



Biannual Newsletter

Department of Electronics and Communication
Engineering, MIT, MAHE

August, 2021

Message from the department chair



Dr. G. Subramanya Nayak

Congratulations to the entire E & C community as you celebrate 50 years since the Department of Electronics & Communication Engineering opened its doors at Manipal Institute of Technology in 1972. ECE department has produced more than 4,000 graduates and established itself as one of the best schools providing an outstanding state-of-the-art education for its students. The department has come up with Volume 3, issue 2 of the newsletter for the year 2021. I believe that the newsletter will serve as a podium through which the activities and achievements of the students, staff and faculty members can be noticed. I am pleased to note that the faculty members and the staff of the department of ECE are dedicated to creating an environment for promoting creativity, innovation and excellence in the minds of students to confidently and capably face the challenges. I applaud the editorial team and all the members of the department of ECE.

Department Activities

Department UG program is undergoing accreditation process by **National Board of Accreditation (NBA)** during 2021-2022.

The **Institution of Engineering and Technology (IET)** accreditation process is in progress for both UG and PG programs of the department.

Establishment of new Lab : Device Fabrication and Material Characterization Lab

The focus of this lab will be on novel device fabrication and its characterization for sensor, stretchable and flexible wearable electronics, energy storage, bio-medical and agricultural applications. The fabrication will be done mainly using Physical techniques, solution-based techniques, Rapid prototyping using Laser and 3D printers. The Lab will facilitate to work on microfluidics, Lab-on-chip, bioMEMS, soft bioelectronics, and on conformal sensors and will be beneficial for the PG students and research scholars.

Faculty Achievements



Dr Somashekara Bhat, Professor of the department appointed as **Joint Director**, Manipal Institute of Technology (MIT), Manipal on June 21, 2021. He is also currently handling Associate Director – Development, MIT. Department is proud of his achievements.



Dr Ujjwal Verma, Associate Professor of the department has been awarded as IEEE Mangalore Sub Section Young Professional award in Jan 2021.

Grant

Dr. Anitha H, Professor in ECE, has received financial grant for the project entitled "Bayesian approach to solve the inverse problem of the human heart from Magnetocardiography" from Science and Engineering Research Board (SERB), DST, New Delhi under scientific and Useful Profound Research Advancement (SUPRA) scheme.

Technical Publication

Faculty members and students of the department have jointly published 28 journal papers in reputed Scopus indexed journals during January to June 2021.

Dr Anu Shaju Areeckal, Assistant Professor of the department, received Special Mention of the Jury Award of BITES Best PhD Thesis Awards for 2019, in the Electronics and Communication Engineering category. She received the award for her thesis titled "Early diagnosis of osteoporosis using metacarpal radiogrammetry and texture analysis" done under the guidance of Dr Sumam David S., NITK Surathkal and Dr Michel Kocher, HEIG-VD Switzerland. The award was conferred at RNSIT Bangalore on 23rd February 2021.



Felicitation

On 17th Jan 2021, IEEE Mangalore Sub Section felicitated Dr. Satish Kumar M and team for successful completion of 2019 IEEE DISCOVER conference held in MIT, Manipal

Dr. Ramya S, Associate Professor, was selected for the Executive Committee member for the IEEE Signal Processing Society, Bangalore section in January 2021.

Dr Sampath Kumar, Associate Professor and Dr Ujjwal Verma, Associate Professor received PhD Guide ship from MAHE.



Dr Tanweer, Assistant Professor of the department received the Best PhD Thesis Award in BITES Best PhD Thesis Awards for 2019, in the Electronics and Communication Engineering category. He received the award for his thesis titled " Modeling of Miniaturized Multiband and Metamaterial loaded Frequency Reconfigurable Antennas for Wireless Communication Systems " done under the guidance of Dr Rajashekhar C Biradar., REVA University, Bengaluru and Dr Jaume Anguera, Fractus Antennas and Universitat Ramon Llull, Barcelona, Spain. The award was conferred at RNSIT Bangalore on 23rd February 2021.

PhD Award

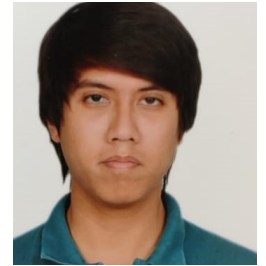
Dr Supreetha B S awarded PhD for her thesis entitled "Soft Computing models for forecasting groundwater level in lateritic and gneissic terrain" under the guidance of Dr Prabhakara Nayak K., Former Professor of ECE department, MIT and Dr Narayan Shenoy, Professor, Department of Civil Engineering, MIT (Co-Guide) in Feb 2021 from Manipal Academy of Higher Education (MAHE).

Student Achievements



Team Jaitva Bharat consisting of Harshit Dayal(team leader)(ECE), Ankit Mishra(CCE) and Shivank Sinha(CCE) under the mentorship of Dr. Raghavendra Holla (Department of Civil Engineering) got selected into the grand finale of the National Toycathon India on 14th June.

Achintya Dutta contributed to the publication of "Graphite/Copper Nanoparticles Based High-Performance Micro Supercapacitor with Porous Wet Paper-Based PVA-PVP Blend Polymer Electrolyte" in the Journal "Materials Letters" - 9th April 2021 under Dr M Selvakumar and in the publication of "Compact Model Parameter Extraction Using Modular Q Learning for NanoScale Transistors" in the IEEE ICEE conference proceedings - 15th June under Dr Yogesh S Chauhan. He is also the founder of "The Research Society MIT Manipal".



Paresh K V secured first place in Covideate held during IIT Bombay's Techfest on 1st May 2021.

Tanay Kumar was a part of Team Vyom that secured the first position in the "Technex '21-Aviator Challenge-national UAV design contest", IIT BHU and second position in 'Techkriti - AeroDes'- National UAV Design Contest, IIT Kanpur held from 2nd to 4th April, 2021.



Atharv Tendolkar published following papers in association with faculty:

1] CareBro (Personal Farm Assistant): An IoT based Smart Agriculture with Edge Computing: This paper is accepted in MPCIT and received the best paper award in Jan 2021. He did it under the guidance of Dr Ramya S.

2] Home Shanti (An Edge Computing based IoT system for complete home security and safety): This paper is accepted in Springer- ICCWC NIT Kurukshetra in March 2021 was done under Dr Pramod Kumar.

3] Modified crop health monitoring and pesticide spraying system using NDVI and Semantic Segmentation: An AGROCOPTER based approach: This paper is accepted in the prestigious IEEE ICAS Canada in March 2021 under Dr Manohara Pai.

4] Air-Aura (Adaptive Lighting Solutions and Sensors for Sustainable and Covid proof Aviation Experience): This paper is accepted in IEEE Connect and received a special mention from the Sensors track session chair in April 2021.

5] Estuarine-Star (smart estuarine aquaculture management with sensor network): This paper was accepted in the prestigious IEEE SMC Chapter Australia in May 2021 under Dr Manohara Pai.

6] Box-I-Bot (A Differential-Drive Bot with Intelligent Routing Infrastructure for remote inventory monitoring in warehouses): This paper was accepted in IEEE MysuruCON in June 2021 under Dr Manohara Pai.

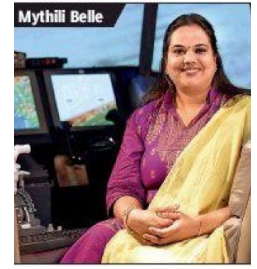
He is also the founder and C.E.O of ALLSKIER, which today has over 15+ students from various branches in MIT founded in June.



Alumni Achievements

Mythili Belle, batch of 2002 ECE, MIT, Manipal is now Director of Software Engineering for flight systems CoE (centre of excellence) at Honeywell and leading a team of over 170 engineers

Subhraneil Das got admission at the University of Twente Netherlands in M.Sc. Embedded Systems in June 2021



Club Activities

IE-E&C

A programming workshop in C was conducted on 23rd and 24th January 2021 by Aditya Prabhu, Harshita Sachan and Yash Rastogi. Basic programming concepts were covered.

ISTE

- An internal WebDev workshop was conducted from 25th to 27th January. Topics such as HTML, CSS and Javascript were covered by Akhil Kala, Varshil Shah and Insha Manowar.
- An internal content writing workshop was conducted on 30th January by Anupriya Singpuri.
- A national-level technical webinar on 'Studying Abroad- Planning for the next Milestone' was conducted on Cisco Webex Platform on 20th March. Neha Agrawal, founder of WiseUp Communications was the speaker.
- An internal technical workshop on Graphic Designing was conducted on 26th April by Anoohya Boppeand Shravya mallya.
- An All- India level Tech Week 'Hack the Crisis' was conducted from 20th May to 6th June with a huge participation of more than 400. The events conducted were scipher Hunt, Mental Health Talks, Hackathon, Covid 19 drive.

Upcoming Events

Launch of ISTE Manipal's Research Project Management Platform (RPMP)

RPMP allows students to connect to professors who are working on a particular research project of their interest. Similarly, it helps professors find students to assist them with the same. This portal aims at bringing the research community together and eliminates the lack of connectivity and networking between students and professors in the trying times of the pandemic.

ACADEMIC AUDIT

The department will be organizing an academic audit for UG and PG courses by the domain experts during September 2021.

AICECS 2021 (ARTIFICIAL INTELLIGENCE, COMPUTATIONAL ELECTRONICS AND COMMUNICATION SYSTEMS)

The E & C department will conduct its first International Conference on Artificial Intelligence, Computational Electronics and Communication in virtual mode from 28 to 30 October 2021. The conference is designed to create a platform for researchers from academia and industry, practising engineers, and students. A series of keynote presentations, technical papers and poster presentations are planned to foster the vigorous exchange of research findings and ideas among the participants. The accepted and registered papers of AICECS 2021 will be published in the IOP: Journal of Physics(a conference proceedings journal) which is indexed in CPCI – Web of Science.

<https://www.aicecs.com/>



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