



MANIPAL UNIVERSITY
JAIPUR

SPARK

- **Volume 3 Issue 1**
- **(Jan-March 2026)**

	<i>Newsletter of</i>
	<i>Department of Electrical Engineering</i>
	<i>Manipal University Jaipur</i>

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Editor

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VIII Semester, BTech (Electrical & Computer Engineering)



About Newsletter

In this exciting first issue of Volume 3, **SPARK** continues to showcase the academic, professional, and extracurricular achievements of the Electrical Engineering Department at Manipal University Jaipur. This edition highlights a range of **curriculum-based industry expert talks and lectures**, providing students with valuable insights into real-world engineering practices and industry trends.

The newsletter also features various **workshops and hands-on learning activities** that enhance students' technical knowledge and practical skills. Our students have actively participated in **Problem-Based Learning (PBL) projects**, applying classroom concepts to solve practical engineering challenges and develop innovative solutions. With a focus on experiential learning, industry interaction, and student innovation, this issue of **SPARK** captures the continuous efforts of the department to prepare students for successful careers and future opportunities.

Stay tuned as SPARK brings you more exciting updates, achievements, and stories from the Electrical Engineering Department!

Peeyush Garg, Faculty Editor- SPARK

Sanskar Bansal, Students Editor- SPARK

Messages



From HoD Desk

It gives me immense pleasure to present the first issue of Volume 3 of SPARK. This edition reflects our continued focus on industry interaction, hands-on learning, workshops, and student PBL projects. I appreciate the efforts of our faculty, students, and editorial team in making this newsletter a meaningful reflection of our department's progress.

I wish the team continued success and encourage everyone to keep learning, innovating, and contributing.

**Dr. Neeraj Kanwar, Head,
Electrical Engineering Department,
Manipal University Jaipur**

Research Outcomes

Journal Articles Published:

- Divya Rishi Shrivastava published a review article titled as “Mechanistic Insights of Smart Biofilms in Environmental Biomonitoring: From Growth to Detection” in Microbial Cell Factories (2026). (Scopus – Q1)
- Himanshu Priyadarshi published a research paper titled as “Stress to Scent: Integrating Abiotic Stress Physiology with Essential Oil Chemistry in Melissa Officinalis” in Plant Stress (2026). (Scopus – Q1)
- Amit Saraswat published a research paper titled as “Deep Learning Prediction Models for Short-Term Solar Photovoltaic Power Generation Forecasting” in Next Energy (2026). (Scopus – Q3)
- Bishwajit Dey published a research paper titled as “Adaptive Load Shifting Strategy for Short-Term Hydrothermal Energy Scheduling Using Crayfish Optimization Algorithm” in Electrical Engineering (2026). (Scopus – Q1)
- Amit Saraswat published a research paper titled as “A New Hybrid Deep Learning Model with Hyperparameter Optimization for Short-Term Wind Power Generation Forecasting” in Unconventional Resources (2026). (Scopus – Q2)
- Bishwajit Dey published a research paper titled as “Enhanced Reactive Power Control and Stability Analysis of Hybrid Power System Using Lyapunov and Snake Algorithm-Based SVC Strategies” in Results in Engineering (2026). (Scopus – Q1)
- Vinay Gupta published a research paper titled as “Multiclass Classification of Brain Tumors Using Optimized CNN and Transfer Learning Techniques” in Scientific Reports (2026). (Scopus – Q1)
- Amit Saraswat, Sunil Kumar Goyal published a research paper titled as “A New Stochastic Unified Energy and Reactive Power Market Operation with TSODSO Coordination” in Results in Engineering (2026). (Scopus – Q1)
- Satya Narayan Agarwal, Amit Soni published a research paper titled as “Experimental Analysis of Bamboo Groundnut Shell and Tyre Derived Biochar for Supercapacitor Electrode Applications” in Discover Materials (2026). (Scopus – Q2)
- Bishwajit Dey published a research paper titled as “Enhancing Economic Performance of a Grid-Connected Microgrid Through Incentive-Driven Demand Response Program” in Arabian Journal for Science and Engineering (2026). (Scopus – Q1)
- Pulakraj Aryan published a research paper titled as “Robust and Unified Fractional Order AGC-AVR Scheme for Hydropower Plant” in IEEE Transactions on Industry Applications (2026). (Scopus – Q1)

Journal Articles Publishes (Cont..)

- Sunil Kumar Goyal, Amit Saraswat published a research paper titled as “Grid Connected Hybrid Renewable Energy System Having Solar, Wind, Battery Storage and Conventional Energy System for Indian Educational Building with Power Quality Analysis” in Journal of Dynamics and Control (2026). (Scopus – Q3)

Conference Papers Published:

- Sunil Kumar Goyal published a research paper titled “DevOps for AI: Challenges and Opportunities in Integrating Machine Learning Models into Continuous Deployment Pipelines”, published in the 7th International IEEE Symposium on Advanced Electrical and Communication Technologies (ISAECT).
- Sunil Kumar Goyal published a research paper titled “DevOps for AI: Challenges and Opportunities in Integrating Machine Learning Models into Continuous Deployment Pipelines”, published in the 7th International IEEE Symposium on Advanced Electrical and Communication Technologies (ISAECT).



Curriculum-based Industry Expert Talk/Lecture

**GE VERNOVA****INSTITUTION'S
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COUNCIL**
(Ministry of Education Initiative)**MANIPAL UNIVERSITY
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Industry Expert Lecture on “Inverter Topologies and Control Structure”



Date & Time: 22/01/2026 (Thursday) 10:00 AM onwards
Meeting Link: <https://meet.google.com/uro-taiv-sbg>
Venue: Room No. 118D, AB1
Mode: Online

Dr. Apurti Jain
Global Services Engineer-Inverter
Controls
GE Vernova, Chennai

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Industry Expert Talk on “Artificial Intelligence: Fundamentals and Engineering Applications”



Schedule: 03/02/2026 (Tuesday) 11 AM onwards
Meeting Link: <https://meet.google.com/jdx-csqz-wpr>
Mode: Online

Dr. Jaya Prakash Allam
Post Doctoral Fellow
United Arab Emirates University,
UAE

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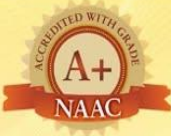
**Industry Expert Talk
on
“Graph-Based Thinking in Industry:
Networks, Connectivity and Supply Chain
Applications”**

Schedule: 11/03/2026 (Tuesday) 3 PM- 4 PM
onwards
Venue: 118D, 1AB
Mode: Offline



Devershi Srivastava
MSAP FORGE AND FITTINGS
PRIVATE LIMITED

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**Industry Expert Lecture
on
Application of machine learning for
island detection in smart grid**

Date & Time: 20/03/2026 (Friday) 11:00 AM onwards,
Mode: Online
Meeting Link: <https://meet.google.com/gsa-unnz-oju>



Soham Dutta
Power System Engineer
Open Access Technology India Pvt Ltd.
Hyderabad, Telangana-500081

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Industry Expert Talk on “Impact of Corona Discharge on Transmission Efficiency and Power Losses”

Schedule: 19/03/2026 (Thursday) 11 AM onwards
Meeting Link: <https://meet.google.com/jdx-csq-qwr>
Mode: Online



Gurbinder Singh
Assistant Engineer
Punjab State Power Co. Ltd.

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Industry Connect Lecture on “Basics of Control Systems at EHV Substations”

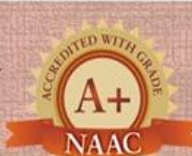
Schedule: 21/03/2026 (Saturday) 10 AM onwards
Meeting Link: <https://meet.google.com/yib-hjux-avd>
Mode: Online

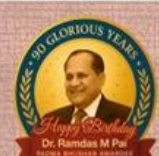


Abhishek Das
Manager
ArcelorMittal Nippon Steel

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Dr. Ramdas M. Patil
Honorary President**

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Industry Expert Lecture
on

Comprehensive Analysis of Solar PV Systems: Fundamentals, V-I Characteristics, and Advanced MPPT Techniques

Schedule: 25/03/2026 (Wednesday) 02:00 PM onwards
Meeting Link: <https://meet.google.com/ssh-qiad-pxw>
Mode: Online



Er. Ankit Garg
GE Vernova, Noida

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**9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE**

**11 SUSTAINABLE CITIES
AND COMMUNITIES**

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Industry Expert Lecture
on

Energy Intelligence: AI-Driven Electric Mobility and the Future of Smart Power Systems

in collaboration with
CPRI, Bengaluru

Date & Time: 27/03/2026 (Friday) 03:00 PM onwards,
Mode: Online
Meeting Link: <https://meet.google.com/cba-ifie-asw>



Speaker:
Dr. Rangu Seshu Kumar
Engineering Officer (Grade 3)
High Voltage Division
CPRI, Bengaluru

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Project based learning outcomes

Regn No	Student Name	Semester, Program	PBL Project Title
2429010001	Deep Ghosh	IV Semester, B.Tech (ELC)	A Hybrid Unsupervised – Supervised Framework for Renewable Energy Prediction
2429010002	Jaskeerat Singh Bhatia	IV Semester, B.Tech (ELC)	IoT based Real-Time Plant disease Detection and Monitoring System Using Deep Learning
2429010003	Ansh Kumar Singh		
2429010007	Prabhudas Naidu Palipi	IV Semester, B.Tech (ELC)	Health Risk Management System using Machine Learning
2429010010	Savya Govil	IV Semester, B.Tech (ELC)	AI Image detection using Frequency Analysis
2429010011	Ranvir Singh Khosla	IV Semester, B.Tech (ELC)	Statistical Validation of Cryptographically Secure Random Number Generators using NIST Frequency and Cumulative Sums Tests
2429010013	Piyush Jhalani		
2429010016	Anmol Tiwari		
2429010017	Namit Pathak		
2429010020	Ujala		
2429010021	Priyanshu Sanjay Mogre	IV Semester, B.Tech (ELC)	Monitoring of Soil Moisture using IOT
2429010022	Bhumika Jayant Khambait	IV Semester, B.Tech (ELC)	Credit Card Fraud Detection using Machine Learning
2429010023	Lakshya Shah	IV Semester, B.Tech (ELC)	PWLCM on 8051 Microcontroller
2429010024	Aditya Arora	IV Semester, B.Tech (ELC)	Machine Learning Based Fault Classification in Three-Phase electrical Power System
2429010025	Hriday Jani	IV Semester, B.Tech (ELC)	A System for Prevention of Doomscrolling by Cell Phone Users
2429010026	Parth Wasson	IV Semester, B.Tech (ELC)	A Localized E-Commerce platform for the Indian Clothing Market
2429010027	Dhruv Vikesh Seth	IV Semester, B.Tech (ELC)	Clog Trigger: Manhole Drainage Monitoring System
2429010028	Sagar Teotia		
2429010029	Tanisha Surti	IV Semester, B.Tech (ELC)	A Localized E-Commerce platform for the Indian Clothing Market
2429010030	Shaurya Chandra	IV Semester, B.Tech (ELC)	Uncertainty Analysis in Microgrid
2429010034	Araddhya Kohli		
2429010035	Khushi Nitin Katwate		

Regn No	Student Name	Semester, Program	PBL Project Title
2429010037	Akash Singh	IV Semester, B.Tech (ELC)	Scenario Generation and Simulation Techniques for Wind Data Analysis
2429010039	Aditya . Golchha	IV Semester, B.Tech (ELC)	Vision based Hand Gesture Controlled Human Computer Interaction System
2429010041	Ankit Choudhary	IV Semester, B.Tech (ELC)	Stock Market Prediction using Machine Learning
23FE10EEE00001	Devdutt Nair	IV Semester, B.Tech (EEE)	Study of AGC in Indian Grid
2429020001	Aryan Thakur	IV Semester, B.Tech (EEE)	Vibration-based health Monitoring of Electrical Machines
2429020004	Ankita Ghosh	IV Semester, B.Tech (EEE)	Design and Performance Comparison of Fibonacci and Galois LFSR for Pseudo-Random Number Generation
2429020005	Clement Cherian	IV Semester, B.Tech (EEE)	A Review on Battery Management System using Kalman Filter for Sustainable EV Energy Use
2429020007	Manya Lata	IV Semester, B.Tech (EEE)	A Comprehensive Analysis of EV Battery chemistries, Second-life Application & Recycling
2429030131	S Shiva	IV Semester, B.Tech (EEE)	Attack Detection on IEEE 118 bus Cyber Physical System
23FE10ECO00016	Shresth Shroff	VI Semester, B.Tech (ELC)	Failure-Oriented Comparison of Classical and Deep Learning Methods for Lunar Crater Detection under Illumination Variation and Super -Resolution Bias
23FE10ECO00018	Paras Goyal	VI Semester, B.Tech (ELC)	Agentic Research Assistant
23FE10ECO00002	Abhay Chandel	VI Semester, B.Tech (ELC)	RAG based AI Teaching Assistant
23FE10ECO00003	Anvi Singh Chhetri	VI Semester, B.Tech (ELC)	Hybrid CNN-ML approach for efficient Malaria detection from Microscopic Images
23FE10ECO00005	Anshika Verma	VI Semester, B.Tech (ELC)	A Comparative study of Machine Learning Models for Air Quality Index(AQI) Prediction
23FE10ECO00033	Piyush Agarwal	VI Semester, B.Tech (ELC)	CLUBVERSE-A Centralized Platform for all clubs of MUJ
23FE10ECO00006	Meher Suneja, Krishna Aggarwal	VI Semester, B.Tech (ELC)	Remote Monitoring System For Medical Devices Using IoT
23FE10ECO00019	Devansh Goel	VI Semester, B.Tech (ELC)	Weather and Climate Anomaly Detection
23FE10ECO00008	Sanvi Gajbhiye	VI Semester, B.Tech (ELC)	Iterative Fractal Geometry Visualizer using Python

Regn No	Student Name	Semester, Program	PBL Project Title
23FE10ECO00026	Mihir Singh	VI Semester, B.Tech (ELC)	VuInIntel: Automated CVE Severity Classification using Machine Learning with Exploit Intelligence Integration
23FE10ECO00012	Kanav Vats, Bhavya Arya	VI Semester, B.Tech (ELC)	Face Recognition based Attendance Management System
23FE10ECO00027	Sahitya Saini	VI Semester, B.Tech (ELC)	Distribution loss and Load Monitoring System
23FE10ECO00022	Somay Dadhich	VI Semester, B.Tech (ELC)	Hybrid Classical-Quantum Optimization: A Noise-Aware Evaluation Framework for the NISQ Era
23FE10ECO00014	Rachit Jaiswal	VI Semester, B.Tech (ELC)	Fake News Detection using AI & ML
23FE10ECO00028	Nimit Luhadia	VI Semester, B.Tech (ELC)	Adaptive Regenerative Braking Control System For Electric Vehicles
23FE10ECO00015	Himanshu Patel	VI Semester, B.Tech (ELC)	Secure Edge AL-based Framework for Predictive Maintenance of Electrical Motors
23FE10ECO00024	Mudigonda Vayu	VI Semester, B.Tech (ELC)	Computer-Vision based Animal Intrusion Detection System
23FE10ECO00025	Prajjwal Singh	VI Semester, B.Tech (ELC)	Traffic Flow Prediction using AI and Machine Learning
23FE10ECO00031	Raja Dhakad	VI Semester, B.Tech (ELC)	Early Prediction of Type-2 Diuabetes using Explainable Machine Learning Models
23FE10EEE00011	Chinmay Kumar Jeph	VI Semester, B.Tech (ELC)	EV Range Prediction Using AI
23FE10EEE00008	Akash Pravin Bolangady	VI Semester, B.Tech (EEE)	Real Time Audio Synthesis from Local Network Metadata using ESP32
23FE10EEE00003	Mohammed Jazim K	VI Semester, B.Tech (EEE)	Stress-Reduced Battery using DC-DC Buck Converter for Improving Battery Life
23FE10EEE00004	Kshitij Tripathi	VI Semester, B.Tech (EEE)	Energy Management of Microgrid Using GAMS
23FE10EEE00009	Aman Jha		
23FE10EEE00005	Aditya Dua		
23FE10EEE00006	Shreyansh Saxena		
23FE10EEE00007	Agrim Jain	VI Semester, B.Tech (EEE)	Comparative Analysis of Machine Learning Models for Short-term Electricity Load Forecasting using Weather and Temporal Features
23FE10EEE00010	Rajarshi Mukherjee	VI Semester, B.Tech (EEE)	Artificial Intelligence Driven Load Forecasting and Smart Energy Management for West Bengal Power System with Demand Response, Renewable Integration and Battery Storage

• Alumni Testimonial

Mr. Het K Patel

Pursuing MS, Texas A&M University
B.Tech. (EEE), Batch 2021-2025



My journey from B.Tech. in Electrical and Electronics Engineering at Manipal University Jaipur (MUJ) to pursuing my M.S. in Electrical Engineering at Texas A&M University has been truly rewarding. The Department of Electrical Engineering at MUJ provided me with a strong foundation in core concepts, practical learning, projects, and emerging technologies.

The supportive faculty, hands-on laboratory experience, and industry-oriented learning helped me develop strong technical and problem-solving skills and prepared me well for higher studies. The knowledge and confidence I gained at MUJ continue to support me in my academic journey at Texas A&M University. I am grateful to the faculty and department for their guidance and encouragement and would highly recommend MUJ to students aspiring to pursue Electrical Engineering and higher studies abroad.



Website:

<https://jaipur.manipal.edu/foe/departement-of-electrical-engineering.php>



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The Employers' Association of Rajasthan



Congratulations



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Congratulations



President, Manipal University Jaipur

EXCELLENCE IN LEADERSHIP AWARD

by

**The Institution of Engineers (India)
Rajasthan State Centre**

On

Republic Day – 26 January 2026





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by
SUBJECT

MUJ RANKED

