

ELECTRIK

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
(NBA ACCREDITED)
MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY, NEW DELHI



This Newsletter is an attempt to highlight the achievements of the faculty and students. It reflects all the academic and co-curricular activities organized by EEE department during 2021.



IN THIS ISSUE

1. Research publications by faculty
2. Patents published and Ph.D awarded
3. Faculty Development Programs
4. Events organized
5. Research papers published by students
6. Higher Education/Placement Details
7. Projects completed by students

RESEARCH PUBLICATIONS

JOURNALS

1. Annu Dagar, Pankaj Gupta and Vandana Niranjana, "Microgrid protection : A comprehensive review", *Renewable and Sustainable Energy Reviews*, Vol. 149, pp 111401, ISSN 1364-0321. (SCIE indexed, impact factor:14.98)
2. Sonia Goel and Meena Tushir, " A New imputation-based incomplete data-driven fuzzy modeling for accuracy improvement in ubiquitous computing applications" *International Journal of Pervasive Computing and Communications*, Vol. 17 (4) pp 426-442, 2021. (ESCI indexed)

CONFERENCES

1. V. Jain, E. Nsugbe and S. Gupta, "A GA optimized Fuzzy Logic Controller for Two Area Automatic Generation Control under dynamic behavior of Power System," 2021 Fourth International Conference on Computational Intelligence and Communication Technologies (CCICT), pp. 9-13, 2021.
2. J. Arora and M. Tushir, "Hybrid KFCM-PSO Clustering Technique for Image Segmentation", Proceedings of International Conference on Artificial Intelligence and Applications, Advances in Intelligent Systems and Computing, Vol. 1164, 2021.
3. J. Arora and M. Tushir "Performance Analysis of Different Kernel Functions for MRI Image Segmentation", Proceedings of International Conference on Artificial Intelligence and Applications, Advances in Intelligent Systems and Computing, Vol. 1164, 2021.
4. M. Rani and N. Rathee, "Microexpression analysis: A review", Proceedings of 3rd International Conference on Computing Informatics and Networks, pp. 125-132, Springer Singapore, 2021.
5. R. Kamra and M. Malik, "Impact of Covid-19 on Hospitality", presented in International Conference on Resurgence of Economics Globally Post Pandemic, Issues and Challenges, held on 29-30 October, 2021. New Delhi, India.
6. R. Kamra and M. Malik, "A Novel PV based ANN Optimized Converter for off grids Locomotives", presented in International Conference on Technological Advancements and Innovations on 10-12th November, 2021 at Amity University, Tashkent Campus.
7. N. Gupta, "Fuzzy Controlled AGC of Two-Area Interconnected Thermal Power System with SMES", MSIT Journal of Research -SATYAM, Vol. 9, pp. 109-114, 2021.
8. N. Gupta and P.P. Terang, "Comparative Analysis of Design And simulation of DC-DC Boost converter" National Conference on Smart Energy, VLSI and embedded systems - 2021 (NCSEVES - 2021)' at JSS academy of technical education, Noida held on on 24-09-2021.

Patents Published

1. Ms. Nidhi Gupta, Dr. Shivani Dubey, Mr. Sunil Kumar Sharma, Ms. Neha, Dr. Neha Gupta and Dr. Anil Kumar published patent on "Design and development of IOT based passenger counting in transportation System" on 29-10-2021, (No. 202111047869).
2. Prof. Poonam Bansal, Ms. Shefali Dhingra, Prof. Meena Tushir, Ms. Sonia Goel, Ms. Jyoti Arora Ms. Pooja Kherwa published patent on, "Web application based Intelligent & Secured Image Retrieval Model" published on 5-3-2021 (No. 202111008414)

Ph. D Awarded

1. Ms. Rakhi Kamra has completed her PhD in Electrical Engineering from the Department of Electrical Engineering, NIT Kurukshetra in November, 2021.
2. Ms. Monu Malik has completed her PhD in Electrical Engineering from the Department of Electrical Engineering, NIT Kurukshetra in July, 2021.

FACULTY DEVELOPMENT PROGRAMS

1. Dr. Sunil Gupta attended FDP on, "Real time simulation: Roadmap of RE grid integration in microgrid and smart grid" from 28-06-2021 to 2-07-2021 at NITTTR Chandigarh.
2. Dr. Sunil Gupta attended FDP on, "Role of Energy Management Systems in Smart Grid" from 7-6-2021 to 12-6-2021 at Jamia Milia Islamia, New Delhi.
3. Dr. Meena Tushir attended FDP on, "Applications of AI techniques for solving Engineering Problems" from 22-2-2021 to 27-2-2021 at University Institute of Technology, RGVP, Bhopal.
4. Dr. Meena Tushir attended FDP on, "Control Systems and Applications" from 9-3-2021 to 13-3-2021 at NIT, Sikkim.
5. Dr. Jyoti Jain attended, FDP on, "Advance in Renewable Energy Technologies: Opportunities and Challenges" from 25-8-21 to 31-8-21 at Jodhpur Institute of Engineering Technology, Jodhpur.
6. Dr. Jyoti Jain attended FDP on, "Online orientation training program for mentors" from 21-06-21 to 25-06-21 at NITTTR.
7. Ms. Sonia Goel attended FDP on, "Control Systems and Applications" from 9-3-21 to 13-3-21 at National Institute of Technology Sikkim.
8. Ms. Sonia Goel attended one week AICTE Training And Learning (ATAL) Academy Online Elementary FDP on, "Bio-Inspired Algorithms and Optimization Techniques for Emerging Research Areas in Computer Applications" from 06-12-2021 to 10-12-2021 at Netaji Subhas University of Technology, New Delhi.

9. Ms. Annu Dagar attended FDP on, "Renewable Energy Technologies" from 26-02-2021 to 02-03-2021 at Birla Institute of Engineering & Technology, Pilani (Rajasthan).
10. Ms. Annu Dagar attended FDP on, "Sustainable Power Systems" from 07-06-2021 to 11-06-2021 at NIT, Tiruchirappalli.
11. Dr. Rakhi Kamra attended FDP on, "Renewable Energy Technologies" from 26-02-2021 to 02-03-2021 at Birla Institute of Engineering & Technology, Pilani (Rajasthan).
12. Dr. Rakhi Kamra attended FDP on, "Sustainable Power Systems" from 07-06-2021 to 11-06-2021 at NIT, Tiruchirappalli.
13. Ms. Shilpam Malik attended FDP on, "Renewable Energy Technologies" from 26-02-2021 to 02-03-2021 at Birla Institute of Engineering & Technology, Pilani (Rajasthan).
14. Ms. Shilpam Malik attended one week FDP on, "Recent Trends in Artificial Intelligence and its Applications" from 29-11-2021 to 30-12-2021 at MSIT, Janakpuri .
15. Ms. Nidhi Gupta attended one week FDP on, "National Education Policy 2020: Roadmap to Develop Faculty for 21st Century" from 27-12-2021 to 31-12-2021 at MSI Janakpuri .
16. Ms. Nidhi Gupta attended two week FDP on, "Power Electronics Applications in Renewable Power Generation Systems" from 21-9-2021 to 30-9-2021 at IIITD & M Kancheepuram, Chennai.
17. Ms. Mamta Rani attended FDP on, "Use of ICT in Engineering Education" from 7-4-2021 to 13-4-2021 at MSIT, Janakpuri, New Delhi.
18. Ms. Mamta Rani attended FDP on, "Renewable Energy Technologies" from 26-02-2021 to 02-03-2021 at Birla Institute of Engineering & Technology, Pilani (Rajasthan).
19. Mr. Sachit Rathee attended FDP on, "Emergence of reversible and quantum logic circuits" from 22-11-2021 to 26-11-2021 at ABES Institute of Technology, Ghaziabad
20. Mr. Sachit Rathee attended FDP on, "Electric Vehicle Techniques with OPAL-RT solutions" from 20-12-2021 to 25-12-21, at JC Bose University of Science and Technology, Haryana
21. Dr. Monu Malik attended one week FDP on, "Electric vehicle techniques with OPAL-RT solutions" from 20-12-2021 to 25-12-2021 at JC Bose University of Science and Technology, Haryana
22. Dr. Monu Malik attended one week FDP on, "Recent Trends & Challenges in Instrumentation and Control 2021" at Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, Punjab from 20-10-2021 to 24-10-2021.

Events Organised

1. IEEE PES MSIT in collaboration with the EEE department of MSIT with an aim to provide an aid to the students to get familiar with some amazing skills and boost their knowledge, organized a webinar on "PLC SCADA and IIOT" on 27th February, 2021. Mr. Lalitesh Singh (Sofcon India Pvt. Ltd) was the speaker.
2. Department of Electrical and Electronics in association with IEEE PES MSIT organized an expert talk on "GREEN HYDROGEN FROM RENEWABLE ENERGY: TECHNOLOGY OUTLOOK FOR THE ENERGY TRANSITION" on the occasion of PES DAY 2021 on 24th April, 2021. The speaker of the session was Ms. Anupma Thakur (DST-INSPIRE Senior Research Fellow CSIR-CSIO), Chandigarh, India.
3. IEEE MSIT PES Chapter in association with Department of Electrical & Electronics organized an expert talk on "ARTIFICIAL INTELLIGENCE FOR CLEAN ENERGY AND OTHER WIP-YP INITIATIVES" by Dr. Celia Shahnaz (Chair, IEEE Signal Processing Society Women, Past Chair of IEEE Bangladesh Section, IEEE PES Women in Power R10 representative) on 16th August, 2021 at Google Meet platform.
4. IEEE PES MSIT in association with EEE Department on the occasion of PES Day-2021 launched "TECH-SIMPLIFIED" a video series of in-demand skills to open up students with the latest technologies. The videos cover the topics like Arduino, Raspberry Pi, Machine Learning, and much more. The domain for the video was "DATA ANALYTICS". The platform used was YouTube, to keep things simple for everyone. The video was released on 18th June, 2021.
5. The Department of Electrical and Electronics Engineering, MSIT, organized an intra level webinar on the topic "PROFILE BUILDING FOR HIGHER EDUCATION AND PLACEMENTS" on 20th August, 2021, with the objective to guide the students and make them aware of the ample amount of options they can pursue to shape a better future for themselves. The webinar was hosted by 'CAREERLABS' and the speaker was Mr. Mark Brandom Venum (Career Architect and Strategic Partnerships - CareerLabs).
6. IEEE PES MSIT and IEEE PES-IAS Delhi section in association with department of Electrical and Electronics Engineering has organized a webinar on the topic "BASICS OF POWERSYSTEM RESILIENCE & ITS IMPORTANCE GLOBALLY" on September 4, 2021. Mr. Chandan Kumar (Manager of System Study and Reliability Eastern Regional Load Dispatch Centre in Kolkata POSOCO, MIEEE, and MIEEE-PES) was the speaker.
7. IEEE PES-IAS Delhi Chapter, IEEE PES MSIT and EEE department of MSIT organized an expert talk on "TRANSPORT ELECTRIFICATION AND RENEWABLE ENERGY CONVERSIONS"- a push in the right direction by Dr. Rukmi Dutta (Associate Professor at UNSW, Sydney, Australia) on September 6, 2021.

8. IEEE WIE, MSIT organized a HACKATHON, HACKWIE 2.0 aimed at solving the world's pressing problems about interdisciplinary fields of healthcare, education, agriculture, women safety, etc. and increasing female participation in Hackathons by mandating at least one female participant in the team and goodies for the Best All-Girls Team on December 13-15, 2021. Dr. Jyoti Jain (Associate Professor, EEE Dept.) was invited as the judge for the Hackathon and the teams made it extremely difficult to judge as all the entries were equally challenging.

9. The Department of Electrical & Electronics Engineering (EEE) of Maharaja Surajmal Institute of Technology (MSIT), New Delhi organized a webinar on "CAREER OPPORTUNITIES AFTER B.TECH." on 11th September, 2021. The objective of this webinar was to guide students and enlighten them of the various career options available after B.Tech and how to pursue them. The speaker for this webinar was Prof. Baset Alam (Motivational speaker and Sr. Faculty at ACE Engineering Academy).

IEEE MSIT IAS PES

IEEE PES-IAS Delhi Chapter and IEEE PES MSIT presents

ROLE OF AI FOR CLEAN ENERGY

and other WIP-YP initiatives to enhance Member Elevation.

Dr. Celia Shahnaz
 Past Chair of IEEE Bangladesh Section,
 IEEE PES Women in Power R10 representative
 Chair, IEEE Signal Processing Society Women
 SMIEEE, Fellow IEB; Ph.D.,
 Concordia University, Canada;
 Professor, Department of EEE.

16th AUGUST, 2021
 6:00-7:00 PM
 GOOGLE MEET

IEEE MSIT IAS PES

IEEE PES-IAS Delhi Chapter and IEEE PES MSIT present

Basics of Power System Resilience and its importance globally

4th September, 2021
 11:00 AM IST
 Google Meet

Mr. Chandan Kumar
 Manager, System Study and Reliability
 Eastern Regional Load Despatch Centre (Kolkata)
 POSOCO, MIEEE, MCIQRE, MIEEE-PES

IEEE MSIT IAS PES

IEEE PES-IAS Delhi Chapter and IEEE PES MSIT present

Transport Electrification and Renewable Energy

a push in the right direction (for the advancement of Electric Machines and Drives)

8th September, 2021
 11:30 AM IST
 Google Meet

Dr. Rukmi Dutta
 Associate Professor at UNSW, Sydney, Australia
 PhD-IEEE from UNSW Sydney
 Secretary, IEEE IAS Electric Machine Committee

Maharaja Surajmal Institute of Technology, New Delhi

In Association with ACE x DEEP

Live Webinar

A GUIDANCE PROGRAM ON CAREER OPPORTUNITIES AFTER B.TECH.

Ms. Sonia Goel - Convener, Assistant Professor, EEE

Ms. Poonam Dahiya - Convener, Assistant Professor, ECE

Mr. BASEET ALAM
 Motivational Speaker
 Sr. Faculty Member at ACE
 Sr. Consultant in a Top MNC
 Six Sigma Black Belt Certified
 *AIR 7 in CPSC (PGU)

11th September 2021, Saturday
 2:00 PM to 3:30PM

Scan QR Code for Registration or go to the link....
<https://forms.gle/m9gNkroyzRSYWyYz5>



GOLD MEDALIST AWARDEE

GAGANDEEP

B Tech EEE (2016-20)

9.44 CGPA



GAGANDEEP SINGH (BATCH 2016-2020) of Department of Electrical and Electronics Engineering has been declared University "Topper/Gold Medalist" for year 2020 with a total "CGPA of 9.44". Currently he is pursuing M.Tech (VLSI) from IIIT, Delhi.

STUDENT RESEARCH AND PUBLICATIONS

1. Jyoti Jain and Arpita, "Universal Health and Sanitation Toolkit", International Conference on Resurgence of Economies Globally Post Pandemic: Issues and Challenges, 2021.
2. Jyoti Jain and Pulkit Jain, "Socio-Economic impacts of Covid-19 Pandemic in India", International Conference on Resurgence of Economies Globally Post Pandemic: Issues and Challenges, 2021.
3. Jyoti Jain and Nandini Jain, "Small Scale & Micro Industry Startups", International Conference on Resurgence of Economies Globally Post Pandemic: Issues and Challenges, 2021.
4. Jyoti Jain and Jagrati, "Machine learning", National conference at Sagar Institute of Research & Technology, Bhopal, Madhya Pradesh, India, 2021.
5. Jyoti Jain and Soumya Choudhary presented a poster on "Advances in Sensor Technologies and their Applications" at the National conference organized by "Sagar Institute of Research & Technology" Bhopal, Madhya Pradesh, India 2021.
6. Rakhi Kamra and Hammad Khan, "Energy Harvesting and Health tracking using smart shoes", National conference on "Advances in Metrology, ADMET 2021" held from 5-3-21 to 6-3-21, 2021 at MSIT, New Delhi.
7. Rakhi Kamra, Monu Malik and Soumya Chaudhary, "RFID and IR based Smart Parking System", 3rd International Conference on Sustainable Environment, Energy and Construction, ICSEEC 2021 held from 16-12-2021 to 17-12-2021 at Hindustan Institute of Technology and Science, Chennai.
8. Mamta Rani, Hari om Thakur, Ashish Verma, Kanishk Vaishnav and Amey Warade, "Wireless Charging of Electric Vehicle in Smart Highway" in Global Scientific journals vol. 9(6), pp 1451-1453, ISSN 2320-9186, June, 2021.

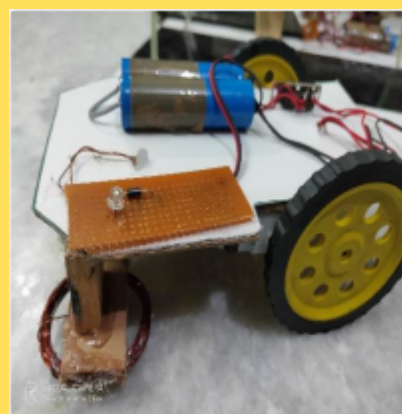
HIGHER EDUCATION and PLACEMENTS

The final year students of Batch (2017-2021) have performed very well in the placement drive. Students had participated in the campus drive of many reputed companies like Infosys, Accenture, TCS, BYJUs, Ion-Trading, Cognizant, Polestar, etc.. In total 20 students are successfully placed in these companies through campus.

1. Our two students 'Rohit Aggarwal and Chirag Goyal' have successfully registered their startup company 'Microampere'.
2. Rahul Kumar is pursuing 'Master of Science from Loughborough University', UK'.
3. Vibha Bhalla is pursuing 'MBA from IGDTU', New Delhi.
4. 08 students are placed in 'Infosys Ltd'.
5. 05 students are placed in 'TCS Ninja Ltd'.
6. 05 students are placed in 'Cognizant Gen C'.
7. 02 students are placed in 'Accenture'.

PROJECTS UNDERTAKEN BY THE STUDENTS

1. HARIOM THAKUR (00215007818), ASHISH VERMA (41915004917), KANISHAK VAISHNAV (42215004917) and AMEY WARADE (50215004917) have designed a project entitled "WIRELESS EV CHARGING ON SMART HIGHWAY" under the supervision of Ms. Mamta Rani (Assistant Professor EEE Department). They developed a prototype for smart charging of EV mainly through wireless mode, and detecting the charging station nearby and for this generating electrical energy by sources like Solar, wind and Noise vibrations.

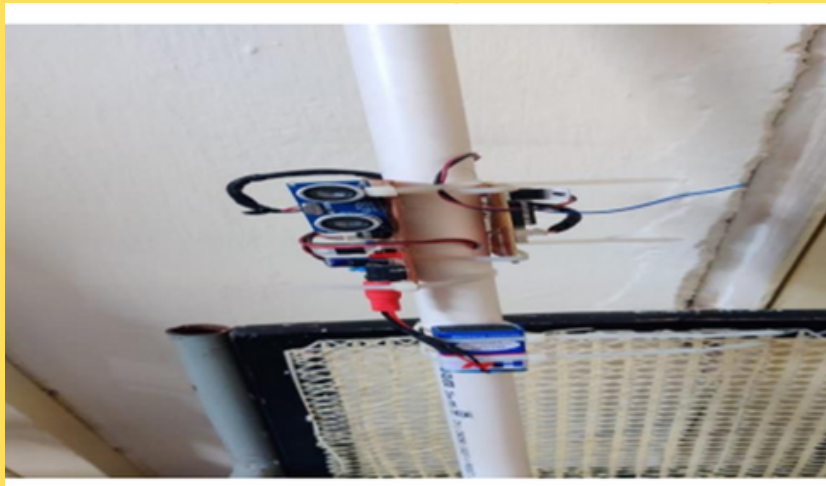


2. TANMAY SONI (02715004917), ROHIT AGGARWAL (02315004917), PRANAV JAISWAL (01715004917), RAHUL KUMAR (02115004917), ABHISHEK MEENA (00115004917) have designed a project entitled 'COUGH DETECTION USING ARDUINO' under the supervision of Ms. Sonia Goel (Assistant Professor EEE Department). The cough detection algorithm can be easily deployed to the mobile phone. By going to the browser window on phone then press the 'Switch to classification mode' button. This will automatically build the project into a Web-Assembly package and execute it on the phone continuously.

3. BAIBHAV BAJPAI (00515004917), BIJAY SINGH SANGHWAN (00615004917), HRITIK (01015004917), RAVI KANT (02215004917) have designed a project entitled "SELF SUFFICIENT SMART HOME" under the supervision of Ms. Shilpam Malik (Assistant Professor EEE Department). This project is a prototype of a smart home which generates its own green energy. The prototype can be implemented on fresh construction and existing homes. Along with electricity generation the smart home is equipped with smart water saving technologies, smart security systems, and smart energy saving appliances, protection against potential hazards and all over the world control of appliances using Wi-Fi to ease and save human efforts.

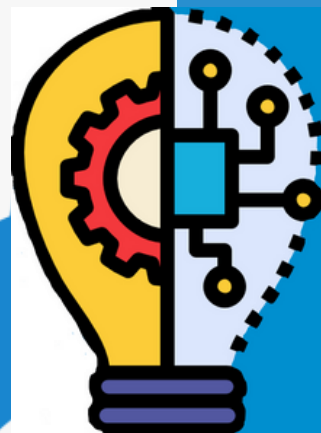


4. ASHISH VERMA (41915004917), ANISHAK VAISHNAV (42215004917), AMEY WARADE (50215004917), HARIOM THAKUR (00215007818) have designed a project entitled 'SMART BLIND STICK' under the supervision of Ms. Annu Dagar (Assistant Professor EEE Department), which can be used to guide a person with difficulty in vision by detecting of obstacle and walk freely with the help of sensor placed on the stick such as Ultrasonic, Water detector LDR etc.



5. SAHIL MUKAMIAN ,KIRTI KATARIA, SWATI SRIVASTAVA, SHUBHAM VERMA have designed a project entitled 'ANALYSIS OF SPEECH FOR DETECTION OF COVID- 19' under the guidance of Dr. Jyoti Jain. COVID-19 symptoms are largely connected to the development of respiratory issues, and thus varied patterns of breathing, respiratory and lung sounds may be monitored by tracing different sounds, including their vocal arousals and changes in the course of time to diagnose COVID 19 infection. In this project students had identified the speech change to extract and evaluate acoustic characteristics for the variations.

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Chief Editor: Prof.Meena Tushir (EEE Dept.)

Editor: Ms. Sonia Goel (Asst.Prof, EEE Dept),

Student Editors

Sakshi Jaiswal (EEE, 6th sem) , Manav Pachnanda (EEE, 4th sem)

Puneet Sharma (EEE, 4th sem)