

Department of Electrical Engineering

Indian Institute of Technology (Indian School of Mines) Dhanbad



VIBHAV



Vol.II, No.10

April, 2026

Monthly Newsletter

MESSAGE FROM HoD's DESK

By PROF. SUKANTA DAS



Dear All,

Greetings from IIT (ISM) Dhanbad!

With great pride, we present the April 2026 edition of the Department of Electrical Engineering's monthly newsletter, VIBHAV. Each issue of VIBHAV embodies the dynamic academic spirit of our department and its steadfast commitment to excellence.

The month of April 2026 has been marked by some remarkable individual achievements that highlight the dedication, perseverance, and collaborative ethos of our faculty, students, and staff. 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.

INDIVIDUAL ACHIEVEMENT

Prof. Shyam A B (PI) received a project titled "Cyber-Resilient Intelligent Control Architecture for Next-Generation DC Microgrids", from Anusandhan National Research Foundation (ANRF) under the Prime Minister Early Career Research Grant (PM-ECRG) scheme with the valuation of Rs. 69.6 Lakhs.

Hearty Congratulations for his achievement !



PUBLICATIONS

Journals

- **B. Bhattacharyya** and S. K. Rajbhar, "Pigeon-inspired optimization for reactive power planning with multitype FACTS devices," *Journal of Electrical Systems and Information Technology*, vol. 13, no. 38, Apr. 2026.
- Sk Bittu, **Sukanta Halder**, Nilanjan Das, Soumava Bhattacharjee, Mousam Ghosh and Uppalapati Sudheer Kumar, "An Electrochemical Single Particle Model-Based State of Charge Estimation Using Orthogonal Collocation Levenberg Marquardt Backpropagation Hybrid Neural Network," *IEEE Transactions on Consumer Electronics*. (Published) [Q1, Impact Factor-10.9]

Conferences

- **Bhawana Singh et.al.**, “Contraction Metrics based Finite and Fixed-Time Convergence,” *2026 IEEE 18th International Workshop on Variable Structure Systems (VSS)*, Exeter, UK, Jul. 2026. [Accepted]
- Yashwant Dhote and **Bhawana Singh**, “Design of Safety incorporated Sliding Mode Control via Barrier States for 2-DOF Aero System,” *2026 IEEE 18th International Workshop on Variable Structure Systems (VSS)*, Exeter, UK, Jul. 2026. [Accepted]
- **Bhawana Singh et.al.**, “Design of Contraction Based Interval Observer using Ramanujan’s Functions,” *23rd World Congress of the International Federation of Automatic Control 2026*, Busan, Republic of Korea, Aug. 2026. [Accepted]
- Baby Diana, Eram Taslima, Shyam Kamal, **Bhawana Singh**, “Finite-Time Safe Sliding Mode Control for Trajectory Tracking of Wheeled Mobile Robot,” *23rd World Congress of the International Federation of Automatic Control 2026*, Busan, Republic of Korea, Aug. 2026. [Accepted]
- Vinay Pandey, Eram Taslima, Tanu Kumari, **Bhawana Singh**, Shyam Kamal, Devender Singh, “Finite-Time Safe Sliding Mode Control for Trajectory Tracking of Wheeled Mobile Robot,” *23rd World Congress of the International Federation of Automatic Control 2026*, Busan, Republic of Korea, Aug. 2026. [Accepted]
- Chitrangee Singh, and **Nitai Pal**, “Economic Analysis of Standalone Hybrid Green Energy System for Rural Development in India,” *IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCCE 2026)*, NIT Meghalaya, Jun. 2026.
- Hemant Kumar, **Nitai Pal**, and Chitrangee Singh, “Performance Investigation of Solar PV under Variable Dust Deposition and Irradiance Conditions,” *IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCCE 2026)*, NIT Meghalaya, Jun. 2026.
- Sourav Karmakar, **Soumyabrata Barik**, Ramesh C. Bansal, et.al. “Data-Driven Multi-Objective Optimization Based Parameter Estimation of Lithium-Ion Battery Pack,” *IEEE 6th International Conference on Sustainable Energy and Future Electric Transportation (SEFET)*, NIT Nagpur, 2026. [Accepted]
- Suraj S., Narayan S. Manjarekar, **Soumyabrata Barik**, and Sudarshan Swain “Capacity Loss and Drive Range Anxiety Analysis for Normal, Fast, Delayed and Adaptive Charging Strategies of Electric Vehicles” *IEEE 6th International Conference on Sustainable Energy and Future Electric Transportation (SEFET)*, NIT Nagpur, 2026. [Accepted]
- Sai Kanuri, **Sukanta Halder et al.**, “Modified ANN-DTC Strategy for PV Submersible IM-Pump For Increasing Water Discharge With Reduced Torque Ripples,” *IEEE 6th International Conference on Sustainable Energy and Future Electric Transportation (SEFET)*, 2026. [Accepted].

OUTREACH ACTIVITIES

- **Prof. Nitai Pal** delivered an online expert lecture in the International Conference on Power, Environment, and Intelligent Systems (PEIS-2026), organized by the Department of Electrical Engineering, Ghani Khan Choudhury Institute of Engineering & Technology, Malda, West Bengal, India during 03–04 April 2026.
- **Prof. Sukanta Halder** delivered an expert lecture titled “Intelligent Powertrains: Integrating Machine Learning for Future Electric Mobility,” on 14th April 2026 at BML Munjal University, Gurgaon.
- **Prof. Nitai Pal** conducted Ph.D. Viva-voce Examination for Research Scholar of UPES, Dehradun as an External Examiner, held in April 2026.

UPCOMING EVENTS

Executive Development Program (EDP) on “Mine Electrical Drives Technology and Safety Challenges” (EDP No. OCEP/T003E/2026-27) to be held during 17th–21st August 2026 at Seminar Room (No. 113), 1st Floor, New Academic Complex, Department of Electrical Engineering, IIT (ISM) Dhanbad. CI- **Prof. Nitai Pal**, Professor and Co-CI- **Prof. P. K. Sadhu**, Professor (HAG), Department of Electrical Engineering.

Link: <https://www.iitism.ac.in/seminar-1>

Registration Details:

https://www.iitism.ac.in/storage/SeminarDoc/SeminarDoc_6a02b76b0d0641778562923.pdf

Link: <https://www.iitism.ac.in/electrical-engineering>

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. Sukanta Das**Associate Editors :** Prof. Soumyabrata Barik & Prof. Shyam A. B.**Student Editor :** Upasana Tharu

☎ +91-326-223-5287, 5443, 5024

✉ ee@iitism.ac.in

☎ +91-326-229-6563