

6th IEEE International Conference on
Sustainable Energy and Future Electric Transportation
(SeFet 2026)
Visvesvaraya National Institute of Technology, Nagpur, India
8th to 11th July 2026



CALL FOR PAPERS: SPECIAL SESSION

SS21: Futuristic Motor Design and Evolving Power Electronics Technologies for Electric Mobility and Grid-Interactive Energy Systems

HIGHLIGHTS OF THE SPECIAL SESSION

The transition to electric mobility, renewable integration, and smart cities demands next-generation technologies with high efficiency, intelligence, reliability, and seamless system integration. Conventional drives and converters fall short of emerging requirements such as high power density, fast charging, and bidirectional power flow. Advanced electric drives, wide-bandgap (SiC/GaN) power electronics, grid-interactive converters (V2G/G2V/V2X), AI-enabled control, and digital twins are key enablers of compact, efficient, and reliable systems. **This special session focuses on recent advances, challenges, and future directions in machine design, integrated drives, power electronics, intelligent control, and digital technologies for sustainable energy ecosystems.**

TOPICS OF THE SPECIAL SESSION

The topics of the session include (but are not limited to)

- ❖ Motor Design for electric vehicle and renewable energy applications
- ❖ Advanced Electric Drives for Evs
- ❖ Wide Bandgap Power Electronics for High
- ❖ Efficiency and High-Power Density System
- ❖ Power Converter Design, Control, and Grid Interactive (V2G/G2V) Systems
- ❖ Intelligent Control and High-Frequency Energy Conversion for Sustainable Energy
- ❖ Reliability, Testing, and Validation of Battery Converter Drive Systems
- ❖ Digital Twin and Data-Driven Modeling of EV Powertrain and Energy Storage Systems
- ❖ Smart Cities and Integrated Energy Infrastructure

All presented papers will be considered for further review and publication in Industry Applications and the IEEE Industry Application Magazine



Dr. Soumyabrata Barik
IIT (ISM) Dhanbad
soumyabrata@iitism.ac.in



Dr. Sukanta Halder
IIT (ISM) Dhanbad
sukanta.ee@iitism.ac.in



Dr. Sashidhar Sampathirao
IIT Goa
sashidhar@iitgoa.ac.in



Dr. Jiwanjot Singh
NIT Hamirpur
jiwanjot@nith.ac.in



Submit your paper here:

<https://cmt3.research.microsoft.com/SEFET2026/Submission/Index>



Conference Website:

<https://vnit.ac.in/sefet26/>

Paper Submission Deadline: 31st Jan 2026