

Special Session 18

AI-Enabled Optimization for Integrated Energy and Transportation Systems in Smart Cities

Introduction and Topics

The global transition toward renewable energy and the rapid development of intelligent transportation systems are fundamentally reshaping urban infrastructure. As distributed energy resources (DERs), electric vehicles (EVs), AI data centers, and other flexible loads become increasingly prevalent, the interdependencies between power networks and transportation systems grow ever more complex. Addressing these challenges requires interdisciplinary expertise spanning power system optimization, electricity market design, transportation engineering, and artificial intelligence.

This special session brings together researchers at the frontier of smart energy and transportation systems to explore AI-driven modeling, optimization, and decision-making frameworks. Topics of interest include, but are not limited to: electricity market mechanisms and power system economics; renewable energy integration and load forecasting using machine learning; optimization of transportation networks and emerging mobility systems such as ride-hailing and autonomous vehicles; scheduling and pricing strategies for electric vehicles and other flexible loads; protection and resilience of distribution networks under high renewable energy penetration; cybersecurity in smart grid environments; uncertainty-aware optimization for DERs and AI data centers as flexible grid assets; and coordinated planning and operation of energy-transportation networks in smart city contexts.

By fostering cross-disciplinary dialogue among experts in power engineering, transportation engineering, and computer science, this session aims to advance innovative solutions bridging the energy-mobility nexus and to contribute to the sustainable development of smart cities. Contributions addressing both theoretical foundations and practical implementations are welcomed.

Special Session Chairs



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Paper Submission

Submission Method



* View paper submission instruction on website
<https://www.ieee-icps.com/sub.html>

* Submit your paper through the website or QR code
<https://easychair.org/conferences/?conf=ieeeicpsasia2026>

Important Dates

Submission Deadline	May 25, 2026
Notification Deadline	June 10, 2026
Early-bird Registration Deadline	June 15, 2026
Author Registration Due	June 15, 2026

Publication

Submissions to IEEE I&CPS 2026 will be peer reviewed on the basis of technical quality, relevance to conference topics, originality, significance, clarity, etc. Accepted papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements.

Excellent papers will be recommended for review by IEEE Trans on Industry Applications (proportion can reach up to 50%), Global Energy Interconnection and DeCarbon.