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

SS11: Future-Proofing Transport: Autonomous & Connected Electric Vehicles

About the Session:

The future of transportation lies in integrating electrification, autonomy, and connectivity. This SeFet 2026 special session unites researchers, industry, and academia to discuss intelligent, fire-safe battery systems enabling real-time decision-making, V2X communication, and mission-critical safety in Autonomous and Connected Electric Vehicles (ACEVs). Emphasis is on interaction between batteries, autonomous control, and connected platforms, addressing challenges such as voltage imbalance, degradation, thermal instability, and fire risks from overcharging, shorts, stress, and fast charging. Topics include AI- and IoT-enabled BMS for SOC/SOH, diagnostics, prognostics, fault detection, reliability under abuse, heat, and duty cycles. Both lead-acid and lithium-ion improvements, pulse charging, additives, balancing, electro-thermal modeling, thermal-runaway prevention, fire-mitigation, advanced cooling, digital twins, simulation, experiments, and system-level safety, are encouraged.

Topics of the Session include but are not limited to:

1. **AI-Driven Early Prediction of Voltage Imbalance in Autonomous and Connected EV Batteries**
2. **Battery Safety and Thermal Runaway Prevention in Autonomous EV Fast-Charging Platforms**
3. **Fire-Propagation Modeling and Passive Fire-Defense Strategies for Connected EV Battery Packs**
4. **Next-Generation BMS Architectures for Autonomous and Multi-Module EV Battery Systems**
5. **Electro-Thermal Modeling and Lifetime Estimation of High-Energy Battery Clusters for ACEVs**
6. **Adaptive Cell Balancing Using Model Predictive Control for Connected EVs**
7. **Smart Cooling and Thermal Management for Autonomous EV Battery Packs**
8. **Efficiency Enhancement of Lead-Acid Batteries for Low-Cost Autonomous EV Applications**
9. **Pulse-Charging and Sulfation Mitigation in Connected Lead-Acid EV Fleets**
10. **Voltage Imbalance Detection and Correction in Lead-Acid and Lithium-Ion Battery Packs**
11. **Abuse Testing, Safety Compliance (AIS-156 / UNECE R100), and Fire-Safe Design for Autonomous EV Batteries**

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Paper Submission Deadlines: 31st Jan 2026

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

Conference Website: https://vnit.ac.in/sefet26/index.html

***All presented papers will be considered for further review and publication in IEEE Transactions on Industry Applications and IEEE Industry Applications Magazine**