Next-Generation Energy Systems

ACTA Press

AIMS AND SCOPE

The rapid evolution of smart grids, renewable integration, and AI-driven control systems is transforming global power infrastructure. This Special Issue provides a forum for disseminating breakthroughs in next-generation energy systems, focusing on technologies and governance frameworks that enhance sustainability, resilience, and efficiency. The issue will also serve as a key international platform to highlight high-impact contributions from China's research community and promote global academic exchange.

TOPICS AND THEMES

A. Smart grids and microgrids
- Dynamic reconfiguration and resilience enhancement
- Intelligent sensing and diagnostics for power equipment
- Multi-source coordinated security monitoring
- Integrated transportation and energy systems

B. Grid integration of renewables
- Stability control for high-penetration renewable energy grids
- Power forecasting and fluctuation suppression for renewables
- Power electronics interfaces and control
- Market mechanisms and dispatch strategies for renewables

C. Industrial energy optimization
- Intelligent scheduling of industrial loads
- Low-carbon logistics and supply chain energy management
- Industrial process energy efficiency enhancement
- Integrated multi-energy systems for industrial applications

D. AI and control in power systems
- AI-driven state estimation and situational awareness
- Intelligent diagnostics and predictive maintenance
- Advanced optimal control and decision-making algorithms
- Data-driven decision support systems

E. Power system governance
- Power quality and emerging regulatory challenges
- Public engagement and social acceptance in the energy transition
- Innovative design of competitive electricity markets
- Economics of energy policy and planning

- Submission Open Date: September 15th 2025
- Submission Deadline: April 15th 2026

Submissions to be accepted on a *rolling-basis* with notifications being sent as soon as a manuscript is accepted

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SUBMISSION INFORMATION

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