

Department of Electrical Engineering

Indian Institute of Technology (Indian School of Mines) Dhanbad



VIBHAV



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Monthly Newsletter

MESSAGE FROM HoD's DESK

By PROF. KARTICK CHANDRA JANA



Dear All,

Greetings from IIT (ISM) Dhanbad!

I am pleased to share with you the "August 2026" edition of the Department of Electrical Engineering's monthly newsletter, "VIBHAV".

The month of "August 2026" has been marked by some remarkable individual achievements that highlight the dedication, perseverance, and collaborative ethos of our faculty members. These milestones not only celebrate personal success but also contribute to strengthening the collective identity and reputation of our department.

As we move forward, we warmly invite our students to play an active role in enriching the quality, diversity, and reach of "VIBHAV". Your thoughtful feedback and creative suggestions are always welcome and may be shared at ee@iitism.ac.in. Together, let us continue to make every edition of "VIBHAV" more engaging, inspiring, and impactful.

Best wishes.

ABOUT THE DEPARTMENT

The Electrical Engineering department was established in the year 2005. The four-year B.Tech. program in Electrical Engineering was started in the academic session 2006-07. Although the Department of Electrical Engineering is one of the latest of the existing departments of the Institute, the Electrical Engineering Section existed as a part of earlier Mining Machinery Engineering department from 1975. Apart from different B.Tech. programs, the department at present also offers M.Tech programs in Intelligent Control and Instrumentation, Power System Engineering and Power Electronics & Electrical Drives. Through funded projects, consultancies, Doctoral, and postdoctoral programs, most of the research activities are being carried out in the department.

PUBLICATIONS

Journals

- Arvind Kumar, Prakirty Kumari, **Dushyant Sharma**, "AC Microgrid Operation With Sensor-less MPPT Integrated Solar PV Grid Forming Inverters," accepted for publication in *IEEE Systems Journal*.
- Mansi Singh, **Kalyan Chatterjee**, Pradipta Kumar Pal, and Kartick Chandra Jana, "Three-Level Step-Down Active Front-End Converter for Renewable Energy and Grid-Tied Systems,"

Accepted for publication in the *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, (DOI: 10.1109/JESTIE.2026.3728615).

Conferences

- Ashutosh Rath, Prantik Basu, Poladi Hamsini, C.H.S Harshitha, Ananya Matala, **Ashok Kumar**, "A Portable Analog Front-End Module for AC Magnetic Field Sensing Applications," *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2026)*, 16th to 19th December 2026 at IIT Guwahati, Assam, India, 2026, Accepted for presentation.
- Anagha Rajendran K P, **Soumyabrata Barik**, Sudarshan Swain, "TOU-Driven Demand Response and Queue-Theoretic Sizing for EV Charging Stations in Radial Distribution Networks," *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2026)*, 16th to 19th December 2026 at IIT Guwahati, Assam, India, 2026, Accepted for presentation.

OUTREACH ACTIVITIES

- **Prof. Dushyant Sharma** has been appointed as an Associate Editor for the *IEEE Transactions on Industry Applications*.

DISTINGUISHED EXPERT TALK BY PROF. BIPLAB SIKDAR

The IEEE Student Chapter at IIT (ISM) Dhanbad, in association with the Department of Electrical Engineering, successfully organized a Distinguished Expert Talk titled “Roles and Potentials of AI in IoT and Industrial Control Systems”. The prestigious lecture was delivered by **Prof. Biplab Sikdar**, Provost’s Chair Professor and Head of the Department of Electrical & Computer Engineering at the National University of Singapore (NUS). Prof. Sikdar, an IEEE Fellow, IEEE Distinguished Lecturer, and ACM Distinguished Speaker, shared his extensive expertise with the attendees. During the session, Prof. Sikdar provided valuable insights into the transformative role of Artificial Intelligence within Internet of Things (IoT) ecosystems and traditional industrial control frameworks. The lecture highlighted forward-looking automation strategies, optimization pathways, and modern technological integration challenges. The event proved highly beneficial to a diverse audience, drawing widespread participation from faculty members, researchers, industry professionals, and students.



EXECUTIVE DEVELOPMENT PROGRAM (EDP) ON MINE ELECTRICAL DRIVES TECHNOLOGY AND SAFETY CHALLENGES

The Department of Electrical Engineering at IIT (ISM) Dhanbad successfully conducted a high-impact, five-day Executive Development Program (EDP) on “Mine Electrical Drives Technology and Safety Challenges” from 17th to 21st August 2026. The intensive training programme was specifically designed to equip industry professionals, engineers, and researchers with advanced knowledge to foster safer and more efficient mining operations. Over the course of five days, the curriculum addressed critical contemporary challenges in mine electrification, modern safety paradigms, and technological transitions. The comprehensive sessions featured a blend of expert lectures, real-world case studies, and practical insights. Key themes covered during the program included:

- Advanced mine electrical drives technology
- Electrical safety standards and statutory regulations
- Preventive maintenance frameworks and hazard analysis
- AI-enabled monitoring systems for mining infrastructure
- Emergency backup systems and emerging safety technologies

In addition to classroom learning, participants gained hands-on exposure to cutting-edge research through guided visits to the institute’s advanced mine research laboratories. The event successfully served as a vital platform for knowledge exchange, empowering attendees with actionable strategies to mitigate electrical risks and optimize productivity in modern mining environments.



STUDENTS CORNER

Mr. Amit Kumar Singh (Thesis is being evaluated) working under **Prof. Anirban Ghoshal** Joined at CastNX Pvt. Ltd., Indore.

UPCOMING EVENTS

IEEE International Conference on “Condition Assessment Techniques in Electrical Systems”, “CATCON-2026”
under IEEE Dielectrics and Electrical Insulation Society (DEIS) to be held during 18th – 20th December 2026.
Link: <https://catcon2026.iitism.ac.in/index.php>

EDITORIAL TEAM

Editor-in-Chief :	Prof.Kartick Chandra Jana	☎	+91-326-223-5902, 5443, 5024
Associate Editors :	Prof. Soumyabrata Barik & Prof. Shyam A. B.	✉	ee@iitism.ac.in
Student Editor :	Samiksha Biswas	✉	24je0164@iitism.ac.in