology, Dr. A.



Cusat Vice Chancellor Dr. Ramachandran Thekkedath, is inaugurating the International Conference on Recent Trends in Data science and Engineering. Dr. Poulouse Jacob, Head, Dept. of Computer Science, Sri. Satheesh Babu, Chairman, Kerala Chapter of IEEE, Dr. A. Unnikrishnan, Associate Director NPOL, Dr. K. Vasudevan, Dean, Faculty of Technology and Smt Mini U., are on the dais.

Unnikrishnan, Associate Director, NPOL and Smt. Mini Ullanat addressed the gathering. Around fifty

researchers including persons from abroad participated in the Conference where several papers were presented.

## Grace marks for student entrepreneurs on the anvil: Vice Chancellor



Cusat Vice Chancellor Dr. Ramachandran Thekkedath delivering the inaugural address at the Seminar on "Radiation in daily lives" organized by the Industry Institute Interaction Cell of Cusat. Dr. V.P.N. Nampoori, Emeritus Professor, Professor Ajoy Chakraborty, Vice Chancellor, Birla Institute of Technology, Ranchi, Dr. P.S. Sreejith, Principal, School of Engineering and Dr. G. Madhu are also seen.

The matter of providing grace marks for student entrepreneurs will be considered next year, Cusat Vice

Chancellor Dr. Ramachandran Thekkedath said. Initiatives like the start-up village at Kinfra Hitech Park

should be introduced at Universities too, to encourage students in entrepreneurship. The development of novel ideas through research and their commercialization is the need of the hour. He was delivering the inaugural address at the Seminar on Radiation in daily lives organized by the Industry Institute Interaction Cell of Cusat on 20 September 2012. Prof. Ajoy Chakraborty, Vice Chancellor, Birla Institute of Technology, Ranchi opined that students should retain good relationships with their teachers even after passing out. Dr. V.P.N. Nampoori, Emeritus Professor, Dr. P.S. Sreejith, Principal, SOE, Dr. G. Madhu, Dr. P. Abdullah and Sri A. B. Bhasi spoke on the occasion.

# Cusat B.Tech results announced

The eighth semester B.Tech results in Engineering colleges affiliated to the Cusat have been published on 22 June 2012. The first three rank holders in various branches and the name of colleges they belong to are given below.

In the *Civil Engineering* stream, Della Jose (School of Engineering, Thrikkakkara) came first, Parvathy S. (Sarabhai Institute of Science and Technology, Thiruvananthapuram) second, and Deepthi Kumary (School of Engineering, Thrikkakara) came third. The first in the *Computer Science and Engineering* stream was secured by Praviija Raj P.V (College of Engineering, Thalassery) SmrithyPadmanabhan (College of Engineering, Thalassery) came second, while Rahul Rohit (School of Engineering, Thrikkakkara) came third.

In the *Electronics and Communication Engineering* stream, TeenuThankachan (Model Engineering College, Thrikkakkara) secured the first rank, Silva Shaju (ToCH Institute of Science and Technology, Aarakkunnam) second, and Hareesh H (Model Engineering College, Thrikkakkara) came third.

For *Food Technology*, AmmuDinakaran (T.K.M Institute of Technology, Ezhukon) stood first. Juval Ann joseph and Jithin Raj K.K of the same college came second and third. In the *Electrical and Electronics Engineering* stream, Rinsha V (College of Engineering, Thalassery) stood first, Sonu Kumar (School of Engineering, Thrikkakara) came second, and third rank went to Dhanya V (College of Engineering, Munnar)

Sibimol Luke (T.K.M Institute of Technology, Ezhukone) stood first in

*Electrical and Instrumentation Engineering*. Ramya S (Co-operative Institute of Technology, Vadakara) came second and Milu Solaman (College of Engineering, Kidangoor) stood third. In *Electronics and Biomedical Engineering*, Ansia Beeran (Model Engineering College, Thrikkakkara) came first Uma K(T.K.M Institute of Technology, Ezhukone) stood second, and Pushkala V (Model Engineering college, Thrikkakkara) came third.

Binu S Babu (College of Engg., Poonjar) secured the first rank in *Information Technology*. A S Lal (College of Engg., Perumon) came second & Ashwathy Ashok (College of Engg., Perumon) came third.

In the *Mechanical Engineering* stream, Ebin Krishnan (SOE) stood first, Vigil Davis (ToCH Institute of Science & Tech., Aarakkunnam) came second, and MP DhyanSankar (ToCH Institute of Science and Tech., Aarakkunnam) stood third. Ashish Ranjan, Pradeep Kumar and M.D Rehan Ahammed of the SOE, Thrikkakkara came 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively in the *Safety & Fire Engg.* stream.

# Call to Conserve 'Mangroves'

Mangroves which play a large role in reducing pollution are fast vanishing and its conservation is the need of the hour, said Smt.B.Bhadra, Deputy Mayor. She was inaugurating the seminar and lab to field programme on "mangrove propagation and conservation" jointly organized by the School of Marine sciences, Cusat & Swadeshi Science Movement on 13 July 2012.

Around 25 rare saplings reared in the nursery by the Department of Marine Biology, Microbiology and Biochemistry were planted at Mangalavanam as part of the programme. "Awareness programmes alone are not enough for conservation of nature. Each one should realize that he too gains by it in the long run", said Sri.P.Sreekanthan Nair, Director, Environment and Climate Change, in his keynote address.

Dr.Ramachandran Thekkedath, Cusat Vice-Chancellor presided. Sri.D.Rajendran, Asst. Conservator of Forests, Sri.N G K Pillai, Secretary, Swadeshi Science Movement, Dr.S.Bijoy Nandan, Co-ordinator & Smt.Sreelakshmi S offered felicitations.



Smt.B.Bhadra, Deputy Mayor, Cochin is inaugurating the seminar and lab to field programme on mangrove propagation and conservation. Cusat Vice Chancellor Dr. Ramachandran Thekkedath & Dr. Bijoy Nandan (Dept.of Marine Biology) are also seen.

## Cusat signs MoU with CBPST of CIPET

In order to boost studies and research in the area of biopolymer science, a Memorandum of Understanding was inked between Centre for Bio-Polymer Science and Technology (CBPST), a unit of Central Institute of Plastics Engineering and Technology and Cochin University of Science and Technology for collaboration in specialized academic programmes on Friday in Cusat.

University Vice-Chancellor Dr.Ramachandran Thekkedath and Smt.Neelkamal Darbari, Joint Secretary, Union Ministry of Chemicals signed the MoU. Dr.Godfrey Louis, Pro-Vice Chancellor, Dr.A.Ramachandran, Registrar, Syndicate members, Deans of Faculties and academics participated. Later the Centre was inaugurated by Sri.Oommen Chandy, Chief Minister, Govt.of Kerala, and Sri.M.K.Azhagiri,



Cusat Vice Chancellor Dr.Ramachandran Thekkedath and Mrs.Neelkamal Durbari, Joint Secretary, exchange documents after signing the MoU for collaboration in specialized academic programme. Dr.A.Ramchandran, Registrar, and Dr.GodfreyLoius, Pro-Vice Chancellor, are also seen.

Union Minister for Chemicals & Fertilisers, on August 25. Specialized academic programmes such as MSc, MTech and Ph D in Biopolymer Science and Technology will be offered in the new centre. Joint research will be undertaken in

biopolymers and natural fibres and related areas of mutual interest. The collaboration also aims to encourage taking up projects which will motivate younger scientists for undertaking research in Bio polymer Science and Technology.

## Ruby Jubilee celebrated at Dept. of Polymer Science



Smt.Sheela Thomas IAS, Chairperson, Rubber Board inaugurates Confluence 2012, organized by Dept. of Polymer Science & Rubber Technology in celebration of its 40th anniversary. Dr.Sunil K Narayankutty, HOD, Mr.K.T.Varghese, Regional MD, Reynolds Polymer Technologies, Mr:Tom K Thomas, VP, Ceat, Mr.Sooryanarayana, Former VP, Reliance and Dr.K.E.George, are also seen..

The Cusat Department of Polymer Science and Rubber Technology celebrated its Ruby jubilee with a seminar and alumni get together. The seminar was inaugurated by Smt. Sheela Thomas, IAS, Chairperson,

Rubber Board. Mr. K.T.Varghese, Regional Managing Director, Reynolds Polymer Technology, Thailand, Mr. Tom K. Thomas, Vice President, Ceat Tyres Ltd., Mr.Sooryanarayana, former Vice President, Reliance

Industries, Dr. Sunil K. Narayankutty, Head, Department of Polymer Science & Rubber Technology and Dr. K. E. George, Professor, Dept. of PS & RT spoke.

“Confluence”- the alumni get together was inaugurated by Cusat Vice Chancellor Dr.Ramachandran Thekkedath. In his address he stressed the importance of being in tune with needs of the changing times for any academic institution and role that alumni can play in the process. Taking into account the regional importance of rubber and its applications. The B.Tech course in Polymer Science and Rubber Technology was started in 1972 in collaboration with the RRII, at Kottayam and was later on moved to the campus. The dept. has so far produced 72 Ph Ds.

## CSC Media Awareness Workshop on Nuclear energy

# Safety as important as power- Cusat VC



Cusat Vice Chancellor Dr.RamachandranThekkedath inaugurates the Media Awareness Workshop on Nuclear Energy organized by the Centre for Science Communication, Cusat & DPR. Dr.K.K.Rajan, Director, IGCAR, Dr.M.Sai Baba, Associate Director, IGCAR, Prof. Lopus Mathew, Syndicate Member, Dr.A.Ramachandran, Registrar, Sri.Nimish Kapoor, Senior Scientific Officer, VigyanPrasar, and Dr.S.Anil Kumar, Director, Public Relations and Publications are looking on.

As the energy situation in the country is deteriorating, it is necessary to seriously consider all sources of energy including nuclear power, according to Cusat Vice Chancellor Dr.Ramachandran Thekkedath. Although prime importance is to be given to production of energy, due consideration has to be given to safety and protection to the environment.

He was delivering the inaugural address at the Vigyan Prasar (DST) sponsored Media Workshop on Nuclear Energy organized by the Centre for Science Communication on 23 August 2012 in association with the Directorate of PR&P, Cusat. Sri.Nimish Kapoor, Senior Scientific Officer, Vigyan Prasar, Dr.M.Sai Baba, Associate Director, Indira Gandhi Centre for Atomic Research (IGCAR). Dr.K.K.Rajan, Director, Fast Breed Reactor Group, Prof.Lopus Mathew, Syndicate Member, Cusat, Dr.A.Ramachandran, Registrar, Cusat,

Dr.S.Anil Kumar, Director, PR & P and Director, Centre for Science Communication, and Smt. Jalaja Madan Mohan, Head, Technical Co-ordination, IGCAR spoke. During the workshop that followed, Dr.K.K.Rajan, Dr.M.Sai Baba, Dr.M.T.Jose, Sri.Soman Thomas, Additional CE, Kudamkulam Project and Sri.VP.Sunil, Senior

Commissioning Engineer lead various sessions. Dr.K.Gireesh Kumar, Professor, Dept. of Applied Chemistry Cusat, Dr.K.R.Muraleedharan Nair, Dean, Faculty of Science, Cusat, Prof.K.A.Simon, Director, KM School of Marine Engg., were moderators during the open sessions. Dr.Godfrey Louis, Pro-Vice Chancellor, Cusat, was the Chief Guest at the concluding session and media interaction of the workshop. The programme was attended by around 50 representatives of media from the state.

Interacting with the media during the media session, Dr.Sai Baba said that the Fukushima incident has shown that “we need to have certain safety regulations”. Stating that the Japanese have started operating a reactor since the Fukushima crisis, Dr.Baba said that energy requirement is so high that all forms of energy are required for a country. “Nuclear energy is a long-term energy option for the country,” he said.

Pointing out that the nuclear share of total electricity generated in France is about 75 per cent, Dr.Baba



Dr.GodfreyLoius, Pro-Vice Chancellor, Cusat moderates the interactive session with the media, during the Media Awareness Workshop. Dr.M.Sai Baba, Dr.K.K.Rajan, Sri.M.T.Jose, Sri.Soman Thomas, and Sri.V.P.sunil are on the dais.

said that U.S is operating nearly 104 nuclear reactors. Radiation technology has several advances and it could be used in areas like genetic improvement of crop plants and development of new varieties. Radiation processing will help in shelf-life extension of products and also open up new markets in agriculture aimed at the welfare of the farmers, he said.

Dr.K.K Rajan, Director of Fast Reactor Technology Group at the Indira Gandhi Centre for Atomic Research, Sri.M.T.Jose, Head of Radiation Safety Division, Indira Gandhi Centre for Atomic Research, Kalpakkam, and Sri.Soman Thomas, Additional Chief Engineer (FE), Kudankulam Nuclear Power Plant, were among the speakers during the media session.

“Nuclear power could come to the rescue of the state when the Kudankulam nuclear power reactor will be commissioned in a year. The state will get 265 MW from the central pool of 3000 MW from Kudankulam”, said the experts from the Atomic Energy Department.

“For a state ridden by power crisis, energy of such volumes will do wonders to the development of the agricultural and industrial sector,” said Dr. M Sai Baba, Associate Director, Resource Management Group, IGCAR.

It was during an interaction with the media organized by the Centre for Science Communication, CUSAT and VigyanPrasar, Dept of Science and Technology that the engineers and scientists from Dept. of Atomic Energy tried to put across the need for nuclear power to counter the power shortage in the country. “In eight months, the two units at Kudankulam will be commissioned and as per the

## Cusat Computer Department Gets 52 lakh Grant from Centre

The Mobile Computing Research Group, Computer Science Department, Cusat, has received a grant of Rs.52 lakh from the Science and Technology Department, Government of India, under its FIST programme. Led by Dr. Poullose Jacob, the group has been conducting research with focus on wireless sensor nodes since 2006.

The grant has been approved in recognition of the research work in Wireless Sensor Network (WSN) and to further strengthen the two M Tech programmes run by the department.

A major portion of the grant is to be utilized in developing a Sensor Lab, which would be a test bed for real-life experimentation of new ideas which have been conceived since then. A web interface has also been planned which would help remote

researchers, with due authorization, to utilize the test bed. The prime challenge for the design of long lived sensor nodes is energy consumption. Efficient energy management schemes need to be adopted with an eye on its effects on varying channel quality existing in WSN.

Investigative research in energy-efficient routing schemes for static and mobile sensor networks as well as in channel Adaptive Energy Management protocols has helped produced two PhDs.

The area of research can be applied in the safety and security of buildings and regulating traffic based on density. It also has a role in personal mobile devices which can interact with sensor networks deployed in the environment.

agreement, Kerala will get 265 MW power from the centre. This will give a big boost to the power situation in the state and will help in the backdrop of a weak monsoon,” said Dr.K K Rajan, Director, Fast Reactor Technology group, IGCAR.

Emphasising that nuclear power is not competing with the other forms of alternative energy sources, Sai Baba said that while the initial cost of setting up a nuclear plant is high, operation costs are very low. “You don’t get any power at less than Rs 2 except nuclear power”. Talking of nuclear safety issues that lie at the core of all opposition to the setting up of nuclear reactors, Sri.M T Jose, Head, Radiation safety section, IGCAR, Kalpakkam said. “India’s nuclear reactors are safe and each one has been built taking into account all safety measures that need to be in place to protect the staff, the neighboring

population as well as the country,”

“There is no logic in comparing Fukushima plant with Kudankulam. Fukushima has been built on the beach front, but the Kudankulam project was constructed on a solid terrain and that too keeping all the safety aspects in mind,” the experts said. “Keeping in view of the Tsunami factor, though we don’t come in that area, an additional elevation has been added to the highest Tsunami ever reported,” said Sri.Soman Thomas, Additional CE, Kudankulam. “The plants in Kudankulam have a double containment system which can withstand high pressure”, he added. “Despite Fukushima, Japan has not closed down its nuclear reactor. Germany has been talking about closing down but has still not done it. This is because everybody realizes that it is the cheapest power that can be given to the people,” said Dr.Sai Baba.



*Lt General (Rtd) Andi M Ghalib, Indonesian Ambassador to India and Mr.Son Kuswadi, Indonesian Education Attache are in a discussion with Cusat Vice Chancellor Dr. Ramachandran Thekkedath during the visit of Indonesian Ambassador to Cusat.*

## Indonesian Ambassador Andi M Ghalib visits Cusat

The Indonesian Ambassador to India Lt.General (Rtd) Andi M Ghalib has said that the co-operation between Indian universities and the educational institutions in the higher education sector will be strengthened.

During his visit to the Cusat on 4 September 2012, Mr.Ghalib observed that students exchange between the two countries is minimal despite the agreement entered into between the two countries in January last year.He

expressed the interest of his country in cooperating with a reputed institution in the technical sector like the Cusat.

Discussions were also held on the possibilities of collaboration between Indonesian education institutions and Cusat in research, scholarships, and students&faculty exchange. Mr.Ghalib who was accompanied by the Education attaché for India, Son Kuswadi was given a warm reception by Dr.A.Ramachandran, Registrar.

## Cusat to have advanced Weather Radar System soon

An MoU was signed between Cochin University of Science and Technology and Data Patterns(India) Pvt.Ltd, Chennai, for supplying and installing the Stratosphere-Troposphere (ST) radar system atop a three-storey building in Cusat on 28 August 2012.

The Rs.20 crore Doppler radar is the first of its kind being given to a university by the Ministry of Science and Technology for research purpose. Dr.A.Ramachandran,Registrar,Cusat, and Sri.Thomas Mathuram, Business Head, Data Patterns (India) Pvt Ltd, Chennai signed the MoU in the presence of Cusat Vice-Chancellor Dr.Ramachandran Thekkedath. The radar will be set atop a 22,000 sq.ft. building. The radar will give data on wind structure, disturbance in the atmosphere turbulence and minute changes 24 x 365. It will cover the airport and Navy areas and give information on climate change.

## Cusat body aids firms, nets 1.25 crores

Scripting a unique success story in the industry-institution partnership, the Sophisticated Test and Instrumentation Centre (STIC)of the Cochin University of Science & Technology, has raked in Rs.1.25 crore in 2011-12 by offering its services to the industry units in and outside the state and also to premier organizations like the ISRO.

The STIC, set up in 1995, jointly by the Cochin University of Science and Technology and the Kerala State Council for Science, Technology and Environment, today supports nearly 500 industrial establishments and 1200 researchers from within and outside the state, providing highly sophisticated testing and calibration facilities,

analytical instrument facility and training programs.

The electro-technical, thermal and mechanical calibration laboratories of STIC are accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) which makes it a sought after destination for companies. STIC also has facilities to conduct tests for products as per the specifications of Bureau of Indian Standards (BIS) and issue certificates.

Dr.Jacob Philip, who heads STIC, is happy to take the institution to its current profile from when it has been earning a mere Rs.11 lakh in 2000. In the 2010-11 financial year, the revenue

of STIC was Rs.85 lakh.

“Scientists and researchers doing nano technology research get the facility to conduct tests here to identify nano materials for their experiments. One of the main customers of STIC is the ISRO. The Satish Dhawan Centre at Sriharikota and the VSSC use the services of STIC for their thermal calibration” said Dr.Jacob Philip. Besides corporate entities, even gramapanchayats are nowadays making use of STIC for testing their street lights. STIC has a multitude of highly sophisticated testing machines, among which the X-Ray diffractometer costing Rs.17 crore installed in 2010 is the only such machine in Kerala.



*Sri.Deepak Shetty, Director General of Shipping lights the ceremonial lamp at the Passing-Out ceremony of K M School of Marine Engineering. Dr.Godfrey Louis, Pro-Vice Chancellor, Dr.A.Ramachandran, Registrar, Cusat Vice Chancellor Dr.Ramachandran Thekkedath, Sri.B.R.Sekhar, Principal Officer, Mercantile Marine Dept. and Dr.K.A.Simon, Director are looking on.*

possess soft and hard skills. Speaking about strengths, weaknesses, opportunities and threats in the maritime field, he said that the strength was that 7.5 percent of the global seafaring communities were from the country. "Indian officer cadres are in demand, and we hope to increase it to 9.9 by 2015. At the same time, there would be a capping on post-sea and pre-sea training as there were 10,000 candidates for 3,000 opportunities. Seats would be increased in state institutes," he said.

Cusat Vice-Chancellor Dr.RamachandranThekkedath presided over the function.Sri.B.R.Sekhar, Principal Officer, Mercantile Marine Dept,

## Cusat Marine Engineering Passing out Ceremony

# DGS to rate Maritime Institutes

The Director-General of Shipping has decided to rate maritime institutes as most of the colleges leave much to be desired in terms of quality. Of the 137 maritime institutes in the country, only 87 can be approved, said Deepak Shetty, Director-General of Shipping. He was the Chief Guest at the passing-out ceremony of the fifth

batch of KM School of Marine Engineering, Cusat, on Tuesday. Agencies will give the rating of each college so that students are left to choose the best.

He said that a study conducted by NASSCOM reported that only 25 per cent of engineering graduates are employable as most of them do not

Cochin, was the Guest of Honour. Dr. Godfrey Louis, Pro-Vice Chancellor handed over the course certificates. Dr.K.A Simon, KMSME Director welcomed the gathering and Dr.A.Ramachandran, Registrar, Cusat proposed the vote of thanks. Prof.N.G. Nair, Course-in-charge & faculty members participated.

## Cusat book on identification of back water fishes released

"A Field guide to the identification of Backwater fishes", a book authored by Dr. S.Bijoy Nandan, Associate Professor in Marine Biology, School of Marine Sciences, Cusat was released at a function organized at Kanakakkunnu Palace, Thiruvananthapuram in connection with the World Environment Day Celebrations on 05 June 2012. Sri.James Varghese, Principal Secretary, Kerala State Environment Dept. released the book by handing over a copy to Sri. Adoor Prakash, Minister for Revenue, Govt. of Kerala. Sri. K. Sajeevan, Chairman, Kerala State Pollution Control Board and Smt. P. Molikutty, Member Secretary were also present. The book was published by the DPR&P, Cusat.



*Sri.James Varghese, Principal Secretary, Kerala State Environment Department releases the book authored by Dr.S.Bijoy Nandan by handing over a copy to Shri.AdoorPrakash, Minister for Revenue. Sri.K.Sajeevan, Chairman Kerala State Pollution Control Board and Smt.P.Molikutty, Member Secretary, Kerala State Pollution Control Board are also seen.*

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## Ph.D Awardees

**Smt. Seema P.S.** “Protection of Farmers’ Rights in India: Challenges for law in the context of Plant Breeders’ Rights”(Dr. N.S. Soman, Associate Professor, School of Legal Studies, Cusat)

**Smt. Florence M.A.**,”Sustainability and Livelihood issues of Vembanad Ecosystem Fisherfolk Communities with special reference to Muhamma and Thannermukkam Villages”, (Dr. D. Rajasenan, Professor, Department of Applied Economics, Cusat)

**Smt. Newly Joseph**, “Weld line behavior of modified PP, HDPE and their blends”(Dr. K.E. George, Professor, Department of Polymer Science and Rubber Technology, Cusat)

**Smt. Divya Jose**, “Proteases from an Environmental Isolate of Pseudomonas Aeruginosa MCCB 123 and their Applications”,(Dr. A. Mohandas Emeritus Professor, School of Environmental Studies, Cusat)

**Sri.Sreekumar V**, “A Study on variations in industrial electricity tariff and regulatory intervention in Kerala State”(Dr. Meera Bai M., Professor and Head, Department of Applied Economics, Cusat)

**Sri.Aneesh K.N.**, “Swathantrya othar Hindi Natakam Mein Badhalthe Parivarik Sandarbh”(Dr. P.A. Shemin Aliyar, Professor (Retd.), Department of Hindi, Cusat)

**Smt. Anoo Anna Anthony**, “Global value chain linkages of manufacturing export firms: A study of the Kannur Home Textile Industry”, (Dr. Mary Joseph T., Retired Professor, School of Management Studies, Cusat)

**Sri. Mahesh Kumar M.V**, “Design and Synthesis of Conjugated Polymers for Photovoltaic and Chemosensor

Applications”, (Dr. A. Sreekumar, Professor, Department of Applied Chemistry, Cusat)

**Smt. Prabha S. Nair**, “International initiatives for regulating access to genetic resources”, (Dr. N.S. Gopala krishan, Director, Inter University Centre for IPR Studies, School of Legal Studies, Cusat)

**Sri. Prem Nath R**, “Qualitative Air flow Modeling and Analysis of Data Centre air conditioning as multiple jet array”, (Dr. G. Madhu, Professor and Head, Division of Safety and Fire Engineering, School of Engineering, Cusat)

**Sri.Ratheesh Kumar C.S**, “Triterpenoid As Biomarkers of Mangrove organic matter in Cochin Estuarine System”, (Dr. N.Chandramohanakumar, Professor, Department of Chemical Oceanography, School of Marine Sciences, Cusat)

**Smt. Saleena K.B**, “Exceptions and limitations to intellectual property rights with special reference to patent and copyright law” (Dr. N.S. Gopalakrishan, Director, Inter University Centre for IPR Studies, Cusat)

**Sri.Sujith R**, “Design and Development of compact coplanar waveguide fed antennas for wireless applications”, (Dr. P. Mohanan, Professor, Department of Electronics, Cusat)

**Sri.Rejil T**, “Microalgal vegetation in the selected mangrove ecosystems of Kerala”, (Prof. (Dr.) K.J. Joseph, Professor (Rtd.), Department of Marine Biology, Microbiology and Biochemistry, School of Marine Sciences, Cusat)

**Smt. Anu Philip**, “Preparation and characterization of High-K Aluminium

Oxide Thin films by atomic layer deposition for gate dielectric applications”,(Dr. Rajeev Kumar, Associate Professor, Department of Instrumentation, Cusat)

**Sri.Ramkumar P.B**, “A study of Morphological Operators with Applications”(Dr. K.V.Pramod, Head of the Department, Department of Computer Applications, Cusat)

**Sri.Habeeb Rahiman P.A**, “A study of credit guarantee fund trust for micro and small enterprises with Particular reference to Bank of Baroda in State of Kerala”, (Dr. George Varghese, Professor (Retd.), School of Management Studies, Cusat)

**Smt. Nishamol M.S**, “Design and Development of Reconfigurable compact cross patch antenna for switchable polarization”(Prof. K. Vasudevan, Professor and Dean, Faculty of Technology, Department of Electronics, Cusat)

**Sri. Paul A.J** “An approach towards the Development of an efficient symmetric key encryption scheme,(Dr. M. Mythili, Associate Professor, Division of Electronics Engineering, School of Engineering, Cusat)

**Sri.Mathews M. Paul**, “Behaviour of laterised normal and self compacting concrete subjected to elevated temperatures”, (Dr. George Mathew, Associate Professor, School of Engineering, Cusat)

**Sri.Harikrishnan E**, “Marine Microalgae in the EEZ of India”, (Dr. K.J. Joseph, Professor (Rtd.) and Research Guide, Department of Marine Biology, Microbiology and Biochemistry, Cusat)

**Smt. Bindu C.S**, “Influence of additives on the characteristics of stone matrix asphalt”, (Dr. K.S. Beena, Professor, Division of Civil Engineering, School of Engineering, Cusat)

**Smt. Dhannia T**, “Investigations on the structural optical and magnetic properties of nanostructured cerium oxide in pure and doped forms and its polymer nanocomposites”(Dr. S. Jayalakshmi, Professor, Dept. of Physics, Cusat, Kochi -22)

**Sri.Sajeevan M.K**, “Systematic, life history traits, Abundance and stock assessment of *Cobia rachycentron canadum* (Linnaeus, 1766) occurring in Indian waters with special references to the northwest coast of India”(Dr.B.Madhusoodana Kurup, Vice-Chancellor, KUFOS, Panangad)

**Sri.Prajith K.K**, “Application of Biofloc Technology (BFT) in the nursery rearing and farming of giant freshwater prawn, *macrobrachium rosenbergii* (De Man)”, (Dr. B. Madhusoodana Kurup, Vice Chancellor, KUFOS, Panangad)

**Smt.Sobhana Mathew**, “Development of Macrocyclus based electrochemical sensors”, Dr. K. Girish Kumar, Professor, Dept. of Applied Chemistry, Cusat, Kochi-22)

**Sri. T.H. Sajeesh**, “Spray Pyrolysed Tin Chalcogenide Thin Films: optimization of Opto-Electronics Properties of SnS for possible photovoltaic application as an absorber layer”, (Dr. K.P. Vijayakumar, Professor, Dept. of Physics, Cusat)



Cusat Vice Chancellor Dr.Ramachandran Thekkedath, handing over the Dr.C.P.Menon Memorial award for the best popular science book to Dr.S.Anilkumar, Director of Public Relations and Publications, Cusat at a function organized at the Physics Auditorium

## **Dr.C.P.Menon Award to Cusat DPR & P**

A popular science book titled “*Visakkunna lokavum visakkatha manusyarum*”, authored by Dr.S.Anil Kumar, Director, Public Relations and Publications, Cusat was adjudged as the best book for Dr.C.P.Menon Memorial Trust Award. The award was presented by Cusat Vice Chancellor Dr.Ramachandran Thekkedath at a function organized at Physics auditorium at Cusat on 20 September 2012. Padmasree Dr.M.Leelavathy (Dr.C.P.Menon

Memorial Trust), Noted literary critic Prof.M.Thomas Mathew, Essayist Dr.P.V.Krishnan Nair, Litterateur Dr.Prabhoda Chandran Nair, Art Critic Sri.Vijayakumar Menon, Malayalam writer Dr.S.Rajasekaran, Dr.V.P.N. Namboothiri, Noted Malayalam Writer Sri.M.V.Benny and famous novelist Sri.C.Radhakrishnan, were among the invited audience.

### **Prof. K.Mohankumar nominated as expert**

Ministry of Earth Science (MoES), Government of India has nominated Dr. K.Mohankumar, Dean, Faculty of Environmental Studies and Professor in Atmospheric Science as an Expert member in the Project Appraisal and Monitoring Committee (PAMC) of the Ministry. The PAMC is responsible for funding major research projects, monitor and review the progress of the projects and to evaluate the achievements of the completed projects under the MoES. The Committee meets at least once in six months for the appraisal and review of projects.

## **Cusat book on Bio Technology released**



Dr.Godfrey Louis, Pro-Vice Chancellor is releasing a book, authored by Dr.Sarita G Bhat, by handing over a copy to Dr.K.Vasudevan, Dean, Faculty of Technology. Dr.C.S.Paulose, Dept. of Bio-Technology, Sri.Sebastian Ouseph, Finance Officer and Dr.Sarita G Bhat are looking on.

## International recognition to Cusat faculty

The Government of India honored Dr. K. Vanaja, Professor, Dept. of Hindi Cochin University of



Science & Technology for her meritorious contributions to Hindi Language and Literature in the 9<sup>th</sup> World Hindi conference held at Johannesburg, South Africa from 22 to 24 September 2012. Dr. Vanaja has authored seven books in Hindi.

## Russian Honor to Cusat Professor

The Russian Scientific community has honored a Cusat Professor by translating his English book on Atmospheric Science into Russian language. The author of the book Dr. K. Mohan Kumar is a professor at the Department of Atmospheric Science and Dean, Faculty of Environmental Studies, Cochin University of Science and Technology. His book “*Stratosphere-Troposphere Interactions: An introduction*” which focuses on the effect of climate change on the ozone layer has already made him the first Asian to win the ASLI Choice Award from the Atmosphere Science Librarians International. The award was for the best book in the

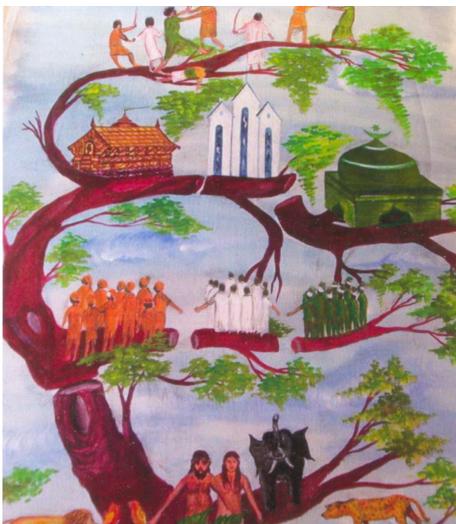


fields of meteorology, climatology and atmospheric science. Dr. Mohan Kumar has also received the SAARC award for developing technology for information inter-change related to weather forecast.

### Ten day workshop

School of Management Studies, Cusat is organizing a ten-day residential course on Research methodology (sponsored by ICSSR, New Delhi) for SC/ST PhD Research Scholars in Social Sciences area from 16 to 25 January 2013.

## Exhibition of paintings by artist from Cusat



Artist Renjith Haridas, an Assistant with the Cusat conducted an exhibition of 25 paintings in acrylic by him at Lalitha Kala Academy, Kochi, during 22 to 26 June. The exhibition was inaugurated by ‘Apoorvaragam’ Film fame Vinay Fort. The exhibition also had on display two paintings by his father, a former employee of the University and some craft items

prepared from waste products by his wife Dhanya. The insufficiency of Govt. policies, the strife caused by religion and god-men, the youth’s obsession with television, internet and fast-food are some of the issues that the artist highlights in his numerous works.



### Book by Cusat employee released

A short story book “*Oru Self Financing Padanathinte Katha*” by Sri. Sebastian Kachappilly, an employee of Cusat, was released by Sri. Sippy Pallipuram, well known writer on the occasion of Annual Celebration of “Sargavedi” a writers’ organization on 19 August 2012. Sri. Sippy Pallipuram, Sri. Puyyappilly Thankkappan, Sr. R. Ravindranath and the author spoke during the function organized at S S V Sabha Hall, Nayarambalam, Ernakulam district.



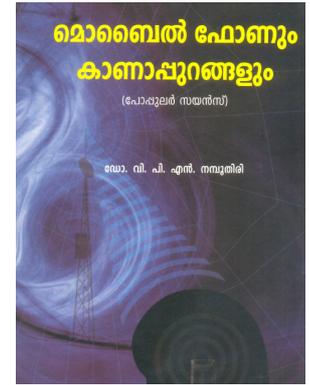
Sri. Sippy Pallipuram is releasing the book authored by Sebastian Kachappilly. Puyyappilly Thankkappan, V.S. Raveendranath and Sebastian Kachappilly are also seen



## Alumni Association at Marine Biology Dept.

Dr.P.K.Abdul Azis, former Vice Chancellor of Cusat and Aligarh Muslim University inaugurated the Marine Biology Alumni Association (MBAA) at the Department of Marine Biology, Micro Biology and Biochemistry on 7 August 2012. The event was presided over by Prof. Dr. N. R. Menon, Emeritus Professor and former director of the School of Marine Sciences. The logo was released by Dr.Mohan Joseph Mudayil, former member, Agricultural Scientific Research Board, ICAR. Prof. Dr. N. R. Menon, Emeritus Professor. Dr. Madhusoodhana Kurup, Vice-Chancellor, KUFOS, Dr.K.V.K Nair, former advisor and consultant, NIOT, Dr.V.V.Sugunan, former ADG, ICAR, Dr.N.G.K.Pillai, former Director, ICAR & Emeritus Scientist, CMFRI, Dr.K.K.C.Nair, former Scientist-in-Charge, NIO-RC and Ms.Jimly C Jacob, Secretary, SOMB offered felicitations. Dr.A.A.Mohammed Haatha, Head of the Department, welcomed the audience and Dr.S.Bijoy Nandan, Associate Professor proposed the vote of thanks.

## Dr.C.P.Menon Award to Science Book published by Cusat Directorate of PR & Publications



Dr.V.P.N.Namboothiri, CSIR Emeritus Scientist, ISP was awarded Dr.C.P.Menon Memorial Award in the category of malayalam scientific books, for his book *mobile phorum kanapurangalum*, and *laserinte mayalokam*. Both the award winning

books were published by the Directorate of Public Relations and Publications of Cusat in collaboration with Sahitya Pravarthaka Co-operative Society(SPCS), Kottayam. Dr.V.P.N. Namboothiri is a former Director of International School of Photonics.



A front view of the newly constructed Cusat Auditorium

## Tejus Editorial Advisory Board

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# Chief Minister inaugurates the Justice Krishna Iyer Chair on Human Rights at Cusat

As a person constantly fighting for humanity and human rights, the life and work of Justice V.R.Krishna Iyer are an open book and the favourite topic of discussion in legal circles, according to Sri Oommen Chandy, Hon'ble Chief Minister of Kerala. He was speaking after inaugurating the Justice V.R. Krishna Iyer Chair on Human Rights established by the Government of Kerala at the School of Legal Studies, Cusat on 8 September 2012.

Justice Krishna Iyer who was present on the occasion said that he was extremely happy and honored to have a Chair in his name and hoped that its activities would be aimed at the well-being of the nation. Sri. V.K Ibrahim Kunju, Minister for Public Works said that the glory of Cusat will be enhanced by the establishment of the chair.

Cusat Vice Chancellor Dr. Ramachandran Thekkedath presided



*Sri.Oommen Chandy,Chief Minister of Kerala, is inaugurating the Justice Krishna Iyer Chair on Human Rights at Cusat. Sri.Lopus Mathew, Syndicate Member,Dr.Godfrey Louis, Pro-Vice Chancellor, Sri.Nedumudi Harikumar, Syndicate Member, Sri.Hibi Eden MLA, Sri.V.K.Ibrahim Kunju, Minister for Public Works, Justice Krishna Iyer, Cusat Vice Chancellor Dr.Ramachandran Thekkedath and Sri.Benny Behanan MLA are looking on.*

while Sri Benny Behenan, MLA, Sri Hibi Eden, MLA and Syndicate Member, Sri.Lopus Mathew, Syndicate Member, Sri. Nedumudi Harikumar, Syndicate Member, Dr. Godfrey Louis, Pro-Vice Chancellor,

Cusat, Dr. N.S. Soman, Co-ordinator, Justice V R Krishna Iyer Chair on Human Rights, Dr. A. Ramachandran, Registrar, Cusat and Dr. V S Sebastian, Director, School of Legal Studies, Cusat addressed the gathering.

## “Human Rights means...” Justice V.R.Krishna Iyer

“Freedom of thought, freedom of speech, freedom of association, freedom from slavery and torture

inside even prisons are some of the newer developments of human rights. Relativism and universalism are still

moot issues debated amongst scholars today.

This shows that human rights are an expanding ideology and humans are marching ever onwards into a world where man matters and his dignity gains greater value.

Children’s rights and Women’s rights and even the rights of the child still in the womb are being included in the expanding universe of human rights.

Defence of individual nations against nuclear menace and other lethal scientific discoveries are now necessary as part of the right to life of people of backward nations”.



*Justice V.R.Krishna Iyer is delivering the special address. Sri.Oommen Chandy,Chief Minister of Kerala, Sri.V.K.Ibrahim Kunju, Minister for Public works and Sri.Hibi Eden MLA are looking on.*