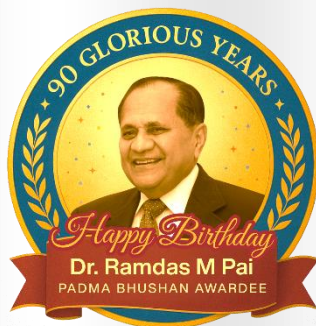




MANIPAL UNIVERSITY
JAIPUR



SPARK

- **Volume 2 Issue 3**
- **(Jul-Sep 2025)**

Newsletter of

Department of Electrical Engineering

Manipal University Jaipur

**Faculty
Editor**

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About Newsletter

In the third issue of Volume 2 of SPARK in year 2025 continues to highlight the academic excellence, research achievements, and dynamic activities of the Electrical Engineering Department at Manipal University Jaipur. This edition focuses on research outcomes, featuring faculty and student publications in reputed journals and conferences, reflecting the department's strong research culture. The newsletter also showcases faculty research awards and recognizes their contributions through expert lectures, seminars, and industry interactions that enhance academic and professional learning. Student achievements are prominently featured, including academic excellence awards, outstanding performances, and successful placement outcomes, marking important milestones in their careers.

Through this issue, SPARK reaffirms the department's commitment to excellence, innovation, and holistic development.

Dr. Peeyush Garg, Faculty Editor- SPARK

Mr. Sanskar Bansal, Students Editor- SPARK

HoD's Messages



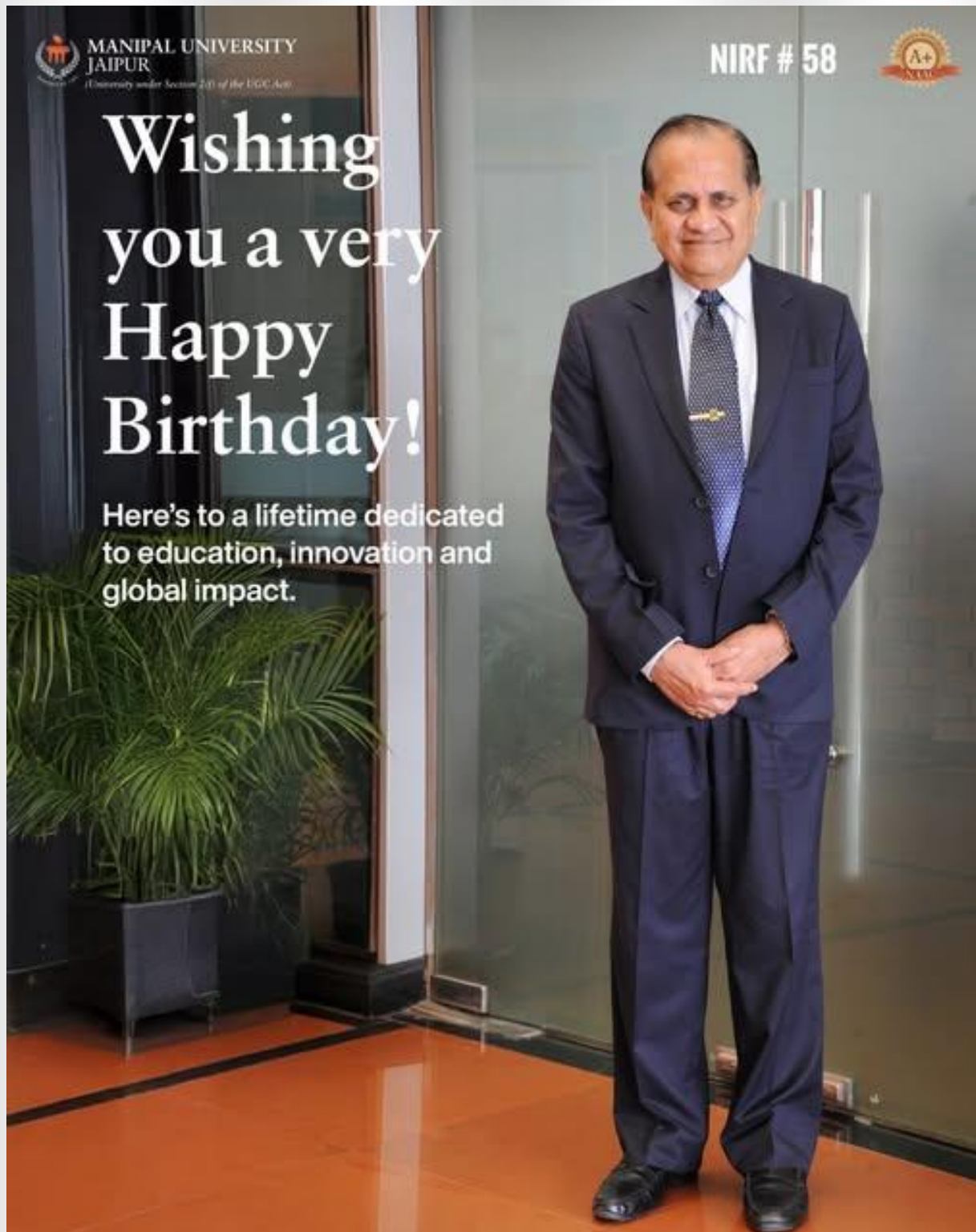
From HoD Desk

It is my pleasure to present the third issue of Volume 2 (2025) of our department newsletter, SPARK. This edition showcases the department's continued progress in research, academic excellence, and student achievements, including publications, recognitions, and placement successes.

I commend the efforts of our faculty, students, and especially the editorial team for their dedication and contributions, and I encourage the department to continue fostering a culture of innovation, collaboration, and excellence in electrical & interdisciplinary engineering domains.

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

90th Birthday Greetings to Our Beloved Founder & Visionary Dr. Ram Das M. Pai Sir 17 September



Research Outcomes

Journal Articles Published:

- **Bishwajit Dey**, S Misra, and A Pal published a research article titled as “Flexibility in Load Demand and PHEV Parameters for Clean and Economic Microgrid Operation” in **Scientific Reports**, vol. 15, Article no. 22615, 2025. (**SCIE-Q1, Scopus**)
- **Bishwajit Dey**, G Sharma, and P N Bokoro published a research article titled as “Incentive-Based Demand Response Policies for Techno-Economic Microgrid Operation—A Comparative Analysis” in **Electrical Engineering**, vol. 107, pp. 14313–14336, 2025. (**Scopus- Q1**)
- K Ashu, Adhishree Srivastava, Muskan, and **Himanshu Priyadarshi** published a research article titled as “Efficient Home Automation System with Remote Access and Voice Control Facility” in **IETE Journal of Research**, July 2025. (**Scopus- Q2**)
- **Bishwajit Dey**, L K Chanu, G Sharma, PN Bokoro, Ramesh C Bansal, and Rajesh Kumar published a research article titled as “Economic Operation of a Microgrid System with Amalgamated Load Shifting/Curtailing Policy and Smart PHEV Charging” in **Journal Energy**, p.137824. July 2025. (**Scopus- Q1**)
- **Samarendra Pratap Singh**, **Neeraj Kanwar**, and **Amit Saraswat** published a research article titled as “Optimal Operation of Active Distribution Network Considering Energy Storage-Equipped Soft Open Points” in **e-Prime - Advances in Electrical Engineering, Electronics and Energy**, 2025. (**Scopus- Q1**)
- **Bishwajit Dey**, S Misra, and A Pal published a research article titled as “Efficient and Economical Operation of Microgrid System for Varying Electric Vehicle Sizes” in **Results in Engineering**, Article no. 106583, 2025. (Elsevier, **Scopus**)
- **Sanskar Bansal (Students author)**, **Vinay Gupta** and **Peeyush Garg** published a research article titled as “Evaluating Handwritten Answers Using DeepSeek” in the **International Journal of Computational Intelligence Systems**, August 2025. (**SCIE-Q1, Scopus**)
- MP Kishore, Ashish Shrivastava, **Amit Soni** published a research article titled as “Power Quality Control in EV-Connected PV Grid Using Soft Computing Techniques” in **Soft Computing**, August 2025. (**SCIE-Q1, Scopus**)
- **Anupam Agrawal**, **S A Siddiqui**, **Amit Soni**, and **G D Sharma** published a research article titled as “Synthesis and Analysis of Capsule Shape Ag-Decorated ZnO for DSSC” in **Discover Applied Sciences**, August 2025. (**SCIE-Q1, Scopus**)
- V Anand, A Khajuria, R K Pachauri & **Vinay Gupta** published a research article titled as “Optimized ML-Based Predictive Models for Kidney Tumor Classification” in **Scientific Reports**, August 2025. (**SCIE-Q1, Scopus**)
- Rangar, **Amit Soni**, & J Sahariya published a research article titled as “ $X_2\text{TLBiZ}_6$ Halide Double Perovskites for Energy Applications” in **Multiscale and Multidisciplinary Modeling, Experiments and Design** vol 8(10), September 2025. (**ESCI, Scopus-Q2**)
- P K Singh, A Prakash, **Amit Saraswat**, Y Gupta & J N Sabhahit published a research article titled as “A Compound of Deep-Learning and Feature Selection for Solar Power Forecasting Applications” in **IEEE Access**, September 2025. (**SCIE-Q1, Scopus**)

Conference Papers Published:

- **Peeyush Garg** published a conference paper titled as “*Design and Analysis of 2-Bit Comparator Using TFET Technology*,” in **INDO-US Conference on Materials & Sustainable Engineering**, AIP, July 2025.
- **Sunil K. Goyal and Amit Saraswat** published a conference paper titled as “*Advancement of Clean Energy Through Realtime MPPT Evaluation*,” in **International Conference on Sustainability & Technological Advancements**, IEEE, July 2025.
- **Sunil K. Goyal and Amit Saraswat** published a conference paper titled as “*Multi-Objective Environmental, Economic & Sustainable EMS in Microgrid*,” in **International Conference on Sustainability & Technological Advancements**, IEEE, July 2025.
- **Sunil K. Goyal** published a conference paper titled as “*Strategic Deployment of Hydrogen with Nuclear-Renewable Synergy*,” in **International Conference on Self Sustainable AI Systems**, IEEE, July 2025.
- **Peeyush Garg** published a conference paper titled as “*ML-Based Performance Analysis for Real-Time Speaker Recognition*,” in **International Conference on AR, Intelligent Systems & Industrial Automation**, IEEE, July 2025.
- **Peeyush Garg** published a conference paper titled as “*Portable Gas Leakage Alarm System for Hydrogen Cell & Fuel Tank*,” in **INDO-US Conference on Materials & Sustainable Engineering**, AIP, July 2025.
- **Bishwajit Dey** published a conference paper titled as “*Crayfish Optimization Algorithm for CHP Dispatch Problem*,” in **International Conference on Energy, Power & Environment (ICEPE)**, IEEE, September 2025.
- **Vinay Gupta** published a conference paper titled as “*ESP32 as Dual-Connectivity Data Logger for IoT*,” in **ICEPE – Towards Sustainable Growth**, IEEE, September 2025.
- **Vinay Gupta** published a conference paper titled as “*Smart AI Applications Using Raspberry Pi with NLP*,” in **ICEPE 2025**, IEEE, September 2025.
- **Vinay Gupta** published a conference paper titled as “*Thermoelectric Cooling for Enhanced PV Efficiency (MATLAB/Simulink)*,” in **International Conference on Advances in Power, Signal & IT**, IEEE, July 2025.

Welcome New Member in Department



We are delighted to welcome Dr. Pulakraj Aryan as Assistant Professor. Dr. Aryan holds M.Tech. (2020) and Ph.D. (2023) in Control Systems from the National Institute of Technology Patna and a B.E. in Electrical and Electronics Engineering (2016) from the Birla Institute of Technology, Mesra, Ranchi.

He also served as a Postdoctoral Research Associate at the Centre for Sustainable Energy, IIT Roorkee (2023-2025), where he contributed to ongoing research in advanced control and security of energy systems. He has authored multiple book chapters and published over 30 research papers in peer-reviewed international journals and conference proceedings. Dr. Aryan's research interests span cybersecurity, industrial process control, machine learning, and adaptive controller design. With a strong academic and research foundation.

Faculty Accomplishments



Dr. Bishwajit Dey, Assistant Professor (Research) in the Electrical Engineering Department at Manipal University Jaipur, has been named among the Top 2% Scientists Globally (2025) by Stanford University. This recognition highlights his outstanding research in microgrid energy management and sustainable technologies. Congratulations to Dr. Dey on this prestigious achievement!



Dr. Pulakraj Aryan, Assistant Professor in the Electrical Engineering Department at Manipal University Jaipur, has been named among the Top 2% Scientists Globally (2025) by Stanford University. This recognition highlights his significant contributions to Cyber-physical System, Process Control, and Machine Learning. Congratulations to Dr. Pulakraj on this prestigious achievement!

Seminar on Exploring Partnership Collaborative Research & Education

SEMINAR

Exploring Partnerships for Advancing Collaborative Research and Education

Organized

by

Department of Electrical Engineering & Directorate of International Collaborations

In Collaboration with



Dr Brijesh Mainali

Associate Professor /Docent at Linnaeus University, Sweden

KEY AREAS OF FOCUS

- Multidisciplinary research collaborations
- Energy and Sustainable Development
- Energy Efficiency in Buildings
- Bio-based circular recovery model for sustainable urban economies

08th JULY 2025

11:00 AM to 12: 30 PM

Dr Mainali is currently working as Associate Professor at Linnaeus University (LNU), Sweden and Programme Manager of MSc Programme on Energy and Management for Sustainable Development.



Board Room, Faculty Block-II, 1AB



Seminar on Smart Surveillance and Security Systems: Trends and Technologies

The Department of Electrical Engineering hosted a seminar on “Smart Surveillance and Security Systems: Trends and Technologies” by alumnus Mr. Nikhil Bagaria from Bagaria Agency, Hyderabad. The session explored emerging security and surveillance technologies and highlight the interdisciplinary role of EEE and CSE in developing modern solutions on 22 Aug 2025.



Students Achievements



Seminar on Remote Monitoring & Control Systems for Smart Applications

SEMINAR ON "Remote Monitoring and Control Systems for Smart Applications"



Organized
by
**Department of Electrical
Engineering**

In Collaboration
with

Mr. Anant Sareen
Solution Engineer, Remote
Control Operation System,
Siemens Netherlands, The
Hague, Netherlands

KEY AREAS OF FOCUS

- IoT Architecture and Communication Protocols
- Applications in Smart Cities and Industry 4.0
- Data Security and Privacy Challenges

15th JULY 2025

02:00 PM to 03: 00 PM

*Mr. Anant Sareen is alumni of
Department of Electrical Engineering,
Manipal University Jaipur.*



**Board Room, Faculty Block-
II, 1AB**



Workshop on Journey Towards a Greener Future: Interaction on Sustainability

ONE DAY WORKSHOP

Journey Towards a Greener Future: Interaction on Sustainability



**Organized
by
Department of Electrical
Engineering**

*In Collaboration
with
E-Cell, MUJ*

Sushil Reddy

IIT Bombay alumnus, 2013 batch,
Department of Energy Science and
Engineering & HEC Paris Alumnus in MSc
Sustainability and Social Innovation

KEY AREAS OF FOCUS

- Hands-on exposure
- Use of Technology in Education
- Understanding E-Mobility
- Real-world practical cases

30th September 2025

11:30 AM onwards



Industry Lecture on Infrared Detector for Automated Missile Seeker Applications

**INSTITUTION'S
INNOVATION
COUNCIL**
(Ministry of Education Initiative)**MANIPAL UNIVERSITY
JAIPUR**



**Industry Expert Lecture
on
“Infrared detectors for automated
missile seeker applications”**

Date & Time: 05/09/2025 (Friday) 1:30 PM onwards,
Venue: Room No. 118D, AB1
Mode: Offline

**Dr. Hemant Kr. Sharma, Scientist E,
Solid State Physics Laboratory
Defence R & D Organisation,
Ministry of Defence,
Govt. of India, Delhi**

**Organised by
Department of Electrical Engineering, Manipal University Jaipur**

**INSTITUTION'S
INNOVATION
COUNCIL**
(Ministry of Education Initiative)**MANIPAL UNIVERSITY
JAIPUR**



 **GPS Map Camera**

Jaipur, Rajasthan, India
Manipal University Road, Sanganer, Jaipur,
Rajasthan 303007, India
Lat 26.842161, Long 75.563630
09/05/2025 03:20 PM GMT+05:30
Note : Captured by GPS Map Camera

Industry Lecture on Shaping Careers through Internships: Pathways for Electrical Engineers



**MANIPAL UNIVERSITY
JAIPUR**

Industry Expert Lecture on “Shaping Careers through Internships: Pathways for Electrical Engineers”



Date & Time: 05/09/2025 (Friday) 11:30 AM onwards,
Venue: Room No. 118D, AB1
Mode: Offline

Dr. Hemant Kr. Sharma, Scientist E,
Solid State Physics Laboratory
Defence R & D Organisation,
Ministry of Defence,
Govt. of India, Delhi

**Organised by
Department of Electrical Engineering, Manipal University Jaipur**



Students Major Projects Completed

Regn. No.	Students Name	Title of Project
219205001	Aryan Takshak	TDS Automation and New Product Development
219205003	Rakesh Maiwal	Transformer Windings
219205005	Krish Mehta	Automation and Control Systems In Industrial Manufacturing
219205007	KM Nitika	Design and Development of Simulation Model for Microgrid Operation and Control
219205010	Shruti Sharma	Thermal Band Establishment In 3-Pole & 4-Pole MCCBs of Frame-4
219205011	Het K Patel	MATLAB-Based Neural Network MPPT Simulation for Solar PV Systems
219205017	Mrigang Agarwalla	UJC Machine Tending – Robot Integration for CNC Operations
219205018	Ankit Kumar Jha	Performance Analysis of a Grid Connected 1980.3kW Grid Connected Solar PV System
219205019	Nikhil Bagaria	Quality Assurance System at Hariom Pipes
219209001	Nihar Gupta	ECOCHILL: Intelligent Airconditioning for A Greener Tomorrow
219209002	Raghav Srivastava	Hardware and Software Design of Smart Home Devices (Smart Lighting)
219209003	Harsh Vardhan	Smart Traffic Light System Using Machine Learning
219209005	Punkesh Punj	Scalable Web Server
219209006	Neeraj Poonia	Automate The Project Orange HRM
219209010	Faiz Saifi	Water Meter Management System Using AMI
219209011	Mohd.Wasif Saifi	Smart Traffic Management System
219209015	Aditi Singh	Intelligent Field Device for Railway Asset Monitoring and Control
219209016	Mohammad Arshan Khan	Healthmind: AI Powered Healthcare System
219209017	Maulik Agarwal	Deployment of A Private Blockchain Network
219209018	Vineet Yadav	Development of Modelling Testing Alignment Dashboard for Reliability Demonstration Testing of Data Storage System
219209019	Mayank Bairagi	Drone Delivery System
219209020	Tarushee Rai Khoiwal	Digital Marketing Strategies in Practice
219209021	Manasi Raj	Cross-Lingual Generative AI for Low-Resource Languages
219209022	Naman Somani	Chess Engine Development in C++
219209023	Jaswant S Gogadev	Scheduling, Accounting, Metering, and Settlement of Transactions in Electricity (Samast)
219209024	Udayan	Development of Interactive Web Solutions for Edtech Platforms
219209025	Pratyasha Moharana	Quantum Resistant Block-Chain System
219209026	Nidhish Agarwal	Password Manager using Steganography
219209028	Shrish Bartakke	Expansion and Stability of IEEE 9-Bus Power System
219209029	Vibhanshu Jain	Stock Market Prediction using LSTM
219209030	Ansh Us Gupta	Collaborative Code Editor

Students' Placements



Congratulates

Jaskaran A Singh Rustam

B.Tech Electrical and Computer
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Khushal Kedawat

B.Tech Electrical and Computer
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Sanskar Bansal

B.Tech Electrical and Computer
Engineering
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Naman Bhasin

B.Tech Electrical and Computer
Engineering
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Harshita Dua

B.Tech Electrical and Computer
Engineering
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Vikas Choudhary

B.Tech Electrical and Computer
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Saksham Agrawal

B.Tech Electrical and Computer
Batch: 2022-2026

For Getting Placed in :

Infosys®



Congratulates

Ayush Saxena

B.Tech Electrical and Electronics
Batch: 2022-2026

For Getting Placed in :

Infosys®

• Alumni Testimonial



Mr. Moosa Faraz, R&D Engineer,
EVAGE Motors, Gurugram, India
B.Tech. (EEE), Batch 2021-2024

My experience with the Department of Electrical and Electronics Engineering, Manipal University Jaipur has been truly transformative. The department offers a strong academic foundation complemented by practical, industry-oriented learning, which has helped me develop both technical expertise and problem-solving skills. The supportive faculty, well-equipped laboratories, and exposure to real-world applications have prepared me to confidently face professional challenges and pursue my career goals.



Website:

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



Facebook: (#eemuj)

<https://www.facebook.com/eemuj/>



LinkedIn:

<https://www.linkedin.com/in/departments-of-electrical-engineering-manipal-university-jaipur-564398271/>



Instagram:

<https://www.instagram.com/eeemuj/>