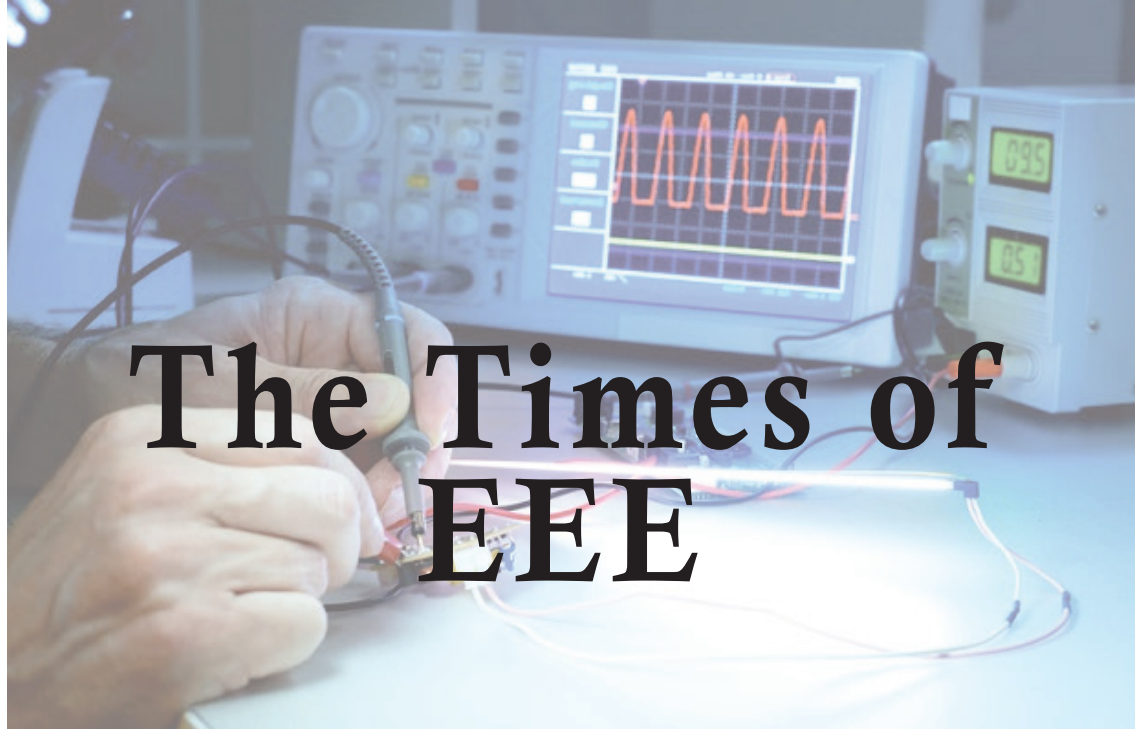




MAIT

उद्यमेन हि सिध्यन्ति
कार्याणि न मनोरथैः

The official newsletter of
Department of Electrical and
Electronics Engineering
Maharaja Agrasen Institute of
Technology



The Times of EEE

VISION

To produce technically competent human resource for electrical and electronics industry with high moral and ethical values.

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Volume 1
(January to August 2021)

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EEE department always enjoyed the immense pleasure to find alumni of this department, getting placed in government jobs and almost all private and multinational companies. The follow-up of the university curriculum, blending core electrical subjects like machines, control and power systems with those of electronics based communication, VLSI design and microcontrollers have helped enriching the broad knowledge based with cutting edge technology to foster self development and confidence to do good & prove one's own worth. The inherent skills of our students are being well nurtured by highly qualified faculty and hard working staff in achieving goals & objectives of the Department. We support the endeavour and wish them success to rise to the pinnacle of glory.

Editorial Team

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STUDENT UPDATES

Placement Details for 2017-21 Batch

25 student placed in
Cognizant

9 students placed in
Accenture

7 students placed in
Infosys

8 students placed in
Cinif Technologies

3 students placed in
Byju's

5 students placed in
Tata Power

Faculty Awards

<u>FACULTY NAME</u>	<u>AWARD AND RECOGNITION</u>	<u>YEAR</u>
PROF RAJVEER MITTAL	LONG SERVICE AWARD FOR 15 YEARS OF COMMENDABLE SERVICE IN MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY	2021
DR NEELU NAGPAL	LONG SERVICE AWARD FOR 15 YEARS OF COMMENDABLE SERVICE IN MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY	2021
DR MONIKA GUPTA	CERTIFIED AS INNOVATION AMBASSADOR(FOUNDATION LEVEL) FROM MOE INNOVATION;S CELL AND AICTE	2021
DR NEELU NAGPAL	CERTIFIED AS INNOVATION AMBASSADOR(FOUNDATION LEVEL) FROM MOE INNOVATION;S CELL AND AICTE	2021
DR NEELU NAGPAL	ELEVATED TO SENIOR MEMBER, IEEE	2021
MR SUNIL PANDEY	LONG SERVICE AWARD FOR 15 YEARS OF COMMENDABLE SERVICE IN MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY	2021

Research Publications by Faculty

<u>FACULTY</u>	<u>TITLE OF THE RESEARCH PAPER</u>	<u>DETAILS OF THE PUBLICATION</u>	<u>MONTH AND YEAR OF PUBLICATION</u>	<u>DOI/ISSN/ISBN</u>
DR MONIKA GUPTA	COMPARATIVE STUDY OF EVOLUTIONARY COMPUTATION BASED PI, FOPI AND NN CONTROLLERS FOR DSTATCOM	JOURNAL OF CIRCUITS, SYSTEMS, AND COMPUTERS	JULY 2021	10.1142/S0218126621502492
MR SUNIL PANDEY	ROBUST FREQUENCY CASCADED ADAPTIVE COMPLEX FILTER	IEEE TRANSACTIONS OF INDUSTRIAL APPLICATIONS	FEB 2021	10.1109/TIA.2020.3034285
	CONTROL FOR GRID INTERACTIVE PV SYSTEM			
DR NEELU NAGPAL	MONITORING AND PROTECTION OF INDUCTION MOTORS AGAINST ABNORMAL INDUSTRIAL CONDITIONS USING PLC	INTERNATIONAL CONFERENCE ON INNOVATIVE COMPUTING AND COMMUNICATIONS. ADVANCES IN INTELLIGENT SYSTEMS AND COMPUTING, SPRINGER, NEW DELHI, INDIA	20-21 FEB, 2021	HTTPS://DOI.ORG/10.1007/978-981-16-3071-2_25
MR SUNIL PANDEY	PV-BES MICRO-GRID SYSTEM WITH LQR-TUNED CC-CVF-BASED CONTROL ALGORITHM	JOURNAL OF THE INSTITUTION OF ENGINEERS (INDIA): SERIES B, VOLUME 102, PAGES585-593	JAN 2021	HTTPS://DOI.ORG/10.1007/S40031-020-00534-W
DR MONIKA GUPTA	SURVIVAL PREDICTION OF CANCER PATIENT USING MACHINE LEARNING	SPRINGER BOOK CHAPTER	FEB 2021	HTTPS:// DOI:10.1007/978-3-030-76167-7_6
DR MONIKA GUPTA	GENERATING MEDICAL DIAGNOSIS FROM CHEST X – RAYS USING SAMPLING BASED INTELLIGENCE	SPRINGER BOOK CHAPTER	FEB 2021	HTTPS:// DOI:10.1007/978-3-030-76167-7_6
PROF SATVIR DESWAL	DIELECTRIC MODULATED JUNCTION LESS BIO TUBE FET (DM-JL-BT-FET) BIO-SENSOR	IEEE SENSORS JOURNAL, VOL. 21, NO. 15, PP. 16731-16743, 1	AUGUST 2021	10.1109/JSEN.2021.3077540
DR NEELU NAGPAL	DECENTRALISED STOCHASTIC DISTURBANCEOBSERVER-BASED OPTIMAL FREQUENCY CONTROL METHODFOR INTERCONNECTED POWER SYSTEMS WITH HIGHRENEWABLE SHARES	IEEE TRANSACTIONS OF INDUSTRIAL INFORMATICS	AUGUST 2021	DOI 10.1109/TII.2021.3107396

Factopedia

- » When lightning strikes, it flows from the cloud to the ground, but the part we see is actually the charge going from the ground back up into the cloud.
- » Iceland is the country that uses the most electricity annually. Their consumption is about 23% more than U.S.
- » In 1891, William Morrison, who was an American inventor, built the first-ever successful car driven by electricity.
- » The energy it takes to conduct 100 Google searches is equivalent to a 60-watt light bulb burning for 28 minutes.
- » Only 10 percent of energy in a light bulb is used to create light. Ninety percent of its energy creates heat. Compact fluorescent light bulbs (CFLs) use about 80 percent less electricity than conventional bulbs.

Pun stop

Q: Why did the Higgs Boson go to church?

A: For the mass

Q: Why was the thermometer smarter than the graduated cylinder?

A: He had more degrees

Q: What happens when electrons lose their energy?

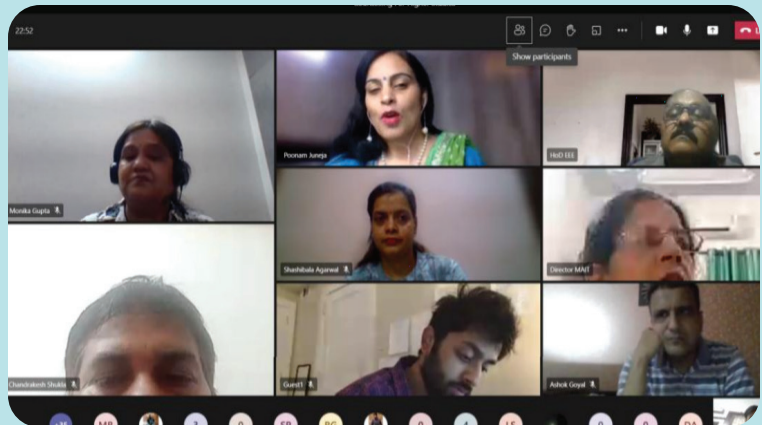
A: They get Bohr'ed.

Q: What did the electrical engineer say while meditating?

A: Ohm

Webinar on Counselling for Higher Studies

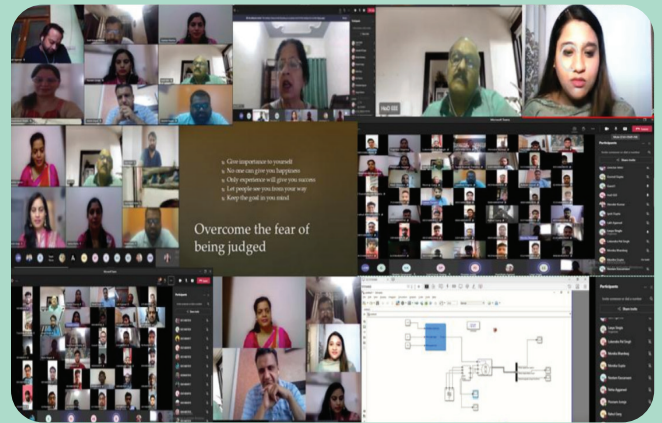
The EEE Dept. of MAIT with IEEE MAIT hosted a session on “Counselling on Higher Studies” on 7th June 2021 to guide students on their career and on the various opportunities which lie ahead. The guest of honour for the event was Sachin Srivastava, Carnegie Mellon University, U.S.A. The event began with the unwavering and encouraging speech of the Director MAIT, Prof Neelam Sharma and Dean Academics Prof Satvir Deswal. The



session was interactive with the participation of both the speaker and attendees. The speaker addressed all the queries and answered them warmly. The event was concluded with the vote of thanks by Prof. Rajveer Mittal, HoD EEE. The occasion was further distinguished by the presence of MAIT faculty and HODs. Over 160+ participants registered for the webinar from the most far-reaching parts of the country and several prestigious colleges to gather knowledge on Higher Studies. Maharaja Agrasen Institute of Technology had the largest share of participants, with students from all years and disciplines actively taking part in the event. They were given various guidance for their higher studies and also received career counselling from the expertise present in the event.

STTP on Renewable Energy Systems and How to Use Your Full Potential

A Short Term Training Program on “Renewable Energy Systems” and “How to Use Your Full Potential” was conducted on June 4, 2021 by the EEE Department of MAIT, Delhi, India successfully. The event began with gracious presence of Director MAIT, Prof. Neelam Sharma, who addressed the audience and stated that “both external and inner energy are important in our lives.” By his nice comments, Prof. Rajveer Mittal, HOD EEE, encouraged the students and faculty. Expert from Pantech e-Learning, Mr. Arjun Vijayan delivered a wonderful session on RES along with hands on practice on MATLAB was conducted. Further, an inspiring session by Ms. Kirti Jindal energized the event and made it interesting and interactive. Under the direction of Prof. Rajveer Mittal and with the cooperation of the whole EEE faculty as a team, Dr. L. P. Singh and Dr. Neelu Nagpal coordinated this STTP. More than 300+ were the attendees including HODs of various department, faculties and students. We are grateful to MAIT Management, particularly Dr. Nand Kishore Garg, Founder and Chief Advisor, MATES, for their ongoing assistance in organizing activities for student advancement.



Latest Technological Advancements

Neuralink

Neuralink Corporation is a neurotechnology company developing implantable brain-machine interfaces (BMIs) founded by Elon Musk and a group of experts. The company's headquarters is in San Francisco sharing offices with OpenAI. In 2019, during a live presentation at the California Academy of Sciences, Neuralink team revealed to public the technology of the first prototype they had been working on. It is a system that involves ultra-thin probes that will be inserted into the brain, a neurosurgical robot that will perform the operations and a high-density electronic system capable of processing information from neurons. It is based on technology developed at UCSF and UC Berkeley. Neuralink has developed an Application-Specific Integrated Circuit (ASIC) to create a 1,536-channel recording system. This system consists of 256 amplifiers capable of being individually programmed (“analog pixels”), analog-to-digital converters within the chip (“ADCs”) and a peripheral circuit control to serialize the digitized information obtained. It aims to convert information obtained from neurons into an understandable binary code in order to achieve greater understanding of brain function and the ability to stimulate these neurons back. Currently, electrodes are still too big to record the firing of individual neurons, so they can record only the firing of a group of neurons; Neuralink representatives believe this issue might get mitigated algorithmically, but it's computationally expensive and does not produce exact results. Several neurology scientists have commented on the intention of Musk and members of Neuralink to build a brain-computer interface. The response from the scientific community has been mixed.



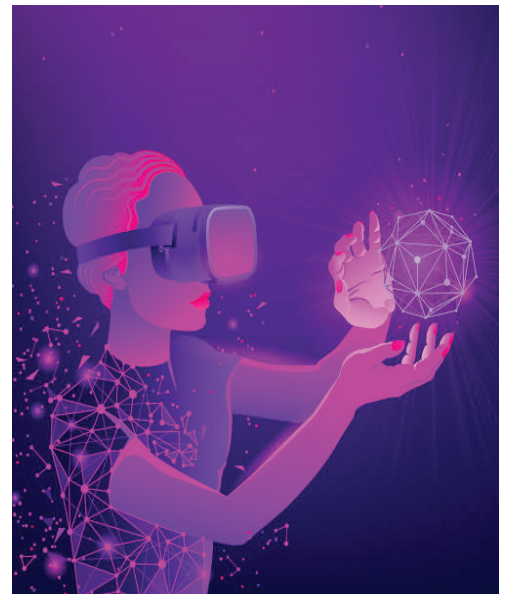
Telepresence

Telepresence refers to a set of technologies which allow a person to feel as if they were present, to give the appearance of being present, or to have an effect, via telerobotics, at a place other than their true location. Therefore information may be traveling in both directions between the user and the remote location. A popular application is found in telepresence videoconferencing, the highest possible level of videotelephony. Telepresence via video deploys greater technical sophistication and improved fidelity of both sight and sound than in traditional videoconferencing. Technical advancements in mobile collaboration have also extended the capabilities of videoconferencing beyond the boardroom for use with hand-held mobile devices, enabling collaboration independent of location. Telepresence robots can be also considered for social interactions during pandemic crisis such as COVID-19. The recent publication by Tuli et al presented the design requirement of such robots. A minimum system usually includes visual feedback. Ideally, the entire field of view of the user is filled with a view of the remote location, and the viewpoint corresponds to the movement and orientation of the user's head. In this way, it differs from television or cinema, where the viewpoint is out of the control of the viewer. In order to achieve this, the user may be provided with either a very large (or wrap-around) screen, or small displays mounted directly in front of the eyes. The latter provides a particularly convincing 3D sensation. The movements of the user's head must be sensed, and the camera must mimic those movements accurately and in real time. This is important to prevent unintended motion sickness. True telepresence is a multidisciplinary art and science that foundationally integrates engineering, psychology, and the art of television broadcast.



Virtual Reality

Virtual reality applications are applications that make use of virtual reality (VR), an immersive sensory experience that digitally simulates a virtual environment. Applications have been developed in a variety of domains, such as education, architectural and urban design, digital marketing and activism, engineering and robotics, entertainment, virtual communities, fine arts, healthcare and clinical therapies, heritage and archaeology, occupational safety, social science and psychology. Immersive virtual reality technology is able to replicate believable restorative nature experiences, either using 360 degree video footage or environments created from 3D real-time rendering often developed using game engines (for example Unreal Engine or Unity) This is useful for users who are deprived from accessing certain areas, due to e.g. physical restraints or complications, such as senior citizens or nursing home residents. Restorative virtual environments are able to replicate and mediate real world experiences using video footage, replicate these using 3D rendering or can be based loosely on real world environment using real-time 3D rendering. BA therapy encourages patient to change their mood by scheduling positive activities into the day-to-day life, many patients are not able to attend BA therapy. Researchers are trying to overcome challenges by providing BA via Virtual Reality. The idea of the concept is to enable especially elderly adults to participate in engaging activities that they wouldn't be able to attend without VR. Through VR, novice surgeons have the ability to practice complex surgeries without stepping into the operating room. Physicians who experience VR simulations improved their dexterity and performance in the operating room significantly more than control groups. VR can produce a three-dimensional representation of a particular patient's anatomy that allows surgeons to map out the surgery ahead of time. Trainees may use real instruments and video equipment to practice in simulated surgeries.





Our beloved faculty of EEE department

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