AMRITA
VISHWA VIDYAPEETHAM
UNIVERSITY
Established u/s 3 of UGC Act 1956

EnVision

School of Engineering Newsletter (May 2017)

MESSAGE
FROM OUR CHANCELLOR

"Progress can be slow, continue putting in efforts with Patience, Enthusiasm and Faith"

AMMA

QS UNIVERSITY RANKINGS ASIA 2016	QS UNIVERSITY RANKINGS BRICS 2016	nirf India's National Ranking 2017	THE WORLD UNIVERSITY RANKINGS WORLD RANKINGS 2015	THE WORLD UNIVERSITY RANKINGS BRICS & EMERGING ECONOMIES 2015
No.1 International Faculty in India	No.1 International Faculty in India	No.9 Among All Universities in India	No.1 Private University in India	No.1 Private University in India

www.amrita.edu/ranking

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DEAN's MESSAGE

This edition of En-Vision is released at a proud moment, where the University has benchmarked itself as the No.1 Private University in India. We have risen to the challenge of meeting the parameters in all the requisite academic areas that includes Teaching, Research and Innovation. The success stories shared here is a proof of our consistent efforts to be at the helm of achievement. What lies ahead is a journey that is motivating and more challenging. I am extremely proud of each and every individual who has contributed to this success and I am honored to be a part of a team that is persistent in its effort to contribute to humankind through Engineering.

BONE MINERAL DENSITY ANALYSIS SYSTEM (BDAS):

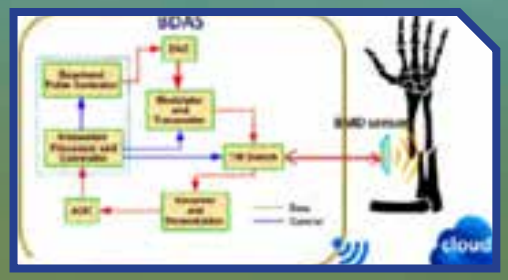
AN EMBEDDED WIRELESS BASED PORTABLE AND COST-EFFECTIVE SOLUTION FOR DIAGNOSIS, MONITORING AND REHABILITATION OF COMPLEX BONE DISORDERS.

Funding Agency: Department of Science and Technology (India) and VINNOVA (Sweden) - Uppsala University.

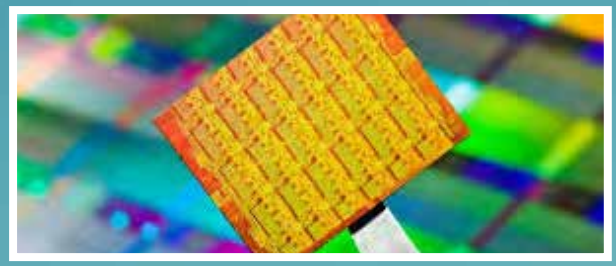
Faculty: Dr.Dhanesh G.Kurup,

Department of Electronics and Communication Department, Amrita University and Dr.Robin Augustine (Uppsala University, Sweden)

This Collaborative project aims to design and develop a Low cost, Portable and Low power Orthopaedic Healthcare system which will contribute to enhance social well-being of the society. The proposed device aims to incorporate a Wireless Embedded system based Technology with minimal Health hazards compared to conventional systems such as X-rays. In Europe, the proposed device will be customized as a home based Orthopaedic Rehabilitation and monitoring system with wireless data connectivity that will enable patients to avoid frequent hospital visits. In India, the proposed system will be customized to serve Primary Health Centres (PHC), thereby Orthopaedic care can reach a population of about 750 million in rural areas. The proposed project aims to conduct a pilot clinical trial together with Akademiska Hospital, Uppsala, Sweden and also to achieve productivity and market launch in collaboration with SMEs in Sweden and India.



TOWARDS NEXT GENERATION EMBEDDED SYSTEMS: UTILIZING PARALLELISM AND RE- CONFIGURABILITY



Funding Agency: Strategic Indo-Swedish Cooperative Innovation Programme on Embedded Systems

Faculty: Dr. Madhura Purnaprajna, Department of Computer Science and Engineering.

The project explores the potential of Emerging Computing platforms for enhanced performance in embedded systems. This approach will be supported through the use of a collection of architectural techniques that build on the essence of parallel program execution that are simple and easy to use. The project will aim at exploring hardware platforms consisting of state-of-the-art FPGAs, many-core processors and embedded microprocessors.

RESEARCH @ NATIONAL- HIGH END SPONSORED PROJECTS AT NATIONAL LEVEL

AMRITA RECEIVES MAJOR GRANT FROM DEPARTMENT OF SCIENCE AND TECHNOLOGY THROUGH FIST SCHEME

FUND FOR IMPROVEMENT OF S&T INFRASTRUCTURE
Department of Science and Technology

Fund for Improvement of S&T Infrastructure (FIST) of the Department of Science & Technology (DST), Government of India is given to selected Institutions; The Scheme will provide optimal infrastructure facilities for post-graduate teaching and research. Two Departments from Amrita, Department of Mechanical Engineering and Department of Chemical Engineering and Material Science from Coimbatore Campus were selected for the grant for 2016 FIST program.

DEVELOPMENT OF HIGH TEMPERATURE THERMOPLASTIC- CARBON NANO FIBRE COMPOSITES FOR LONG TERM NUCLEAR WASTE DISPOSAL

Funded by Board of Research in Nuclear Sciences (BRNS) under Department of Atomic Energy; Govt. of India

Faculty: Professor. Dr.Shantanu Bhowmik, Dr.V.Sivakaumar and Dr.G.Ajeesh,
Department of Aerospace Engineering.

The Team has developed a lighter weight high performance thermoplastic - Carbon Nano Fibre Composites container that can store nuclear waste for 500 years. The composite container offers exceptional radiation, thermal and chemical resistant properties. These composites will have significant application in areas pertaining to nuclear waste storage, Radiation shielding application in hospitals, Radiation resistant army bunkers and deep space application. Currently, nuclear wastes

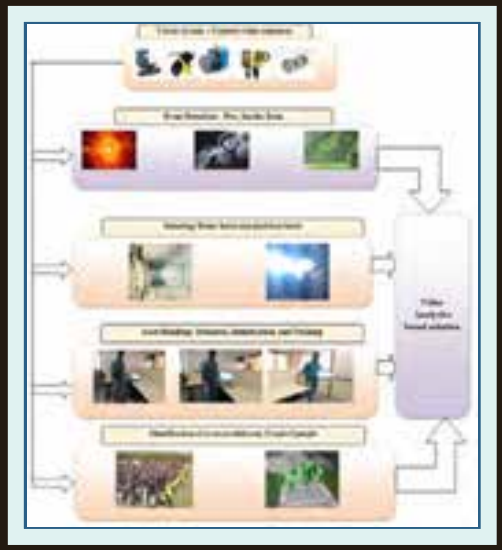
are stored in multi-layer canister made of lead, steel and concrete. Though lead offers exceptional radiation resistance, it makes the container heavy and also it makes the storage site hazardous due to lead poisoning over the course of time. Hence the focus was on developing Polymeric Nano Composites as a potential replacement for lead in long term nuclear waste disposal. The Polymeric Nano Composites have been subjected to high radiation dosage of 5000 kGy and highly aggressive chemical and thermal environments. The use of polymeric composites in place of lead reduces the weight of the containers used for nuclear waste storage by 90%. The prototype of the containers has been developed and has been satisfactorily tested for high dosage of radiation and thermo-chemical environments. These High Performance Thermoplastic-Carbon Fibre Composites show high resistivity under fire, aggressive chemical environments such as acidic and alkaline environment and resistivity under high energy radiation.

A FRAMEWORK FOR EVENT MODELING AND DETECTION FOR SMART BUILDINGS USING VISION . SYSTEMS

Department of Science and Technology, Natural Resources Data Management System.

Faculty: Dr.Latha Parameswaran and Dr.T.Senthil Kumar,

Department of Computer Science and Engineering.

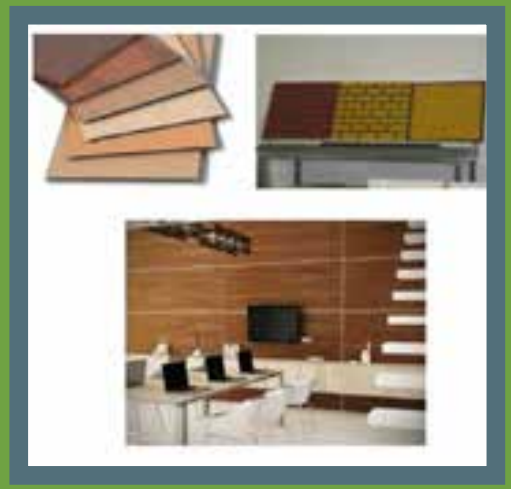


The broad objective of this project is to develop a framework for smart buildings that supports efficient indoor tracking of people and objects using vision systems and algorithmic design. The work plan would be to Identify and model critical events that may occur in a building which includes both indoor and outdoor spaces, Modeling of movement of people and objects in this environment, Algorithms for fusion of images from multiple cameras to detect anomalies with respect to both spatial and temporal data, Algorithms for people identification, gender and age group identification from images and videos, Image and Video processing algorithms for detection of fire, smoke and rain and raise alarm/alerts, An object oriented data model to store large volume of image and video data for further processing such as big data analysis. Overall a framework using vision systems will be developed that can be used as a model to configured in existing buildings to make it smarter.

DEVELOPMENT OF HIGH VOLUME FLYASH FOAM CONCRETE WALL PANEL USING RICE STRAW AS THERMAL INSULATION MATERIAL

DST- "Initiative to Promote Habitat Energy Efficiency (I-PHEE)"

Faculty : Dr.K.M.Mini and Ms.Dhanya Sathyan from Department of Civil Engineering.



As a tropical country India faces serious issues of temperature rise and fall in most of the parts, which demands the need for thermal insulation in existing buildings. Insulation is a key component of sustainable building design. A well-insulated home reduces energy bills by keeping warm in the winter and cool in the summer, and this in turn cuts down carbon emissions linked to global climate change. In terms of energy efficiency, investing in high levels of insulation materials is more cost-effective than investing in expensive heating technologies. Insulation materials are used in roofs, walls and floors. The introduction of the concept of "sustainability" in building design process encouraged researchers aimed at developing thermal and acoustic insulating materials using natural or recycled materials.

The goal of the present proposal is to develop a state of the art of green building insulation product for existing buildings from natural materials. It focus on the development of a cost effective high volume fly ash foam concrete insulated wall panel for existing buildings using green materials like rice straw under different proportions. The developed model will test for various properties in terms of thermal insulation capacity, mechanical strength, noise absorption, and moisture absorption and fire resistance. It is also proposed to develop a parametric study of heat transfer across the insulated panel by numerical simulation and an empirical model to predict the heat transfer characteristics of wall panel.

RELIABILITY BASED SOFT DECISION DECODING OF TURBO CODES FOR SATELLITE COMMUNICATION.

Funded by Indian Space Research Organization- RESPOND Project

Faculty: Dr.B.Yamuna, Dr.Karthi Balasubramaniam, Dr.Ramesh Bhakthavatchalu,
Mr. K. Parguna Rajan, Department of Electronics and Communication Engineering

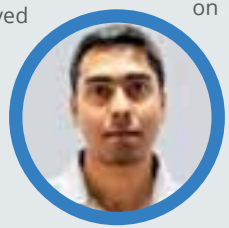
The Telemetry Channel coding recommended standard developed by Consultative Committee for Space Data Systems (CCSDS) is possibly the widely accepted standard for channel coding used in deep space communication. Any channel decoding scheme which offers the potential to improve performance is welcome here. This forms the basic motive for this project. The expected performance of an ideal soft decision decoding is that of Maximum Likelihood Decoding (MLD) performance. However, MLD being computationally complex with larger block lengths, decoding methods for reducing the complexity of MLD have been suggested. Such techniques reduce the decoding complexity by trading the ML performance. Reliability based decoding – a class of SDD – uses the channel output information as reliability measure to improve the coding gain with associated levels of complexity. The project aims at the development of a reliability based soft decoding as a generic scheme for low SNR applications, to explore the applicability of the same to Turbo code to suit deep space application and FPGA realization of the proposed SDD algorithm.

EARLY/ YOUNG FACULTY RESEARCH GRANTS

Dr. Mahendra Naktuji Nandanwar

from department of Chemical Engineering and Materials Science received Early Career Research Award from the Department of Science and Technology to develop "Natural convection driven flow-through soluble lead redox flow battery with inbuilt sonication mechanism for achieving longer cycle life". The developed technology is expected to facilitate easy, reliable, and cheaper way of energy storage at large scale. The technology will be used to store energy generated by renewable sources of energy such as solar and wind. The stored energy then can be used on demand when renewable sources of energy are unavailable ensuring uninterrupted power supply. Thus, the technology is expected to accelerate use of renewable energy sources worldwide by making them more reliable.

T.M.Rahul from Department of Civil Engineering received Early Career Research Award from the Department of Science and Technology for the project Commute Travel Choices in India – Gender Perspective Solutions.. A major reason for this bias is the 'system justification', used by the group being advantaged from the current system setup. Developing nations including India could be assumed having this gender issues on a much bigger scale than developed nations as the societal outlook in the former are still rooted in its familial system, where in a male is considered the head of the household. Aptly, in India, the current National Urban Transport Policy (NUTP) prepared by the Ministry of Urban Development (Government of India) and the recent Smart city concept envisaged by the central Government places a huge emphasis on an inclusive transportation that caters all sections of the society. In the above mentioned context, the present study explore the reasons behind variations in travel choices, which include trip generation, mode-choice etc. Two of the specific intellectual questions that present study attempts to elicit are the extent of impact of patriarchy, economic power, and gender stereotyping on these choices. The study is expected to give an overall perspective on the status of women in a developing country context. This would help in adopting policies that may help in the social empowerment of women. Further, specific policies can be formulated for a gender inclusive transportation system. These policies may aid the MoUD, and Ministry of women and child development respectively in their Smart city concept and gender specific schemes. Strategies could be suggested to improve the transportation facilities in accordance with the expectation of women.



Dr.Sivasenareddy,

from Department of Civil Engineering received Early Career Research Award from the Department of Science and Technology for the project "The Integrated Watershed Management in Data scarce Rainfed Regions of India using Artificial Intelligence, Geo-Spatial and Soft Computing Techniques". The research project envisages to develop an integrated watershed management plan and decision support system, which can address the concerns about sustainable land management and water productivity in the rain fed watersheds. This research project aims to address some key issues in rain fed watershed management, which needs immediate attention such as identifying and classifying potential suitable sites and hot spots for conservation measures at micro-watershed scale, prediction of runoff in ungauaged basins, Analysis of the spatio-temporal characteristics of Land use/ Land cover (LULC) and studying the effects of LULC /Vegetative cover on watershed hydrology and also assessing the effects of changes in future climate on watershed hydrology.

Dr. Madhura Purnaprajna,

Department of Computer Science, received Early Research Career Award from the Science and Engineering Board of Department of Science and Technology for the project titled, Just-in-time Customisation: Research Platform for Accelerating Algorithms to Systems, Today's embedded computing world has been overloaded with applications with high computational demands, in addition to being constrained by cost, footprint and battery life. The breakdown in the growth of performance-per-watt, along with ever increasing transistor densities, challenges the conventional off-the-shelf processing paradigms for the new generation of embedded computing applications. The need for application-specific acceleration necessitates concentrated efforts towards developing a research infrastructure that can provide a platform for joint application-algorithmic explorations. Such an infrastructure will bring about industry and academic collaborations to develop reusable, composable, reconfigurable and open-source design tools. This idea of a research infrastructure will give a leading edge towards next-generation embedded computing research in India by bringing together a consortium of researchers from the industry and academia to collaborate and develop ideas and techniques across different domains, viz., applications, algorithms, compilers, architectures and operating systems.

AMRITAWNA HOSTS WORKSHOP ON OPPORTUNISTIC MOBILE NETWORKS

Amrita Wireless Center for Networks & Applications (AmritaWNA), organized a one day workshop on "Opportunistic Mobile Networks". This workshop was organized for to PG students, research scholars and faculty members working in the areas of mobile computing, and Wireless Networks and Data Networking. Dr. Sudip Misra, Associate Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology Kharagpur, delivered the keynote lecture on Opportunistic Mobile Networks: Challenges and Research Trends. He covered topics such as Delay Tolerant Networks, sub-classes of DTNs, research trends and challenges, message transfer and routing in Opportunistic Mobile Networks. He also discussed various aspects of OMNs such as cooperation and human mobility characteristics. Mr. Barun Kumar Sha, a postgraduate from IIT-Kharagpur, conducted hands-on session on ONE simulator. The focus of this hands-on workshop was on the ONE network simulator that could be used to implement and simulate several real world scenarios which involve Delay Tolerant Routing and mobility models.

AMRITA WELCOMES NETHERLANDS DELEGATION

A delegation from the University of Twente, Netherlands, visited the University, to discuss potential educational and research collaborations. During the visit, Amrita faculty and delegates from Twente shared their research and academic backgrounds, held interactive sessions, and found areas of mutual interest for future collaborations. A presentation of Amrita's flagship international program, Live-in-Labs® - an experiential learning initiative in

OFFICIALS FROM BRITISH GEOLOGICAL SURVEY VISITED AMRITA WNA RESEARCH SITE

India's first ever cutting edge wireless sensor network system, designed to detect landslides at least 24 hours ahead of its occurrence, has been set up at Munnar in the high range Idukki district of Kerala which was developed by Amrita Vishwa Vidyapeetham University as part of a research project, 'WINSOC' (Wireless Sensor Network with Self Oganisation Capabilities for Critical and Emergency applications). To explore possible collaboration with already successful Amrita WNA team on Landslide Detection and monitoring. A Team comprising of Dr.Helen Reeves, Mr.Sebastin Uhlemann, Mr.Rusell Swift visited the Munnar Landslide detection site. The visit is expected to move towards more successful collaborative projects in the future.

rural India was also given. From the University of Twente, Drs. Sanders Lotze, Head of Internationalization at Twente, gave a presentation about the highly reputable institution, highlighting various educational programs and areas of research. The event concluded with a sessions the delegates shared their potential collaborative interests in educational and research areas that they would be interested to pursue with Amrita. The University faculty emphasized their eagerness to initiate collaborations and presented a list of action items they wished to take forward.

DISTINGUISHED TALK BY DR. PETER STRUSS, TU MUNICH GERMANY AT AMRITA WNA

Dr. Peter Struss, Professor, Model-based Systems and Qualitative Modelling Group, Department of Computer Science-Artificial Intelligence; Faculty of Informatics Techn. Univ. Muenchen (TUM), Germany, visited the University and addressed the Students and Facutly. The group of Prof. Struss at TU Munich works on different AI topics including knowledge-based configuration systems, model-based diagnosis and fault analysis and model-based decision support systems for environmental and ecological systems. The talk was focused on the latter subject and presented first results in designing and realizing a computer tool that is meant to support decision making in the context of peri-urban development with a focus on issues of water management. This is associated with research on the development in the Sriperumbudur region near Chennai, India that is conducted by the Indo-German Center for Sustainability at IIT Madras.

AMRITA UNIVERSITY AND INDIAN ARMY MEET FOR JOINT PROJECTS

Amrita University faculty members and researchers, met with a delegation of the Indian Army to discuss developing lightweight bunkers, smart hybrid power sources in the field and bio friendly waste management systems, among other solutions. They made a series of presentations to a team led by then Army Chief, Lt. Gen. Subrata Saha, DCOAS (P & S) on solutions to some of the problems faced by troops in the field. Seven teams headed up by leading faculty members from Amrita University presented a range of solutions from light weight, high strength construction material to high density batteries specifically designed for very low temperatures. The discussion has now progressed towards formulation of collaborative projects that would support the needs of Indian army and also promote the Make in India Initiative.

WORKSHOP ON INTERCONNECTION NETWORKS

Research Workshop on Interconnection Networks was organized by Department of Mathematics, the workshop was sponsored by SERB-DST, DRDO and ISRO. The main objective of this inter-disciplinary workshop was to bring top researchers in this cutting-edge area of Interconnection Networks & applications to AMRITA to foster collaboration and also provide an exposure to researchers and students to the scientific problems in this field. Eminent Professors presented their cutting edge research problems in the conference, which include: Prof. Santanu Chattopadhyay, Department of Electronics and Electrical Engineering, IIT Kharagpur spoke about the Network on Chip design. He highlighted various applications of NoC in Embedded industries. Prof. S. Arumugam, Dean, Research and Development, Kalasalingam University, spoke on applications of Cayley graphs in VLSI industry. In particular, hypergraph models in VLSI design. Prof. Indra Rajasingh, VIT, Chennai gave a list of embedding problems in different networks, like, computer networks, wireless networks and chemical networks. Prof. S. Lavanya, Department of Mathematics, IIT(BHU), Varanasi discussed theoretical aspects of network embeddings. The expected outcome of this workshop was to build a community of researchers in this topic and engage in joint research work projects.

AMRITA SCHOOL OF ENGINEERING, HOSTED ANOKHA -TECHFEST 2017

Amrita School of Engineering, hosted Anokha 2017. The theme of Anokha 2017 was Innovation and the focus was on leveraging innovation for societal benefit. Founded in 2010, Anokha has grown by leaps and bounds and has progressed to become one of the largest tech fests in South India. Anokha is the first and only techfest in India with United Nations Academic Impact

(UNAI) accreditation .“Anokha aims to encourage engineering students globally to come together to display their fervor for science and technology. For Anokha 2017, there were 75+ exciting and highly competitive contests and events in all branches of engineering, robotics, pitchfest, gaming, cubing and short-film making. Some of the popular events were Armageddon gaming; mayday; robowarz; full throttle; maze runner; cubing royale - Rubik’s cube; junkyards wars; Ideate - Pitchfest supported by Amrita TBI and short film contest. There were 30+ workshops by premier organizations and companies such as Amazon, Mathworks, Cisco, Ansys, National Instruments and IGCAR. The workshops were in cutting-edge areas such as Internet of Things, Bluetooth robotics, analytics, animatronics, ornithopter, parrot drones, social entrepreneurship, motor bike overhauling, etc. The techfest also featured Techexpo with robo soccer, electric car by Robert Bosch, Indian airforce, Indian army, wildlife photography and departmental stalls including a parrot drone exhibit.

DEVELOPER WEEKEND & WORKSHOP ON IoT - SMART HOME AUTOMATION

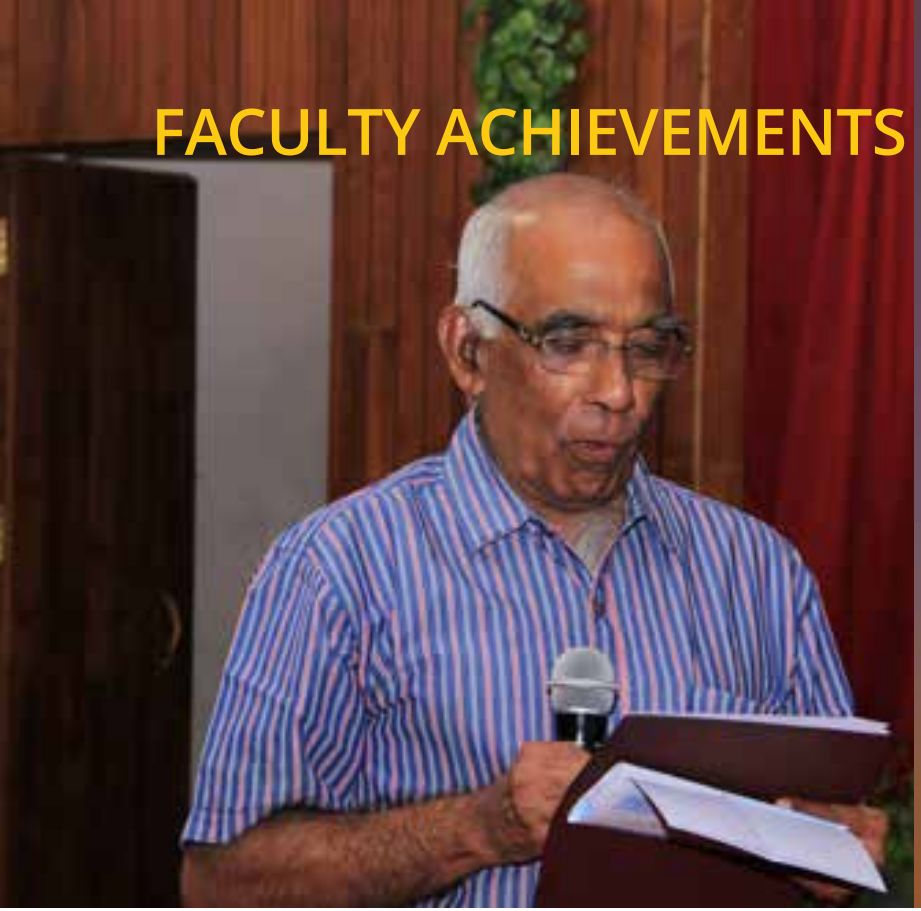
The market of Internet of Things (IoT) is going to be the next big thing in the tech industry, and will have 20 billion devices connected by the year 2020.” This was the introduction to the 4 day workshop and Developer Weekend on IoT and Smart Home Automation, conducted by Electronics, Communication and Instrumentation Forum (ECIF) of the Department of Electronics and Communication Engineering, in partnership with StudyOwl, Developer Weekend(link is external) was a community driven event. The motto of Developer Weekend was to ‘focus on new and trending technologies and to utilize the weekend to master the technologies learnt’. Developer Weekend provided students with the opportunity to interact with, and gain insights from, industry

experts from various technical backgrounds. The event had speakers that included, Mr. Anuj Duggal from Google Inc. and Mr. Avirup Basu, an Intel Software Innovator. Under their guidance, all the 30+ participants were given Intel Edison Single Board Computers with an Arduino bridge to access the Things side of IoT. Another speaker Mr. Krishnan from Synopsys explaining the structure and working of the Arduino Uno Microcontrollers. He thoroughly explained how the programming runs, how one connects sensors and peripherals to the Arduino and the safety measures to make sure nothing blows up. Mr. Yeshwanth, from Continental Automotive, addressed about working with the NodeMCU – an Arduino based Microcontroller that has the WiFi module built into it. The workshop ended with fascinated participants discussing the multitude of possibilities that IoT brings into making "Things" smarter, better and more efficient. Everyone left with their own idea of applying the learnt techniques and methods at their homes, dorms and other places. Ultimately, the workshop had educated all participants how to exploit the never ending domain of Internet of Things.

SEMINAR ON RENEWABLE ENERGY & ENERGY CONSERVATION FOR SUSTAINABLE DEVELOPMENT

IEEE Power Electronics Society Student Branch Chapter at Amrita School of Engineering, organized a seminar on "Renewable Energy and Energy Conservation for Sustainable Development", including hands-on training, by Dr. H. Naganagouda, Director, National Training Centre For Solar Technology , KPCL. The session was about giving an overview of energy conservation and its importance. A brief description was given on the electrical system and few important points such as: electricity billing, electrical load management, maximum demand control, power factor improvement and its benefit, selection and location of capacitors, performance assessment of PF capacitors, distribution and transformer losses. Dr. Naganagouda also gave descriptions of alternative energy solutions. He discussed solar power plants, different types of solar panels with different ratings, along with with hands-on training, as well as an overview of the design of a PV panel.

FACULTY ACHIEVEMENTS



UNDERGRADUATE RESEARCH PRIZE IN THE HONOR OF AMRITA UNIVERSITY FACULTY AT CALTECH

California Institute of Technology has established a Research Prize in Honor of, Dr C S Shastry, the founder Chairman of Dept. of Sciences and presently Adjunct Professor of Physics. The C S Shastry Prize in Physics is a permanent endowed fund that will provide resources for deserving students to conduct Summer Research in Physics. The prize is being awarded at Caltech each year to a student with the most promising potential for a Research career in Physics in his/her sophomore year. This prize was established by a Caltech alumnus, Dr.Murali Sharma in gratitude and recognition of his exceptional mentorship during his undergrad studies.

AMRITA UNIVERSITY SECURES TOP HONORS IN COMPUTER SOCIETY OF INDIA (CSI) 2016 NATIONAL CONVENTION

Amrita University secured top honors in the Computer Society of India's (CSI) national convention. Amrita bagged 10 national awards, more than any other university or institution at the CSI 2016 Convention held in January this year. Amrita Schools of Engineering (ASE) at Coimbatore and Bengaluru campuses and Amrita School of Arts and Sciences (ASAS), Kochi, were awarded the Best Accredited CSI Student Branch

OUTSTANDING PERFORMANCE OF AMRITA FACULTY IN MHRD-GIAN COURSE

Dr. Govind D., Assistant Professor, working in the Center for Computational Engineering and Networking, Amrita University, has secured an outstanding grade of "AS" in the MHRD sponsored Global Initiative of Academic Networks (GIAN) course on the topic, "Advanced Sinusoidal Modelling of Speech and Applications", organized at the Indian Institute of Technology Guwahati during December 2016. To enhance the global research competency of faculty and students in India, MHRD introduced a program in 2015 called Global Initiative for Academic Networks (GIAN). The credits and grades obtained in GIAN course show the international competency of the Indian faculty in the respective research topics. The program creates a platform to network with foreign experts and for faculty to become familiar with new styles of teaching and evaluation. The GIAN courses are credit courses and a foreign expert academician conducts the respective topic exactly as conducted and evaluated in a foreign university. The course was handled by Prof. Yannis Stylianou from University of Crete, Greece. Pedagogy Project developed by Amrita Faculty for MHRD (Link as photo)

Dr. Amrita Thakur, Associate Professor of Chemistry has successfully completed the development of course titled "Sustainability and Green Chemistry" as the Principal developer for the Pedagogy Project in collaboration with IIT Kharagpur. This was a National Mission Project on Education through ICT, funded by Minstry of Human Resource Development, Govt. of India. The course is now released and available as an Open Education Resource. The course is now released and available as an Open Education Resource. The link for the course is http://www.ide.iitkgp.ernet.in/Pedagogy_view/example.jsp?USER_ID=150

award. The CSI branch of Amrita School of Engineering (ASE), Coimbatore, which is hosted by the Department of Computer Science and Engineering, has set a unique national record of securing this recognition for the 6th consecutive year. Other awardees included Chapter Patron award to Dr. U. Krishna Kumar, Director, Amrita School of Arts & Sciences (ASAS), Kochi, for stellar contribution in setting up the Kochi Chapter of CSI; Academic Excellence award to Mr. Prashant R. Nair, Vice Chairperson, Department of Computer Science, Amrita School of Engineering, Coimbatore, for prolific publishing in international conferences; Mrs. U. M. Ramya from Coimbatore and Mrs. L. Nitha from Kochi for outstanding service as Student Branch Counselor (SBC) and Active Women CSI Member respectively and Mr. Yadhu Krishnan, young CSI member from Kochi. Amrita School of Engineering, Bengaluru received the award for "Best Accredited Student Branch Award"- CSI Student Chapter, Department of CSE mentored by Dr. N. Rakesh.

AMRITA FACULTY RECEIVES AWARD FOR CONTRIBUTION TO CERT-IN AND MIETY

Mr. Prabaharan Poornachandran , Assistant Professor, Centre for Cyber security, Received award from Honorable Minister Shri. Ravi Shankar Prasad (Minister of Law and Justice and Ministry of Electronics & Information Technology) for research Contribution to the Malware and Botnet Cleaning Center launched by Computer Emergency Response Team, India (CERT-In) & Ministry of Electronics and Information Technology, Government of India in 2017

FACUTLY @ MEDIA


edex 40 UNDER

FEELING QUAKES BEFORE THEY HIT


livemint

Remote sensing data shows massive diversion of forest land in Munnar

AUTO TECH MAGAZINE – ARTICLE INTERVIEW OF DR.THIRUMALINI, DEPARTMENT OF MECHANICAL ENGINEERING.

An article featuring an interview of Dr. S.Thirumalini, Department of Mechanical Engineering who heads the Automotive Research & Technology Centre, featured in the AutoTech Magazine, booklet released during SIAT 2017. She spoke about automotive safety standards, hybrid and electric vehicles and the gradual evolution of smart mobility solutions in India, in 2017 and beyond. Amrita Automotive Research & Technology Center (AARTC), is a joint venture between Amrita University and Automotive Test Systems., AARTC works with the automotive industry in areas like vehicle evaluation, vehicle cooling and HVAC studies, road load data acquisition, emissions, simulation, and multi-body dynamics etc. The facility is also used by M. Tech. and PhD students for research.

AMRITA FACULTY RESEARCH SERVES AS CRUCIAL DATA TO TRACK A MASSIVE ECOLOGICAL TRANSFORMATION


livemint

Remote sensing data shows massive diversion of forest land in Munnar

Mr.Ramakrishnan Ramabhadran, Faculty from Department of Civil engineering in collaboration with Dr.T.V.Ramachandaran, Head of the Center for Ecological Studies at IISc in Bengaluru had obtained data regarding a massive forest land disappearance in one of the biodiversity hotspots in Kerala, The remote sensing data Data obtained by them working on a project at the Indian Institute of Science (IISc) shows 7.71%—or 13,638.43 hectares—of forest land in Devikulam revenue taluk in the Western Ghats just don't exist anymore. The remote sensing data also shows a massive increase in areas under plantations, agriculture and urban settlements while substantial reduction in open areas in Munnar. The data substantiates official reports of rampant encroachment that has facilitated the emergence of Munnar as a top tourist destination—the single biggest reason for the degradation of the region's biodiversity.

DR. SREEVALSA KOLATHAYAR, FEATURES IN EDEX AS SOUTH INDIA'S INSPIRING YOUNG TEACHER

Dr, Sreevalsa Kolathayar, Faculty from Department of Civil Engineering, featured in the 7th Anniversary special of EDEX, supplementary edition of The New Indian Express as South India's Inspiring Young Teachers . The article speaks about his research on Disaster Management, especially on early detection of earthquakes and also his insurmountable drive to help rural students.


edex
40 UNDER 40
South India's Inspiring Young Teachers
7th Anniversary
20
NATURE LOVE
FEELING QUAKES BEFORE THEY HIT
Dr Sreevalsa Kolathayar might be the only person who wrote to the NDMA about the risks before the 2008 earthquakes. Jasmine Arnold finds out more about his measures to get people prepared for earthquakes
2015

INNOVATIVE YOUNG MINDS

AMRITA STUDENTS PAPER SELECTED AS EDITOR'S CHOICE OF THE YEAR 2016

The research article authored by two B Tech EEE students (S. Anusha of Final year and Ajay Sriram currently pursuing Masters at KTH after his third year from Amrita) and Dr.T.Palanisamy of Department of Mathematics has been identified as the paper of the Editors Choice of the Scopus Indexed Journal - International Journal on Electrical Engineering and Informatics. This was under the category of Information technology and has award of USD 2000. The awarded will be presented at the Journals Annual meeting at Berlin.

AMRITA STUDENT SELECTED TO ATTEND GOOGLE I/O DEVELOPER CONFERENCE, CALIFORNIA

Ms. Devika Krishnadas, a 4th Semester BTech student from the department of Computer Science and Engineering, has been selected to attend Google I/O, an annual developer conference held by Google in San Francisco, California. Ms. Devika secured the position of rank 159th across the globe and 20th in India. Only 150 participants across the globe are invited to attend Google I/O event where the new products and services to be released by Google are show-cased. She is also the only female student in the B.Tech. Honors stream batting for the ICPC World Finals.Google I/O is a three day technical event that includes Hackathons, tutorial sessions, talks and other technical sessions. Code Jam to I/O for Women is a single online round of algorithmic problem solving where the top 150 participants receive a ticket to Google I/O in Mountain View, California, and a $500 USD travel stipend.

YOUNG RESEARCHER AWARD FOR MASTERS STUDENT IN POWER ELECTRONICS

Mr. Nandawadekar Ajit Dattu, M.Tech. in Power Electronics has received "Young Researcher Award" and won 1st prize worth Rs. 60000/- for his work "Multifunctional Induction Machine" in IET Karmveer Expo-2017, held at Nashik, Maharashtra. The main contribution was to configure an induction motor to operate using single phase as well as three phase AC supply. This is achieved by modelling the induction motor as a welding transformer through some modification in the stator winding. Welding transformer requires low voltage and high current for joining of two metal parts by electrical arc welding. The running and starting winding of the single phase operation are placed in the same slots that are used for the three phase operation. So at a time anyone of them can be used to supply or produce excitation in order to employ rotation of rotor.

B.TECH ELECTRICAL ENGINEERING STUDENTS EMERGE CHAMPIONS IN NATIONAL SOLAR VEHICLE CHALLENGE 2016-17

A team of second and third year Electrical Engineering students won the Overall Championship title at the National Solar Vehicle Challenge 2016-17. The event was organized by Dynamists Motors Sports Pvt Ltd under the 'Make in India' scheme. The team designed and indigenously developed a three-wheeled, solar assisted, battery driven vehicle named 'Karna', the Son of Sun. 'Karna' bagged first place in Endurance tests and Drag Race, and emerged as the Overall Champion of the National Challenge. The award ceremony was attended by Honourable Cabinet Minister for Energy and Agriculture, Shri. Chimanbhai Dharamshibai Shapariya. The team was awarded a total prize money of Rs.1.3 lakhs and three trophies. . The proud team, who called themselves 'Team Mavericks' was efficiently guided by the faculty of department of Electrical Engineering , Mr.Bharath.K.R and Mr.Sreenivasan.M.K with support from Mr.Vishnu of Mechanical Engineering department.

SMART INDIA HACKATHON 2017 , AMRITA STUDENTS RECEIVE THE "DELOITTE INNOVATION AWARD"

AICTE under aegis of MHRD and in collaboration with i4C, Persistent Systems Ltd., UGC, NASSCOM, Rambhau Prabhodini Mhalgi, SumaSoft Pvt. Ltd, Deloitte, ACM India, NIC, and MyGov launched Smart India Hackathon 2017.

For the first time ever, 29 different government ministries and departments came together and posed 598 problem statements to technical students participating in this grand initiative.42,000 students of 2,183 engineering and management colleges and universities from across India took part in Smart India Hackathon 2017. 7531 teams participated in the grand event and it was a 36 hours hackathon. Also, out of 7531 teams, 1266 teams (per team 8 members, 10,000 participants) got shortlisted for the 'Grand Finale'. From the 10 teams selected by Amrita Vishwa Vidyapeetham, 3 teams from were shortlisted for Grand finale and they participated in the hack at different venues. The "Deloitte Innovation Award" for the Smart India Hackathon 2017 under the Rural Development category was awarded to the team "Geeks Squad", Sreeram Ganesan, Sreeram Ganesan, Rama Ganapathy, Shubham Maheshwari, Prasanth S , Shamika Kumar, from Department of Computer Science and Engineering, mentored by Dr. Shriram K V and Mr. Ritwik M for the problem "A Machine learning application for DDU-GKY Beneficiaries".

AMRITA STUDENTS RANKED 1ST IN HIPC 2016 STUDENT PARALLEL PROGRAMMING CHALLENGE

Poonam Salunkhe, Renjith Panthalloor and Swetha K. M., students of M. Tech. Embedded Systems, have been ranked first in the HiPC 2016 Student Parallel Programming Challenge – NVIDIA GPU track. The winning team was invited to present their work and was awarded Rs.30, 000 at the conference. The International Conference on High Performance Computing (HiPC 2016) hosts the Student Parallel Programming challenge to highlight the value of code parallelism, parallel algorithms, and the role of mathematics in solving real-world problems.

AMRITA STUDENTS EMERGED AS TOP 5 IN IoT-CHALLENGE- TECHFEST

Anushya Dean, G.Spandana, G.Tilak Aditya, Ramya V V, Prakhar A, students pursuing M.Tech developed a Smart Jar capable of measuring the availablility of the items and alert the user when the stock has reached a predefined threshold, for the IoT Challenge held at IIT Bombay. The student team emerged as one of the top five in the National Level Finals.

ALUMNI

AMRITA COMPUTER SCIENCE GRADUATE DEVELOPS GROUNDBREAKING SOFTWARE TO BETTER UNDERSTAND BRAIN ACTIVITY

Amrita alumnus Sugeerth Murugesan has carved a place for himself in the field of neuroinformatics by developing an interactive software to study the hierarchical processes of brain activity. The software, Brain Modulyzer, allows researchers to visualize and explore brain activity while a subject is either performing tasks or at rest. The software could also help scientists understand how neurological diseases such as Alzheimer's spread through the brain. The tool provides a novel framework of visualization and new interaction techniques that explore brain connectivity at various hierarchical levels. This method allows researchers to explore multipart observations that have not been looked at before," said Sugeerth, a Ph.D. Candidate in the Computational Research Division at Lawrence Berkeley National Laboratory (LBNL) and the University of California, Davis. Sugeerth, who co-led the development of the Brain Modulyzer at the Lawrence Berkeley National Laboratory with Berkeley Computer Scientist Gunther Weber, completed his B.Tech in Computer Science from Amrita's Coimbatore campus in 2012.

AMRITA ALUMNUS WINS KTH MASTERS CHALLENGE 2016

Siddharth Ramakrishnan, a graduate of the department of Mechanical Engineering, , won first place at the 2016 KTH Masters Challenge India competition in the field of Engineering Design. Siddharth competed against applicants from the IITs, NITs, and other highly ranked universities

throughout India. As the first place winner, Siddharth secured a fully funded scholarship for a two year Masters degree at the internationally reputed KTH-Royal Institute of Technology (Sweden) worth Rs. 23 lakhs, a living allowance worth Rs. 12 lakhs, and an opportunity to do a summer internship at FormulateIP, an intellectual property and innovation management firm based in Bangalore founded by KTH alumni.

AMRITA ALUMNUS WITH UNICEF PROJECT

V.S.Varunanvelu (2014-16 batch) was engaged by UNICEF through Pragati development consulting services limited to render service as Technical Consultant for adolescent empowerment programme implemented in salem, Dharmapuri & Krishnagiri districts of Tamilnadu and providing technical assistance towards financial and human resource management for child protection programme in Tamil Nadu. The principal objective of his assignment is to build & strengthen the capacity of Adolescents in 3 districts of Tamil Nadu to undertake Adolescent Empowerment Programme that will ensure all Adolescents (10-19) year olds have accurate knowledge, skills, practicing safe behavior to protect themselves against abuse, violation and exploitation and are accessing Adolescent friendly services.

SOCIETAL OUTREACH

INTERNATIONAL CONFERENCE ON NURTURING GLOBAL MENTAL HEALTH

The International Conference on Nurturing Global Mental Health was organized by Department of Social Work, Amrita University, and School of Social Work, University of Buffalo, USA, with dozens of speakers from all over India and the US attending. Over a dozen experts in social work and mental health disorders from US and India assembled Social stigma, lack of awareness about symptoms, and insufficient treatment facilities cited as major challenges in improving the plight of parties. The speakers spoke about the prevalence of mental disorders in all sectors and Women, children, elderly and the disabled are most vulnerable to mental disorders because of their dependency on others. There is also an urban slant, with the prevalence of schizophrenia, mood disorders and stress-related disorders being up to three times higher in cities than in rural areas. The lack of awareness and social stigma are major challenges to overcome the growing mental health disorders.

AMRITA RITE (RURAL INDIA TABLET EDUCATION)

Amrita University's CREATE (Center for Research in Advanced Technologies in Education) Labs runs Rural Education Centers in 48 villages in 21 Indian states, supporting the United Nations Sustainable Development Goals for quality education and gender equality through its program, Amrita RITE (Rural India Tablet Education). The after school Education Centers aims to improve learning levels, bring dropouts back to school, encourage education for children and women and increase social and health awareness. 30 rural teachers and coordinators from 7 North Indian States attended the Amrita RITE Teacher Training Workshop. The training which was for 3 weeks was hands-on experiential learning workshop and evaluation, village teachers received a solid foundation in classroom management, teaching methodology, holistic development of children, Amrita Kids Yoga, tablet teaching, computer basics, and subject matter knowledge especially in Math, English and science. Using technology in teaching and in remote monitoring is an important part of the Teaching Training

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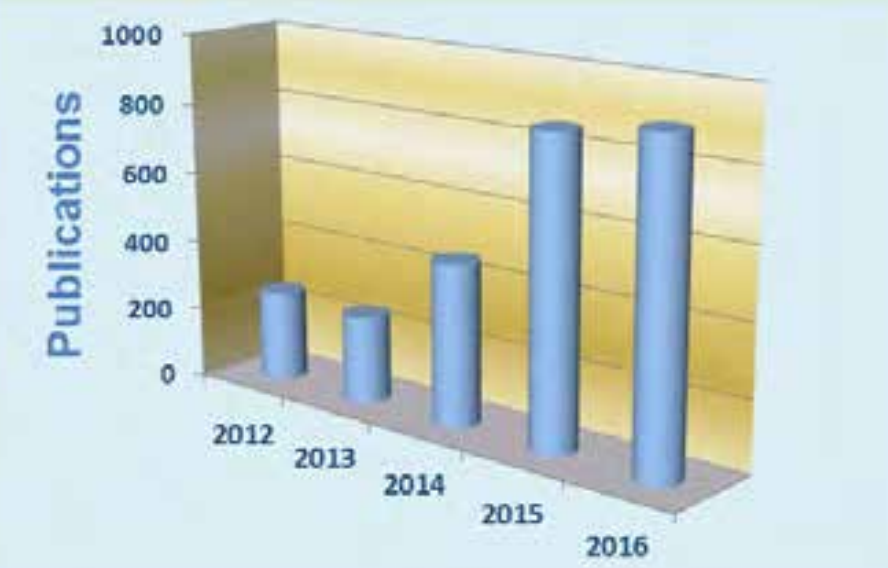

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