

# TEJUS

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GOCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
നവോദയ സാമൂഹിക സാങ്കേതിക വിദ്യാലയം  
ADMINISTRATIVE OFFICE

# THE GOLDEN





# CUSAT NAAC



Cochin University of Science and Technology (CUSAT) was awarded A+ by the National Assessment and Accreditation Council (NAAC), an autonomous body established by the University Grants Commission (UGC) to assess and accredit institutions of higher education in the country. The re-accreditation result was declared on October 18, three days after the peer team visit from October 12 to 14.

The university has improved its score to 3.39 out of 4. Earlier, in 2016, NAAC had accredited CUSAT with an 'A' grade and a score of 3.09.

Vice Chancellor Dr K N Madhusoodanan expressed happiness over the improved grade, which, he said, is a result of collective, consistent and integrated efforts by the staff and students of the university.





# Awarded A+ in Re-accreditation



The assessment is based on quantitative and qualitative analyses. A seven-member NAAC peer team had visited CUSAT for quantitative analysis. The peer team was headed by Dr. Bijoy Kumar Nanda, the former Vice Chancellor of Veer Surendra Sai University of Technology, Burla, Odisha. The other members of the team were Dr. Aravind Kumar Singh, Professor, North Eastern University, Shillong, Dr. VK Rattthan, Vice Chancellor, GNA University, Phagwara, Dr. KM Soni, Dean, Amity University, Noida, Uttar Pradesh, Dr Ramakrishna Seelam, Professor, SV University, Tirupati, Dr. Debasish Sur, Professor, University of Burdwan, West Bengal and Dr. Prof. Ravisekhararaju Pujari, Dean, Sastra Deemed University, Tanjavur.

Earlier in 2022, CUSAT had also improved the NIRF ranking among national universities from 44 to 41. The University had also won the prestigious Chancellor's Award for the Best University in the State thrice in the past four years. As many as 113 names from the university featured in the list of world's renowned scientists. The number of patents increased to 25 and h-index, the list of highly cited researchers, grew to 116 in numbers, making CUSAT one of the very few institutes in the country to cross the truly exceptional mark of 100 h-index. As many as 113 startups function in the university in different incubators. More than 8,500 students from 33 countries across the globe engage in academic and research activities in CUSAT.



# CUSAT becomes State's First University to Unveil Policy for Faculty Startups

In a first-of-its-kind initiative, CUSAT has become the first university in Kerala to initiate a policy to let its faculty members launch their own startups in their respective research domains.

According to the new Faculty Startup and Entrepreneurship Policy approved by the Syndicate recently, teachers can start their own technology ventures while in service. The policy is framed in line with the MHRD guidelines and the best practices followed by various IITs and premier global Universities. The initiative will give a big boost to the university centric startup ecosystem, motivating teachers and research scholars to convert their research work into useful services that would benefit society.



Under the policy, product development and commercialisation as well as participating and nurturing of startups will now be added as part of duties of a faculty in CUSAT and will be given due weightage during the faculty's annual appraisal and promotion.

An Innovation & Entrepreneurship Committee consisting of experts from the industry and academia will

scrutinise the applications from the faculty members for starting their own ventures.

On approval of the application, CUSATECH FOUNDATION, a Section 8 company formed by CUSAT to promote innovation and entrepreneurship, will sign an MoU with the startup about the involvement of the faculty and ownership of equity.

20% from the equity given to a CUSAT faculty by the startup, has to be given to CUSATECH Foundation, which will become a co-owner in the startup. The faculty are allowed to spend up to 20% of their working hours on their start-up activities in a non-executive role without any change in their teaching responsibilities.

## Elite Academician Award for Vice Chancellor Dr K N Madhusoodanan



Vice Chancellor Dr. K N Madhusoodanan received the prestigious 'Elite Academician Award 2022' instituted as part of the IEEE Global Conference on Computing Power and Communication Technologies (GlobConPT 2022). The award recognises exceptional researchers and academicians for their outstanding career-long contributions to higher education. The award was presented to Dr. Madhusoodanan at a grand function organised at India Habitat Centre, New Delhi.



## CM Opens Two-day National Conference on Knowledge Translation in Medical Sciences

A two day cross-disciplinary National Conference of Experts & Hands-on Workshop was organised by the Kerala State Higher Education Council (KSHEC) at the University on December 15 and 16. The conference focusing on Knowledge Translation Research in Medical Sciences is aimed at reorienting the research sectors to be competent in transforming knowledge into uses, services, property and products, involving ideas, external relations, communication and collaboration with multiple agencies for joint actions.

Chief Minister Pinarayi Vijayan inaugurated the event chaired by R. Bindu, Minister for Higher Education. All the Vice Chancellors of the Universities chosen for the establishment of Knowledge Translation Centres were present at the event.

Prof. M. S Valiathan was the patron of the programme. Prof. Samir Kumar Brahmachari, former DG of CSIR, and Dr. Salim Yusuf, Distinguished Professor, School of Medicine, McMaster University, Canada, led the conference. The delegates to the conference include assistant professors from Medical colleges, Final year Medical students, PG Doctors and Navakerala Post-doctoral Fellows.



Chief Minister Pinarayi Vijayan inaugurates the two-day cross-disciplinary National Conference of Experts & Hands-on Workshop organised by the Kerala State Higher Education Council (KSHEC).

## NBA Accreditation for Three B.Tech Programmes

Three B. Tech programmes offered by the School of Engineering (SOE) were accredited for three years by the National Board of Accreditation (NBA) under its Tier-I (Washington Accord) system. The programmes accredited are Information Technology, Computer Science & Engineering, and Electrical & Electronics Engineering.

From October 28 to 30, the NBA team inspected the School of Engineering and evaluated the

courses.

School of Engineering, the largest constituent department of CUSAT, is the only institution in the State of Kerala, other than NIT Calicut, to be accredited by NBA under Tier-1 category.

This accreditation is intended to ease the mobility of engineering graduates of the Washington Accord signatory countries for their higher studies and employability at the international level.



## State's First Class 10000 Clean Room in CEAM

The University has unveiled the state's first Class 10,000 Clean Room to aid research activities, and a sophisticated Femtosecond Laser facility at the Department of Physics. The Clean Room is constructed under the university's Centre for Excellence in Advanced Materials utilising the state government's plan fund.

Clean Rooms are classified according to the number and size of particles permitted per volume of air. The Class 10,000 Clean Room has less than 10,000 particles per cubic foot. The clean room functions under controlled temperature and humidity and maintains a lower atmospheric pressure than normal.

The Clean Room used for nanomicrotechnology research activities is expected to raise the research facilities of the university to an international level, opined Vice Chancellor Dr K N Madhusoodanan, while inaugurating the Clean Room and Femtosecond Laser facility.

The modern Femtosecond Laser facility built at a cost of ₹3 crore functions in this Clean Room. The facility produces ultrafast lasers in a matter of femtoseconds.

Using the technique Two-Photon Polymerisation, genetic molecules are created to form cell structures that can be used in organ transplant procedures, said Dr. Riju C. Issac, Associate Professor, Department of Physics.



## Water-level Monitoring System Installed in Cochin Estuary

A radar tide-gauge for monitoring the water-level variability has been installed by the researchers of the University in the Cochin estuary. The system will measure real-time data on water-level variability every one minute and transmit the data instantaneously. The project was done with the help of a KIIFB grant given to CUSAT.

'The real-time retrieval of data' was inaugurated by Vice Chancellor Dr. K N Madhusoodanan. The installation of the system was led by Dr. R Sajeev, HoD and Dr. V Vijith, Assistant Professor, Department of Physical Oceanography. The system's intended use includes predicting changes in sea level caused by sea-level variability arising from storm surges, harbour oscillations, coastally-propagating waves, inverse barometric effects due to atmospheric pressure fluctuations and tsunamis. The very high-resolution water-level data will help study the variability of the estuary and can be used to validate computer models used for predictions.



# Proud Achievement: 14 Researchers Bag Navakerala Post-doctoral Fellowship

In a proud moment for the university, 14 researchers have won the Nava Kerala Post-doctoral Fellowship (PDF) instituted by the Government of Kerala to promote research conducive to the holistic development and modernisation of the State.

In the first phase, the Nava Kerala PDF of the Chief Minister is granted to 77 students. Researchers at CUSAT have won fellowships in Life Sciences (5), Chemical Sciences (2), Economic Studies (1), Climate Change and Geological Studies (2), Commerce and Management (2) and Digital Science (2).

Dr. Jeswin Joseph and Dr. Seena Jose, (mentor: Prof. Valsamma Joseph), Dr. Manomi S (mentor: Dr. Jayesh P), researchers at National Centre for Aquatic Animal Health, Dr. Reshma Silvester from School of Industrial Fisheries (mentor: Dr. Mujeeb Rahiman K M). Dr. Tripti Raghavendra from Department of Biotechnology (mentor: Dr. Sarita G Bhat) secured fellowship in Life Science category.

Abhilash P, researcher from Department of Polymer Science and Rubber Technology and Dr. Vishal Kandathil researcher from Department of Applied Chemistry (Mentor: Dr. Manoj N) secured fellowship in Chemical Sciences category and Dr. Aravind Panikkaveettil, researcher from Department of Atmospheric Sciences (mentor: Dr. K Satheeshan) received fellowship in Economic Studies. Dr. Shijeesh. M R, researcher at International School of Photonics (mentor: Dr. Saji K J) and Deepu A Gopakumar secured fellowship in Climate Change and Geological Studies. Dr. Jacob Joju, researcher at the Department of Applied Economics (mentor: Dr. Manoj P K) and Gowri Vijayan, researcher at School of Management Studies, secured fellowship in Commerce and Management. Sreeja M U, researcher at the School of Electronics (mentor: Dr. Supriya M H) and Vivek R, researcher at the department of Computer Science, secured fellowship in Digital Science category.

## 'Day of the Seafarer' Celebrated at School of Marine Engineering

Kunjali Marakkar School of Marine Engineering (KMSME) celebrated the Day of the Seafarer with Capt. S I Abdul Kalam Azad, Principal Officer cum Joint DG(Tech), Mercantile Marine Department, Kochi, as the Chief Guest. Vice Chancellor Dr. K N Madhusoodanan presided over the function.





## CUSAT Research Forum Inaugurated

A Research Forum formed as part of the Cochin University Research Scholars Association, will be inaugurated by renowned Malayalam critic, writer and Kerala Sahitya Akademi awardee Dr. P K Rajasekaran on August 6 at Physics Department. He also delivered a special talk on 'Science and Imagination - a Kerala experience'.

The research forum intends to open up a platform for varied discussions on the changing paradigms of academic and non-academic arenas of researchers in near future, and for developing an inclusive research ecosystem in the university, thereby promoting an interdisciplinary approach in the research activities.

## Quad Fellowship for Chemical Oceanography Student Anagha



Anagha P.

Anagha P., MSc Hydrochemistry student at the Department of Chemical Oceanography, School of Marine Sciences, was chosen for the prestigious Quad Fellowship. Quad, an abbreviation of Quadrilateral

Security Dialogue, is a diplomatic network of Australia, India, Japan and the US, which offers an annual programme through which 100 students from the four countries will be sponsored to pursue masters and doctoral degrees in Science, Technology, Engineering and Mathematics (STEM) in the US.

Anagha is one among the 25 Quad Fellows from India this year. Under the first-of-its-kind scholarship programme designed to build ties among the next generation of scientists and technologists from the four member countries, a Quad Fellow will receive a one-time award of \$50,000. The fellows will also get an opportunity to participate in organised virtual learning sessions and guest speaker events where they will interact with the best minds in the field during a multi-day residential experience. The fellowship aims at building a network of science and technology experts who are committed to bolstering innovation and collaboration in the public, business, and academic spheres.

## SIRE Fellowship for Dr. Pankaj Sagar

Dr. Pankaj Sagar, Assistant Professor, Department of Instrumentation, was selected for the prestigious SERB International Research Experience (SIRE) Fellowship for the year 2022-2023 supported by the Science and Engineering Research Board (SERB), a statutory body of the Department of Science and Technology, Government of India.

As part of the fellowship he undertook the project titled 'Design and Development of a Tuneable Piezoelectric Nozzle for improving the performance of J-T-Cryocoolers' at Engineering, Materials and Systems (EMS), University of Twente, Netherlands.

His broad area of research includes the design and development of cryogenic sensors for space applications, developing techniques for non-destructive evaluation of SRF cavities, designing cryostats and cryo-compatible systems.



Dr Pankaj Sagar

## 2 Women from SMS Bag USEIF Fulbright Scholarships

In a proud moment for the School of Management Studies (SMS), an Assistant Professor and an alumna, won Fulbright scholarship instituted by the United States-India Educational Foundation (USIEF) to promote academic dialogues on issues of contemporary interest and facilitate research by scholars in the US.

Dr Devi Soumyaja, Assistant Professor at SMS, is one among the three academicians who won the Fulbright-Nehru Academic and Professional Excellence Award (Research and Teaching) worth \$22,500 (over ₹16.89 lakh) for her research on academic bullying from a gendered perspective. Dr Soumyaja, who has been working on areas related to gender and management, workplace practices, workplace bullying, and change management, is an advisory member to the Women Studies Centre in CUSAT.

Dr Chandra Vadhana R., alumna of SMS and a social entrepreneur, is one among the 22 researchers from India who won the USEIF Fulbright-Nehru Postdoctoral scholarship worth over ₹70 lakh to pursue research in the Gender Innovation Lab at Stanford University, California, for two years.



*Dr Devi Soumyaja*



*Dr Chandra Vadhana R.*

## Remembering a Visionary Science Educator

Renowned science educator and architect of several visionary institutes, Dr Veliyanad K Gopalakrishnan Nair, known among the science fraternity as Dr K G Nair, 86, passed away on February 19.

Through his works, publications, poems and fiction, he led several initiatives in popularising science among children and the common man. Dr K G Nair's immense contributions have played a major role in shaping up several prestigious Departments and Centres in CUSAT, including the Sophisticated Test and Instrumentation Centre (STIC), the Centre for Science in Society (C-SiS) and Department of Electronics. He was the founder-director of all of these premier academic centres. For his brainchild, the Centre for Science in Society (C-SiS), Dr K G Nair envisioned a Science Park, which opened in 1991, with the idea of simplifying scientific principles and theories for students and prompting them to learn while playing. A first-of-its-kind science awareness initiative in the country, the C-SiS and Science Park at CUSAT enable children to touch and feel scientific theories.



*Prof. K G. Nair*

Dr K G Nair's vision was instrumental in the launch of STIC, the first centre in the state with facilities to determine the accuracy of laboratory and industrial equipment and analyse research findings, in 1994. The centre has made noted contributions in the field of testing and calibration. His contributions involve launching the prestigious biennial National Symposium APSYM in 1998 and developing innovative teaching aids for school and college classes.

Dr K G Nair has published over 190 research papers in the field of electronics, over 130 science articles, one science based poetry, three books in popular science, including the famous 'Sasthraveethiyile Naazhikkallukal', which has made it to several editions since its release in 1960. Associating with Kerala Bhasha Institute, he has translated several science books into Malayalam.

After serving as a lecturer, reader and professor at the Delhi University, University of Kerala and CUSAT, Dr K G Nair retired in 1994 while serving as the head of Department of Electronics at CUSAT, and went on to head STIC, developing it into South India's greatest centre of scientific excellence. He has been honoured with UGC's Homi J Baba Award for experimental Science (1995), Swadesi Science Award (2008), Rotary Award, Cochin (2009). He was selected as a fellow of National Academy of Sciences India (NASI) in 2010 and completed several research projects for CSIR, ISRO, DST (Govt. of India), KSCSTE and CUSAT.



## Marine Stewardship Council Grant for SIF Researcher

Saranya A Sankar, research scholar at School of Industrial Fisheries has bagged the Marine Stewardship Council (MSC) Research Grant. The Sustainable Seafood Network of India (SSNI), was awarded MSC's Student Research Grant of \$6,500 to support the Kerala Shrimp and Cephalopod trawl Fishery Improvement Project (FIP), to progress towards achieving MSC certification by 2024.

Among 22 projects and fisheries initiatives from 12 countries granted funding by MSC, is an internationally recognised Sustainable seafood certification and ecolabelling programme. Saranya will be developing a framework that uses Management Strategy Evaluation (MSE) tools that would help manage the stock sustainably. The study will collect information through a survey with the fishery managers, fishers, and researchers which will be used to develop a MSE framework. This will help prioritise which management objectives are most effective in mitigating any changes from variable environment conditions and ensure a sustainable future for the fishery. The project outcomes will also have beneficial applications for the Kerala deep water shrimp fishery, which was awarded \$44,310 in 2021 from the MSC Transition Assistance Fund.

According to Saranya, "MSC stands for protecting the future of oceanic resources. It encourages everyone to move towards sustainable use of fish stocks without exploiting it. MSC brings people, technology, science and policy together for the conservation of the ocean. I believe the MSC works in India will help to achieve fisheries sustainability soon and I am very excited to be a part of this journey," she said.



**Saranya A Sankar**

## CUSAT Students get Prestigious Norway Visiting Fellowship

Lijin P, Research Scholar of Artificial Intelligence and Computer Vision Lab, Department of Computer Science, Dev Narayan, and Fayaz Rahman, First Year Students of M.Sc. (Five-year Integrated) Computer Science (Artificial Intelligence and Data Science), received a Visiting Fellowship from Norway the Research Council. These CUSAT students got an opportunity to spend two months at the esteemed Norwegian University of Science and Technology (NTNU). Also, The M.Sc. students received an amount of ₹2 lakh and the research scholar received an amount of ₹4 lakh, as fellowship.

Under the International Partnership (INPART) programme, jointly directed by NTNU and CUSAT, the prestigious visiting fellowship is given as a component of the international project known as International Network for Image based Diagnosis (INID). As part of the visit, the students will get a chance to meet eminent professors and scholars from NTNU and have an exposure to the university's cutting edge research labs. Joint scientific collaborations in the field of medical image analysis will be the result of this visit.



**Dev Narayan**



**Fayaz Rahman**



**Lijin P.**

## Prof. A Mohandas: The Man who Devoted Himself to Environmental Studies



Dr. Ambat Mohandas, Professor Emeritus, National Centre for Aquatic Animal Health (NCAAH), passed away on January 22. The former Dean of Faculty of Environmental Studies, he has served CUSAT in the capacities of Director, Professor, Reader and Lecturer at the School Environmental Studies, and the Chairman of the Advisory Board of NCAAH.

Born in 1943 in Chittur, Dr. Mohandas completed his schooling at his hometown where he joined for pre degree course in Govt Arts and Science College, and majored in Zoology. In 1964, he joined for MSc Zoology at Govt. Victoria College, Palghat, and then joined for research under Dr. N.M. Antony at Mar Ivanios College, Thiruvananthapuram.

It was in 1976 that he joined CUSAT as lecturer. In 1984, Dr. Mohandas became a Reader at the School of Environmental Studies and secured two fellowships, one for 6 months from National Science Foundation, USA, and another as Fulbright Res Scientist at Medical University of South Carolina, Charleston, USA. In 1990 he got promoted as Professor at School of Environmental Studies. From 1989 to 2000 Dr. Mohandas was the Director of the School. He had also served as Dean, Faculty of Environmental Studies from 1995 to 2004. In 1993 he was awarded with the European Economic Committee Fellowship which enabled him to work at Vrije University, Amsterdam, the Netherlands. He was a member of several academic bodies of his parental university as well as in several other universities.

Right from its inception in 2000, Dr. Mohandas was the Chairman of the Advisory Board of NCAAH until he voluntarily stepped down in 2018.

His rich contributions to environmental sciences include building up of the School of Environmental Studies as the Institution as it is today, with a restructured curriculum under MHO-EME programme.

Dr. Mohandas is survived by children Manu Prasad and Madri Prasad.

## AI-powered Device for Early Detection of Breast Cancer

The University developed an AI-powered device that can detect breast cancer at an early stage. The miniature device's neural network models detect textures in complex medical images of a person and send its analysis to artificial intelligence for a second opinion.

The device is developed by Anil Johny, research scholar at Department of Instrumentation, under the guidance of VC Dr. K. N. Madhusoodanan.

By obtaining combined medical opinions from both oncologists and AI-based miniature systems, the invention can be a milestone

in cancer care in the country for its cost-effectiveness and timely intervention, reducing delays in clinical examination and diagnosis. It also highlights the need of a native database of medical images to conduct experiments at different levels to enhance prediction accuracy.



# Universities Should be Able to Strengthen Economy: Finance Minister

As part of the state government's higher education policy formulation and concept expansion, Finance Minister K N Balagopal interacted with the academic community at the Kalamassery campus of the Cochin University of Science and Technology.

"Universities in Kerala play an essential role in stimulating the economy. The government is trying to mobilise ideas from universities and put them into practice by overcoming limitations", he said, adding, "CUSAT will be able to lead the progress in the field of science and technology in Kerala."

From an academic point of view, he opined that universities should make effective contributions to the industry, agriculture and health sectors and develop necessary facilities to create a new ecosystem. The university can start three courses for this purpose, he said.

"Our alumni hold high positions in various multinational companies. Universities should take the initiative to activate the economy by using these emerging talents. From Incubation centers to science parks, all facilities should be the starting point for research in universities," the minister said.



*Finance Minister K N Balagopal interacts with the academic community of CUSAT as part of the state government's higher education policy formulation and concept expansion*

He also demanded that a strong draft with scientific backing be submitted to the government in this regard.

"University courses should be designed in a way that suits the industry and strengthens the academic arena in collaboration with the international alumni community," said P Rajeeve, Minister for Law, Industry and Coir.

Vice Chancellor Dr. K N Madhusoodanan presided over the function. Pro-Vice Chancellor Dr. P G Sankaran, and Registrar V Meera. were also present.

The Minister interacted with students, researchers, heads of departments, deans, faculty, non-teaching staff, members of syndicates and representatives of various organisations.



*Pro-Vice Chancellor Dr. P G Sankaran inaugurates the Business Simulations introduction programme at the CUSAT School of Management Studies, as part of its MBA pedagogy. This milestone makes CUSAT as one among the first few Universities in India to introduce this advanced pedagogy for management programmes.*

# Higher Education Requires Reorganisation to Meet Global Needs: Rajeeve

"The higher education sector should be reorganised to meet the global needs," said P Rajeeve, Minister for Industry, Law and Coir. He was speaking at the inauguration of the new Fab Lab sponsored by the Kerala Startup Mission for students, faculty and startups at Cochin University of Science and Technology.

"The syndicate and the authorities should take the lead in making CUSAT the first International University in Kerala, making the most of the state-of-the-art facilities available at CUSAT in the context of the emphasis on higher education in the State Budget," he added.

"Academic structures should be changed

according to the industrial importance and the potential for concept development should be made available in campus itself. The government would give more importance to manufacturing startups in the coming entrepreneurial year and households could be utilised as manufacturing units," he pointed out.

"The idea of an 'innovative campus' should be launched at CUSAT to ensure the participation of industrial and commercial entrepreneurship in teaching and research," said Vice Chancellor Dr. K N Madhusoodanan, in his address. The minister also honoured 23 startups selected for the award of RUSA-supported CUSAT Startup Grant.



*P Rajeeve, Minister of State for Industry, Law and Coir, inaugurates Fab Lab sponsored by the Kerala Startup Mission for students, faculty and startups at CUSAT*

## MoU Inked with Russian University

The university signed a Memorandum of Understanding (MoU) with State Marine Technical University (SMTU), St. Petersburg, Russia for academic collaboration on March 24. The five-year MoU between CUSAT Ship Technology Department and SMTU, was signed by Registrar Dr. V Meera and SMTU International Vice Rector Kirill Rodestenski.

The MoU intends a collaboration between teachers and students on mutual exchange, integrated research activities, exchange of learning materials and knowledge. The MoU will cover international conferences, seminars, webinars and short-term training programmes for students in the areas of shipbuilding and marine technology.

The MoU is a result of the common approach of both the universities in the fields of education and research. State Marine Technical University is a Russian university that has been a leading contributor in the fields of design, construction and maintenance of surface vessels and submarines for over a century.



## ₹10 crore Allocated for Sports Infrastructure in University

Administrative sanction has been accorded to develop sports infrastructure facilities in the Kalamassery campus of Cochin University of Science and Technology for which ₹10 crore was allocated by the Government of Kerala. This was communicated by the state Sports and Youth Affairs Department.

Of the total ₹10 crore, ₹5.45 crore will be utilised to construct a 400 metre synthetic athletic track, and ₹2 crore would go towards building a natural football turf on the campus.

A fitness centre will be built at ₹93 lakh and the landscaping and gardening would be done at a cost of ₹10 lakh.

₹3 lakh has been earmarked to construct cricket practice pitches for students.

CUSAT is a major beneficiary of the new developmental initiatives in the higher education sector, announced in the state Budget 2022-23. Kerala State Minister for Industries, Law and Coir P Rajeeve, who is also the MLA from Kalamassery.

## University Wins Medals at South & West Taekwondo Championship



**Mayur Anil Sathe**



**Meshak N. Vechuri**

Two students of the university won medals at the 17th South & West Taekwondo ITF Championship, held in Bengaluru. Civil Engineering student Meshak N. Vechuri won the silver medal and Mayur Anil Sathe, a PhD student, won the bronze medal.

Kerala bagged 10 gold, 17 silver and 22 bronze medals to finish third in the championship. Karnataka and Delhi States bagged the first and second positions respectively. 400 people from different states participated in the championship



*Table tennis player Olympian A Radhika Suresh inaugurates a national seminar on 'Gender and Sports in India: Roadblocks and Roadmaps', organised by the Women's Studies Centre in association with the National Commission for Women.*

## CUSAT Alumnus C P Rizwan Heads UAE National Cricket Team

C P Rizwan, an alumnus of the university, was selected the captain of UAE national cricket team. A former student at the Department of Instrumentation in the 2012-13 batch, the 34-year-old Thalassery native became the first Keralite to score a century in international cricket in the recent Ireland-UAE match in Abu Dhabi, resulting in the team's victory.

Rizwan was the CUSAT cricket team captain during his campus days and later played in the Renji Trophy. He was part of the under-17 Kerala team and Under-25 Kerala team in several tournaments. Rizwan has been working in Dubai since 2014 and has been playing domestic cricket since then. He made his international debut for UAE in 2019.



*C P Rizwan*

*Dr. K N Madhusoodanan, Vice Chancellor, CUSAT inaugurates the 31st CUSAT International Chess Tournament jointly organised by the Physical Education Department and CUSAT Chess Club, attended by around 450 participants from various parts of the country.*





# French University Signs MoU with CUSAT

In a great boost to the research activities and student exchange programmes at the University, Université Gustave Eiffel, France, on September 23 entered into a Memorandum of Understanding (MoU) with the university to promote double degrees, course pooling, partnership agreements for student recruitment and scientific collaborations.

During a visit to the university's Kalamassery campus, Prof. Sylvie Chevrier, Professor of Management and Deputy Vice-President International, and Prof. Jean-Marc Laheurte, Director of Electronics, Communication Systems and Microsystems Laboratory (ESYCOM) & International Vice-President (Asia Middle East) at the university, inked the MoU with Dr. V Meera, Registrar, in the presence of Deans and Heads of the Faculties/Departments.

The MoU focuses on exchange of researchers, faculty and students, transfer of students, exchange of scholarly and pedagogical materials, joint research ventures, training of technical assistants, and curricula development. The duo also expressed interest in collaborating with CUSAT's research activities in Mathematics, Computer Science, Electronics, Applied Physics and Management Studies.

After signing the MoU, an invited talk on 'Electromagnetism applied at the Gustave Eiffel University - From microwave characterisation of biological compounds in a micro-fluidic environment to optically fed RF antennas' was organised by the IEEE Antennas and Propagation Society Kerala Section at Department the of Electronics Auditorium. This was followed by a student interaction on 'French and Indian Grants for Researchers or Master and Doctorate students' by Prof. Laheurte, who was a DST VAJRA faculty in 2018 at the Center for Electronics and Antennas at Department of Electronics, CUSAT.

The French delegation also visited various departments and interacted with the researchers and faculty.

The French Government awards more than 500 merit-based scholarships for excellence worth over ₹12 crore every year to students from all fields and subjects at Bachelor's, Master's and PhD levels. More than 150 scholarship programmes are currently available for Indian students alone.



*The volunteers of National Service Scheme and local people jointly cleaned the sections 26 and 28 of the Periyar Valley Irrigation Canal Division at Thrikkakara Kunneparambu and nearby areas. Around 200 NSS volunteers were led by Dr. P G Sankaran, Pro-Vice Chancellor, Remya Ramachandran, NSS coordinator and NSS programme officers Dr. Trupti S Warriar, Dr. Rajesh Nair, Dr Hari Govind and ward councilors of wards 26 and 28.*

## Delegates from French Embassy Visit CUSAT, Plan to Boost Academic Co-operation

Officials from the French Embassy in India visited CUSAT as part of a mission by Campus France and the Embassy of France in India to discuss the possibility of higher education in France. François-Xavier MORTREUIL, Attaché for Scientific and Academic Cooperation at the Embassy of France in India, Dr. Ambika Anilkumar, Deputy – Science and Academic Attaché at the Embassy of France in India, and Sabari Kishor, Manager Campus France at the Embassy of France in India, participated in the discussion.

Various projects for students, scholarships, seminars, workshops, faculty-student exchange, semester transfer, academic collaboration with industry and commerce, and plans to strengthen Indo-French cooperation were discussed.

Dr. K. N Madhusoodanan, Vice-Chancellor, Pro-Vice Chancellor Dr. P. G. Shankaran, Dr. N. Balakrishna, Director, International Relations, Heads of various departments, teachers and university officials also attended.



## Government Committed to Elevating Universities to International Standards: Minister Bindu

“The State Government’s financial assurances intend to realise the ideas in the young brains and to transform knowledge in a way that will be beneficial to the development of society. The government has envisioned various projects to elevate universities to international standards,” said Dr. Bindu, Minister for Higher Education and Social Justice. She was speaking at the inauguration of the newly-constructed Sahrudaya boys hostel on the Thrikkakara campus of CUSAT. The hostel that can accommodate 300 students was built with the assistance of RUSA.

“By developing state-of-the-art infrastructure like hostels, we should be able to attract the international student community to our campuses,” she added.

The event, held at the CUSAT Seminar Complex, was presided by P Rajeeve, Minister of Industry, Law and Coir. Hibi Eden, MP, Ernakulam, Dr. K N Madhusoodanan, Vice Chancellor, Seema Kannan, chairperson, Kalamassery Municipality, Dr. P G Sankaran, Pro-Vice Chancellor, K K Krishnakumar, Syndicate Member, Dr. Meera V, Registrar, and Dr. N Manoj, CUSAT RUSA Coordinator, were present.

**Dr Bindu, Minister for Higher Education and Social Justice, inaugurates the Sahrudaya Hostel for Boys**





# Education Minister Announces Training, Examinations for All School Teachers

In the new education policy, students emerge as sources of knowledge, observed V Sivankutty, Minister for General Education and Labour, speaking at the state-level inauguration of Tech Talent, a three-day training programme in nanotechnology for selected SC/ST students in high school and higher secondary classes, inaugurated at IUCND. The programme was organised on March 10, 11 and 12 by the State Institute of Education and Technology (SIET) as part of the Chief Minister's 100-day programme.

"When students emerge as sources of knowledge in this era of innovations, the standard of teachers should be raised accordingly, for which training and examinations will be conducted for all teachers. The new curriculum will be prepared by a committee of experts focussing to include subjects that stress on social commitment, gender equality, anti-dowry principles, Constitution, democracy and secularism," he said.

He also announced that student talent-grooming activities of science fair, arts festival and sports meet, which were stalled in the wake of the pandemic situation, will resume next year. The training involving nano technology, bioinformatics, artificial intelligence, satellite and radar technology, Internet of Things will be provided to selected students from Model Residential Schools in the first stage.

Speaking at the event, chief guest, Jeevan Babu K IAS, Director of General Education, noted that the purpose of education beyond classrooms and text books enables people to lead a mature and responsible life in which science and technology plays a major role. "Disruptive technologies have created a revolution the field of science and technology and the young generation is the ambassadors of this revolution. Events like these will create in the students a spark that will define their course of career and open avenues to discover their passion with the help of experts in various scientific streams," he said.

Presiding over the function, CUSAT Vice-Chancellor Dr K.N. Madhusoodanan recalled how the university has always been supportive of initiatives to enlighten young minds and mould them as innovators. "Over the years, around two lakh school students have taken part in various training sessions in science and technology on CUSAT campus as part of our extension activities. With various interventional programmes, CUSAT has always tried to guide students with aptitude," he said.

In the first phase of Tech Talent training programme, 20 tribal students and six Scheduled Caste students from various parts of the state participated in the training programme at the Advanced Centre for Atmospheric Radar Research (ACAAR) where they observed and learned about monitoring various atmospheric processes, weather prediction systems, functioning of sophisticated systems and techniques, etc. A nanotechnology workshop was also held at the Inter University Centre for Nanomaterials and Devices. The training programme involving nanotechnology, bioinformatics, artificial intelligence, satellite and radar technology, Internet of Things will be provided to selected students from Model Residential Schools in the first stage.

In the second phase of training on Atmospheric Sciences, experts led classes on the operation of satellites, radar remote sensing, climate change, cloud studies, storms, space weather, solar energy for sustainable development, ozone depletion, air pollution, science and society.

"In the next stage, we are planning to conduct this training programme for higher secondary students, at IITs, IISER, Tata Institute of Fundamental Research, etc. This will be an opportunity for them to explore their talents in fields related to science and technology, and define a course for their future," SIET Director B Aburaj, said.



# CUSAT to Forge Academic Partnerships with 8 Russian Universities

Taking another huge step in Indo-Russian academic collaborations and internationalisation of higher education, eight Russian universities expressed interest in establishing academic cooperation with CUSAT.

The announcement was made during the visit of Denis Alipov, Ambassador of the Russian Federation to India, to the University on September 2. The collaborations are expected to improve global institutional ranking, and quality of teaching and learning processes. Stressing that the Russian Embassy would always enthusiastically support research and educational cooperation, the Ambassador noted that their country was happy to promote international ties in education, culture and tourism in India that would benefit its Russian counterparts as well. Russia, he said, is keen to learn more about the Indian model of scientific education and the international marketing of the country's strong education system.

St. Petersburg Electro Technical University, Admiral Makarov State university of Maritime and Inland Shipping, North-Caucasus Federal University, Industrial University of Tyumen, Siberian Transport University, Nizhny Novgorod State Technical University, Orenburg State Medical University and North-Western State Medical University in Russia have expressed interest in collaborating with CUSAT on various areas under ETU "LETI" cooperation..

During the visit, the Ambassador was welcomed by Dr. K N Madhusoodanan, Vice Chancellor, Dr. P G Sankaran, Pro-Vice Chancellor, and Dr. V Meera, Registrar. The Ambassador also discussed the MoU signed between the St. Petersburg Electro Technical University in Russia and the Department of Ship Technology, CUSAT, during an interaction with the department faculty led by Dr. Satheesh Babu P.K., head of the department. The Ambassador was accompanied by his wife Mrs Alipov, Ratheesh C Nair, Honorary Consul of the Russian Federation, and Embassy officials.

The Russian Ambassador was in Kochi to attend the commissioning ceremony of INS Vikrant, the country's first indigenously designed aircraft carrier, built over a period of 17 years.



*V Sivankutty, Minister for General Education and Labour, inaugurates the state-level inauguration of Tech Talent, a three-day training programme in nanotechnology for selected SC/ST students in high school and higher secondary classes.*



*A 500-member-strong yoga demonstration led by Girija B Nair, who runs Prajapathi Group of Yoga Centres, held at the open-air auditorium of the university as part of observing the International Day of Yoga on June 21.*



# Madhu S Nair, Justice K S Radhakrishnan, Chosen for CUSAT Distinguished

P. Rajeeve, Minister for Industries, Law and Coir, distributed the 'CUSAT Distinguished Alumni Awards-2022', instituted by CUSAT Alumni Network (CAN). "CUSAT has very talented alumni who are giving valuable contributions in the field of science and technology over the globe and the alumni organisation should try to get their contributions which may benefit their alma mater in many ways", the Minister said in his speech. The minister also shared his personal experiences with the awardees. Vice Chancellor Dr K N Madhusoodanan presided over the function.

"Science and technology are inseparable and the idea of establishing Cochin University of Science and Technology is a great one", said Dr. Jarugu Narasimha Murthy, Director, IISER Thiruvananthapuram, who was the guest of Honour. Madhu S. Nair, Chairman and Managing Director, Cochin Shipyard Ltd, Justice (Retd) K.S.Radhakrishnan, former judge, Supreme Court of India, and Prof. P.N. Vinayachandran, Professor and Chair, Centre for Atmospheric and Oceanic Sciences, Indian Institute of Science, Bengaluru, received the award from the Minister P. Rajeeve.



**Mr. Madhu S. Nair**

Mr. Madhu S. Nair, selected for the award in the category of leadership and innovation in business/industry/enterprise is the Chairman and Managing Director, Cochin Shipyard Ltd (CSL), who completed his BTech in Naval Architecture and Ship Building from CUSAT in 1988 and Masters in Engineering (Naval Architecture and Ocean Engineering) from Osaka University, Japan, led CSL to become a very successful IPO and later, a listed company that undertakes major expansion projects ₹3000 crore. Under his able guidance, the shipyard built the first indigenous aircraft carriers for the Indian Navy, the INS Vikrant.



**Dr. P. N. Vinayachandran**

Dr. P. N. Vinayachandran was selected for Academic and research excellence. He obtained M. Sc. in Physical Oceanography from CUSAT, Ph. D. from the Indian Institute of Science, Bengaluru, and carried out post-doctoral research at University of Tokyo. He is currently serving as Professor as well as the Chair of Centre for Atmospheric and Oceanic Sciences (CAOS), IISc, Bengaluru. Vinayachandran specialises in the development and application of computer-based models of oceans. He also has expertise in designing and conducting ship-board field experiments. His scientific research spreads over ocean dynamics, marine ecosystem and ocean prediction.

# Prof. P N Vinayachandran Alumni Awards

Dr. P G Sankaran, Pro-Vice Chancellor and Deepak Aswani, President, CAN, spoke at the function. The award was given in three categories to alumni who have reached the pinnacle of their career and have brought credit to themselves and CUSAT through distinguished accomplishments. The Award comprises a citation and a cash prize of ₹50,000 each.



## Campus Hosts 32nd Annual General Body Meeting of All India Universities



**Justice (Retd.) K. S. Radhakrishnan**

Justice (Retd.) K. S. Radhakrishnan, former judge, Supreme Court of India, Selected in the category of Social interventions that made a positive impact, was a student at the School of Legal Studies, CUSAT, from 1976-78. Mr. Radhakrishnan was the judge of the Supreme Court of India 2009 to 2014. Before that he was acting as Chief Justice of the Kerala High Court from the year 2006-2007. He had delivered a number of landmark judgments while he was the judge of the Supreme Court and had also pronounced several Awards in Domestic and International Commercial Arbitration matters. His path-breaking judgments include the ban on Jallikkattu, Recognition of the rights of Transgender Persons, and matters of commercial law, contracts, taxation and service.



The 32nd Annual General Body Meeting (AGM) of All India Universities (AIU) Sports Board, was held at the University campus on August 17.

The event was hosted by Kerala for the first time.

Vice Chancellor Dr. K N Madhusoodanan inaugurated the opening session of the meeting. Dr. P G Sankaran, Pro-Vice Chancellor, Dr. V Meera, Registrar, AIU representatives Prof. Suranjan Das, Dr. Pankaj Mittal and Dr. Baljeet Singh Sekhon spoke.

As many as 20 delegates from different universities across India participated in the programme.



## Kerala Govt Allocates ₹20 Crore in Budget for CUSAT Translational Research Centre

The Kerala Government has granted the University ₹20 crore from KIIFB fund to set up a Translational Research Centre on the campus. The proposed CUSAT Translational Research and Incubation Centre will play a major role in translating the fruits of academic research in the university to products and services beneficial to society.

In the first phase, translational research facilities will be set up in the domains of bio and life sciences, material sciences, sensor technology, electronic product design and Artificial intelligence and machine learning.

The 30,000 sq ft Translational Research Centre building will be equipped with common amenities and a start up space too.

In the second phase, a 50,000 sq ft building will provide translational facilities in the domains of agritech, fintech, transportation and mobility, medical technology and climate studies. The centre is expected to be financially-self sustaining within three years of launch.

In the 2022-23 Budget, the state government had earmarked ₹20 crore each for various universities to set up Translational Research centres.

## Ship Technology Alumnus to become Rear Admiral in Indian Navy



**K M Bimal Kumar**

K M Bimal Kumar, an alumnus of the Department of Ship Technology, was promoted to Rear Admiral rank in the Indian Navy, becoming the first alumnus from CUSAT to scale this height. Bimal Kumar is an 11th batch B.Tech Naval Architecture and Shipbuilding graduate from the Department of Ship Technology.

## International Award for Ship Tech Students

Three students of the Department of Ship Technology were selected for an honour by the world's largest ship classification society based in Tokyo, Japan. Sub Lt Gaurav Tehlan, Sub Lt Samir Deepak Bagul and Shri Nitin Padmanabhan, students of B.Tech Naval Architecture & Ship Building are the recipients of the ClassNK Ship Design Award 2022.

The 1st, 2nd and 3rd place winners will get a certificate signed by the ClassNK Chairman and cash prizes of ₹25,000, ₹20,000 and ₹15,000 respectively. ClassNK India Commander Sumithran Sampath distributed the prizes at a function held on December 16.

## World Brain Day Awareness Week

The Centre for Neuroscience (CNS), in association with International Brain Research Organisation and Dana Foundation, USA, organised various activities in connection with Brain Awareness week 2022 from March 14 to 20

As a part of the programme, the CNS conducted various activities for the public, university students, school students, faculty members and non-teaching staff at the Students Amenity Centre on March 17. Under the theme 'Healthy Brain; Healthy Society', various activities and brain games were conducted to improve the functioning of the brain at the Awareness kiosk. The interactive sessions and the brain games recorded a massive participation from the public as well as the student community.

## DRDO to Back Defence-based Entrepreneurship and Student Research

Defence Research and Development Organisation (DRDO), the country's premier military research institute, has announced support to student research activities and young entrepreneurship based on the defence sector. The announcement was made by DRDO chairman Dr G. Satheesh Reddy, who is also the Secretary of Department of Defence R&D, while inaugurating the M.Tech programme in Defence Technology, conducted in association with DRDO.

Noting that the nation's progress in science and technology depends on strong academics, Dr Reddy said that DRDO is collaborating with various universities for research activities to develop those into centres of excellence. Suggesting that CUSAT could utilise the service of retired DRDO scientists to mentor students, Dr Reddy assured that campus placements in premier defence facilities will be ready in six months. He said that any DRDO laboratory or facility can be utilised by the second-year students of M.Tech Defence Technology for their research and projects. As part of promoting indigenous technology, idea execution can be facilitated using private partnership, creating more job opportunities.



*Dr. G. Satheesh Reddy, chairman, Defence Research and Development Organisation (DRDO), inaugurates M.Tech programme in Defence Technology*



*CUSAT Registrar Dr. V Meera flags off an all-woman cycle rally organised by the School of Management Studies and Women's Studies Centre at the Administrative Office entrance.*

## University Bags District-level Agricultural Award

The university bagged the district-level award for agrarian initiatives instituted by the Department of Agriculture Development and Farmers Welfare, Government of Kerala. Initiatives such as 'Idle to Ideal programme' resulted in CUSAT winning the third position in the Institutional Cultivation category of the agricultural awards. Volunteers of National Service Scheme (Unit 9, School Management Studies) and shade net cultivation at KMSME played a crucial role in this achievement.

## Azadi Ka Amrit Mahotsav Film Festival

The university organised 'Azadi Ka Amrit Mahotsav Film Festival' as part of the 75th anniversary of Indian Independence, from August 22 to 25 at the University Library AVRC Hall.

'Gandhi' (Director: Richard Attenborough), 'Matri Bhumii' (Direction: Roberto Rossellini), Dr. Babasaheb Ambedkar (Direction: Jabbar Patel), 'Mahatma Gandhi: Pilgrim of Peace' (documentary by Noah Morowitz), 'If She Built a Country' (directed by Maheen Mirza) were screened.



## Cochin Shipyard to Build CUSAT Medical Centre

In a landmark move, the Cochin Shipyard Limited (CSL) entered into a memorandum of understanding (MoU) with Cochin University of Science and Technology (CUSAT) for the construction of a medical centre on CUSAT campus under the CSL's corporate social responsibility initiative. The Shipyard will finance the project as approved by the board within the approved budget limit of ₹23.75 lakh. The project will be executed by CUSATECH Foundation, a Section 8 company formed by CUSAT.



The MoU is an important milestone, the first of its kind in CUSAT, where a facility will be set up on the campus with CSR funding support from a leading public sector company. The project aligns with the Sustainable Development Goals of the United Nations and would fit into Schedule VII of the Companies Act 2013 (Section 135) which prescribes activities that fall under the ambit of CSR. The facility will provide primary medical treatment for students and faculty residing on the campus and for the general public living on the premises. The centre will be the first port of call on the campus to provide preliminary treatment.

The MoU was inked in the presence of Dr. K N Madhusoodanan, Vice Chancellor, Sambath Kumar P N, Assistant General Manager (CSR & Admn), CSL, Yoosaf A K, Deputy Manager (CSR), CSL, Dr. P G Sankaran, Pro-Vice Chancellor, Dr. V Meera, Registrar, and Dr. Sam Thomas, Director, CITTIC.

## Royal Institution of Naval Architects Student Chapter



The Royal Institution of Naval Architects (RINA), an international association of naval architects based in London, opened its student chapter in the Department of Ship Technology. Chris Boyd, Chief Executive Officer, RINA made the declaration of the student chapter in a meeting organised at the CUSAT Ship Technology Seminar Hall, presided by Dr. Satheesh Babu P K, Head, Department of Ship Technology.

Dr. P Krishnankutty, RINA Asian Vice President, & Emeritus Professor of CUSAT, Ashiq Subhani, RINA Middle East and Africa Vice President & Ship Technology Alumni Society President, Dr. A Mathiazhagan, former Head, Department of Ship Technology, Muhammad Abrar Saifudheen, Secretary, Society of Naval Architecture Students, Akram P A, RINA Faculty Coordinator, and Students Chapter Secretary Midhun M B spoke at the function.

Dr. Vinod P, Professor, Department of Computer Applications, and Dr. Jasna M, and Dr. Manoj M, alumni of the Department of Physics, were chosen for the Marie Skłodowska Curie Actions (MSCA) Fellowship instituted by the European Union/European Commission to support research in the European Research Area (ERA). Named after two-time Nobel laureate physicist-chemist Marie Curie, the Marie Skłodowska-Curie Actions fellowship is one among Europe's most competitive and prestigious research and innovation fellowships.

Dr Vinod received the fellowship for his project 'OPTIMA: Organization Specific Threat Intelligence Mining and Sharing', which aims at enhancing the effectiveness of cyber security protection systems to safeguard organisations from data breaches. The grant for the 24-month project amounts to 1,88,590.08 Euro (₹1 crore 58 lakh). This project will be executed at the University of Padua, under the supervision of Prof. Mauro Conti and during a second period with Prof. Zekeriya Erkin at Delft University of Technology, The Netherlands.

Dr Jasna's project 'Subduing Self-discharge of All-solid-state supercapacitors by a novel hybrid Solid Polymer Electrolyte with layered inorganic nanofiller' will be hosted at the Microelectronics Research Unit at Oulu University, Finland. The fellowship is worth 1,99,694.4 Euros (₹1 crore 67 lakh). Dr. M K Jayaraj, Vice Chancellor of Calicut University and a former Professor at Department of Physics, CUSAT, was her guide in her PhD. Dr. Jasna also served as Technical Assistant at CUSAT (FESEM Laboratory). A native of Nilambur, Malappuram, Dr Jasna is the daughter of Muhammad Kutty and Aisha of Elanjimangad Mannayil house.

Dr Manoj M's project 'High capacity all-solid- state silicon-lithium-sulfide cells for energy storage application' received a fellowship of 2,15,534.4 Euros (1 crore 81 lakhs) and will be hosted at University of Eastern Finland. Dr. S Jayalakshmi, Department of Physics, was Dr. Manoj's supervisor in the project. A native of Kollam, Dr. Manoj is currently a postdoctoral researcher in the Department of Applied Physics at the University of Eastern Finland. He is the son of Muraleedharan Pillai and Lathamani Amma of Jawahar Junction, Parippally.

## Marie Curie Fellowship worth over ₹1.5 crore for CUSAT Faculty



*Dr. Vinod*



*Dr. Jasna*



*Dr. Manoj*

## Dr. Madhu V Participates in SPARC General Assembly in USA

Dr Madhu V., Associate Professor, Department of Atmospheric Sciences, CUSAT attended the 7th SPARC General Assembly held at NCAR/UCAR in Boulder, USA, from October 24 to 28.

Dr Madhu presented the topic 'Air pollution in metropolitan cities of India', in the conference. The study report was prepared by the Atmospheric Chemistry and Physics Laboratory (ACPL), headed by himself, with the help of reports of the Central Pollution Control Board of India, for the period 2015-2022. Dr. Madhu has presented papers in the public meetings held in Italy (2008), New Zealand (2014) and Japan (2018).

The 7th General Assembly of SPARC: 'Stratosphere- Troposphere Processes and their Role in Climate', is a core project of the World Climate Research Programme. The project will bring together a large community of scientists from all over the world.



*Dr Madhu V.*



## Radon Geo-station Installed at Campus

Radon geo-station developed by the Radiological Physics and Advisory Division of Bhabha Atomic Research Centre (BARC), Mumbai has been installed at the Thrikkakkara Campus of the University. The station was installed as part of an on-going project of setting up of solar-powered 'Indian Network of Detection of Radon Anomaly for Seismic Alert (INDRA-SA)'. This is the first of its kind geo-station to be installed in Kerala.

A network of 100 such stations is being created in different parts of the country to explore the possibility of earthquake prediction. This facility will detect the presence of Radon and send the data directly to the monitoring centre at BARC.

Radon is produced by the radioactive decay of Uranium and Thorium, which is present in variable concentrations in most rocks and soils. It is a radioactive gas which has no colour or smell. Radon is constantly released from the ground into the air in all regions. But the movement of tectonic plates will lead to the release of a considerable concentration of Radon gas through the earth's crust. The Radon geo-station will detect the Radon anomaly which has the potential for obtaining early signatures related to seismic activity in this region.

Prof. B.K. Sapra, Head, Radiological Physics and Advisory Division, BARC, approached the University for the installation.

## STIC-ANERT Set up Test Facility for Solar PV System

The Sophisticated Test and Instrumentation Centre (STIC) has set up a test facility for Solar PV Power Plant with the financial support from ANERT. It is the first facility available in the state of Kerala for testing the quality of the power plant comprising Solar PV Panels and Inverters.



In the first phase of this project Solar Inverter Test facility with a capacity of 30kW, which include test set up for measuring parameters like inverter efficiency, overall system and MPPT efficiency, Normal operating voltage, Islanding prevention measures for utility interconnected inverter, PV reverse polarity test, Total Harmonics/ Waveform Distortion and DC Injection Test. In the second phase, Solar PV panels testing will be undertaken. STIC is an autonomous organisation jointly supported by Cochin University of Science and Technology (CUSAT) and Kerala State Council for Science, Technology and Environment (KSCSTE).

## ANERT Grant to Dr. Aldrin Antony Build Advanced Solar Cells

Dr. Aldrin Antony, Associate professor, Department of Physics at Cochin University of Science and Technology was honoured with a grant of 47 lakhs from Agency for New and Renewable Energy Research and Technology (ANERT) to develop advanced solar cells.

Instead of typical solar cells, the aim of this project is to make fine electronic conductive contacts (IBC- Interdigitated Back Contact) that are arranged on the back side of solar cells only a few microns in size using femtosecond lasers.



*Dr Aldrin Antony*

It aims to develop a technique to fabricate such IBC cells using lasers as an alternative to the expensive and time-consuming photolithography currently used. In this technique, IBC cells do not have contacts on the light-incident surface; it is possible to provide high efficiency by avoiding the loss of light due to reflection.

# MoU with CUSAT to Set Up Karkinos Cancer Technology and Research Institute (CTRI) in Kochi

The University has entered into a partnership with Karkinos Healthcare to establish the Karkinos Cancer Technology and Research Institute (CTRI) in Kochi.

The main objective of the partnership is to establish an R&D platform to aid in effective prognosis by tumour staging and planning the intervention strategies, followed by formulating therapeutics that can effectively eliminate cancer metastasis. The MoU also plans to create innovative and cost-effective solutions that contribute towards early detection of different types of cancer; and to establish a biobanking facility with support from CUSAT.

The Cancer Technology and Research Institute (CTRI) will develop technological innovations for early cancer detection and continuous monitoring; foster the emergence of high-calibre, reasonably priced medical technologies; lead multidisciplinary research and development efforts to address socially relevant clinical needs; and provide incubation services for start-ups and business owners to receive support in order to build products that are regulatory-compliant and suitable for manufacturing.

CUSAT and Karkinos Healthcare will also collaborate on research projects related to Molecular Biology, Cell Biology, Genomics, Proteomics, Diagnostics, Therapeutics, Bioinformatics, Data Science, Entrepreneurship Development and other multi-disciplinary and translational areas.

Gracing the event with his presence, State Minister for Industries and Coir P Rajeeve congratulated CUSAT. "The government is committed to strengthen the ties between research institutions and knowledge centres. This partnership is a huge step towards that vision," he said.

Excited over the collaboration, CUSAT Vice Chancellor Dr. K N Madhusoodanan said, "This MoU is a milestone in the futuristic vision of the university. It will be a great opportunity for expanding research activities in CUSAT."

Speaking on the occasion, R Venkataramanan, Chief Executive Officer, Karkinos Healthcare Pvt. Ltd., said, "Karkinos is pleased to partner with CUSAT to promote early detection of cancer, while bringing cutting-edge cancer diagnostics, technology innovations and advanced research to the people of Kerala. We see this as the first phase of a long and wide-ranging partnership that will redefine cancer care in the region and beyond."

The agreement was signed by Dr. V Meera, Registrar, and R Venkataramanan, Chief Executive Officer of Karkinos Healthcare, in the presence of State Minister for Industries and Coir P Rajeeve, Dr. K N Madhusoodanan, Vice-Chancellor, Dr. P G Sankaran, Pro-Vice-Chancellor, Dr. Parvathi A, Professor & Head Department of Biotechnology, Dr. Sarita G Bhat, Professor, Department of Biotechnology, Manu Nair, Chair, Corporate Development-Clinical Practice & High Value Opportunities, Mayo Clinic, and Dr. Moni Abraham Kuriakose, Co-Founder, Medical Director & Chief Executive Officer-Kerala Operations, Karkinos Healthcare.

**“ The government is committed to strengthen the ties between research institutions and knowledge centres. This partnership is a huge step towards that vision.**



*P Rajeeve, Minister for Industries and Coir, at the MoU signing between CUSAT and Karkinos Healthcare to establish a cancer technology and research institute in Kochi*

# New Crab Species Named in Honour of Dr. Bijoy Nandan



**Hari Praved**

A team of researchers from Kerala discovered a new species of crab from Kochi backwaters. This crab, belonging to the Pilumnidae family is named 'Aniptumnusbijoyi' or 'Bijoy's crab'. This species is named in honour of Prof. S. Bijoy Nandan, Dean, Faculty of Marine Sciences, Cochin University of Science and Technology, for his significant contributions to the field of marine biology and wetland ecology in India.

The research team led by Hari Praved, Senior Researcher in the Department of Marine Biology at Cochin University of Science and Technology, Dr. Regina Hershey, Research Fellow in the Department of Zoology at Hindu College, Changanassery, and Dr. Jose Christopher Mendoza at Lee Kong Chian Natural History Museum, Faculty of Science, National University of Singapore discovered this crab in Kochi backwaters and associated mangroves.

Furthermore, the researchers stated that through this study, the crab 'Aniptumnus neolaewis' discovered from the Matla River in West Bengal, which was previously rejected by the scientific community as a new species, was added as a new species and only five species of this genus have been identified worldwide. The habitat of this crab is mangrove forests and associated backwaters and swamps.

According to Hari Praved, this discovery emphasises the importance of our wetlands and mangrove forests, and that there are many additional species yet to be discovered in these ecosystems. This study was published in the international research journal Zootaxa.



**Prof. S. Bijoy Nandan**



**Dr. Regina Hershey**



**Dr. Jose Christopher Mendoza**



**'Anandakaram', the gamification project promoting the Joy of Giving was inaugurated by Dr. K N Madhusoodanan, Vice Chancellor, by releasing the logo of the project in the presence of Dr. Jagathyraj V P, Director, School of Management Studies, and Dr. Manu Melwin Joy, Project Coordinator. The main objective of the project is to motivate people to lend a helping hand to the needy.**



# Valorisation of Fish, Fishery Products for Entrepreneurship Development

The School of Industrial Fisheries organised a three-day Non-Residential Physical training and Capacity Building Programme on 'Valorisation of Fish and Fishery products for Entrepreneurship Development' with the financial support of PMMSY-NFDB, Govt. of India, Hyderabad. Kochi Municipal Corporation Development Standing Committee Chairman R Reneesh presided.



The programme was inaugurated by Adv. M Anil Kumar, Mayor, Kochi. P R Reneesh, Chairman, Development Standing Committee, Kochi Municipal Corporation, presided. The entrepreneurs handed over the products such as fish pickles, fish cutlets, dried fish, dried prawns and chammanthi powder to the mayor. Mathew Ilanjimattom, Monsignor, Archdiocese of Verapaz felicitated. Pradeep, Superintendent, Planning Cell, Kochi Municipality and Programme Coordinator Dr. Jinson Joseph and others spoke.

*The National Service Scheme (NSS) Unit-5 of the University prepared a stock list of books as part of the renovation of the Kesari Memorial Library, and painted the reading room and exterior wall of the library with beautiful murals during a camp from March 11 to 14.*

## 'IC-Race' International Conference Held

The 18th International Conference on 'Innovative Trends in Civil Engineering' was held at the Department of Civil Engineering, School of Engineering, Cochin University of Science and Technology (CUSAT), from December 1 to 3.

The conference is organised in collaboration with American Society of Civil Engineering and Habilate Learning Solutions.

More than 40 papers were presented at the conference, where experts talked on around 20 topics like environment conservation, soil conservation, natural disaster management, modern construction materials, advanced transport system and future of civil engineering.



## Prof. T V Subba Rao Award to CULAC

The Cochin University Legal Aid Clinic (CULAC), School of Legal Studies, has been awarded the Prof. T V Subba Rao Award for Best Faculty Coordinator in the Prof. V S Mallar Memorial Legal Aid Competition 2022, organised by Centre for Environmental Law and Research Advocacy (CEERA), National Law School of India University (NLSIU), Bengaluru, and Department of Justice, Ministry of Law and Justice, Government of India. The Legal Aid competition spanned over six months and consisted of activities including Speed Mentoring, Street Plays, Village Adalat, Village Halt, and Public Hearing. CULAC, SLS, CUSAT was one of the six Legal Aid Clinics recognised in the Legal Aid Competition, in which forty-nine law schools from across the nation participated.

Dr. Binumole K, Assistant Professor, SLS, was the Faculty Coordinator of the team representing CULAC in the competition and assisted by Dr. Vani Kesari A, Associate Professor, SLS, and Mrs. Jean Vinitha Peter, Assistant Professor, SLS, as Co-Faculty Coordinators of CULAC. Dr. Harigovind. P. C., Director, SLS, was the team's Patron and Organising Secretary. Mr Rekhil S, a 7th Semester BCOM LLB student at SLS, was the team's Student Coordinator. The core team consisted of Mr Nevin Koshy John, Mr Issac Mathew Kalarickal, Ms Gouri Hari, Ms Nuha Razak, Ms Sathya G Krishnan, Ms Mariya P S, Ms Devu R, and Ms Priyal P. Mr Anunath K M, Mr. Jaison Scaria and Mr. Akarsh P Chand constituted the media team and the core team was supported by 53 other student volunteers of CULAC.

## Balance between Power of Judiciary, State Necessary: Justice Kauser Edappagath



*Justice Dr. Kauser Edappagath of the High Court of Kerala inaugurates the Public Law Lecture series conducted at the School of Legal Studies*

"There is a need for balancing the judiciary's power and the arbitrary exercise of power by the State," said Justice (Dr) Kauser Edappagath of the High Court of Kerala. He was inaugurating the Public Law Lecture series conducted by the School of Legal Studies in which he gave a vivid account of the nuances of the question 'Are Public Law Remedies Undemocratic?'

The Public Law lecture series was graced by the presence of Adv. Dama Seshadri Naidu, who elaborated on the concepts like Democracy, Republic, Rule of Law, Constitution and Constitutionalism in the first session of the lectures. Advocate General K Gopalakrishna Kurup gave a vivid account of the Constitutional Scheme dealing with Public Law Remedies with the help of landmark cases. Prof. K C Sunny, Dean, Faculty of Law, and Vice Chancellor NUALS, elaborated on the evolution of the concepts of Public Law Remedy. S. Mini Endowment Awards were also distributed as part of the lecture series.

## CUSAT: One-day Patent Clinic Organised

The IPR Facilitation Cell of Inter-University Centre for Intellectual Property Rights (IUCIPRS) organised a one-day Patent Clinic at the College of Veterinary and Animal Sciences, Mannuthy on May 25.

Patent consultants Dr. I G Rathish, Assistant Professor, IUCIPRS, CUSAT, a registered Indian Patent Agent and Coordinator of IPR Facilitation cell and Dr. Asha R, Research Officer, IUCIPRS, CUSAT were greeted by Dr. K Vijayakumar, Dean of College of Veterinary and Animal Sciences (KVASU), Mannuthy along with

Dr. Jiji R.S., Professor & Head & Coordinator, IPR Cell, Department of Veterinary & Animal Husbandry Extension, and their team. The objective of the Patent Clinic is to provide patent support service to the inventions arising out of Kerala Veterinary and Animal Sciences University. The faculty and research scholars from KVASU and affiliated Colleges from across Kerala participated. A preliminary assessment of research was carried out and suggestions were provided to the inventors following a one-to-one discussion.

## Constitution Day Observed with Round Table Conference

As part of the Constitution day observance, the Cochin University Human Rights Association (CUHRA) under the School of Legal Studies, organised a Round Table Conference on 'Right to Self-Determination and the Facets of Secularism under the Constitution of India', on November 26. The discussion was about the freedom of individuals and society in a secularistic country like India. The event was graced by eminent legal luminaries including Dr. N. S. Soman, former Director and Dean of Legal Studies, Dr. D. Rajeev, former Director of School of Legal Studies, Dr. V. R. Jayadevan, Principal, Government Law College Thrissur, Adv. Sandhya Raju, Founder and MD Centre for Constitutional, Rights Research and Advocacy, and Dr. Joby Bhaskar, assistant professor, Govt. Law College, Ernakulam.



## AIR Celebrates 25th Anniversary of Niyamavedhi

The 25th anniversary celebrations of Niyama Vedhi, a legal aid programme launched by All India Radio Kochi FM as part of its public service broadcast, were held at the university in an event, jointly organised by CUSAT, District Legal Service Authority and Cochin Legal Aid clinic.

Dr. K N Madhusoodanan, Vice Chancellor, CUSAT, inaugurated the function and Sethu Madhavan P, Deputy General, Air& DD presided. After the inaugural session, eminent personalities spoke at a seminar on family law.

Justice Vinod Chandran, Kerala High Court Judge & Chairman, KELSA, was the chief guest at the valedictory session. Honey M Varghese, District Sessions Judge & Chairperson, DLSA, Ernakulam, and Ranjith Krishnan, Sub Judge & Secretary, DLSA, Ernakulam, spoke.



## CULAC Organises Village Adalat

The Cochin University Legal Aid Clinic at the School of Legal Studies (SLS), organised Village Adalat, in collaboration with the Ernakulam District Legal Services Authority. Adv. Arun Paul, Kerala High Court inaugurated the Adalat in a meeting presided by Dr. Harigovind P.C., Director, SLS. Adv. Arun Paul and Adv. Sandhya Raju led the court proceedings. Many cases were handled and settled in the Adalat.





## Dr. A T Markose Memorial Technology Law Moot Court Contest Held

The third edition of the Dr A T Markose Memorial Technology Law Moot Court Competition, 2022, jointly organised by Surana and Surana and School of Legal Studies (SLS) was inaugurated on October 29 by Justice P. V. Suresh Kumar, Judge, High Court of Kerala. In his inaugural address, he pointed out how Technology Moot is sufficient to build a successful career. "To be successful is to be good at what you're doing; to be good at what you're doing, you need to be patient and meticulous," he noted.

Delivering the presidential address, Justice K Surendramohan, former judge of the High Court of Kerala, and president of Kerala State Consumer Disputes Redressal Commission, talked about the importance of mooting for future legal practitioners. He also appreciated Surana and Surana International Attorneys for their efforts in nurturing and guiding young talents. Adv. Preetam Surana, Head of Academic Initiatives, Surana and Surana International Attorneys, and Dr Harigovind P C, Director, SLS, spoke.

Adv. Preetam shared the momentous reach of Surana and Surana by pioneering Moot Court Competitions in the country for more than 25 years, making it the longest running programme. The goal of the firm is to create a comprehensive platform for law students to hone their skills, he added.

## International Conference on Soil, Water, Air Pollution

The School of Environmental Studies organised a Conference on 'Soil, Water & Air Pollution' (ICSWAP- 2022) which was inaugurated by Vice Chancellor Dr. K. N. Madhusoodanan on October 27. The Keynote lecture 'Spatial Big Data Analytics for Estimating Air Pollution in Seoul, Korea' was delivered by Mr. Prof. Joon Heo, Dept. of Civil and Environmental Engineering, Yonsei University, South Korea.

Prof. Kalev Sepp, Dr. Daniele La Rosa, Dr. Riccardo Privitera, and Dr. Arjan De Groot talked about remote sensing, urban planning, and nature-based solutions to combat pollution. 500-plus research scholars, faculties, students, scientists, and key officials participated in the conference in which 58 papers were presented.



**Dr. Prasanth Raghavan**

## Dr. Prasanth Raghavan among Stanford World Ranking Scientists

Dr. Prasanth Raghavan, head of the department of Polymer Science and Rubber Technology, has featured in Stanford University world rankings of top 2% scientists, becoming the youngest scientist to bag this achievement in the 2023 rankings. His notable contributions to the field of Energy Technology, Polymer Science, and Nano engineering were the basis of the recognition.

The factors such as the h-index based on the number and quality of the published articles and its citations and references were considered for the rankings, which began in 2019, under which experts classified scientists under 22 scientific fields and 176 subfields. Dr. Raghavan is the editor of several international journals, advisory board member of academic publishers, and visiting professor of Gyeongsang National University, Republic of Korea and The University of Edinburgh, UK. He is the recipient of the prestigious Dr. S. Radhakrishnan Bharat Shiksha Best Teacher Award (2021) and indexed the top-ranked world scientist by AD Scientific for his notable scientific contributions. A project initiated by him at the International Science Fair held at Atlanta, USA, bagged the Grand Prize in May 2022.

## Women's Studies Centre Researcher Dr. Chinchu Gets International Recognition

Dr. Chinchu C., Post Doctoral Fellow, Women's Studies Centre, Cochin University of Science and Technology (CUSAT), received two grants from the Society for the Psychological Study of Social Issues (SPSSI), becoming the first Indian Psychologist to be awarded the SPSSI Small Scale Events grant. SPSSI is a division of American Psychology Association (APA) and an NGO with consultative status with the UN's Economic and Social Council (ECOSOC).



Dr. Chinchu C.

He was also awarded the Researchers in the Global South (RGS) grant, Spring 2022, for his work on the impact of anti-minority incidents on minority community members, and the Small Scale Events Advancing SPSSI (SEAS) grant, 2021 for conducting the event 'Translational Psychology: Communicating Scientific Knowledge to The People'.

Researchers in the Global South is a research funding programme for international members of SPSSI conducting research on social issues outside of the United States. Small Scale Events grant is given for conducting events related to the psychological study of social issues.

## Two-day Management Training Programme Held

A two-day Management Training programme for B.Tech final year students organised by the Department of Polymer Science and Rubber Technology, in association with University Employment Information and Guidance Bureau was inaugurated by Pro-Vice Chancellor Dr. P. G. Sankaran on November 7. The purpose of the programme was to help the students excel in campus interviews and associated group discussions which further aids them to reach greater heights in their career.

Dr. Prasanth Raghavan, Head of the Department delivered the welcome speech.

Dr. Sunil K Narayanankutty gave the presidential address and stated it will be a once in a lifetime opportunity for the students to bring out the hidden potential of each individual.

Dr. Thomas Kurian (Emeritus Scientist, PS&RT) and Dr. Saji T. G. (Professor, School of Management Studies) Chief, University Employment Information and Guidance Bureau felicitated the function.

Dr. Abhitha K., Assistant Professor, Programme co-ordinator, Department of Polymer Science and Rubber Technology, delivered the vote of thanks.

## Harvest Festival at Kunjali Marakkar School of Marine Engineering



A harvest festival was celebrated as a part of 'Marine Agro Mission 2020-21', an Institutional Agriculture Project at the University on November 7. Assistant Director of Agriculture Sudha Kumari inaugurated the event. KMSME Director Prof. Jis George, teachers, non-teachers and other members of the university also participated.

# Energy Literacy, Energy Swaraj Need of the Hour: Dr Solanki

To prevent disasters in the future, human beings should adopt energy literacy and Energy Swaraj which are the need of the hour, opined Dr Chetan Singh Solanki, who is known as the Solar Man of India. Dr Solanki, who was in the university with his famous solar bus as part of his Energy Swaraj Yatra, was delivering a talk at the Department of Physics.

Addressing the students and faculty at the university, he exhorted everyone to fulfill the mission of Energy Swaraj, taking into account the limitations of energy conservation attempts on a bureaucratic level. Stressing on the responsibility of each citizen to conserve energy, he suggested that higher educational hubs like CUSAT should initiate such activities and lead the way.

Dr Solanki, the founder of Energy Swaraj Foundation, is a professor at IIT Bombay, the brand ambassador of Solar Energy for the Madhya Pradesh Government, and has four patents to his credit. As part of his efforts to educate the people about energy conservation, Dr Solanki, who has pledged not to go home until 2030, lives and travels in the solar bus which is equipped with 3.2 KW solar panels, a 3KVa inverter and has 6 KWh of battery storage.

The solar bus, equipped with lights, cooler, cooking stove, TV, AC and laptop charging facility, all solar-powered, was thronged by students and visitors. The yatra, designed with the purpose to create a public movement towards adoption of 100% solar energy, began in November 2020.

The talk, 'Energy, Climate Change and I', was jointly organised by the Center for Excellence in Advanced Materials and the Department of Physics. was presided over by CUSAT Vice Chancellor Dr K N Madhusoodanan. The talk was followed by an interactive session of Dr Solanki and students.



*Dr Chetan Singh Solanki delivers the talk 'Energy, Climate Change and I', at the Center for Excellence in Advanced Materials*

## Syndicate Member Bags IEEE Outstanding Teacher Award

Dr. Sreejith P S, Syndicate Member of CUSAT, bagged Outstanding Teacher Award 2021, instituted by the Institute of Electrical and Electronics Engineers (IEEE). The award is presented to honour the outstanding contributions in the field of education for the State and Nation by IEEE Kerala Chapter.

Dr. Sreejith, Principal at Rajagiri School of Engineering & Technology, Kakkanad, was the Principal of the university's School of Engineering and Cochin University College of Engineering, Kuttanad. He had also served as the Director, IHRD, and as the Dean of Faculty of Engineering at the university. Dr. Sreejith did his Masters at IIT Kanpur and Ph.D at IIT Madras. He has featured in the database of top 2% scientists generated by Elsevier Publications and Stanford University, USA. He also holds a patent for investigation on Energy absorption cartridges.



*Dr. Sreejith P.S.*



## CUSAT Students should be Ambassadors of Safety: Loknath Behera

"The public safety system in Kerala is very poor which is evident from building construction to two-wheeler journeys without wearing a helmet," said Loknath Behera, MD, Kochi Metro Rail Limited. The former DGP was speaking as the Guest of Honor of the Silver Jubilee Celebrations of the Division of Safety and Fire Engineering, School of Engineering (SOE), Cochin University of Science and Technology.

Vice Chancellor Dr. K N Madhusoodanan inaugurated the ceremony which was held at the CUSAT Seminar Complex. "CUSAT started the country's first undergraduate course in Safety and Fire Engineering," he remarked. The department, which has successfully completed 25 years, will focus on the discovery and research of safety equipment which is crucial in the safety of society, the Vice Chancellor said.

**"The public safety system in Kerala is very poor which is evident from building construction to two-wheeler journeys without wearing a helmet."**

Prof. George Mathew, SOE Principal, presided over the function. Prof. K S Beena, Dean, Faculty of Engineering, Dr. Babu T Jose, Former Director, SOE, SEO former Principals Dr. K P S Nair, Dr. Shobha Cyrus, Prof. M R Radhakrishna Panicker, Prof. C. Madhu and Prof. V R Ranjith, Head of Department, Prof. D K Sahoo, Former Head of Department Arun Kumar, President, Association of Safety and Fire Engineering (ASFE), Jithin Das, Student Chapter President, ASFE and Akash Venugopal, ASFE Student Chapter Secretary, spoke.

## Today's Youth More Aware of Opportunities: VC

"Today's youth is determined, more aware about opportunities and acts with a futuristic view, compared to the older generations", said Dr. K.N. Madhusoodanan, Vice Chancellor, CUSAT. He was inaugurating the induction programme for newly admitted Post Graduate students in CUSAT, at the Science Seminar Complex.

"The interaction takes place by the questions raised by the students which will make both the teachers and students lively and will help to grow the system as well. The present growth and status of CUSAT is made from such an interactive culture maintained by the University", Vice Chancellor added.

Pro-Vice Chancellor Dr. P.G. Sankaran presided over the inaugural meeting. Dr. K. Girish Kumar, Director, IQAC, Dr. James Varghese, Director, Admissions and Dr. Benjamin Varhese P, Controller of Examinations spoke at the function. Dr. Sam Thomas, Dr. Sasi Gopalan, Dr. Benjamin Varhese P, Dr. Ajith Mohan, Dr. Remya Ramachandran, Dr. P.K. Baby, Dr. Jacob Elias, Dr. Veerankutty, Dr. N. Balakrishna, Vishnupriyan Kartha, students union representatives and others spoke at the programme, introducing the facilities provided for students and other things related to the University.



# Engineering Branches Part of Digital Revolution, Says Dr. K Ajith Kumar as Techfest Begins

“Engineering branches are joining hands with the digital revolution that is happening all over the world and thus engineering has become smart engineering”, said Dr. K Ajith Kumar, Director, Naval Physical and Oceanographic Laboratory. He was delivering the inaugural speech at the Techfest-2022 organised by Kerala State Council for Science, Technology and Environment (KSCSTE) at Cochin University of Science and Technology.

“Engineering students should acquire the skills to become employers and entrepreneurs by participating in such events and through other available sources during their studies”, he added. “While planning to make a product, all aspects of it should be considered from the very beginning itself. Every idea should have a unique selling proposition potential,” he opined.

“Contemporary situations demand the best engineers who are able to address social issues and make us a knowledge driven society,” said Vice Chancellor Dr. K N Madhusoodanan in his special address. Prof. K P Sudheer, Executive Vice President, KSCSTE, & Principal Secretary, Science and Technology Department, presided over the function. Padma Shri M C Dathan, Mentor (Science), Office of the Chief Minister, Government of Kerala released the proceedings of the programme. Dr. S Pradeep Kumar, Member Secretary, KSCSTE, Dr. Sherin B M, Scientist-B, KSCSTE, Dr. P G Sankaran, Pro-Vice Chancellor, Prof. Supriya M H, Co-ordinator, and Sri. Devanand P S, also spoke at the function.

The event was held during October 26-28 at CUSAT Open Air Auditorium. The Fest is an annual programme of KSCSTE and mainly houses a contest for innovative engineering projects developed by the students of Engineering Colleges in Kerala. The programme also aims at providing a platform for engineering students to showcase their projects and share their experiences, ideas, and knowledge. The innovative spirit instilled in engineering students through the mega-technological event is expected to lead to an increase in the emergence of start-up companies in the State.



## പ്ലാറ്റിനം പ്രൈസ് നേടി കൂസാറ്റ് വിദ്യാർത്ഥികൾ

എഞ്ചിനീയറിങ്ങ് വിദ്യാർത്ഥികളുടെ മികച്ച പ്രോജക്റ്റുകൾ കണ്ടെത്തുന്നതിനായി കേരള സ്റ്റേറ്റ് കൗൺസിൽ ഫോർ സയൻസ്, ടെക്നോളജി ആൻഡ് എൻവയോൺമെന്റ് (കെഎസ്സിഎസ്ടിഇ) സംഘടിപ്പിച്ച ടെക്നോളജിക്കൽ ഫെസ്റ്റിവലിൽ (ടെക്ഫെസ്റ്റ്-2022) ഒന്നാം സമ്മാനം നേടി കൂസാറ്റ് സ്കൂൾ ഓഫ് എഞ്ചിനീയറിംഗ് വിദ്യാർത്ഥികൾ. എം.ഡി. തൽഹ അതീക്ക്, ആദിത്യൻ സി.ആർ., അമൽ വി.എസ്., അശ്വിൻ ബിനോയ് അടങ്ങുന്ന ടീമിന്റെ പ്രോജക്റ്റായ 'കോംപാക്റ്റ് മില്ലറ്റ് ഡി-ഹസ്കർ'റിനാണ് പ്ലാറ്റിനം പ്രൈസ് ആയ 30,000/- രൂപയും സർട്ടിഫിക്കറ്റും, ഫലകവും ലഭിച്ചത്. 'ലാൻഡ് സ്റ്റേഡ് പ്രെഡിക്ഷൻ ആൻഡ് സോൺ ബേസ്ഡ് അലേർട്ട് സിസ്റ്റം', 'അപ്ലിക്കേഷൻ ഓഫ് വാട്ടർ ഹയാസിന് ഫോർ മേസൺറി ബ്ലോക്ക്' എന്നീ രണ്ടു പ്രോജക്റ്റുകൾക്കാണ് ഗോൾഡ് പ്രൈസ് ലഭിച്ചത്. 'എക്കോബോട്ട്', 'മെഡികോളർ', 'ഐ.ഓ.ടി ബേസ്ഡ് ഇ-നോസ് ഫോർ എ ഹെൽത്തി ലൈഫ്' എന്നീ മൂന്ന് പ്രോജക്റ്റുകൾക്കാണ് സിൽവർ പ്രൈസ് ലഭിച്ചത്. സംസ്ഥാന നിയമ, വ്യവസായ, കയർ വകുപ്പ് മന്ത്രി ശ്രീ. പി. രാജീവ് സമ്മാനദാനം നിർവഹിച്ചു.





## 'Model United Nations will Help Improve Diplomacy'

"Model United Nations (MUN) will help improve diplomacy in students" said, Vice Chancellor Dr. K. N Madhusoodanan, inaugurating the third edition of Model United Nations (CUSAT MUN-22) organized by Department of Youth Welfare, CUSAT.

"Activities like MUN are very effective in proposing sustainable solutions to the global crises facing the world and in nurturing various skills such as negotiating skill, diplomatic skill and leadership skill in students" he added. Around 200 delegates from various states of India participated in the three-day programme that featured the Crisis Committee discussing the World War II, the International Security Council on the Cold War, the Human Rights Commission discussed current issues in Afghanistan, COP27, which discussed environmental issues and All India Political Party Meeting which set the agenda for Unified Civil Code and religious dress code in public institutions.

The Model United Nations is organised by the Department of Youth Welfare of the university.



## Biotechspectrum 2022 Online International Conference

The Department of Biotechnology organized an international online conference Biotechspectrum 2022 from February 4 to 9, focusing on six major themes – Medical Biotechnology, Microbiology, Bioenergy and Bioremediation, Virology, Bioengineering and Plant Biotechnology. The conference also hosted a session on industrial perspectives of biotechnology research.

The event was inaugurated by Vice-chancellor Dr. K N Madhusoodanan, who highlighted the significance of biotechnology researchers to actively participate in the scenario of Covid-19 pandemic. The inauguration was followed by a technical session that included speakers from national and international institutes.

The conference was preceded by a day-long online workshop session on Computer-aided drug design and computational protein structure predictions. The aim of the conference was to facilitate interactions and exchange of ideas and research findings between researchers around the globe, thereby enhancing scientific collaborations.



***Vice Chancellor Dr. K N Madhusoodanan inaugurates Biotechspectrum 2022 by lighting the lamp.***



## Society Needs a New Language to Accept Transgender Community: Dr. Reshma Bhardwaj

“Society needs a new language and perspective to face a new way of life that embraces the transgender community in a broad sense,” said Dr. Reshma Bhardwaj, Asst. Professor, Sri Sankaracharya University, Kalady. She was moderating a panel discussion jointly organised by Cochin University Employees Association and SFI CUSAT Unit Committee, in solidarity with sexual minorities. “Sexuality is still viewed as voyeuristic by the majority of society, and unlike elsewhere, in Kerala, there is an active non-urbanised sexual minority community,” she added.

Laya Maria Jayson, the first trans woman in the DYFI State Committee, Prajit P. K., queer activist, Dr. Akhil Manuel, National Health Mission Medical Officer Monisha Mohan Menon, director of short movie New Normal, Sviya and Anagha Ravi, actors of the movie New Normal, also participated in the discussion. The panel discussion was followed by the Pride Parade and the screening of the short film New Normal.



## More Marine Girl Cadets is a Good Sign: Dr. Jose Matheickal



*Dr. Jose Matheickal, Chief, Department of Partnerships and Projects, IMO, delivers the keynote address at the passing out parade of the 15th batch B.Tech and 7th batch M.Tech Marine Engineering of KMSME*

“The International Maritime Organisation (IMO) is trying a lot in the global arena to encourage women to enter into the Maritime field and CUSAT’s high number of Marine Girl Cadets is a Good Sign,” said Dr. Jose Matheickal, Chief, Department of Partnerships and Projects, IMO. He was delivering the keynote address at the passing out parade of the 15th batch B.Tech and 7th batch M.Tech Marine Engineering of Kunjali Marakkar School of Marine Engineering (KMSME), Cochin University of Science and Technology.

“Beyond all the hurdles, the Maritime sector will continue to play an important part of the global economy. Through the significant developments made by Indian institutions such as Cochin Shipyard, the Indian Maritime community is proving to the world that our innovations in this sector will bring tremendous opportunities in the future”, he added.

“CUSAT has tuned its Marine Engineering Syllabus, in accordance with the updated regulations made by IMO and by including the latest trends in the sector to enable the cadets to be the finest”, said Vice Chancellor Dr. K N Madhusoodanan in his presidential address.

Suresh Kurup, Director, Synergy Oceanic Services India Pvt. Ltd., Kochi, was the guest of honour. Dr. P G Sankaran, Pro-Vice Chancellor, Dr. K A Simon, Director, Albert’s Maritime Institute, Kochi, Shammay K., Principal Surveyor, Indian Register of Shipping, Kochi, Prof. M P John, Director, KMSME and Prof. R Venugopal, Professor, KMSME, spoke at the function.

## More interactions between Dominican Universities, CUSAT needed: Dominican Republic Ambassador



"More interactions of major Dominican universities with Cochin University of Science and Technology can be planned to foster student-faculty exchange programmes, MoUs and research facilities in various disciplines," said David Puig, Ambassador of the Dominican Republic to India. "With more grants, exchange programmes and by identifying areas of interest in areas like Marine Sciences and Oceanography, which are of national importance, the students and higher education institutions from both the countries, can explore the advantages of learning," added the ambassador, who was on a visit to the Kalamassery campus of CUSAT. During the visit, David Puig interacted with the heads of various departments. "In future, there will be activities to harness the growing potential of India in various fields such as IT, tourism and management," he said.

Dr. K N Madhusoodanan, CUSAT Vice Chancellor, presided over the meeting. Dr. P G Sankaran, Pro-Vice Chancellor, Dr. Meera V, Registrar, Dr. Balakrishna, Director, International Relations, heads of various departments and university officials were present.

## Nod for ACARR Scientist's Indo - French Project

A research project titled 'Variability of the upper-level Asian monsoon anticyclone and mechanisms of its coupling with tropospheric monsoon convection' submitted jointly by Dr. Ajil Kottayil, Scientist from the Advanced Centre for Atmospheric Radar Research (ACARR), and Dr. Aurélien Podglajen, Laboratoire de Météorologie Dynamique (LMD), Paris, France was approved by the Indo-French Centre for the Promotion of Advanced Research (CEFIPRA). This project, worth ₹1.10 crore, has a duration of three years.

The approval of the project from CEFIPRA requires proposals of high competence, scientific merit and quality. This project is an excellent opportunity for the scientists and students from Cochin university to interact and engage in research activities with LMD, a leading international institute with immense contributions in the field of meteorology. Through this project, scientists from CUSAT and LMD will engage in addressing an important scientific problem linking Asian monsoon anticyclone and monsoon convection.



Dr. Ajil Kottayil

During Boreal summer, a large-scale anticyclonic circulation, known as the Asian monsoon anticyclone (AMA) or South Asian High, develops in the upper troposphere and lower-stratosphere (UTLS) over Asia in response to diabatic heating by monsoon convection and orographic forcing by the Tibetan plateau. The associated precipitation patterns are crucial in influencing the lives and livelihood of about half the Earth's population. Monsoon convection also strongly affects the chemical composition and aerosol loading of the lower stratosphere, contributing to the anthropogenic impact of large pollutant emissions. While the variability of the AMA has long been recognised, the mechanisms of its connection with the underlying convection and its impacts on pollutant transport have not been established quantitatively. This project aims to bridge gaps in this direction.

The project involves Dr. K Satheesan and Dr. S Abhilash from the university and Dr. Bernard Legras, Dr. Richard Wilson and Dr. Laurent Lee from LMD as joint collaborators.



# മലയാളം ആഘോഷമാക്കി ഭരണഭാഷാവാരം

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാലയിലെ ജീവനക്കാരും വിദ്യാർത്ഥികളും മലയാളഭിന്നവും ഭരണഭാഷാവാരവും നവംബർ ഒന്ന് മുതൽ ഏഴ് വരെ വർണാഭമായി ആചരിച്ചു.

കുസാറ്റ് ഓപ്പൺ എയർ ഓഡിറ്റോറിയത്തിൽ നടന്ന ഉദ്ഘാടനചടങ്ങിൽ പ്രശസ്ത സാഹിത്യ നിരൂപകനും വയലാർ അവാർഡ് ജേതാവുമായ പ്രൊ. എം തോമസ് മാത്യു മുഖ്യ പ്രഭാഷണം നടത്തി. മലയാള ഭാഷയുടെ അന്തഃസത്തയിലേക്ക് ഇറങ്ങിച്ചെന്ന് വിജ്ഞാനത്തിന്റെ പൊതുമണ്ഡലം വിസ്തൃതമാക്കാൻ നമ്മുടെ ഭാഷയെ അറിയേണ്ടതിന്റെ ആവശ്യകതയെക്കുറിച്ച് അദ്ദേഹം സംസാരിച്ചു. നമ്മൾ നമ്മളായിരിക്കേണ്ടതിന്റെ പ്രാധാന്യത്തെക്കുറിച്ചും അദ്ദേഹം കൂട്ടിച്ചേർത്തു. ഒരാഴ്ച നീണ്ടുനിന്ന ഭാഷാപരിപാടികളും വിവിധ മത്സരങ്ങളും പ്രഭാഷണങ്ങളും പുസ്തകപ്രദർശനവും ഭരണവാരാഘോഷത്തിന്റെ ഭാഗമായി ക്യാമ്പസ്സിൽ നടന്നു.

പ്രശസ്ത സാഹിത്യകാരൻ സന്തോഷ് ഏച്ചിക്കാനം മുഖ്യാതിഥിയായും, പിണിഗായകൻ കെ. എസ് സുദീപ് കുമാർ വിശിഷ്ടാതിഥിയായും സമാപന ചടങ്ങ് നടന്നു. നിത്യജീവിതത്തിൽ ഭാഷയുടെ ഉപയോഗം എങ്ങിനെ ആയിരിക്കണമെന്നും ഭാഷയുടെ ശക്തി നമ്മുടെ സംസ്കാരത്തിലും സമൂഹത്തിലും എത്രമാത്രം പ്രധാനമാണ് എന്നതിനെക്കുറിച്ചും സന്തോഷ് ഏച്ചിക്കാനം സംസാരിച്ചു. ചങ്ങമ്പുഴയുടെ കാവ്യനർത്തകി, നാടൻപാട്ട് നൃത്താവിഷ്കാരവും നടന്നു.



**73-മത് റിപ്പബ്ലിക്ക് ദിനാഘോഷത്തന്റെ ഭാഗമായി മുഖ്യ ഭരണകാര്യലയത്തിനു മുമ്പിൽ വൈസ് ചാൻസലർ ഡോ. കെ.എൻ. മധുസൂദനൻ ദേശീയപതാക ഉയർത്തുന്നു**



# അവയവദാനത്തിന്റെ മഹത്വം യുവതലമുറയിലേക്ക് പകർന്നുകൊണ്ട് എൻഎസ്എസ് ക്യാമ്പ്

അവയവദാനത്തിന്റെ മഹത്വം യുവതലമുറയിലേക്ക് പകർന്നുകൊടുക്കുക എന്ന ലക്ഷ്യത്തോടെ മരണാനന്തരം അവയവദാനം നടത്തിയവരുടെ കുടുംബാംഗങ്ങളെ കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല നാഷണൽ സർവീസ് സ്കീം കെ.ചിറ്റിലപ്പള്ളി ഫൗണ്ടേഷനും സംയുക്തമായി ആദരിച്ചു. കൊച്ചി സർവകലാശാലയിലെ എൻ എസ് എസ് സംഘടിപ്പിക്കുന്ന ത്രിദിന ക്യാമ്പിന്റെ രണ്ടാം ദിവസ പരിപാടികളുടെ ഭാഗമായി ജനുവരി 8നാണ് പരിപാടി സംഘടിപ്പിച്ചത്.

ആറുപേർക്ക് പുതുജീവൻ നൽകിയ ആൽബിൻ പോൾ, അഞ്ച് പേർക്ക് പുതുജീവൻ നൽകിയ സുരേഷ് പി എസ് എന്നിവരുടെ കുടുംബാംഗങ്ങളാണ് ആദരവ് സ്വീകരിക്കാൻ പരിപാടിയിൽ എത്തിച്ചേർന്നത്.

കുടുംബാംഗങ്ങൾക്കുണ്ടായ നഷ്ടത്തിന് പകരമാവില്ല ഒരു ആദരവുമെങ്കിലും ആദരവ് സ്വീകരിച്ചതിന് ശേഷം കുടുംബാംഗങ്ങൾ നടത്തിയ പ്രസംഗത്തിലൂടെ 350ഓളം എൻഎസ്എസ് പ്രവർത്തകരിലേക്ക് അവയവദാനത്തിന്റെ പ്രാധാന്യം എത്തിക്കുവാൻ അവർക്ക് സാധിച്ചു. വൈസ് ചാൻസലർ ഡോ. കെ എൻ മധുസൂദനൻ അധ്യക്ഷത വഹിച്ച ചടങ്ങിൽ പ്രമുഖ വ്യവസായിയും ജീവകാരുണ്യ പ്രവർത്തകനുമായ കൊച്ചുസേപ്പ് ചിറ്റിലപ്പള്ളി മുഖ്യാതിഥിയായിരുന്നു. വാക്കിലൂടെയല്ല, പ്രവൃത്തിയിലൂടെ മറ്റുള്ളവർക്ക് മാതൃകയാകണമെന്ന് ചിറ്റിലപ്പള്ളി പ്രസംഗത്തിൽ സൂചിപ്പിച്ചു. ക്യാമ്പിന്റെ ഭാഗമായി സംഘടിപ്പിച്ച മെഗാ രക്തദാന-കേശദാന ക്യാമ്പ് സ്റ്റേറ്റ് എൻഎസ്എസ് ഓഫീസർ ഡോ. അൻസാർ ആർ എൻ ഉദ്ഘാടനം ചെയ്തു.



മരണാനന്തരം അവയവദാനം നടത്തിയവരുടെ ബന്ധുക്കളെ വൈസ് ചാൻസലർ ഡോ. കെ എൻ മധുസൂദനൻ ആദരിക്കുന്നു. ചിറ്റിലപ്പള്ളി ഫൗണ്ടേഷൻ സ്ഥാപകൻ കൊച്ചുസേപ്പ് ചിറ്റിലപ്പള്ളി സമീപം.

## കുസാറ്റ് ബജറ്റിൽ ഫെല്ലോഷിപ്പുകൾക്ക് 20% വർദ്ധന

2022ൽ മുൻ വർഷങ്ങളെ അപേക്ഷിച്ച് കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവകലാശാലയിൽ വിവിധ ഫെല്ലോഷിപ്പുകൾക്ക് 20% വർദ്ധനവ്. 8.82 കോടി രൂപയാണ് ഫെല്ലോഷിപ്പ് ഇനത്തിൽ മാത്രം കുസാറ്റ് ഈ വർഷം വകയിരുത്തിയത്. വൈസ് ചാൻസലർ ഡോ. കെ. എൻ മധുസൂദനന്റെ അധ്യക്ഷതയിൽ ചേർന്ന സിൻഡിക്കേറ്റിന്റെ 2022-23 വർഷത്തെ ബജറ്റ് സമ്മേളനത്തിലാണ് തീരുമാനം. സിൻഡിക്കേറ്റ് സ്റ്റാൻഡിങ് കമ്മിറ്റി കൺവീനർ ഡോ. ആർ. ശശിധരൻ അവതരിപ്പിച്ച ബജറ്റിൽ 376കോടി 63 ലക്ഷം രൂപ വരവും 390 കോടി 5 ലക്ഷം രൂപ

ചെലവും പ്രതീക്ഷിക്കുന്നു. കുടാതെ പുതിയ കോഴ്സുകളും പദ്ധതികളും വിഭാവനം ചെയ്യുന്നു. ട്രാൻസലേഷണൽ റിസർച്ച് സെന്റർ, ഹോസ്റ്റൽ സൗകര്യ വർദ്ധന, കേരള നവ നിർമ്മാണ പോസ്റ്റ് ഡോക്ട്രൽ ഫെല്ലോഷിപ്പ്, എംപ്ലോയീമെന്റ് ഓൺത്രപ്രോണർഷിപ്പ് കേന്ദ്രം, ഹരിത പരിസരം, സ്കോളർ ലാബ്, നെറ്റ് സീറോ എനർജി ബിൽഡിങ്, ഹൈബ്രിഡ് ലേണിങ് ക്ലാസുകൾ, കർഷക സഹായ കേന്ദ്രം എന്നിവയാണ് ബഡ്ജറ്റിലെ പുതിയ പ്രഖ്യാപനങ്ങൾ.

# ദ്യുതി-22 ദ്വിദിന ക്യാമ്പ് സംഘടിപ്പിച്ചു



കുഞ്ഞാലി മരയ്ക്കാർ സ്കൂൾ ഓഫ് മറൈൻ എഞ്ചിനീയറിംഗിലെ നാഷണൽ സർവീസ് സ്കീം (എൻ.എസ്.എസ്) യൂണിറ്റ് 7 വിദ്യാർത്ഥികൾ സാമൂഹിക പ്രവർത്തനങ്ങൾക്കായി ദ്വിദിന ക്യാമ്പ് 'ദ്യുതി 22' നടത്തി. എൻ.എസ്.എസ് വളണ്ടിയർമാരുടെ നേതൃത്വത്തിൽ 'സ്നേഹപൂർവ്വം'- രക്തദാന-കേശദാന ക്യാമ്പുകൾ നടന്നു. കെഎംഎസ്എംഇ കോഴ്സ് കോർഡിനേറ്റർ റോയ്പോൾ ക്യാമ്പ് ഉദ്ഘാടനം ചെയ്തു. എൻ.എസ്.എസ്. കൂസാറ്റ് കോർഡിനേറ്റർ ഡോ. രമ്യ രാമചന്ദ്രൻ, പ്രോഗ്രാം കോർഡിനേറ്റർ കൃപരാജ് കെ ജി, ആസാദി കാ അമൃത മഹോത്സവ് കൺവീനർ ജയറാണി എം എ എന്നിവർ സംസാരിച്ചു. തുടർന്ന് മെന്റലിസ്റ്റ് നന്ദകിഷോർ 'ആൽക്കമി' എന്ന പരിപാടി അവതരിപ്പിച്ചു. ക്യാമ്പിൽ ശുചിത്വ ഭാരതം എന്ന ആശയം മുൻനിർത്തി ക്യാമ്പസ് പരിസരം വൃത്തിയാക്കുകയും പ്രോഗ്രാം ഓഫീസറുടെ നേതൃത്വത്തിൽ 'നാളെക്ക് വേണ്ടി' എന്ന പരിപാടിയുടെ ഭാഗമായി വൃക്ഷതൈകൾ നടുകയും ചെയ്തു. ക്യാമ്പിന്റെ ഭാഗമായി വിദ്യാർത്ഥികൾ കോളേജിൽ ബാറ്റ്മിന്റൺ കോർട്ട് സജ്ജമാക്കി. കലാ സാസ്കാരിക പരിപാടികളും നടന്നു.



കൂസാറ്റ് സുവർണ്ണ ജൂബിലിയോടനുബന്ധിച്ചു ഇന്റർ യൂണിവേഴ്സിറ്റി സെന്റർ ഫോർ നാനോ മെറ്റീരിയൽസ് ആൻഡ് ഡിവാൈസസ് സംഘടിപ്പിച്ച അന്താരാഷ്ട്ര നാനോ ടെക്നോളജി കോൺഫറൻസ് (നാനോഐക്കൺ -2022) വൈസ് ചാൻസലർ ഡോ കെ എൻ മധുസൂദനൻ ഉദ്ഘാടനം ചെയ്യുന്നു.



ഹിന്ദി വകുപ്പിൽ നവീകരിച്ച കമ്പ്യൂട്ടർ ലാബിന്റെ ഉദ്ഘാടനം വൈസ്ചാൻസലർ ഡോ. കെ. എൻ. മധുസൂദനൻ നിർവ്വഹിക്കുന്നു.



## Marine Sciences Faculty Awarded International Aquatic Vaccine Development Project

Dr. Punnadath Preetham, Associate Professor, in Biochemistry, Department of Marine Biology, Microbiology and Biochemistry, School of Marine Sciences, was chosen as a lead applicant with BactiVac International Pump priming grants for the project on 'Genomic and proteomic profiling of Streptococcus agalactiae serotypes Ia, Ib and III to reveal novel surface antigens as cross protective vaccine candidates' in collaboration with Moredun Research Institute, Scotland, UK and Nord University, Norway.

The project is with an initial grant offer of £50,000 for one year period and will be conducted at CUSAT, along with training visits to the partner countries and knowledge dissemination workshops for the fish farmers and stakeholders in India. This is with an initial grant offer of £50,000 for one year period.



*Dr. Punnadath Preetham*

He was also chosen as a collaborator with International industrial Pump Priming Grants on 'Demonstrating the safety, immunogenicity and efficacy of a PIT™ prepared Aeromonas hydrophila whole-cell inactivated vaccine in Oreochromis niloticus' along with Iraka Biotech (Pty) LTD, South Africa and University of Stirling, Scotland, United Kingdom, supported by Birmingham University and BactiVac Network.

Dr. Preetham said that Tilapia being one of the most predominant finfish species to be farmed and an essential revenue for many low-income families, control of disease outbreaks in tilapia aquaculture from a global perspective carries utmost importance. "The COVID-19 pandemic has highlighted the importance of vaccination and the need for continued development of vaccines. The project went through a highly competitive selection criteria among global applications and allowed novel approaches to deal with the identified challenge to be formulated," he said.



## Atmospheric Sciences Researchers Invited to COSPAR Space Science Conference

Sebastian Joy and Vishnu M Warriar, researchers Atmospheric Chemistry and Physics Laboratory (ACPL), Department of Atmospheric Sciences, were invited to attend the 44th Scientific Conference of the Committee on Space Research (COSPAR) from 16th to 24th July in Athens, Greece.

COSPAR which is instituted to promote space exploration and discuss the issues and innovations in the field at the international level. Both were selected to be part of the conference with financial support from about 400 applicants from different countries.

The researchers will present satellite-assisted classification of areas on the basis of air pollution, a model designed to detect areas of air pollution, and studies of changes in the ozone layer in the equinox. Both are researchers under Dr. V Madhu., Associate Professor, Department of Atmospheric Studies.

This international conference is held every two years under the auspices of COSPAR, which provides expert advice to organisations, including the UN on space-related issues. Discussions between geoastronomers have been instrumental in the growth of Space Science.



*Vishnu M Warriar*



*Sebastian Joy*

## Secure Systems Engineering Workshop Organised

Under the Information Security Education and Awareness (ISEA) Project Phase II, the university, in association with the Indian Institute of Technology (IIT), Guwahati, organised a workshop on Secure Systems Engineering. The ISEA project is an initiative by the Ministry of Electronics and IT, Government of India, to reach out to the students, faculty members and researchers to educate them in the domain of information security.

The workshop conducted in two sessions at CUSAT involved a technical session on Internet of Things (IoT) and Edge Device Security, which is one of the hot topics in the present digital world, handled by Dr John Jose, associate professor, Department of Computer science, IIT Guwahati. During the session, Dr. John discussed architecture-level hardware threats, especially in the NoC domain. The education session was handled by Dr Sukumar Nandi, senior professor, Department of Computer Science, IIT Guwahati, who offered insights about various opportunities students or faculty can choose to work in collaboration with IITs.



The workshop was coordinated by Prof. Dr. Rekha K James of the Division of Electronics and Communication, SOE, and Dr. Deepti Das Krishna of Department of Electronics and Communication, under the aegis of IEEE CUSAT SB and Electronics and Communication Students Association (ECSA), School of Engineering, CUSAT.

## Emeritus Professor Secures Place in World Ranking in Natural Science

In a proud moment for the university, Dr. C P Reghunadhan Nair, Professor Emeritus at Department of Polymer Science and Rubber Technology, has been placed in the World Scientist and University Ranking list in the field of Natural Science.

The former deputy director of Vikram Sarabhai Space Centre (VSSC), the lead centre of ISRO, received the honour following an analysis conducted by the Alper-Doger Scientific Index, a ranking system based on the scientific performance and added value of scientific productivity of individual scientists. Dr Reghunadhan's ranking is based on his five years' research output reflected by h-index and i10 index that measure the productivity and Google Scholar citation impact of publications.

Dr. Reghunadhan, who holds a doctorate from Louis Pasteur University in France, has published over 250 international papers, 11 books, 20 book chapters and over 50 science articles in leading Malayalam newspapers. An inventor with 20 patents, Dr. Reghunadhan has served as a research advisor to 17 PhD students. He is a native of Muppathadam in Aluva and currently resides in Kanjirampara, Thiruvananthapuram.



*Dr C P Reghunadhan Nair*

## CDeC Develops Job-Oriented MOOC Courses

Faculty members of the university developed Skill-Professional Massive Open Online Courses (MOOC) with the goal of creating a unique educational opportunity for all sections of society, especially the most backward, to broaden their horizons of knowledge and access to better teaching and learning resources. CUSAT has established the Centre for the Development of e-Content (CDeC e-Content Development Centre) for designing and developing MOOC courses in accordance with UGC guidelines. MOOCs have been established as a viable approach for delivering education that combines traditional and online learning, as stated in the National Education Policy (NEP).



CDeC has created nine Massive Open Online Courses (MOOCs) in various disciplines for online learning of the student community. CDeC has put in place all of the necessary infrastructure for the video recording of MOOC classes. The infrastructure facilities include a soundproof recording studio, advanced 4K video recording camera, interactive display units, high-end workstations for video editing, high-end server and SAN storage for video streaming, and advanced microphones with high audio quality. The courses developed are in the domain of Marine Science, Applied Chemistry, Management, Law, Hindi, Safety Engineering and Environmental Science. CDeC intends to complete the recording of courses in other advanced domains within the current academic year. Vice Chancellor Dr. K N Madhusoodanan officially released the activity report of CDeC by handing over a copy to Registrar Dr. V Meera. Dr. Madhu S Nair, Director, CDeC, Dr. Santhosh Kumar G, Director, CIRM, Dr. Sam Thomas, Director, CITTIC, Dr. Manoj N, Coordinator, RUSA, and Dr. Madhu G., Coordinator, EI-Hub, CUSATECH, were present on the occasion.

## Dr. K Mohanakumar Bags National Award of Excellence in Atmospheric Science and Technology

Dr K Mohanakumar, Founder Director of Advanced Centre for Atmospheric Radar Research (ACARR) in the university, was selected for the prestigious National Award of Excellence in Atmospheric Science and Technology 2022. The award is instituted by the Ministry of Earth Sciences as part of the National Earth System Science Awards that recognises major scientific contributions by eminent scientists, academicians and engineers. Dr Mohanakumar is honoured for his significant contributions to the realm of Atmospheric Science. The award carries ₹1 lakh as cash and a citation.

Noted for setting up in Kochi the state-of-art, indigenously developed Stratosphere Troposphere Radar, the world's first wind profiler radar in the 200 MHz range, Dr Mohanakumar's contribution is an asset to the future scientific community in Atmospheric Sciences. He is the first Indian scientist in atmospheric science whose internationally recognised book on Stratosphere-Troposphere Interactions, has been published in three foreign languages (English, Russian and Chinese).

With over four decades of teaching and research experience in the areas of Stratosphere Troposphere Coupling, Monsoon Meteorology, and Climate Dynamics, he has played a major role in innovative curriculum development in Atmospheric and Ocean Sciences in many Universities and research institutions. Dr. Mohanakumar was part of various Scientific Advisory Committees of major decision-making bodies of Government of India institutions, such as MoES, DST, CSIR, ISRO, DRDO, etc.

Having guided 27 Ph.Ds in Atmospheric Science and educating about 400 students in Meteorology and Atmospheric Sciences, Dr Mohanakumar has operated externally-funded research projects worth ₹30 crore in the field of atmospheric sciences and has published 96 research papers in peer reviewed scientific journals. He has done intensive research and innovations in Stratosphere Troposphere Coupling and its influence on monsoon variability and predictability.

An alumnus of University of Kerala and University of Cochin where he completed his graduation in physics and post-graduation in meteorology respectively, he completed his Ph.D. in Atmospheric Science in 1985 from University of Kerala. He joined CUSAT as an Assistant Professor in Meteorology in 1985 and has since served the university in various capacities -- Reader/Associate Professor, Professor, Member of Senate, HOD of Atmospheric Sciences, Director of Centre for Space Research, Dean, Faculty of Environmental Sciences, Director of Marine Sciences and Environmental Studies, Chairman of Faculty Marine Sciences, Syndicate Member, Member of Academic Council, and Chairman of Board of Studies in Atmospheric Sciences.

He has also been a Visiting Scientist at Freie University, Berlin, a member of Board of Studies of UN-affiliated Centre for Space Science and Technology Education in Asia and the Pacific (CSTEAP) and a member of Board of Studies in Naval Science & Technology, Southern Naval Command.



Dr K Mohanakumar

## CUSAT-Augsburg Joint Seminar on Magnetic Materials

An Indo-German seminar, CUSAT-Augsburg Joint Seminar on Magnetic Materials, was organised at the Department of Physics on August 26.

The seminar, inaugurated by Vice Chancellor Dr. K N Madhusoodanan at the Physics Auditorium, was held as a part of a collaborative project funded by the Department of Science and Technology, Government of India, and the DAAD: German Academic Exchange Service that funds international exchange of students and researchers.

Under the bilateral exchange agreement between India and Germany in 2021, students and faculty from Department of Physics, CUSAT, have been hosted by the University of Augsburg twice.

Prof. Manfred Albrecht, Mr Johannes Seyd and Mr Christian Holzmann from the University of Augsburg, talked at the seminar along with Dr. Vineeth Mohanan Parakkat, Navya Joseph, Anija Mary and Shan Abraham Sam. The seminar covered topics such as Skyrmions, THz emitters, Heusler alloys, Magnetic vortices, Artificial spin ices, Permanent magnets and Ferrimagnetic heterostructures.



## Don Bosco Alumni Achiever Award for SMS Faculty Member

Dr. Manu Melwin Joy, Assistant Professor, School of Management Studies, received the prestigious Don Bosco Alumni Achiever Award 2022, instituted by Don Bosco Schools of India Alumni. Fr. Thomas Koonan, Rector, Don Bosco Bhavan, Mannuthy presented the award to Dr. Manu, in an event held at Pearl Regency, Thrissur. Dr. Manu was given this award in recognition of his outstanding contributions to the society as an academician and expert in gamification techniques.



Dr. Manu has contributed to the socially impactful gamification projects like 'I CAN', an app for motivating cancer patients, Project Merry Metro engaging 6000 passengers in Kochi Metro, Project Hrudayapoorvam CIAL engaging 1000 passengers in Cochin Airport, Project Guru for training 1000 VHSE teachers, Project Acharya for training 1000 Principals for Association for Principals of Kerala Oriented Schools, Project Varna Shalabhangal for gamifying Government Children's Home, Kakkanad, Project Oppam for Gamifying HIV AIDS Awareness and Project Ayushman Bhava for creating Basic Life Support Awareness.

## CUSAT-CIAL Hrudayapoorvam: ₹50,000 Donated for Heart Surgery



*Ambili Vijayaraghavan, Chief Operating Officer of Aster Medcity, hands over the donations collected as part of Hrudayapoorvam CIAL project to the family of Sreebhadra for her heart surgery.*

As part of the Hrudayapoorvam CIAL project organised by the university, a donation of ₹50,000 collected from over 1,000 passengers was handed over to the family of Sreebhadra, who will soon undergo a heart surgery at Aster Medcity.

The money was collected from gamified activities such as Plank challenge, World Heart Day poster Challenge and Life saver video game challenge held for a week near the CIAL international terminal as part of World Heart Day. Each participant donated ₹50 for the cause.

Ambili Vijayaraghavan, Chief Operating Officer, Aster Medcity, Dr. Jagathy Raj V P, Director, School of Management Studies (SMS), CUSAT, and Hrudayapoorvam CIAL project coordinator Dr. Manu Melwin Joy, Assistant Professor, SMS, CUSAT, handed over the donation to the family.

## Literary Forum on Ecology and Malayalam Literature

The Centre for Green Literature Studies, Cochin University of Science and Technology, and the Sahitya Akademi jointly organised a literary forum on Ecology and Malayalam literature on Saturday at the Department of Hindi auditorium in CUSAT.

The keynote address was delivered by Dr. Valsalan Vathussery, head of the Department of Malayalam at Sree Sankaracharya University of Sanskrit. Dr. Mini Prasad, Dr. Sajitha K. R, and Dr. Anoop V spoke on various topics.

# Physics Researchers Publish Top-notch Article



**Dr. K K Anoop**

Dr. K K Anoop and Dr. Riju C Issac, faculty members from the Department of Physics, published an article in *Reviews of Modern Physics (RMP)*, the world's premier physics review journal, with an impact factor (IF) of 54.49. Written by leading international researchers, RMP's in-depth essays provide outstanding coverage of a topic and give context and background for current research trends.

The CUSAT faculty members co-authored the RMP article titled 'Optical diagnostics of laser-produced plasmas'. The lead author, Dr. S S Harilal (Chief Scientist in the National Security Directorate at the Department of Energy's Pacific Northwest National Laboratory located in Washington state), is also a CUSAT alumnus. Dr. M C Phillips from the University of Arizona, Dr. D H Froula from the University of Rochester, and Dr. F N Beg from the University of California San Diego also co-authored the article.

Laser produced Plasmas (LPP) have a wide range of applications in material science, analytical instrumentation, spectroscopy, high energy density physics, planetary science, geology, agriculture, and medicine. Recently, LPPs are used for recreating astrophysical plasmas in the laboratory. LPPs are also recognised as a promising medium for generating intense X-ray and gamma-ray radiation sources.

LPP characterization is challenging because of its small size and transient and inhomogeneous nature. Different optical diagnostic tools for characterising LPP are highlighted in this comprehensive review article. The optical toolbox contains optical spectroscopy (emission, absorption, and fluorescence), imaging, and optical probing methods (Thomson scattering, shadowgraphy, Schlieren, interferometry, velocimetry, and deflectometry).

Optical probing methods such as Thomson scattering and interferometry give more accurate results at early times of plasma evolution, whereas emission and absorption spectroscopy is better suited for late time characterisation. The challenges and advantages of using each diagnostic tool are thoroughly explained in the article.

Vice Chancellor Prof. K N Madhusoodanan, who coordinates the research initiatives at the university, pointed out that the published work will be an asset for researchers looking into laser-produced plasmas and their applications. Dr. K K Anoop acknowledged the SERB (Grant No.TAR/2018/OO0340), and the UGC for financial assistance. Dr. Riju C Issac acknowledged DST-FIST, CUSAT through SMNRI-'21, and Chancellor's award for funding support.



**Dr. Riju C Issac**

## 'Merging of Technologies Essential for Carbon Neutrality'

"Incorporation of advanced technologies is essential to control or eliminate carbon emissions from marine fuels," said Dr. M Abdul Rahim, Corporate Officer at ClassNK, one of the world's largest ship classification societies, delivering a lecture on 'Marine Industries: Challenges and Opportunities' at the Seminar Complex. Dr. Rahim's was the third, in the series of lectures by world-renowned alumni of CUSAT, organised by CUSAT Alumni Network (CAN).

Dr. M. Abdul Rahim was the 5th batch student of B.Tech Naval Architecture at CUSAT, and is now working as the Corporate Officer of 'Class NK'.

Vice Chancellor Dr. K N Madhusoodanan presided over the function.

Pro-Vice Chancellor Dr. P G Sankaran, Dr. P K Satheesh Babu, HoD, Ship Technology, and Dr. P K Baby, Secretary, CAN, spoke at the meeting.

## Interdisciplinary Collaborations Help Avert Demographic Disasters: KUHS Vice Chancellor

"At a time of demographic dividend, ethics is contextual. Interdisciplinary collaborations play a great role in mobilising a huge workforce and avoiding demographic disasters," said Dr. Mohanan Kunnummal, Vice Chancellor, Kerala University of Health Sciences (KUHS), adding that autonomy and confidentiality are important factors in the application of medical ethics. He was speaking at the inauguration of the academic block of the Prof. N. R. Madhava Menon Interdisciplinary Centre for Research Ethics and Protocols (ICREP) at CUSAT.

Dr. K.C. Sunny, Vice Chancellor, National University of Advanced Legal Studies (NUALS), termed the event an important milestone in the history of higher education in the country for it focuses on interdisciplinary approach, ethical standards and the will of academicians to collaborate and innovate effectively. The event also saw the launch of an e-journal 'Journal of Interdisciplinary Studies' by Dr. K N Madhusoodanan, Vice Chancellor, CUSAT, who, in his presidential address congratulated the ICREP team for undertaking the challenging task of bringing together people from various areas to promote and practise bioethics.

The over 5000-square-foot building of the ICREP, a centre under the School of Legal Studies, CUSAT, was constructed under the supervision of CUSAT Engineering Department at a cost of ₹1.11 crore allocated by the Government of Kerala. The academic block has a seminar hall, conference room, library and classrooms. The ICREP, launched in January 2020, has three interdisciplinary programmes -- Research and Publication Ethics, which already completed three batches, Advanced Certification Programme, which is in the second batch, and the Masters in Bioethics, which had the induction programme for the first batch after the inauguration of the new premises. The virtual induction programme was led by Dr. David B. Resnick, American bioethicist, National Institute of Health, National Institute of Environmental Health Sciences and Dr. Vina Vaswani, Director, Centre for Ethics.

Dr. P G Sankaran, Pro-Vice Chancellor, CUSAT, and Dr. Vani Kesari A, Co-ordinator, ICREP, spoke. Also in attendance were Sudheer MS, Finance Officer, Dr. Benjamin Varghese, Controller of Examinations, and Dr. N Balakrishna, Director, International Relations, CUSAT.

*Dr. Mohanan Kunnummal, Vice Chancellor, Kerala University of Health Sciences (KUHS), inaugurates the academic block of the Prof. N. R. Madhava Menon Interdisciplinary Centre for Research Ethics and Protocols (ICREP)*



## Faculty Development Programme on Machine Learning

The prestigious ATAL FDP programme by ATAL Academy of AICTE on 'Machine Learning for Interdisciplinary Applications' was inaugurated by Vice Chancellor Dr. K N Madhusoodanan. Faculty members from various Engineering Colleges across the country and 50 research scholars attended the two-week hybrid program coordinated by the Department of Computer Science.

Various topics on Machine Learning and Artificial Intelligence were discussed by Professors from International Universities and premier institutions. Eminent practitioners from the Industries including TCS, IBM, Sony interacted with the participants. The participants attended hands-on sessions on building Machine Learning models and also learned how to write and analyse research papers.



# Digital Training for Kudumbashree

As part of the World Youth Skills Day celebrations, E-Jalakam programme was inaugurated by Vice Chancellor Dr. K N Madhusoodanan at Deen Dayal Upadhyay Kaushal Kendra. The training programme is organised for Kudumbashree members from Thrikkakara Municipality.

"Kudumbashree groups play a major role in the upliftment and empowerment of women and such training will enable them to manufacture products using digital technology," said the Vice Chancellor. Dr. Zakkariya K A, Head, DDUKK, presided over the meeting.



## 17th National Seminar on NSS Results

**“ The National Sample Survey reports are the backbone of the data-driven knowledge base in the country.**

The 17th National Seminar covering National Sample Survey (NSS) results from 2018–2019, organised by the Ministry of Statistics & Programme Implementation (MoSPI) in association with National Statistical Office, was held in the campus

The National Seminar was inaugurated by Vice-Chancellor Dr. K. N. Madhusoodanan, who was also the Chief Guest in the inaugural function held at the Science Seminar Complex. The inaugural session was also attended by Guest of the Honour Dr. P G Sankaran, Pro-Vice Chancellor, the ADGs of National Statistical Office (NSO), MoSPI, Additional Secretary, MoSPI, Independent Domain Experts, Retired Professors, Members of the Working Group, Representatives of Academia, Researchers and Media.

The Vice Chancellor observed that the selection of the venue of the seminar by the Ministry is a recognition/acknowledgement of work done by the University in the field of teaching/research including in Statistics.

In his address, Vice Chancellor impressed upon the increasing need of data-supported research insights in academics and called for a strong collaboration with the various agencies producing data in the country. He was appreciative of the detailed survey reports brought out by NSO, MoSPI and acknowledged that the National Sample Survey reports are the backbone of the data-driven knowledge base in the country.

The Additional Director General, NSO(SCD) welcomed the guests and expressed her gratitude to one and all for sparing time for participating in the Seminar. She expected that the deliberation in these two days seminar will be a great source of knowledge repository for further evolution of planning the surveys in future.

Pro-Vice Chancellor P G Sankaran noted that NSS is a household name in India, especially when it comes to independent research in the academic world.

The Additional Director General, NSO (SDRD), MoSPI was thankful to the organising team and stated that the National Seminar on the outcome of these two rounds were extremely meaningful for the policy makers, academia and research scholars.

## Patent for Low Pressure Spray Pyrolysis Apparatus

An Indian Patent has been granted in the name of the University on September 20 for Low Pressure Spray Pyrolysis apparatus for coating thin films, facilitated by the IPR facilitation cell at Inter University Centre for IPR Studies (IUCIPRS). The research was carried out by Dr. M.K. Jayaraj, Former Professor & Head, Department of Physics, CUSAT, and Vice Chancellor, University of Calicut, and Dr. Sreekumar, Former DST SERB Young Scientist at Department of Physics, and currently Director, Delgado Coating & Technology Solutions Pvt. Ltd. This invention provides a portable low pressure spray pyrolysis apparatus that can be used in research and development of semiconducting and metal oxide thin films in research laboratories.



*Dr.Sreekumar*



*Dr. M.K. Jayaraj*

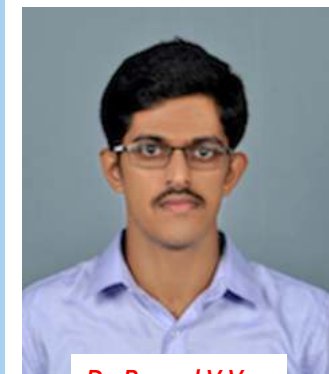
## ₹55 lakh Research Grant for Physics Department

The Department of Physics received a grant of ₹55 lakh from the Science and Engineering Research Board (SERB), under the Department of Science and Technology, Government of India.

Dr. Vineeth Mohanan. P and Dr. Prasad V V, Assistant Professors in the department, received the approval for the start-up research grant from SERB, for a duration of two years. Dr. Vineeth Mohanan P received the grant of ₹33 lakh for the experimental studies of magnetic materials and Dr. Prasad V V received ₹22 lakh for the theoretical studies on soft matter aggregation. The grant amount can be utilised for human resources and for the purchase of research equipment. Along with the project, a separate amount has been allocated by SERB for conducting scientific programmes for the benefit of society.



*Dr. Vineeth Mohanan*



*Dr. Prasad V.V.*

## Smrithi Vanam: First Step towards Carbon Neutral Campus

The School of Management Studies (SMS) launched its first ever interactive placement brochure and a unique placement app. In a function organised at the SMS Auditorium, Vice Chancellor Dr. K N Madhusoodanan released the placement brochure and launched the placement app.

The function was presided over by Dr. Jagathy Raj V.P., Director, SMS.

Dr. Manu Melwin Joy, Faculty coordinator, Dr. Sam Thomas, Dean, Faculty of Social Sciences and Dr Jacob Elias, Chief Placement Officer, spoke at the function.

The Placement App was developed by second year student, Rhishavdas K., via his start-up Kapreign (on app and web development), based in Kochi. The app helps in monitoring and tracking various news related to placements. It also serves the purpose of having a handy space for everything related to placement.

The Placement brochure was developed by an in-house team of second year students associated with the placement cell with the guidance of Dr. Smiju I.S., Asst Faculty coordinator, Placement Cell, SMS.

## SMS Launches Placement App, Brochure

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## SciTalk: An Attempt to Communicate Science to the Masses

“Translating our knowledge to the consumption of the common public is a huge task. However, the scientific community should be able to convey the content of their research to people,” said Vice Chancellor Dr. K. N. Madhusoodanan, while inaugurating 'SciTalk', a two-day science communication workshop organised by the Directorate of Public Relations and Publications, for faculty and research students of the university, with the aim of bringing science to the masses.

“Although teachers attend many science and technology conferences and workshops, it is not practical to make any of them accessible to the general public: but this workshop is a step in the CUSAT community's search for products that could nurture scientific temper among the general public,” the VC added.

The sessions were led by Dr. K P Aravindan, Health Expert and Consultant Pathologist, Seema Sreelayam, Children's author, Vaishakhan Thampi, Science Communicator, Sudha Nambudiri, Science Journalist, and Dr. N Shaji, editor, Luca.



*Vice Chancellor Dr. K. N. Madhusoodanan, inaugurates 'SciTalk', a two-day science communication workshop for faculty and research students of the university*

## Computational Fluid Dynamics Workshop

A three-day workshop on Computational Fluid Dynamics (CFD) was jointly organised by the department of Ship Technology, Cochin University of Science and Technology and the Society of Naval Architecture Students on March 17 and 18. It concluded with the discussion on how advanced computer-based experiments can be used for ship and submarine design and alternative engineering problem solutions.

A practical training on advanced CFD software like OpenFOAM, STAR-C CM+ was also a part of the session. School of Engineering Assistant Professor Dr. S Hari Krishnan, H Rahul Krishna, S Parvati Pillai, Surya R Nath, Alan Thomas led the classes. Head of Ship Technology Department Dr. P K Satish Babu, distributed the certificates.



# CUSAT Research Scholars Earn Laurels at Kerala Science Congress



**Devika**



**Athira K. Babu**



**Mathew Sunil**



**Sreevidya C.P.**



**Nithya Mohan**



**Sreejith S.S.**

Researchers from Cochin University of Science and Technology have won awards in various categories at the 34th Kerala Science Congress organised by the Kerala State Council for Science Technology & Environment with the objective of revitalising research and development (R&D) activities in the State and identifying new talents in scientific research in Kerala.

The Science Congress was held at Mar Ivanios College, Thiruvananthapuram. Devika S R, a research scholar from the Department of Applied Chemistry, and Dr. Sreejith S. S, Assistant Professor, bagged the best paper awards in Chemical Sciences in Student Category and Scientist Category respectively. Dr. Nithya Mohan, Postdoctoral Fellow at the Department of Applied Chemistry won the best poster award (Scientist Category) in the same subject. Thomas John V., Research Scholar, School of Engineering won the best paper award and Mathew Sunil, Research Scholar at the Department of Polymer Science and Rubber Technology won the best poster award in Engineering and Technology category. Athira P P., Research Scholar at the Department of Marine Biology, Microbiology & Biotechnology won best paper award in Fisheries & Veterinary Sciences, and Sreevidya C P., Research Scholar at the National Centre for Aquatic Animal Health won best poster award in Life Sciences. Athira Babu, Research Scholar at the Department of Mathematics, won the best paper award in Mathematical and Statistical Sciences.

## SoE Wins First Prize at Make-a-Ton Annual Hackathon

Team Hack Bytes from School of Engineering, CUSAT, won the first prize at the fourth edition of Make-a-Ton, a 24-hour hackathon organized by the Centre for Innovation, Technology Transfer and Industrial Collaboration (CITTIC) on February 27. At the annual event aimed at bringing together phenomenal minds from different disciplines to embrace the spirit of innovation, the team won the prize for their project named Audience Data Analytics, which tracked attentiveness during an online video meeting using artificial intelligence techniques.

The second prize was shared by Team xDev from Government Engineering College, Thrissur, and Team CodeX from School of Engineering, CUSAT. The former had built a blockchain-based evidence management system to prevent manipulation of proof in Indian courts and the latter developed an IOT-based Horticulture System for timely irrigation for crops.

The 'Hack 4 Cusat' prize was won by Team BroCode from CUSAT for developing digital printing solutions for students in the university.

The one-day Hackathon saw more than 400 registrations and active participation of students. Entrepreneurs from various startups offered continuous mentoring to the participants.

# International Women's Day Celebrated

Cochin University Women's Welfare Organization (CUWWO) celebrated International Women's Day on March 8 under the theme 'Gender Equality Today for a Sustainable Tomorrow'.

Vice Chancellor Dr. K N Madhusoodanan inaugurated the function, which was presided by Registrar Dr. V Meera. Kalamandalam Sugandhi, renowned Mohiniyattam dancer, was the Chief Guest on the occasion. Nidhi Sosa Kurian, Solo Traveller and Creative Content Writer, delivered the keynote address. Theatre artist Ratheesh V.T's Solo play 'Amma' was performed.

Cultural events by University Officials and an exhibition showcasing the creative talents of women employees at CUSAT were also part of the celebrations.



*Vice Chancellor Dr K. N. Madhusoodanan inaugurates Women's Day celebrations at CUSAT*



# IUCIPRS Inks MoU with Third World Network

As part of an ongoing collaboration, the Inter University Centre for IPR Studies has entered into a memorandum of understanding (MoU) with Third World Network (TWN) Penang, Malaysia. TWN is an independent research and advocacy organisation with significant expertise in intellectual property and access to medicines. The aim of the MoU is to provide joint training programmes and carry out collaborative research in the area of IPR and its implication on development.

The MoU was inked in the presence of Dr. K N Madhusoodanan, Vice Chancellor, on December 14. IUCIPRS is a specialised Centre established by the Government of Kerala, India for promoting teaching, research and extension activities, in the area of Intellectual Property Rights (IPR), under CUSAT.





## Dr. Mini Sekharan Chosen as NITI Aayog Project Expert

Dr Mini Sekharan, Associate Professor at the School of Industrial Fisheries, has been selected as an expert in developing an action plan for tuna fish value chain in Lakshadweep. The tuna fish value chain is an important part of the Lakshadweep economy and its development is a key priority for NITI Aayog.

Dr. Mini Sekharan is the marketing consultant of Kerala Aqua Ventures International Ltd (KAVIL), a Government of Kerala Undertaking. She is also the international marketing consultant of Ornamental Fish International (OFI). She has been associated with several international projects and consultancies in sector development for a decade. Her selection is a proud recognition for CUSAT, said Vice Chancellor Dr. K N Madhusoodanan.



Dr Mini Sekharan

## International Research Workshop Held

The three-day International Research Workshop, organized by DDU Kaushal Kendra to introduce innovative methods and data analysis techniques in the field of social science research, was inaugurated by Dr. Sam Thomas, Dean of Social Science.

Dr. P. Murugan, Assistant Professor of University of Hyderabad, who is a well-known research trainer, led the training sessions. About 60 researchers from different states of India and foreign countries participated in the training that concluded on August 31.

## Dr. L Suneetha Bai Memorial Award Presented



Dr. L Suneetha Bai Gyan Puraskar instituted by the Department of Hindi was presented to Dr. Supriya P, Assistant Professor, Central University of Kerala, and Dr. L Suneetha Bai Dhishana Puraskar to the best translation work to Dr. C J Prasanna Kumari, former head of Hindi Department, Government Women's College, Thiruvananthapuram, by Vice Chancellor Dr. K N Madhusoodanan. The event also saw distribution of Dr. L. Suneetha Bai Medha Puraskar to Deepthi J Panicker and Preethika. N, the rank holders in M A Hindi.

"The Hindi departments are very important in South India and the collaboration of the university's Hindi Department with other institutions in the country provides better opportunities for students," noted the Vice Chancellor at the event presided by Pro-Vice Chancellor Dr. P G Sankaran.

Dr. Sivanandan Achari, Syndicate Member, Dr. R Sasidharan, Emeritus Professor, Hindi Department, Dr. V Meera, Registrar, Dr. K Ajitha, Head, Hindi Department, and Dean, Faculty of Humanities, Adv. V Balakrishna Shenoy, Spouse of Dr. L Suneetha Bai and sponsor of Dr. L Suneetha Bai Smriti Puraskar, Prof. V G Gopalakrishnan, Secretary, Alumni Association, Dept. of Hindi, and Dr. P Praneetha, Associate Professor, Dept. of Hindi, spoke.



# International Conference on Sustainable Technology Held



*Vice Chancellor Dr K N Madhusoodanan inaugurates International Conference on 'Sustainable Technology and Innovation for Industry 4.0 (icstii-2022)'.*

As part of the Golden Jubilee celebrations of the university, the Virtual Centre for Advanced Research in Engineering Science and Technology organised an International Conference on 'Sustainable Technology and Innovation for Industry 4.0 (icstii-2022)'.

Inaugurating the conference, Vice Chancellor Dr. K N Madhusoodanan noted, "The changes in our education system are essential to meet the challenges posed by the leaps and bounds in computing and digital technologies."

"By 2050, carbon emissions will be the most complex and laborious mission in the field of energy," said Michael RW Wamsley, Professor at the University of Viktor in New Zealand. He was delivering the keynote address at the International Conference on 'Green Technologies for Materials, Energy and Production'. "There was no magic trick to achieve zero carbon emissions. It would only be possible through a combination of technologies," he added.

The Vice Chancellor released the summary of over 60 papers presented in nine sessions. The technical sessions were followed by lectures by Professor Valerio Kozani of the University of Bologna, Italy, and Dr. Neil Gala, co-founder of Incor Semiconductors, and Dr. K J Vinoy (Indian Institute of Science, Bangalore). The ensuing session on 'Sustainable Technologies for Manufacturing and Production' was chaired by Dr. K S Beena, Dean, Faculty of Engineering. In the session on 'Advanced Technologies for Geo-Water Transport', Dr. A Mathiyazhakan and in the session on 'Renewable Energy Systems' Dr. Asha Elizabeth Daniel also presided. Roy Joseph (Sree Chitra, Thiruvananthapuram), Dr. Corrado Aaron Visagio, University of Sanyo, Italy; and Dr. Vineet Jagatia (IIT, Jammu), Dr. C S Bindu, Dr. Malavika Verma, Dr. T K Fawaz, P A Akram, Dr. PG Latha and Dr. K. Vinida led the technical sessions during the conference. University teachers who won international fellowships and patents and the retiring engineering and technology teachers were honoured.

## Studies on Economic Crises should Reach People: Finance Minister

"When Union allocations to the states are being stopped unnecessarily, institutions like CUSAT Centre for Budget Studies, can conduct studies on such issues to make those issues publically noticeable," said K N Balagopal, Minister for Finance, Government of Kerala. He was inaugurating a lecture organised by the Centre for Budget Studies (CBS), CUSAT, the Centre for Socio-economic and Environmental Studies (CSES) Kochi, and the Gulati Institute of Finance and Taxation (GIFT) to commemorate Prof. K.K. George, an eminent economist and a public finance specialist.

"Studies should be conducted by such centres to help the governments in making policies for managing revenue generation and financial systems according to the modern times," he added.

As a tribute to Prof. K.K. George, a document chronicling 25 years of CSES also released at the event. "Prof. K.K. George was an excellent academician who studied well the possibilities and shortcomings of the 'Kerala model'", recalled the Minister. Prof. Pinaki Chakraborty, Former Director, National Institute of Public Finance and Policy (NIPFP), New Delhi, delivered a lecture on 'Rethinking Fiscal Rules in the Times of Uncertainties'.

## International Conference on Current Trends in Chemistry



'International Conference on Current Trends in Chemistry- CTric 2022' a two-day International Conference organised by Department of Applied Chemistry, Cochin University of Science and Technology was held in hybrid mode at the department auditorium in March. At the event inaugurated by Pro-Vice Chancellor Dr. P G Sankaran, the Book of abstract of C-Tric 2022 was released. Dr. K Sreekumar, head of the department, Dr. K Girishkumar, Director IQAC and Dean Faculty of Science, and Dr. B N Rajasekharan, Vice Chancellor, Somaiya Vidyavihar University, Mumbai, spoke. Toppers of M Sc Chemistry 2018-20 batch, Malini George and Athira Nandakumar were felicitated with Prof. P Madhavan Pillai gold medal and Prof. S Sugunan endowment.

## CUSAT Entrepreneurship Development Cell 'Creativo' Inaugurated

APM Mohammed Hanish, IAS, Secretary, State Department of Industry and Commerce, Kerala inaugurated the 'Creativo' Cell, an entrepreneurship development cell set up under the auspices of the CUSATEC Foundation, to promote entrepreneurial potential in Cochin University of Science and Technology and the society. 'Laboratories and research stations are the base of science and technology; results of such intellectual work should be able to extend to the market', he said. The duplication is not worth it in these times and that success is possible only with innovative ideas', he added.



**APM Mohammed Hanish, IAS, Secretary, State Department of Industry and Commerce, inaugurates the Entrepreneurship Development Cell Inauguration and Awareness Programme 'Startup Spotlight Series' organised by the CUSATECH Foundation.**

Dr. K N Madhusoodanan, Vice Chancellor, presided over the function. Pro-Vice Chancellor Dr. P G Sankaran, R Prasanth, General Manager (Products) KSIDC, Kochi, Anoop B, Manager, SIDBI, Kochi, Dr. Sam Thomas, Director, CITTIC, CUSAT and Dr. Sangeetha K Prathap, Entrepreneurship Development Cell Coordinator spoke. This was followed by the 'Startup Spotlight Series', an entrepreneurship awareness programme, organised in association with 'Creativo'.

Jees V. Kariyil, Co-founder JOBOY and Director-Products impress.ai and winner of Super Startup of Asia Award 2018, Joy Sebastian Co-founder-CEO, Techgentsia Software Technologies Pvt.Ltd. and Winner of Video Conferencing Innovation Challenge organised by the Union Ministry of Electronics and IT, and Jabir Karat, CEO & Founder: Green Worms Waste Management Pvt.Ltd. and winner of Swami Vivekananda Young Entrepreneur Award, Govt. of Kerala, TIE Kerala Social Entrepreneur Award 2020, led the sessions.



# SoE Researchers Granted Patent for Farmchain Intelligent Network System

Dr. Santoshkumar M.B., Associate Professor, Division of Information Technology, School of Engineering (SOE), Dhannia T., Associate Professor, Division of Applied Sciences and Humanities, SOE, Neenu Johnson, Assistant Professor, Federal Institute of Science and Technology (FISAT) and Part Time, Research Scholar, Division of Information Technology, SOE, Cochin University of Science and Technology were granted with Indian Patent for 'Farmchain Intelligent Network System (FINS).

Farmchain Intelligent Network System is directed to the integration of Internet-of-Things (IoT), Deep learning and Block chain for developing a network of intelligent farms improving the communication between farmers, government, buyers and other agricultural stakeholders.



**Dr. Santoshkumar**



**Dhannia T.**



**Neenu Johnson**



*Filmmaker Shyamaprasad releases 'G4Games and L4Learning', a book penned by Dr. Manu Melwin Joy, Assistant Professor, School of Management Studies, CUSAT, and Asha Sivan Kutty, research scholar, SMS, CUSAT. The book, which serves as a tool for teachers to make teaching entertaining and engaging through innovative pedagogical techniques of gamification, is brought out by Amazon Publishers.*



*The National Service Scheme (NSS) of the University, Thanal Palliative Paraplegic Care Society and the All Kerala Wheelchair Rights Foundation, in association with the People's Foundation distributed food kits to wheelchair users on the occasion of Ramadan, Vishu and Easter. Pro- Vice Chancellor Dr. P G Sankaran distributes the kits.*



## Patent for SoE Researchers' Error Feedback Modulator Based Circuit

Dr Babita Roslind Jose, School of Engineering (SOE), Dr. Jos Prakash A V., Former PhD Scholar, SOE, and Dr. Jimson Mathew, Associate Professor, IIT Patna, have been granted an Indian Patent for the development of a band-pass differential quantizer based error feedback modulator (BP- DQEFM) based circuit. The invention was facilitated by the IPR facilitation cell at Inter University Centre for IPR Studies..

The invention discloses a BP-DQEFM based circuit for high speed, wide-band, high precision and low power data conversion applications.

It also reduces the need for additional circuit components since the quantisation noise shaping does not depend on the accuracy of any complex loop filter and eliminates resonators, thereby decreasing the circuit complexity.



Dr. Babita Jose



Dr. Jos Prakash

## Dr. P V Joseph Awarded Sir Gilbert Walker Gold Medal

Dr. P V Joseph, Scientist and Former Emeritus Professor in the University, was awarded the 'Sir Gilbert Walker Gold Medal' instituted by the Indian Meteorological Society in recognition of his outstanding contribution in Meteorological researches. The award, which carries a cash prize of Rs 1 lakh and a citation, was presented at a ceremony in Delhi.



Dr P V Joseph

Prof. Joseph was an Emeritus Professor at the Department of Atmospheric Sciences, CUSAT for around 15 years, and had collaborated with the Research Students in the study of Atmospheric – Ocean systems. His essays on monsoon and climate change are also famous. In addition to CUSAT, he had worked as visiting lecturer in foreign universities like Colorado and Hawaii. Joseph was also a member of the International Advisory Panel of the Ministry of Earth Sciences, Govt. of India, a Fellow of Indian Meteorological Society, member of Ocean Society of India and Emeritus member of American Meteorological Society. The biennial award is presented in memory of Sir Gilbert Walker, a British mathematician and meteorologist who made significant contributions to meteorology in India.

Cochin University of Science and Technology has been granted a patent for the invention of 'Free Standing Polymer Composite Film For Electromagnetic Interference Shielding And Process For Preparation Thereof'. Microelectronics Faculty of Information Technology and Electrical Engineering.

The patent was granted to Dr. M. K. Jayaraj, Vice Chancellor, University of Calicut and former Professor and Head, Department of Physics, CUSAT, and Dr. Jasna M, MSCA Post-doctoral fellow, University of Oulu Finland.

The invention is directed to an electromagnetic interference shielding composite and a free standing electromagnetic interference shielding film produced thereof.

## Patent for Polymer Film For Electromagnetic Interference Shielding

The film provides an electromagnetic interference shielding composite being lightweight, flexible, economic, and easier in processing than metal based composites. The high performance EMI flexible shield could be used for high frequency electronic devices to protect their components from incoming radiations induced by other electronic devices. This lightweight and flexible EMI shield can be used in radar application, wireless communications, etc. to provide shielding from other unwanted signals.

# Exciting Participation at Student Induction Programme 2022

The University's two-week-long Student Induction Programme for students who have been admitted to undergraduate courses in the 2022-23 academic year saw energetic participation of students.

At the induction programme, Pro-Vice Chancellor Dr. P G Sankaran and Dr. Manu Melvin Joy, School of Management Studies, interacted with the students. In the alumni interaction session, the Indian Navy Commander Deepak Sebastian, TinkerHub Foundation co-founder Moosa Mehar M.P., Jean Geever, Kumari Surya Ramanan, and Maya Menon were present.

Eminent leaders from academia, industry, entrepreneurship, and administration will interact with the children in various sessions. Universal Human Values Sessions, Sports Health Sessions, Maths-English-Computer Science Proficiency Modules, Literary Appreciation Camps, Campus Visits, Regional Visits, Creative Activities, Art Programmes, etc. were also conducted as part of the induction programme, which concluded on November 5.



## National Conference on Current Trends in Polymer Science Held



The National Conference on Current Trends in Polymer Science (CTPS 2022), a two-day National Conference organised by the Department of Polymer Science and Rubber Technology (PS&RT), was inaugurated by Vice Chancellor Dr. K N Madhusoodanan. The logo of the upcoming conference APT 2023 was also released.

Prof. Sunil K Narayanankutty, Head of the Department, PS&RT, presided over the function. Dr. K E George, former H.O.D, PS&RT, Prof. Honey John, Professor, PS&RT and Director, IUCND, and Dr. Jinu Jacob George, Coordinator, CTPS-2022, and Assistant Professor, PS&RT, spoke.

The keynote lecture on 'polymer composites' by Prof. Kuruvilla Joseph, IIST which was chaired by Dr. D J Francis, Former HOD, PS&RT. Prof. Anandhan Srinivasan, NIT Surathkal and Prof. Soney Varghese, NIT Calicut spoke about the 'piezoelectric polymers' and Dr. K.E George chaired the session.

## AICTE Chairman Designate Visits CUSAT

Prof. T G Sitharam, director of IIT Guwahati, and Chairman Designate of All India Council for Technical Education (AICTE), visited the University on December 15.

A meeting was organised at the SoE to welcome the dignitary. The event was presided over by Vice Chancellor Prof. K. N. Madhusoodanan. Registrar Dr. Meera. V welcomed the gathering. Dr. P. G Sankaran, Pro Vice Chancellor, CUSAT, Prof. G. Madhu, Professor, School of Engineering, and Prof. Deepak Kumar Sahoo, Principal, School of Engineering spoke on the occasion.



## CUSAT Gets Patent for Automated Irrigation System



Dr. Santosh Kumar

Dr. Santosh Kumar M. B., Associate Professor, Division of Information Technology, School of Engineering, and Sowmya M. R., Part-time Research Scholar, Department of Computer Applications, CUSAT, and Assistant Professor, Sree Sankara College, Kalady, received an Indian Patent for their innovation 'An Automated Irrigation System Based On Crop Water Requirement (AISCR) And Its Method Thereof.'

The AISCR proposes a method for automating agricultural irrigation systems based on the water requirements of crops by integrating Machine Learning techniques and Internet of Things. This invention includes a method for calculating the irrigation trigger point, which is used to start the irrigation process before the crops become water stressed. AISCR functions as a crop water irrigation alert system with a mobile application user interface, saving the time and effort of farmers.



Sowmya M.R.

## World Fisheries Day Observed

The School of Industrial Fisheries observed the World Fisheries Day, which is observed annually to highlight the critical importance of healthy aquatic ecosystems and ensure sustainable stocks of fisheries worldwide. Dr. Shine Kumar, Director, National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT), inaugurated the event. Mohanan, a fisherman from Perumpalam, Alleppey, working on the conservation of fishery resources of Vembanad lake and Subi S Anand, a young entrepreneur and a fish farmer from Muvattupuzha, Ernakulam were honoured by Dr. S. Sabu, Director, School of Industrial Fisheries.

An interactive session on practical knowledge of traditional fishing and sustainable fish farming practices was conducted as part of the programme attended by the postgraduate students and research scholars of the School of Industrial Fisheries.



## KMTC Stakeholder Connect Meet Held

The Kerala Medical Technology Consortium and CUSAT (KMTC) stakeholder connect meet was held in the campus on November 29. The meet aimed to improve Translational Research and Technology Transfer in Medical Technology and Medical Devices and to encourage healthcare interactions between academia and industry. The event was inaugurated by Vice Chancellor Prof. K N Madhusoodanan. The keynote address on the importance of interdisciplinary research in the medical field was delivered by Dr Sanjay Behari, Director, Sree Chitra Tirunal Institute for Medical Sciences and Technology.

The event was graced with a talk by Mr. C Padmakumar, Special Officer, KMTC and Dr. Bijoy Jose, Dy Coordinator, CUSAT - TBI. A session on Translational Research was conducted by Mr Ravi Pandey, Research Establishment Officer, IIT Kanpur. The presentations made by CUSAT Faculties and startups were also part of the meet.





## Innovative Technologies Should be Used in Modern Construction: Loknath Behera

"Diverse and innovative technologies should be used in modern construction," said Kochi Metro Rail M. D. Loknath Behera. He was speaking at the inauguration of the 18th International Conference organised by the Division of Civil Engineering, School of Engineering. In the three-day conference where more than 200 delegates participated, about 40 papers related to civil engineering were presented.

School of Engineering Principal Dr. Deepak Kumar Sahu, Organising Secretary Dr. Job Thomas, Syndicate Member Dr. P. S Sreejith, Board of Studies Member Dr. Anil Joseph, CIAL Executive Director A. M. Shabir, Dr. Subha.V spoke on the occasion.



## International Soil Day Observed

As part of observing International Soil Day, the Department of Electronics, NSS Unit and Ishta Maram Foundation jointly organised the exhibition of 14 types of soils found in different parts of Kerala. A booklet on characteristics of soil was released and types of seeds were distributed.

Registrar Dr. Meera V inaugurated the event and Dr. Supriya M H, Department of Electronics presided over the ceremony. Smt. Anithakumari V, Joint Director of Agriculture Project introduced the soil varieties. Ishtamaram Foundation Founder Babu Thattarkunel, Dr. Trupti S Warriar, Asst. Professor delivered the vote of thanks. Teachers, staff and students participated in the event.



## MoU with Cochin Shipyard Revised

A revised memorandum of understanding (MoU) was inked between Cochin University of Science and technology (CUSAT) and Cochin Shipyard Limited (CSL). The MoU was signed by A.K. Subhash, General manager, CSL, and Dr V. Meera, Registrar, CUSAT.

The MoU aims at increased cooperation between the two in research, knowledge sharing and human resources development in areas of mutual interest in the oceanographic fields of studies. It has also been decided to expand the current cooperation between the university and CSL in the realms of student internships, final-year projects and consultancy by faculty.

The event, held in the presence of Vice Chancellor Dr K N Madhusoodanan and Pro-Vice Chancellor Dr P G Sankaran, was attended by Vetriselvan and Jathesh Chandra from CSL, Dr P K Satheesh Babu and Dr Sivaprasad from the Department of Ship Technology.



## Patent for SoE Faculty on AQFAK

*Dr. Santosh Kumar*



Dr. Santhoshkumar M. B, Associate Professor, Division of Information Technology, School of Engineering, and Nismi Mol E A, UGC Senior Research Fellow, Division of Information Technology, School of Engineering, CUSAT received an Indian Patent for their innovation titled 'An Automated and Query – based Farming Assistance System with Knowledge Base (AQFAK)'.

AQFAK is a system for assisting farmers by providing automatic suggestions and answering user queries based on the knowledge base constructed from agricultural documents and traditional knowledge of farming experts. AQFAK functions as an automatic farming assistance system by providing critical suggestions based on soil quality and crop health conditions detected by IoT sensors.

*Nismi Mol E.A.*



## Seven Researchers Granted Patent for Triboelectric Power Generator

Faculties and Researchers from Cochin University of Science and Technology were granted an Indian Patent for the development of triboelectric power generator based on reduced graphene oxide composite. The invention was facilitated by the IPR facilitation cell at Inter University Centre for IPR Studies (IUCIPRS), CUSAT.

Prof. (Dr.) Honey John, Director, Inter University Centre for Nanomaterials and Devices (IUCND), & Professor Department of Polymer Science and Rubber Technology (PS&RT), CUSAT, Dr. Divya Jose, Former PhD Scholar, PS&RT; Assistant Professor, Bharata Mata College, Thrikkakara, Saji Joseph K. J, Associate Professor, International School of Photonics (ISP), Dr. Jelmy E.J, Post- Doctoral Fellow, PS&RT CUSAT, Vijoy K V, PhD Scholar, ISP, Prof. M K.Jayaraj, Vice Chancellor, University Calicut and Sharon Antony, PhD Scholar, Department of Physics are the inventors.

A new material composition containing conducting polymer, reduced graphene oxide and polydimethyl siloxane polymer has been developed for triboelectric nanogenerators(TENG) that will lead a new pathway to harvesting energy from a variety of sources such as different vibrations, wind, human motion, ocean currents, especially in powering nanoelectronic devices from unutilised mechanical energy and will boost up self-powered censoring field that can sense things without any external power.



*Dr. M K Jayaraj*



*Dr. Saji K J*



*Dr. Honey John*



*Sharon Antony*



*Dr. Jelmy E J*



*Dr. Divya Jose*



*Vijoy K V*

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