

Special Session on

Emerging methods and techniques in integrated energy systems

Session Chairs:

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Scope of the Session:

Recent developments in renewable energy generation penetration and electrical vehicles (EVs), wide use of combined heat and power (CHP) technology, the emerging power-to-gas (P2G) devices in a power system have incited significant changes in energy production and consumption patterns and presented some new problems and even challenges. As a result, an integrated energy system (IES), formed by integrating and optimizing multiple energy systems, provides a new solution to energy and environmental problems. In recent years, much research work has been done on IES, including modeling, coordinated planning, coordinated operation, optimal control, economic analysis, business strategies, market mechanism and integrated demand management.

Given this background, the aim of this special session is to provide an opportunity for international researchers to share and review emerging methods and techniques in integrated energy systems. The special session aims to solicit original papers on new findings and applications from researchers, academicians and practitioners from industries.

Topics of interest include, but are not limited to:

- Static and dynamic modeling of an integrated energy system.
- Static analysis of an integrated energy system.
- Coordinated planning of an integrated energy system.
- Optimal operation of an integrated energy system.
- Dynamic analysis of an integrated energy system.
- Small signal stability analysis of an integrated energy system.
- Transient signal stability analysis of an integrated energy system.
- Optimal control of an integrated energy system.
- Fault diagnosis and system restoration in an integrated energy system.
- Economic analysis of an integrated energy system.
- Business strategies of an integrated energy system.
- Integrated demand side management in an integrated energy system.
- Market mechanism in an integrated energy system.
- Application of big data techniques in an integrated energy system.
- Application of advanced artificial intelligence techniques in an integrated energy system
- Application of advanced optimization techniques in an integrated energy system.
- Cyber physical information system modeling for an integrated energy system.
- Ubiquitous power internet of things in an integrated energy system environment.

Paper Submission:

Interested authors need to submit their manuscripts, prepared based on the conference template, and submit it via the conference's online submission portal. The authors need to select the **special session track** when submitting their manuscripts on the online portal.