



## Biannual Newsletter

Department of Electronics and Communication  
Engineering, MIT, MAHE

April, 2022

### Message from the department chair



**Dr. G. Subramanya Nayak**

*It is with great pleasure that I welcome you to our Department Newsletter BITS and BYTES. As Head of the department, I am immensely impressed by the commitment of the faculty, staff and students in providing an excellent all-round education for our students with our state of the art facilities.*

*We as a team working together, strongly promote the zeal towards academic achievement among our students. The cultural, sports and other successes of all our students and faculty are also proudly celebrated together. I congratulate the staff and students who brought latest technologies and concepts onto the day to day teaching learning platform. I appreciate every student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to curriculum. With a long and rewarding history of achievement in education behind us, our ECE community continues to move forward, together with confidence, pride and enthusiasm.*

*All the best.*

## Department Activities

### Academic Audit

Department has undergone academic audit for UG program by **Prof. Ashvini Chaturvedi**, ECE department, NITK, Surathkal during September 2021. Academic audit for PG program has been carried-out by **Prof. Puttamadappa, Registrar**, Dayananda Sagar University, Bengaluru during October 2021.

### Accreditation

Department has filed a Self-Assessment Report (SAR) for the accreditation process by the National Board of Accreditation (NBA) in December 2021. Applications for accreditation of both UG and PG programs have been filed. The NBA team is expected to visit the department soon. The Institution of Engineering and Technology (IET) accreditation process is also in progress for both UG and PG programs of the department.

## Workshop

A two-day workshop on “**Signal Processing Applications using MATLAB**”, during 10 and 11 August 2021. The workshop was conducted by **Dr. Spandhana Gonuguntla**, Education Technical Evangelist, Mathworks, **Dr. Ramya S.**, Associate Professor, ECE Department, **Dr. Ananthakrishna T.**, Associate Professor, ECE Department. During the workshop along with the hands-on session, theoretical and applied aspects of signal processing and image processing were presented.

## Elevations

**Dr. Ujjwal Verma**, Associate Professor in ECE department has been appointed as **Head of ECE department, MIT-Bengaluru Campus** during October 2021.

**Dr. D. V. Kamath**, Professor in the ECE department has been appointed as the **Head of Mechatronics department, MIT**, during December 2021.

## New M.Tech Programme

Department of ECE has received approval to start the new M.Tech programme in **Wireless and Mobile Communication**. The course will be begin from July 2022.

## New Faculty Appointments

**Dr. Yashwanth N** has joined the department in August 2021. He has received his Ph. D from Visvesvaraya Technological University (VTU), Belagavi for the thesis entitled “Node Localization in Underwater Wireless Sensor Networks”.

**Dr. Rahul Rathnakumar** has joined the department in October 2021. He has received his Ph.D from Malviya National Institute of Technology (MNIT), Jaipur for the thesis entitled “Hardware implementation of K-means and nature inspired clustering algorithm for real-time image segmentation”.

## Best Student Award



**S.A. Chayadevi Memorial Best Student Award for 2021-22** has been conferred to **Mr. Achintya Dutta** during December 2021 for the outstanding performance in academics and co-curricular activities. This best student award is given by the department of ECE every year.

## AICECS Conference



The First International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS) was organized by the Department of ECE on 28th-30th October 2021 in virtual mode. The AICECS 2021 Conference received **149 submissions**, from various institutes across the globe, **78** were selected for full presentation at the conference.

# Faculty Achievements

## Awards and Accolades



**Mr Prashanth Barla, Vinod Kumar Joshi and Somashekara Bhat** were awarded the **Best Research Paper Award** by GC-RDCT 2021 for their paper on the Design and evaluation of hybrid SHE+STT-MTJ/CMOS full adder based on LIM architecture.

**Dr. Ramya S**, Associate Professor, Department of Electronics and Communication, Manipal Institute of Technology, MAHE, Manipal mentored "TEAM MIT" consist of students Ishan Kumar (IT), **Pranshul Goyal** (CSE), **Rhea Adhikari** (CSE), **Adit Luhadia** (IT), won the **2nd runner up** position in **HACK'E'LTH 2021** challenge organized GE Healthcare Digital Technology under the "GE health care campus connect program" on 15th December 2021. For the TEAM MIT, the challenge was to "Development of Progressive Web App (PWA)" which can seamlessly work with any device (IOS, Android or desktop) , responsive and easy to maintain the codebase.

**Dr. Ramya S** was selected as the **Co-Technical Program Committee chair** for the IEEE International Conference on Electronics, Computing and Communication Technologies, CONECT 2021 for the **IEEE Signal Processing Society, Bangalore** held during 9-11th July 2021.

### Samsung Prism

Two worklets from the ECE Department received the **Certificate of Excellence** from Samsung Prism. **Dr Kanthi M** worked on AI, IoT, Microservices and **Dr Anu Shaju Areeckal** worked on noise reduction, Multi-frame Astrophotography.

## PhD Supervision

**Dr. Ravilla Dilli** was recognised as PhD supervisor of MAHE in Wireless Communication, Communication Networks and Protocols, Routing Protocols and Algorithms, IoT, 5G and 6G Wireless Technologies, Mobile Ad-hoc networks and wireless sensor networks and Network Security.

**Dr. Sampath Kumar** was recognized as PhD supervisor of MAHE in biomedical signal Image processing, 3D Imaging and Devin Imaging

**Dr. Guruprasad** was awarded **PhD** for his thesis entitled "Investigation on Performance Improvement of LDO Voltage Regulator" under the guidance of Dr Kumara Shama, Professor, Department of ECE, MIT in November 2021 from Manipal Academy of Higher Education (MAHE).

## Top 2% researchers in the world



**Dr Tanweer**, Assistant Professor – Senior Scale, Department of Electronics and Communication Engineering, MIT, Manipal was one of the three faculties listed in percentile rank of **top 2% researchers in the world**, published by Stanford University, USA.

## Research Grant

**Dr. Ramya S**, Associate Professor, ECE Department, Manipal Institute of Technology, Manipal received a grant of \$3945 in October 2021 from **IEEE Humanitarian Activities Committee (HAC)** and **IEEE Special Interest Group on Humanitarian Technology (SIGHT)** for the project titled "Tele-based speech therapy for children with language disabilities during COVID-19 pandemic". It is a collaborative work with **Dr Sudhin Karuppali**, Associate Professor, Department of Audiology & Speech-Language Pathology, KMC Mangalore. Project is aiming to help children with language disabilities in the age between 2 to 6 years.

**Dr Anitha H**, Professor in ECE, has received a **financial grant** for the project entitled "Development of MEG-MRI coregistration tool with automatic landmarks detection for the magnetic source imaging" under the Grant-in-aid scheme of the **Department of Health Research (DHR)**. The grant is provided under "Inter-sectoral Convergence & Coordination" for the Promotion and Guidance of Health research. This is for a period of 3-years starting from December 2021.

### Technical Publications

Faculty members and students of the department have published **77** journal papers in various reputed Scopus indexed journals during July and December 2021. Also, there are **25** conference paper presentations and publications by the department faculty and students in the duration.

### New Product Launch

**Dr. Sampath Kumar**, Associate professor and Managing Director Kumudha Health Tech Pvt. Ltd., MUTBI, Manipal has launched the company's new product "**ICH Outcome Predictor**". The product launching ceremony was held during October 2021, which was presided by LT.GEN.(DR) MD Venkatesh, Vice Chancellor and DR. H S Ballal, Pro-chancellor, MAHE.

## Alumni Achievements



**Arunabha Bhattacharya**, 2016 Batch of ECE department is Co-founder, CTO. He has been the part of ICMR **launched drone service in Nagaland** for vaccine deliveries. The project I-drone was made possible by Redwing Aerospace, a last mile healthcare logistics company that connects hard to reach areas.

**Sahas Gembali** an alumnus of the 2014-2018 batch made a **prototype of the Pani-Puri vending machine** which got installed in various cities like Dharwad.



# Student Achievements

**Pushpendra Birendra Singh**, a final year ECE student launched an Ed-Tech startup that offers software development courses such as game design and development for students of grade 6th and upwards.



**Shreya Tewari** emerged as 1st Runners Up in the 3rd edition of CodeStreet'21 by American Express with the theme "Open Banking." They worked on a proposal of a **Multi-Purpose Identity Card** with all IDs united at a single place, being powered, and entrusted by blockchain technology.

**Manav Dhelia** Published two research papers in the IOP Journal of Physics:

1. Protall (An Intelligent, multi-sensor, comprehensive obstacle avoidance system for automobiles and UAVs). First International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS 2021), IOP: Journal of Physics.
2. Aqua-Vision (An underwater panoramic camera with computer vision and analytics). First International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS 2021), IOP: Journal of Physics



**Arpit Baj** Secured the 1st runner-up position at the TRANSFORMERS2021 challenge organised by TALSCOUTS - a California-based organisation on 27th November 2021.

**Amulya Kollipara** Connected students of MIT as blood donors to patients in need through KMC Blood Bank under the organisation of "Sociio Ichor". It was published in several newspapers.



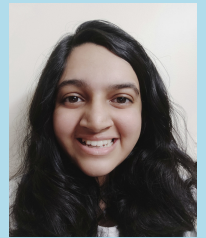
**Prakhar Goel's** paper titled "Dynamic Mirror Descent based Model Predictive Control for Accelerating Robot Learning" was accepted at the prestigious robotics conference ICRA'22, Philadelphia, USA. It was also presented at NeurIPS 2021.

**Prakhar Goel (ECE), Aditya Nirmale (ECE), Akshat Pandey (ECE), Yatharth Agarwal (ECE), and Raghav Thakar (CSE)** developed a working prototype of an AS-RS system in the Swadeshi Microprocessor Challenge Issued by the Ministry of Electronics and Information Technology - Govt of India in Jan 2021. They emerged as semi-finalists with INR 1 Lac fund for the semi-final stage.

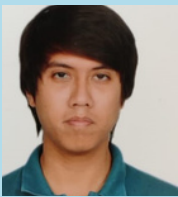


**Harshil Bhatt** won the IEEE Protsahan Award on 22nd December 2021.

**Ananya Devarakonda** presented a paper titled "Network intrusion detection: a comparative study of four classifiers using the NSL-KDD and KDD'99 datasets" in the First International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS) held in virtual mode from 28-30th October by the ECE Department of MIT, Manipal. She received the best paper award under the guidance of Dr. Ramya S.



**Harshit Dayal** took part in Toycathon 2021. His team stood amongst the top 25 teams out of 14219 Teams, from all across India.



**Achintya Dutta** emerged as the winner of the ISSS UG Student award for his project titled "Sensitivity Tuned PANI/Graphite Nanoparticle-based Humidity Sensor Powered by Cu/Graphite Micro-Supercapacitor with PVA/PVP Polymer Electrolyte".

## Club Activities

### ISTE

- ScripTech - A Technical writing competition was organized on 4th and 5th December 2021. The winners were awarded cash prizes and the winning articles were published on the ISTE blog, The Technical Prophet.
- Summer School was organized for a duration of three months from August to October 2021. Various courses such as Web Development, Graphic Designing, LTspice circuit simulations and Programming were covered with the participation of more than 500 students.

# IE-E&C

- LT Spice workshop was conducted on 8th and 9th July 2021 by Abhishek Rao, Dhruva Bhat, Harshita Sachan, Meghna Rao and Yash Rastogi.
- Tech Week was conducted from 12th to 18th July 2021 consisting of 4 events: Bidding into the Future (Auction Event), SimuWars (Electronics Event), 2100 A Space Odyssey (Web Development Event) and Thought Evacuate (Trivia Event). It was organized by Amol Jalan, Yash Rastogi, Abhishek Rao, Harsh Mahalaka, Meghana Rao, Aryan Roy, Megha Agarwal and Dhruva Bhat. There was huge participation and cash prizes were awarded to winners.
- An Arduino workshop was conducted in collaboration with IE-Mechatronics from 16th to 18th September 2021 by Kluivert Correia and Abhishek Rao. Various projects using components like servo motors, sensors were designed using Tinkercad.
- The Joy of Giving was a collaborative event with Project Mudra through which technical knowledge was imparted to underprivileged students. It was conducted on 11 October 2021 by Aditya Harlalka, Aditya Prabhu, Abhishek Rao and Yash Rastogi.

## Principal Editors

Dr. Ramya S  
Dr. Anitha  
Dr. Ananthakrishna T

## Editor-In-Chief

Harshita Sachan

## Editorial Team

Megha Agrawal  
Sarayu Marni  
Trisha Jaipurkar