> *"Keep a constant awareness and a conscious effort to say good words, perform good actions, and to practice patience and compassion"* - AMMA

Dean's Message...

I am extremely glad to share this edition of En-Vision, a very encouraging edition with National and Global recognition for our Academic Fraternity and Students. The objective of our pedagogy has always been to engage the students in a deeper learning process and create opportunities to participate and address societal challenges. It is extremely overwhelming to see the efforts moving towards a clear objective, as our success stories have now started emerging in Global Platforms. We are now more determined to look forward to developments that would accelerate our efforts to make positive contributions to the society.

Dr.Sasangan Ramanathan
Dean Engineering

ADVANCES IN RESEARCH

CENTRE OF EXCELLENCE IN ADVANCED MATERIALS AND GREEN TECHNOLOGIES COLLABORATES WITH AUSTRALIAN MINES

Faculty : Dr. Thirugnasambandham
Centre of Excellence in Advanced Materials and Green Technologies

Amrita's Centre for Advanced Materials and Green Technologies and Australian mines have collaborated to develop scandium based battery storage technologies. The collaboration will focus on evaluating the potential of using scandium-magnesium alloys in the next generation nickel metal hybrid batteries and hydrogen storage applications. They would also assess if the high-capacity ternary scandium-magnesium alloys will boost energy storage capacity in the batteries for use in the growing electric vehicle market. The potential application of this collaborative research will be to cater to the increasing demand for storage of large number of hydrogen that provides high energy solutions.

DESIGN AND DEVELOPMENT OF DYNAMIC SECRET KEY GENERATION SCHEMES FOR PHYSICAL LAYER SECURITY

Funding Agency: Scientific Analysis Group, Defence Research and Development Organization (DRDO).
Faculty: Dr. R. Ramanathan (Department of Electronics and Communication Engineering),
Dr. M. Jayakumar (Department of Electronics and Communication Engineering)

The emergence of wireless communication networks has profoundly affected every aspect of our modern societies by allowing access to information from virtually anywhere, anytime. The intrinsically open nature of the wireless transmission medium makes all communications particularly susceptible to eavesdropping. Some commonly used security approaches employed in current wireless systems may encounter potential problems, as wireless networks incorporate more communication patterns and flexible structures. While the upper layers of the protocol stack traditionally ensure secrecy by means of public-key- and private key-

based encryption algorithms; new technologies and devices are emerging in which the power and complexity constraints make it difficult to justify a direct deployment of standard security solutions and may not have the capability to host a full-blown public key infrastructure, hence rendering key generation and distribution more complex than the system can afford, either in terms of communication or computational resources.

Motivated by these challenges, there has been a renewed interest in "Physical Layer Security", in which one could potentially reduce the burden of random key generation by harnessing the randomness stemming from the communication channel itself for secure wireless communications. In this project, a physical-layer approach to secret key generation is proposed, which aims to exploit fundamental capabilities of physical layer such as randomness in wireless channels, signal-to-noise ratio gap, intended jamming, etc.,. Without inherently employing secret keys, such a new security approach, if applied to wireless networks, can significantly reduce requirements on the infrastructure and improve communication flexibility and dynamics.

The key aspects of the project is to design and develop dynamic and robust key generation methods based on the measured real-time channel impulse responses; to achieve higher key generation and lower disagreement rates with improved statistical properties of random keys generated; and to prototype the scheme on hardware for deployment in autonomous systems and defence applications.

WATER AND ENERGY EFFICIENT RELIABLE IRRIGATION SYSTEM (WATER-ERIS)
SOLAR ENERGY AND CLOUD-BASED DECISION SUPPORT SYSTEMS FOR AUTOMATED IRRIGATION SYSTEM

In this three-year project, we propose to develop both water and energy saving reliable irrigation system using the state-of-the-art computing, communication and energy management technologies. The urgency of this investigation stems from the shortage in water and energy, a phenomenon that is intensifying recently both in India and across the world. The efficiency of irrigation has direct implications on the nexus between the water usage and the power consumption. Nearly two thirds of India's agriculture depends on groundwater sources, the usage of which by improper irrigation management and unreliable power supply affects the ground water level. Supplying precise amount of irrigation water (i.e. right quantity at right time) protects the groundwater resources and

also reduces power consumption used for pumping. This also conserves water for more irrigation. The usage of solar water pumps which is viable alternative for both optimal irrigation and energy from grid. To further reduce the dependence on supplied power from grid, cutting edge battery management technologies will be developed to power the solar pumps. Overall, this research intends to develop an end-to-end management strategy for farmers relying on groundwater for irrigation.

The proposed study will focus the rural areas of Himachal Pradesh where significant water shortage is affecting the irrigation and Tamil Nadu where water and power shortages are the major concern in irrigated agriculture.

A MICRO-GRID TEST-BED LABORATORY WITH A VIEW TRANSITION TOWARDS SMART-GRID KNOWLEDGE CENTRE

State-of-the-art Smart Grid design needs innovation in a number of dimensions: distributed and dynamic network with two-way information and energy transmission, seamless integration of renewable energy sources, management of intermittent power supplies, real-time demand response, and energy pricing strategy. To realize these, the research project is aimed at designing a wireless Smart Grid test-bed to help the Smart Grid research community analyze and evaluate their designs. Through this it is possible to contrive novel protocols in the lab environment and hence it is possible to get equipped with real time problems and their remedies in lab environment. The set up can be extended to render training young technologists, researchers from various institutions across India through Faculty Development Schemes, which is also aimed to stimulate research communities to work on novel solutions for smart grid management in our Nation. The project will work on enhancing the lab set up by ameliorating and appending the technology. The project vision is to achieve a big-leap in the technological era and make our nation to become the forefront pertaining to one unified smart-grid for entire nation.

AUTOMATED STRUCTURAL EVOLUTION AND PERFORMANCE OPTIMIZATION OF RF BANDPASS FILTERS (BPF) - AN EVOLUTIONARY ALGORITHMIC DESIGN APPROACH
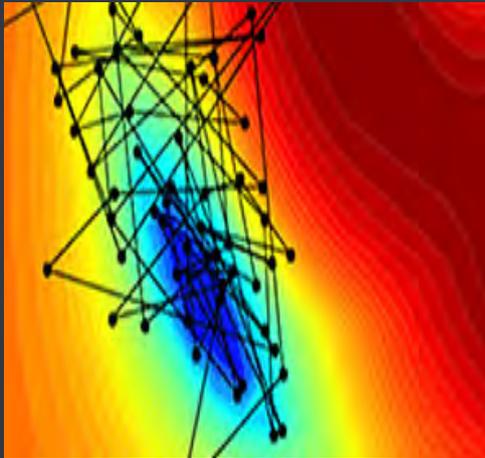
Modern multimedia and defence satellites are getting more complex with transponder connectivity requirements in the environment of highly dense traffic using Radio Frequency (RF) transmission. Lot of innovations in the design and implementation of RF systems is of paramount importance to achieve desired Signal to Noise ratio (SNR). RF performance, at the same time, with low weight, small size and high reliability, need innovative designs of BPF. The proposed EA can be applied to the realization of several RF system design requirements with stringent applications. This new paradigm of design automation though algorithmic approach facilitates improve the performance.

DETECTION AND PREVENTION OF ADVANCED PERSISTENT THREAT (APT) ACTIVITIES IN HETEROGENEOUS NETWORKS USING SIEM AND DEEP LEARNING
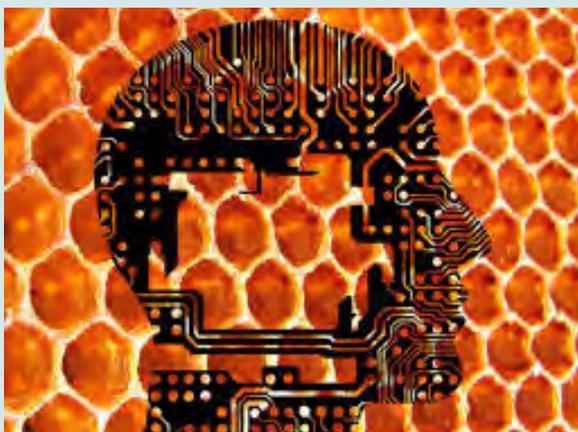
This 2 year project is supported by IBM. The organization consists of different networks at various geographical locations. For such vast networks a simple honeypot is not enough to decoy attackers. Hence, a collection of various honeypots installed at various geographically separated locations inside the organization is necessary for luring attackers. Such a conglomeration of honeypots – Honeynet – is the key in collection of attacker data and traffic destined at the organization. Heterogeneous data from Network devices, Systems, Firewalls, NIDS, UTMs, etc., are

collected at a centralized location using Cloud based Splunk Security Information and Event Management (SIEM) for further processing. Extracting useful information from a plethora of heterogeneous data is a difficult task. SIEM is supported with a Correlation Engine for processing such heterogeneous data. The Correlation Engine is capable of deploying Complex Event Analysis techniques, Data Mining techniques, Deep Learning algorithms, Log Analysis techniques, etc., for searching the presence of attack vectors (or anomalous behavior). The output of the Correlation Engine is categorized to rank the output network behavior in terms of the severity of the data/traffic by using a metric such as Vulnerability Score. The dashboard of the SIEM machine is capable of displaying the near real time processing of the various network and host events, network traffic flow statistics, system behaviour, and other properties of the network.

DEVELOPMENT OF SECURE AND AUTHENTICATED ENCRYPTION SCHEME FOR LIGHTWEIGHT APPLICATIONS

The 2 year project with an objective to design a secure authenticated encryption algorithm for lightweight applications was successfully completed. This algorithm can be implemented on a variety of lightweight platforms like mobile devices, smart cards, RFID devices etc. This implementation will have an impact on the level of security as well as the speed, which however can be suitably tailored by fine tuning of security versus efficiency requirements.

RESEARCH ON VIRGIN COCONUT OIL (VCO) AS A NEURO-REGENERATIVE AGENT FOR ALZHEIMER'S DISEASE

Funding Agency: Collaboration with Coconut Development Board (CDB), Government of India
Department: AMRITA MOLECULAR MODELING AND SYNTHESIS (AMMAS) RESEARCH LAB.

The study focused on the individual variation of proneness of the disease as well as susceptibility towards VCO by taking the major genes/mutations associated with Alzheimer's disease. The common biomolecular mechanisms related to the phytochemicals present in VCO have been included in the study.

The project cost was 88.56 Lakhs and was completed in three years with 7 peer reviewed journal publications and meeting the fellowships of two research fellows.

The study revealed that the VCO phytochemicals can enhance and support many vital mechanisms required for neurotransmitter biosynthesis that are associated with AD, extending the conventional ketone body mechanism. As most of these phytochemicals are found to be thermally dissociated to nonactive forms, heating the product or exposure to sunlight during the process would lead into depletion of the neuro-regenerative property. This makes VCO unique with its neuro-regenerative property, helping in treatment of the AD patients. Three online diagnostic support systems, 'Amrita AD Support 1.0, Amrita AD Support 2.0 and Amrita AD Support 3.0', have been designed and developed along with the project.

RESEARCH ON PHARMACOGENOMIC APPROACH FOR EARLY DETECTION OF BREAST CANCER.

Department: AMRITA MOLECULAR MODELING AND SYNTHESIS (AMMAS) RESEARCH LAB.
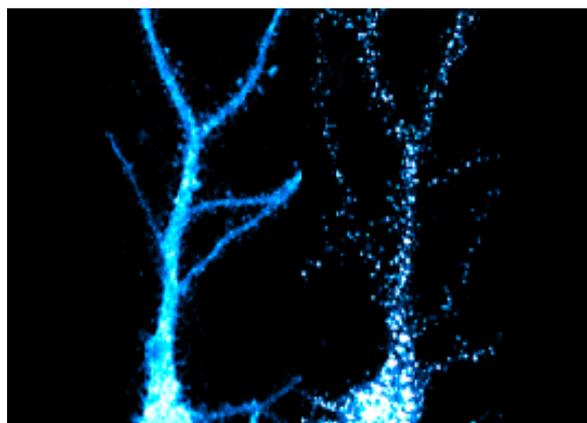
Two projects "Anti-hypoxia potentiation for anticancer drugs- A Pharmacogenomic approach" and "Design and biological evaluation of multi-targeted kinase inhibitors for breast cancer" have been completed. The project was done by two M. Tech Biomedical students Ms. Vaisali B and Ms. Parvathy C R. The diagnostic supporting tools for early detection of

hypoxia and involvement of kinase are the major contributions from these projects.The prototype of the Clinical support system "Amrita B-Oncosupport 1.01" has been designed and developed for identifying the right pharmacogenomic P4 (predictive, Preventive, Participatory and Personalized) drug for the patient. Apart from this, the tool is expected to predict mutation, Triple Negative Breast Cancer (TNBC), recurrence, stage, involvement of nodes, metastasis, hypoxia and involvement of kinase. The tool is in the evaluation phase.

MOU WITH INDIAN NAVY FOR COMBINED RESEARCH

On 19th December 2018, a Memorandum of Understanding (MoU) was signed with the Indian Navy for collaboration in aerospace, anti-submarine warfare, cybersecurity, management, and medical research. This agreement paves the way for combined research and development in all possible areas of mutual interest and strength, including M. Tech. and Ph. D. programs for Naval officers. Amrita is the first private university signing a MoU with Indian Navy. The existing infrastructure with the Indian Navy of manufacturing ships, radars, sonars along with the collaboration will help institutionalize the cooperation in a more tangible manner. The event was presided over by Vice-Admiral Anil Kumar Chawla , Prof C. Parameswaran, Director, Corporate and Industry Relations signed the MoU on behalf of the University.

WORKSHOPS & CONFERENCES

ICONAMMA 2018

The International Conference on Advances in Materials and Manufacturing Applications "IConAMMA 2018" was held for 3 consecutive days at Bangalore Campus. The conference focused on the advances in the field of Mechanical Sciences applied to materials and manufacturing. In addition to contributory papers, the conference had invited renowned experts for delivering keynote addresses/special lectures in the field of Mechanical Sciences. The objective was to bring up substantial discussions on major sectors of advanced processing, material characterization, modeling and simulation, properties, performance and device fabrication and to foster Hon'ble Prime Minister's prestigious mission of Make in India. The conference created a cross disciplinary summit that transcends departmental, institutional, industrial, public and private research organizational and global barriers and lends itself to the integration of research and education in the vital field of advanced materials. The conference had a series of oral and poster presentation sessions. From the 704 articles received 358 were registered. The keynote address was delivered by Dr. Raj Rajendran, Professor, Mississippi University at Oxford and Dr. Gowhar Naikoo, Dhofar University-Oman. The publication partners were Elsevier-Materials Today Proceedings and IOP Materials Science and Engineering. The Event was organized by Department of Mechanical Engineering

IEEE INDICON 2018

The 15th Edition of IEEE INDICON 2018 international conference kicked-off on 16 December, 2018 at Amrita Vishwa Vidyapeetham, Coimbatore campus. INDICON is the flagship conference of the IEEE India Council organized by IEEE Madras Section at AMRITA with technical support of IIT Madras. Conference highlights included 862 paper submissions, 233 selected papers, 300+ delegates, 5 plenary talks, 12 keynote addresses, 1 industry

track keynote, 7 Tutorials, 3 workshops, 362 reviewers, 7 tracks and 4 poster sessions. Various conference tracks included circuits & systems, signal & image processing, power electronics & drives, power systems, control & instrumentation, computer science and communication & networks.

From the first edition of INDICON in 2004, this conference has been a premier avenue for researchers to showcase their original contributions and innovations. This was an Interdisciplinary event co-hosted by Department of ECE, Department of EEE and Department of CSE.

SCHOOL TEAMS PARTICIPATE IN ICPC CONTEST

International Collegiate Programming Contest (ICPC) considered as the Olympics of Programming and dubbed as "Battle of the Brains" has contests with annual participation of 50,000 students in 2000+ universities in 100+ countries across 6 continents. The event attracts the best code geeks worldwide.. This team event has the participants leverage their skills and capabilities in problem solving, coding, team work, innovation, creativity and knowledge of data structures & algorithms to solve maximum number of problems in 5 hours' time, with least penalties to emerge on top. The event this year saw saw 275+ teams from premier institutions like IITs, IIITs, NITs and IISc, battle it out. The highlight of this edition was participation by 10 school teams. A team from Professor K K Anand's Smart Minds Academy, Chennai won the ICPC for Schools. IIT Kanpur emerged as the winner, with the second and third prize won by teams from IIT Roorkee. Dr. Bhushan Patwardhan, Vice-Chairman, University Grants Commission (UGC) distributed the prizes to the winning teams. ICPC is organized by ICPC Foundation with the support of Jet Brains. In India, this contest is supported by Directi and ICPC is hosted on the company's CodeChef platform. The event every year is hosted by the Department of Computer Science and Engineering.

FACULTY SPOTLIGHT

DR.BALAMURUGAN BAGS THE NATIONAL INNOVATIVE TEACHER AWARD

Dr. S. Balamurugan, Associate Professor Department of Electrical and Electronics Engineering bagged the prestigious, national, Innovative Teacher Award from Honourable Minister of HRD, Mr.Prakash Javadekar. The highlight of the award is only 7 faculty members from the entire nation were selected across various disciplines and he received the award for his innovative pedagogical initiative of "Laboratory Model Based Teaching of Power Systems". Power Systems is normally taught using simulation software. In this innovative initiative, the real time model of power systems at scaled down model is used for teaching the concepts of power systems in laboratory. This national award is an initiative of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT). Dr. Balamurugan received a cash prize of Rupees 75,000 and a silver medal with citation in the special function, for his distinguished accomplishment.

DR.P.R.JANCI RANI APPOINTED AS ROSTER NUTRITION CONSULTANT BY UNICEF-INDIA

Dr. P.R.Janci Rani Asst.Professor, Food Nutrition and Health Education Center, has been appointed by UNICEF-India, as a Roster Nutrition Consultant for four consecutive years (2018-2022) . She will join hands in meeting the prime objectives of the National Nutrition Mission. The position would be responsible for providing technical support to national / state / divisional / district level/ sub-district levels (in certain cases) nutrition programming in UNICEF supported states in India, with specific deliverables to be achieved for improved nutrition outcomes. Dr.Jacni is an Nutrition expert and reaches out to the community especially for Women to empower them with the basic needs such as Health, Education and Livelihood. She has collaborations with funding agencies such as Department of Science and Technology for these community programs.

DR.SASI KOTTAYIL EDITS A BOOK ON ENERGY MODELS IN EMERGING ECONOMIES

Dr. Sasi K Kottayil, Professor, Department of Electrical & Electronics Engineering, has edited a book on Energy Models in Emerging Economies, published by Centre for Science and Technology of the Non-Aligned and the other Developing countries. This book is an exhaustive repository originated from the papers submitted by participants in the 4th Triennial International workshop on Evolving energy models in emerging economies organized by the Centre.

STUDENT ACHIEVERS

RESEARCH INTERSNHIP WITH IUSSTF-VITERBI PROGRAM AT UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

Mr. Vijey Shrivathsan , a pre final year student from , B.Tech in Computer Science & Engineering (CSE) has been selected for the prestigious IUSSTF-Viterbi Program, a research internship in the summer of 2019 at University of Southern California (USC), Los Angeles, USA. The Viterbi School of Engineering of USC and the Indo-US Science and Technology Forum (IUSSTF) have partnered to support the this program in which 20 of the best and brightest students from India are selected every year to gain exposure and access to world class research facilities in the Viterbi School.

Another objective of the program is to pave the way for building long-term R&D linkages and collaborations and encourage outstanding students to take up research as a career. This scholarship, which has been facilitated by Amrita Center for International Programs (ACIP) covers stipend and airfare for the selected interns. Prof. Shaama Sharada, from USC has been assigned as the faculty mentor.

Amrita Students
Secure Pre-Placement
Offer at

Pramothini Sekar   Sowmiya N

STUDENTS SECURE PRE-PLACEMENT OFFER AT INTUIT

Ms. Sowmiya N. and Ms. Pramothini Sekar of the Department of Computer Science and Engineering, School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore campus, received pre-placement offers for positions as Software Engineers from Intuit, a multi-national company, where the students completed their summer internship. Based on the students' stellar performance, the company confirmed Pre-Placement offers to both with an annual salary of Rs. 25.16 lakhs. Along with the full-time offer, the company also extended a 6 months internship offer, which will commence from January 2019 onwards.

BEST POSTER AWARD FOR AMRITA RESEARCH SCHOLAR AT GETSC-2018

Amrita research scholar Mrs. K. Yamini Yasoda won the best poster award in the International Conference on Green Energy Technologies for Smart Cities (GETSC-2018) at SRM University, Amaravati, Andhra Pradesh. The best poster award was sponsored by MRS –S (materials Research Society Singapore), A certificate of merit along with the cash prize of INR 5000 awarded

by professor B.V.R Chowdari , President MRS-S. Mrs. K. Yamini Yasoda worked as a junior research fellow under the guidance of Dr. Sudip Kumar Batabyal (Senior Scientist, Amrita Centre for Industrial Research and Innovations) in the Department of Science and technology government of India funded Indo Russian bilateral project on the development of supercapacitor electrode. The conference was organised by SRM University-AP in association with Amara Raja Batteries to promote the development and effective use of sustainable energy with concern for the economic, environmental and social fabric of smart cities by bridging the academic community, practitioners, and policymakers.

BEST PAPER AWARD FOR MASTERS STUDENT IN SIRS- 2018

Ms. Lakshmi Priya S. M- Tech student from the Centre of Excellence in Computational Engineering and Networking (CEN) received the best paper award for the paper titled "Significance of epoch identification accuracy in prosody modification for emotion conversion". This paper was the major part of the work done towards her final year M-Tech project . The paper was presented by Lakshmi Priya in the international symposium on signal processing and intelligent recognition systems (SIRS) 2018 which is one of the popular annually organized conferences in the area of signal processing and machine learning, held in India. Out of 200 accepted papers, one paper was selected as the best paper in the symposium. Lakshmi Priya completed the M-Tech project under the guidance of Dr. Govind D of CEN.

STUDENTS WIN FIRST RUNNER-UP IN THE TITAN-WEAR YOUR SMARTS HACKATHON CONTEST

The third-year B.Tech. students of the Department of Computer Science and Engineering, were awarded the first runner-up in the 'Wear Your Smarts'- a national level hackathon organized by Titan Company Limited. The event was held on July 22, 2018, at Bengaluru. The event had 3099 registrations.

The team titled 'Team SAK' comprised of Anudeep J, Kowshik and Vineeth. The team built a smart glove based on IoT. The students were guided by Dr. Shriram K. Vasudevan, Assistant Professor, Department of Computer Science and Engineering, School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore campus.

STUDENT TEAMS IN SINGAPORE-INDIA HACKATHON 2018

Amrita students teams participated in the Singapore-India Hackathon 2018 on November 15, 2018, at Singapore . Shri Narendra Modi, Prime Minister of India, interacted with all 40 teams who participated in the Hackathon. The hackathon saw the 20 top teams from different countries compete in a 'battle of brains' for a period of 36 hours at Nanyang Technological University (NTU), Singapore. Two teams from Amrita, 'Team Vision' and 'Team Exalt', featured in the top 20 selected by the Ministry of Human Resource Development (MHRD) of Government of India. Noteworthy is that only Amrita Vishwa Vidyapeetham and IIT Kharagpur were the two teams in the top 20 from India.

Both teams from Amrita did splendidly well and 'Team Vision' garnered a spot among the top 5 Indian teams scoring over several teams from IIT's and NIT's. Amrita student members of Team Vision were Eric Joseph, Anupam Rajanish, Sakthisree Venkatesan and Yeshwanth Sripathy of 2016-2020 batch of B. Tech. in Computer Science Engineering (CSE) supported by Prof. Prashant R. Nair, Vice Chairperson, Department of Computer Science and Engineering, School of Engineering, Coimbatore and Team Exalt members were Sanjay Tharaghesh of 2017-2021 batch of B. Tech. CSE and Abel Lesle of 2017-2012 batch B. Tech. in Electronics and Instrumentation Engineering, supported by Prof. Senthil Kumar (Dept. of CSE)

STUDENT TEAM WINS THE TCS ENGINX DIGITAL TWIN CHALLENGE 2018

A student team, Team Vision from Computer Science & Engineering (CSE) department at AMRITA Vishwa Vidyapeetham, Coimbatore aces Tata Consultancy Services (TCS) EngiNX Digital Twin Challenge 2018. This IoT-based design and innovation event is one of the most prestigious student contests in India with participation over 75,000 teams worldwide. In the Grand finale held at TCS Olympia , the team presented 'LogiX', a smart manufacturing system of a digital twin of a logistics and transportation network. A Digital Twin is an exact copy or a replica of a physical asset or a system and behaves similarly to an IoT device creating a digital foot print. LogiX provides businesses a platform to view critical information and the digital twin through android applications and an Augmented Reality (AR)/Virtual Reality (VR) headset. This system consists of two data

acquiring boxes- namely the AccBox for accident monitoring and ComBox for commodity monitoring. Both the boxes consists of IoT sensors which relay in sensory data in real-time to the analytics cloud- Thingspeak and then to Firebase from where the necessary output/ digital twin model is shown in the Android App and the AR/VR Headset. The mathematical model is done primarily using Python along with analytics done through the BigML using algorithms such as random forests and neural networks. EngiNX prize money for the winner was a whopping Rs. 5 lakhs with internship opportunity at TCS for the students in the summer. The students team comprised of Yeshwanth Sripathi, Vijay Shrevatsan, Anupam Rajanish and Sakthisree Venkatesan, all students of B.Tech CSE and mentored by Prof. Prashant R. Nair, Vice-Chairman, Department of Computer Science.

MARS ROVER TEAM ASHVA AMONG TOP 2 TEAMS FROM INDIA

Students from the School of Engineering, Amrita Vishwa Vidyapeetham, Amritapuri campus, participated in the European Mars Rover Challenge (ERC) 2018, one of the biggest international space and robotics events in the world. It took place in Starachowice, Poland . The team is placed as top two in India out of five teams participating, and 29th among 65 teams from the world. The team, named "ASHVA", consisting of 12 students from the Departments of Mechanical Engineering, Electronics & Communication Engineering and Computer Science & Engineering, School of Engineering, beat some of the world's best teams from countries like the USA, Canada, UK, Columbia, Spain, Poland and Mexico. The "ASHVA" team, mentored by Dr. Ganesha Udupa, Professor, Department of Mechanical Engineering

STUDENTS COMPETE IN WORLD ROBOT SUMMIT 2018

A team of ten members with eight students from Amrita Humanitarian Technology (HuT) Labs, and two from the Department of Electronics and Computer Engineering (ECE), School of Engineering, Amrita Vishwa Vidyapeetham, Amritapuri campus, had the opportunity to take part in one of the world's largest robotic contests at the World Robot Summit (WRS 2018). They competed witht their Paripreksya Rescue Robot under the Standard Disaster Robot category which was held in Tokyo Big Sight, Japan, on October 18, 2018. Of the 252 teams which applied for this contest from all over the world, only 26 teams were selected, and the Amrita team was the only team from India to be selected for the finals. The Amrita team successfully completed the two tasks- Mobility and Dexterity tasks. The team was in twelfth position with 14.4 points.

KEY PUBLICATIONS

◊ Rao, Sethuraman N.; Ramesh, Maneesha Vinodini; Rangan, P. Venkat; Automatic Antenna Orientation and Stabilization System and Method (2018); United States Patent and Trademark Office Pre-Granted Publication; US20180375187 Ramani, Prasanna; Peptide Nucleic Acid Monomer And A Preparation Method(2018); United States Patent and Trademark Office Pre-Granted Publication; US20180354911

◊ Bhuniya; Sankarprasad; Mishra; Nandita; Velusamy; Nithya; Binoy; Anupama; bobba; kondapa naidu; Nedungadi; Divya; Flourescent Exomarker Probes For Hydrogen Sulfide Detection(2018); United States Patent and Trademark Office Pre-Granted Publication; US20180306792

◊ Aravind B., Raghuram G.K.S., Kishore V.R., Kumar S.; Compact design of planar stepped micro combustor for portable thermoelectric power generation(2018); Energy Conversion and Management, vol. 156, pp 224-234; DOI: 10.1016/j.enconman.2017.11.021

◊ Vinayakumar R., Soman K.P., Poornachandran P.; Evaluating deep learning approaches to characterize and classify malicious URL's(2018); Journal of Intelligent and Fuzzy Systems, vol. 34, pp 1333-1343; DOI: 10.3233/JIFS-169429

◊ Vinayakumar R., Soman K.P., Poornachandran P; Detecting malicious domain names using deep learning approaches at scale(2018); Journal of Intelligent and Fuzzy Systems, vol. 34, pp 1355-1367; DOI: 10.3233/JIFS-169431

◊ Nithya K., Sathish A., Senthil Kumar P., Ramachandran T.; Fast kinetics and high adsorption capacity of green extract capped superparamagnetic iron oxide nanoparticles for the adsorption of Ni(II) ions; Journal of Industrial and Engineering Chemistry, vol. 59, pp. 230-241; DOI: 10.1016/j.jiec.2017.10.028

◊ Konnov A.A., Mohammad A., Kishore V.R., Kim N.I., Prathap C., Kumar S.; A comprehensive review of measurements and data analysis of laminar burning velocities for various fuel+air mixtures; Progress in Energy and Combustion Science; vol. 68, pp 197-267; DOI: 10.1016/j.pecs.2018.05.003

◊ Aravind B., Raghuram G.K.S., Kishore V.R., Kumar S.; Compact design of planar stepped micro combustor for portable thermoelectric power generation; Energy Conversion and Management; vol. 156, pp. 224-234; DOI: 10.1016/j.enconman.2017.11.021

◊ Prakash Marimuthu K., Thirtha Prasada H.P., Chethan Kumar C.S. 2018.; 3D finite element model to predict machining induced residual stresses using arbitrary lagrangian eulerian approach; Journal of Engineering Science and Technology, vol. 13, pp 309-320

AMRITA Vishwa Vidyapeetham emerges on top of

Swachh Campus Rankings

for 2nd consecutive year