



IEEE SEFET 2026

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Organized by Department of Electrical Engineering
Visvesvaraya National Institute of Technology (VNIT), Nagpur



Title of the Special Session: *Advanced Challenges and Solutions for Resilient Modern Power Systems*
Special Session Acronym: *ACSRMPS*

Submission Link: <https://cmt3.research.microsoft.com/User/Login?ReturnUrl=%2FSEFET2026%2FSubmission%2FIndex>
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Technical Outline of the Session **SS9**: Advanced Challenges and Solutions for Resilient Modern Power Systems (ACSRMPS)

The transition to modern, resilient, and sustainable power systems requires innovative solutions to manage increasing complexity, uncertainty, and renewable energy penetration. This special session invites original research, practical case studies, and emerging technologies that address the advanced challenges faced by today's power grids and propose solutions to enhance their resilience, reliability, and operational flexibility.

Topics of interest include, but are not limited to:

- Power system resilience under extreme events, disturbances, and uncertainties
- Integration of renewable and distributed energy resources in transmission and distribution networks
- Advanced control strategies for inverter-based and hybrid power systems
- Grid stability and dynamic performance in low-inertia and high-variability environments
- Protection coordination and adaptive protection schemes for evolving grid architectures
- Microgrids, virtual power plants, and flexible demand-side resources
- Energy storage optimization, dispatch, and multi-timescale coordination
- Digitalization, AI/ML applications, and data-driven methods for system planning and operation
- Cyber-physical security and resilience enhancement in smart grids
- Regulatory, planning, and operational frameworks supporting resilient power system development

SS9 Session Organizers:



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We look forward to reviewing your innovative work!

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IEEE 6th International Conference on Sustainable Energy and Future Electric Transportation (SEFET)