

“Intellectual prowess has its limitations, thus do not limit the scope of your learning to the realm of the intellect”

-AMMA



Dean's Message...



I am very excited to share the latest edition of EnVision which reflects the School of Engineering's excellence in providing sustainable solution to a host of Engineering challenges. It is extremely satisfying to see growing participation by the students in coming up with creative and sustainable solutions to diverse set of problems. The younger minds have understood the importance of research and their role in active contribution to solutions - a clear change in the mindset and approach of the our next generation. I am thankful to all the faculty mentors who have ignited the fire in these young minds to think and act differently. Student achievements covered in this edition will substantiate the drastic change in the learning process, the need of the hour in Indian higher education institutions.

EnVision

School of Engineering Newsletter (June 2018)

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Top 500
Clinical and Health

Top 500
International Outlook



No. 1 Private University
in India



No. 8 Among All Universities
in India



No. 1 Private University
in India



No. 1 Private University
in India
Top 200 in BRICS

www.amrita.edu/ranking

Research @ Global

Collaborative Research with Universities/ Industry

Amrita Wireless Networks and Applications Signs a MoU with The National Research Council (CNR) IRPI



The Center for Wireless Networks and Applications, Amrita Vishwa Vidyapeetham, signed a MoU with Italian prestigious research institutions, The National Research Council (CNR) IRPI. The National Research Council (CNR) is a research institute of the Italian Consiglio Nazionale delle Ricerche and is the largest public research institution in Italy, the only one under the Research Ministry performing multidisciplinary activities. And Politecnico di Milano, established in 1863, is one of the most outstanding technical universities in Europe, and it is the largest school in Engineering, Architecture and Industrial Design in Italy. An MOU was signed with CNR and Amrita to encourage and promote international academic and research co-operation, institutional exchanges between faculty and researchers, Training programmes, Symposia, Conferences, Short courses and meetings on research issues in hydrological problems of mutual interest, resources and expertise pertaining to developments in hydrometeorological monitoring, flash floods, floods and droughts, groundwater, climate change and natural hazards (floods, landslides, melting glaciers, earthquakes). The agreement was signed by Dr. Fausto Guzzetti, Director, CNR -- Consiglio Nazionale delle Ricerche and Dr. Maneesha V. Ramesh, Director, Amrita Center for Wireless Networks and Applications (Amrita WNA).

Jivamritam Project bring Japanese and Amrita Students together through Live-in-Labs Programme

Seventy-one college students from 20 universities in Japan were a part of the Jivamritam Project, an Amrita initiative to bring clean drinking water to more than 5,000 villages. The students were in the Alappuzha district of Kerala for 10 days to install 36 Jivamritam Water Filtration Systems that provides clean drinking water to 20,000 villagers in the area. The students over a 10 day

period fabricated water filtration units designed according to the local needs and installed them in the locations. The Japanese students, along with 140 students from Amrita, worked on the project through Amrita's Live-in-Labs programme, which provides experiential learning opportunities for students to understand ground-level challenges faced by rural communities and subsequently develop solutions to the challenges.



Research @National

DST Project “Development and Prototyping of ICT enabled Smart Charging Network Components” Under FAME India Scheme.

Funding Agency - DHI, Government of India & DST, Government of India

Faculty - Dr. Sasi K. K., Mr. Sivraj P., Mr. Nithin S., Mr. Vijith K

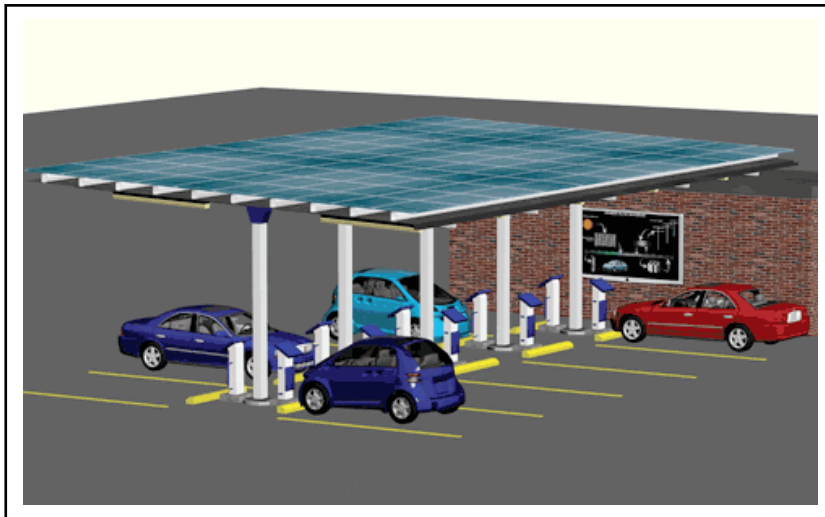
Department of Electrical and Electronics Engineering

Consortium Partners: IIT Delhi (Lead), Amrita Vishwa Vidyapeetham, Thapar University, Lithium Urban Technologies

Industry Partners: Linkwell Telesystems Pvt. Ltd., Yexcube Technologies, Elecsys Technologies Pvt. Ltd., GDF Suez Energy

The consortium project aims to design and develop a bidirectional EVSE for residential and public charging stations. The proposed system will incorporate control algorithms to limit the introduction of harmonics, dc and non-sinusoidal currents; a net-meter following IEC 62056 (DLMS/COSEM) communication standard for monitoring, supervisory control and data storage in V2G environment; a communication architecture integrating consumers, vehicles (as load or source), and utility (electrical and infrastructure). The work also involves setting up of central server with necessary cloud based software

applications for EV users and EV fleet operators involving integration of electric utility, facilitating Demand Response/Dispatch & Dynamic pricing based export/import tariff, etc. The system will enable consumer decisions on when and where to charge the vehicle, the EV must communicate with charging stations (fast and regular charging) about their state of charge, the number of slots available at a particular



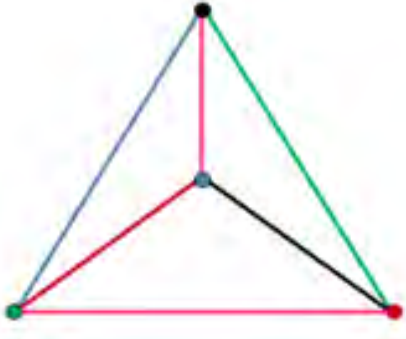
charging station, the current pricing of charging etc. The effect of the charging stations on the grid and grid technologies would also be a part of the pilot. The project will demonstrate the coordinated charging of EVs fleet and facilitate the study/ simulation of grid load management scenarios, bidding strategy for the charging stations etc for the aggregators to manage the costs of power.

Total Colorings for Certain Classes of Cayley Graphs

Funding Agency: Department of Science and Technology

Faculty: Dr.J.Geetha, Dr. K.Somasundaram (Department of Mathematics)

The field of mathematics plays vital role in various fields in Science and Engineering. One of the important areas in mathematics is graph theory which is used in structural models. Coloring is one of the most important concepts in graph theory and is used in many real time applications in computer science. Various coloring methods are available and can be used on requirement basis. Total coloring is assignment of colors to the vertices and edges such that no two adjacent or incident elements receive the same color. Total coloring of a graph has been traditionally considered a purely theoretical problem



in graph theory. However, as the need for optimizing compilers able to quickly produce dependence graphs (for vectorization and shared-memory message passing) and perform liveness analysis (for register allocation)

keeps increasing, the need for alternative mathematical methods to model algorithms has become more and more prominent. Showing some properties of total coloring may help by providing some additional insight on normal coloring, or even provide new tools for graph analysis. Nevertheless, the problem of total coloring has been explored unsuccessfully for 50 years because of its complexity, and thus it constitutes a very interesting target for automated analysis.

Processing and Characterization of Heat Treated Functionally Graded Aluminium (A359) Metal Matrix Composites for Aerospace Applications

Funding Agency: ARDB, DRDO

Faculty: Dr. N. Radhika,
Department of
Mechanical Engineering

This project involves the study of functionally graded aluminium A359 metal matrix composite



which can potentially replace the existing material used for aerospace applications and aircraft structures such as propellers, pump parts, shafts etc. Improved light-weight performance along with increase in strength and stiffness are primary objectives while developing a

more feasible material for these applications, whilst being cost-effective. These can also be used for developing automotive pistons, rotors, brake drums having improved performance while reducing the weight and improving fuel efficiency, which is a necessity in current scenario. The specimens are manufactured through two steps; stir casting followed by centrifugal casting, which is as shown in figure. The reinforcement concentration and centrifugal speed can be varied to study how the variations affect the performance. These composites are studied for the mechanical and tribological characteristics. Also, the specimens are heat-treated under varying aging parameters to see how properties are affected. The material having enhanced properties under non heat-treated and heat-treated conditions can be proposed as a viable alternative material.



A Modular Cyber-Physical System for Sustainable Water Management

Funding Agency : Department of Science and Technology

Faculty : Dr. Vidhya Balasubramanian (Department of Computer Science and Engineering)

Dr. Sasi K.K (Department of Electrical and Electronics Engineering);

Dr. Murali Rangarajan, Department of Chemical Engineering;

Dr. Dhanesh G Kurup (Department of Electronics and Communication Engineering).

Water is a precious and life sustaining resource, and despite its perceived abundance, less than one percent of Earth's water is usable. Global warming, rising population, over consumption and pollution have contributed to immense pressure on our water resources and hence there is an urgent need to find solutions to preserve and optimally use the resources available. The problem is significant in the Indian scenario, where growing urbanization is putting our already stressed water resources under further stress. This necessitates innovative solutions to prevent an impending crisis and cyber-physical systems can address many of these challenges. Cyber-physical systems (CPS) integrate the physical with the cyber-world where things are sensed using ubiquitous sensors and processed through ubiquitous computing, finally transforming the physical environment through actuators. They are most suitable for management of water and our goal is to design an energy efficient cyber-physical system for water management that can monitor and control water usage and reduce water loss, and monitor and address water quality issues. The goal of the proposed project is to develop an efficient Cyber-Physical System for providing solutions for sustainable water management. This project aims to develop solutions and a testbed for monitoring water usage and leaks, and improve efficiency of

waste water treatment plants. A test water grid that will allow for simulation of the physical system and the different anomalies in water distribution networks will be developed. The test grid will integrate intelligent algorithms and modeling from the cyber perspective, efficient energy management, novel wireless communication node design and placement for the development of intelligent sensing and actuation techniques. Additionally this project aims to improve the energy efficiency of the sewage water recycling system through energy conservation practices using the real time monitored data of dissolved oxygen in sewage water.

Development of field trial, pilot production and technology demonstration of sintered brake pads with improved performance for wind turbine applications suitable to India specific wind characteristics.

Funding Agency: Department of Science and Technology

Faculty: Dr.Govindaraju, Dr.Ramesh Kumar (Department of Mechanical Engineering);
Dr.Venkat Ravi Kumar Darbha (Department of Sciences)

In a major stride towards indigenization, researchers at Amrita are involved in development of critical and complicated components for energy sector. Wind turbine brake pad assembly is one of the components, for which Amrita is aiming End to End solution (Raw materials, process know-how, more importantly the process equipment). This project is aimed at technology transfer and establishment of local manufacturing. As the process equipment is critical bottleneck & gap for establishment of advanced manufacturing technology in India, it is addressed in the project and technology will be developed along with equipment. By incorporating two major scientific inventions (1) functionally graded materials and (2) advanced joining technologies, substantial enhancement of properties & performance of brake pad assembly is expected at the end of the project.



Currently used brake pad assembly



brake pad assembly - aimed by this project

Conferences and Workshops

Amrita Hosts Third Hello Programming Bootcamp in Collaboration with Moscow Workshops ACM ICPC



Amrita hosted Asia's first Hello India x Russia Programming Bootcamp, in collaboration with Harbour Space University, Barcelona, Spain and Moscow Institute of Physics & Technology, The camp was attended by 105 participants from 27 universities and several industries, including 35 who were from Japan, Singapore, Azerbaijan, Oman,

Lithuania, Russia and India. Eight whole days were devoted to preparing competitors for Brain Olympics domination and a vast world of networking with companies in the tech industry. During the boot camp, teams from around the world prepared strategies for the competition and practiced on similar coding exercises, as if in the world finals. The boot camp was also held through the private initiatives of SDV (Social Discovery Ventures), Phaze Ventures, and the Al Jisr Foundation. These organizations facilitate cross collaboration with industrial and educational partners like MIPT, ITMO, Saint-Petersburg State University, Moscow Workshops ACM-ICPC, as well as the biggest online coding communities: Codeforces and Topcoder.

Fulbright-Nehru International Education Administrators visit Amrita



A 14 member delegation from universities in the USA visited Amrita Vishwa Vidyapeetham, Coimbatore Campus, on March 19, 2018, as part of the Fulbright-Nehru International Education Administrators (FN-IEA) Program. The delegation met with the key administrators from School of Engineering. Dr. Sasangan

Ramanathan, Dean, Amrita School of Engineering, Coimbatore, gave an insight on the engineering programs and Manoj P., Chairperson, Amrita School of Business, Bengaluru, gave a brief on student exchange programs and research collaborations. They also interacted with

Prof. C. Parameswaran, Director, Corporate & Industry Relations (CIR) and all the heads of departments from the School of Engineering. The event was coordinated by the ACIP team at Coimbatore along with the team from Amritapuri. The delegation was very impressed with the Live-in-Labs® programs and the importance given to integrating humanities and engineering. The FN-IEA Program provides opportunities for U.S. university administrators to meet with representatives of Indian universities and other private-sector agencies to understand the Indian higher education system, familiarize themselves with courses offered in India, research capability, quality assurance procedures and evaluation patterns. The participants are on a visit to various kinds of institutions (central universities, affiliated colleges, and non-governmental organizations) and meet with higher education administrators, faculty, students and policy planners to learn about policies, planning, and administration of higher education in India.

44th National Conference on Fluid Mechanics and Fluid Power (FMFP – 2017) at Amrita



The National Society of Fluid Mechanics and Fluid Power (NSFMFP), in collaboration with Amrita Vishwa Vidyapeetham, organized the 44th National Conference on Fluid Mechanics and Fluid Power (FMFP – 2017) at Amrita. The conference provided a platform for researchers, academicians and industrialists around the globe to explore the vast potential of research and advancements in the field of Fluid Mechanics and Fluid Power. The conference showcased keynote lectures from eminent researchers and hands-on interactive industrial solutions from seasoned industrial experts. The conference was attended by over 300 people around the world and had 8 parallel tracks in which 210 research papers were presented.

Delegates from China Visit Amrita



A twelve member delegation from Hunan Xiangtan University and Hunan Xiangtan Daonan Academy, located in the Hunan District in China Amrita. During the visit, official talks on signing a Memorandum of Understanding were held. Over the 2 day visit, there were focused discussions on 35 international programs in the areas of Social

Science, Law, Economics (Equity, Rural, and Consumer Economics), and Public Administration. There was also a great deal of interest in topics such as Social Administration, Social Security, Women's Education, and Disaster Relief. The delegation members spoke to the Deans and Department Heads of Amrita, from both campuses, on the possibility of establishing educational and research collaborations.

Faculty Achievements

AmritaWNA Receives Two New US Patents for National Knowledge Network Project



Amrita Center for Wireless Networks & Applications (AmritaWNA) has received two new US patents (Patent numbers US 9826196 and US 9852647) for the National Knowledge Network (NKN). The Patents are under the title, "System and Method for Synthesizing and Preserving Consistent

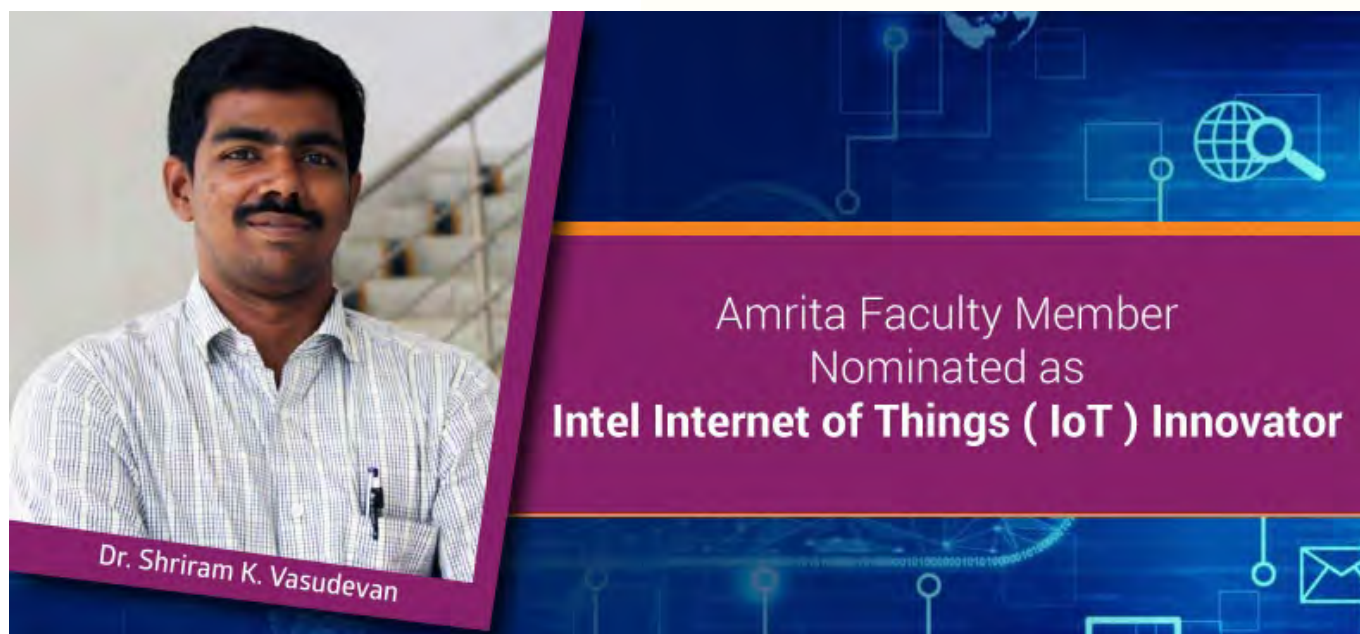
Relative Neighborhood Position in Multi-Perspective Multi-Point Tele-Immersive Environments". This project seeks to architect, design, develop and deploy a cross-functional, multi-media, multi-channel, high definition, interactive, immersive, adaptive classroom experience. This project would create a University without walls and borders that effectively use the high bandwidth, low latency worldwide network provided by the NKN to enable students to attend classes of higher education at eminent national and international universities. The remote classroom solutions today do not provide a really immersive environment to captivate and motivate the students. By providing a really interactive and immersive experience, the project would open up a totally new paradigm in remote classrooms and discussion room

Amrita Faculty Member Receives Invitation to Princeton University for The second Deep Spec Summer School on Verified Systems



Dr. Jayaraj Poroor, Department of Computer Science and Engineering, has been selected for The Second Deep Spec Summer School on Verified Systems to be held at Princeton University, from July 2018. The event will also include an introductory Coq Intensive. The Summer School is supported by generous funding from the National Science. The program covers cutting-edge topics on the application of formal methods to prove the correctness of critical software/hardware. Coq.DSSS'18 will consist of two parts with the first week being devoted to introductory topics and the second-week covering current research efforts. Dr. Jayaraj's proposal for a new domain-specific programming language for data processing on Internet of Things devices has been accepted by the Microsoft Research India Summer Workshop. Microsoft Research is one of the top places for Computer Science research, hosting several Turing Award winners.

Amrita Faculty Member Nominated as Intel IoT Innovator



Dr. Shriram K. Vasudevan, Department of Computer Science & Engineering, has been nominated as an Intel Internet of Things (IoT) Innovator. The IoT track of the Intel® Software Innovator program is actively recruiting A-list developers to share their talents and vision, and in the process help nurture and inspire an up-and-coming generation of IoT developers in the local community and expand it to global needs. In return, Intel provides professional exposure, on-site or virtual hands-on training by Intel engineers and IoT resources & licenses of Intel tools for projects in IoT development at Amrita mentored by the innovator. This prestigious developer advocacy program also provides speakership opportunities, international and national conference travel sponsorship and other formal engagements for its IoT Innovators.

Amrita Faculty Member Receives International Women Achiever Award 2018



Dr. Maya Mahajan, Associate Professor at the Department of Chemical Engineering, Amrita School of Engineering, Coimbatore Campus, received the International Women Achiever Award 2018 for her outstanding contribution and

achievements in the field of Environment and Sustainability Sciences at the International Women's Meet held on March 3, 2018, at Chennai. The event, which was organized and conducted by Venus International Foundation, was attended by two hundred women professionals in various fields from numerous parts of India and other countries, such as Malaysia and Singapore. The award recognizes the brightest, inspirational and talented woman who demonstrates excellence in her discipline. Dr. Maya Mahajan is an environmental professional and a passionate and committed environmentalist, who is currently associated with the Centre for a Sustainable Future,

TechNext India 2018 Awards for Amrita School of Engineering, Coimbatore

The TechNext India 2018 awards for Amrita School of Engineering (ASE), Coimbatore, were conferred by Computer Society of India (CSI) Mumbai chapter and IIT Bombay, through its Free & Open Source Software in Education



(FOSSEE) interdisciplinary initiative under MHRD National Mission on Education using ICT. Amrita School of Engineering (ASE), Coimbatore, also received the title 'Best Institute of the Year' for the innovative pedagogical approaches and tools for Computer Science & Engineering (CSE) departmental curricular initiatives such as early adoption of Computational Thinking and Problem Solving for engineering freshmen, competitive programming and organizing of ACM International Collegiate Programming Contest (ICPC). Other awards received were 'Best Faculty of the Year'. The title was won by Dr. K.V. Shriram, Department of Computer Science and Engineering, Amrita School of Engineering, in the category 'Authoring Books on Contemporary Subjects' and Prof. Prashant R. Nair in the category 'Evangelizing and Contributing to Spread of Knowledge Across Several Institutions'

Amrita Faculty Member Wins “Asia Distinguished Leadership Award

Br. Anand Shenoi, Amrita Vishwa Vidyapeetham, won the 2018 ACM ICPC Foundation Asia Distinguished Leadership Award, in recognition of service to the communities, industry, academia, and students of computing sciences and engineering through strengthening the ICPC throughout Asia. In the ICPC, he provides innovative training programs and multi-tiered competitions for students throughout his region, enabling them to fully exercise and realize their potential as problem solvers.



Ms. Sowmya from Amrita School of Engineering receives Best Young Researcher award from IIR



Ms. Sowmya from Centre for Computer Engineering Networks received the Best Young Researcher award from IIR (Integrated Intelligent Research) Remote Sensing and Wireless Sensor Networks.. The award was given honoring her contributions and best practices in the field of Education and Research.



Innovative Young Minds

Amrita Student Co-authors Paper in Nature Astronomy Journal

Sudarsan S, a final year student of the Department of Computer Science and Engineering, Amrita Vishwa Vidyapeetham, co-authored a paper titled, "Detection of a Westward Hotspot Offset in the Atmosphere of Hot Gas Giant CoRoT-2b", which was published in the Nature Astronomy journal, on January 22, 2018. Nature Astronomy, a multidisciplinary journal, publishes research, reviews and commentary of the highest quality in all areas of astronomy, astrophysics and planetary sciences. It fosters closer interaction between all of the key astronomy-relevant disciplines by publishing the most significant research, review and commentary at the cutting edge of astronomy, astrophysics and planetary science.



Amrita Students to Participate in World Robot Summit 2018

The Scorpion team from Humanitarian Technology (HuT) Labs, Department of Electronics and Communication Engineering, Amrita School of Engineering participated in the finals of World Robot Summit 2018 to be held in Tokyo in October this year. The team members include Raviteja



Geesala, Prasant Kumar Yadav, Nagalla Deepak, Nigam Katta, Vamsi Gontu, Ravikiran P, Ruthvik Chanda Rangiah and Phanindra Kumar Allada, from 2nd year, Department of Electronics and Communication Engineering, The team was selected for their Disaster Rescue Robot called Pariprekshya, Out of the 250+ teams that submitted the concept document on their robot design, the Scorpion team is one of the teams that got into the finals of Standard Disaster Robotics Challenge under Disaster Category. The team also qualified for a travel grant from the organizers. The team will also be travelling to Germany to attend the Robocup 2018.

Amrita Students Win Top Prize for Developing Apps for Union Ministries at Smart India Hackathon 2018



The BTech students of the Department of Computer Science & Engineering, have put up a stellar performance at 36-hour-long Smart India Hackathon (SIH) 2018 by winning the top prize for developing innovative digital solutions for 340 problems posted by 28 Union Ministries and 18 State Governments. Inaugurated by Union HRD Minister Prakash Javadekar, SIH is the largest hackathon in the world and it is in line with Prime Minister Narendra Modi's vision of 'New India' to empower and leverage youth. With the participation of over one-lakh students in 12000-plus teams, the top 5% teams were selected for the grand finale being held in 28 centres all

over India. Two teams from the Coimbatore campus namely Team Vision and Team Cyber_Cena won the cash award of Rs. 1 lakh each at SIH 2018. The team Vision developed an app for 'export cost indicator' and 'trade route map indicator' at Mumbai for the Ministry of Commerce and Industry. While the team Cyber_Cena developed an app for whitelisting of USB devices which can be subsequently used on the Internet as well as on Intranet at Bengaluru for the Ministry of Defence. Another team from Amrita, Exalt, won a special award and cash prize of Rs. 1 lakh in the Students' Innovation category from Ministry of AYUSH for developing an app for Ayurveda unit conversions.

Amrita Students Selected for the 29th Edition of RoboCon IDC 2018, Japan

A team of four students of the Humanitarian Technology (HuT) Labs, Department of Electronics and Communication, were selected to the elite team from selected countries to participate in the 29th edition of RoboCon International Design Contest (IDC) 2018 to be held at Tokyo Institute of Technology from



August, 2018. The team of Abhijeeth Prem, Sarveswara Reddy, Bhanu Teja P and Sriniketh from 3rd year, will be the first team ever from India, in 29 years since the inception of the event in 1990, to take part in one of the unique and best robotic competitions in the world.

Amrita Engineering Student Wins KTH Master's Challenge 2018

Mr. Sivanand Devarakonda, Department of Mechanical Engineering, has been awarded a scholarship to pursue the Master's programme at the KTH Royal Institute of Technology, Stockholm, Sweden. The scholarship came after he bagged the first prize at the KTH Master's Challenge 2018. The KTH Master's



Challenge is a nationwide competition organized by the KTH Royal Institute of Technology. The competition has multiple rounds to test various skills and knowledge of students. Mr. Sivanand will start his Master's program at KTH in August this year. The program deals with design and testing of turbomachinery and study of aeromechanics of turbo machinery.

The Ethical Hacking Team of Amrita, Team bi0s, Ranked No.1 in India

Team bi0s, the academic ethical hacking team of Amrita Vishwa Vidyapeetham, Amritapuri Campus, has been ranked the number one team in India in Cyber Security based "Capture The Flag Competitions" in 2017, according to CTFtime. The team won this honor for the

second consecutive year competing with around 500 teams in India. Team bi0s also secured the 72nd position internationally among 14,500 teams worldwide. The result was announced at



the end of 2017, based on a series of competitions that took place throughout the year. Team members were selected for various honours. Siddharth Muralee was selected to attend the BlackHat conference to be held in London on first week of March 2018 and Ashutosh Ahelleya was selected to attend the Elliptic Curve Cryptography Summer School in Netherlands on the first week of April, 2018. Heeraj Nair was selected for the OWASP Winter Code Sprint and Jayakrishna Menon, 4th year, Department of Computer Science and Engineering, were selected for two 6 month internships at University of Southern California and Arizona State University. Gokul Krishna P, 4th year, Department of Computer Science and Engineering, was selected for a 12 month internship at Arizona State University.

Societal Outreach

Amrita Vishwa Vidyapeetham Selected as Centre of Excellence by Ministry of Tribal Affairs

Amrita Vishwa Vidyapeetham has been selected as a Centre of Excellence by the Ministry of Tribal Affairs, Government of India, to support and strengthen active research in the field of tribal development. Amrita, through the various initiatives like Amrita SeRVe - 101 Villages, Amrita Tribal



Center and others have a strong presence in tribal communities across India. With efforts for tribal welfare, along with the initiatives for rural development through Live-in-Labs[®], Amrita focuses on scientific, medical and technological interventions, along with projects in the arts, business and humanities, to improve lives in rural and tribal communities.

Amrita's Virtual Labs Project Receives the 2018 GOLC Online Lab Award

Amrita's Virtual Laboratories and its deployment outcomes won the GOLC Online Lab Award 2018 for visualized experiment category. The nomination was titled "vlab - Sustainable Laboratory



Skill Education through Free Online Labs and Connecting Teachers and Students across the Country" and recognizes the efforts in deploying free educational tools and promoting its outreach across students, professors and institutions and included Dr. Shyam Diwakar, the Institute Integration Coordinator of Amrita Virtual Labs ; Dr. Krishnashree Achuthan, the Principal Investigator of the project; Dr. Bipin Nair, the Discipline-wise National Coordinator of Biotechnology and Biomedical Engineering Virtual Labs for the National Mission Project; Dr. Prema Nedungadi, Director of Amrita CREATE and Dr. Raghu Raman, Chairman, Amrita School of Business, Coimbatore, who had jointly led the project, its design, implementation and studies. The International Association of Online Engineering (IAOE) is an international non-profit organization with the objective of encouraging the wider development, distribution, and application of Online Engineering (OE) technologies and its influence on society. The recognition puts Amrita on top of all of the world's online laboratory resources. It recognizes Amrita's role in promoting the development, sharing, and research into remotely accessible laboratories for educational use and for increasing interest in developing and deploying online labs for sustainable goals in education.



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