Special Session 26: AI-empowered Mining and Scheduling of Spatial-Temporal Flexible Resources in Smart Energy Systems

Session Organizers：

Yujie Sheng, Tsinghua University, shengyujie616@qq.com
Qiang Xing, Nanjing University of Posts and Telecommunications, xingqiang0828@163.com
Si Lv, Nanjing University of Posts and Telecommunications, woailanqiust@163.com

Brief Description of the Session Thematic:

The proliferation of renewable energy generation with stochastic nature has posed great challenges for the reliable & low-carbon operation of energy systems. Demand side flexible resources such as data center and electric vehicles have revealed considerable capabilities in power adjustment with quick responses. Accurately managing these resources require a full consideration of other coupling sectors such as urban transportation networks and information & communication systems. The goal of this special session is to document high-quality research that lies at the AI-empowered mining and scheduling of spatial-temporal flexible resources in smart energy systems.

Topics

This session will consist of lots of topics such as -

1 Management of integrated energy-communication-transportation systems
2 Optimization and control methods
3 AI-assisted modeling and decision-making methods

This session aim is to gather leading researchers and practitioners, thus providing an authoritative survey of the state-of-the-art in this field. We welcome original research articles, review papers and case studies showing how advanced optimization and control methods can be used in mining and scheduling flexible resources in smart energy systems in new ways of applications which allow academic-professional-industry-policymaker relationships foster collaboration to share their experiences.

Keywords:

Electrical power systems; Smart energy systems; Intelligent transportation systems; Artificial intelligence; Machine learning; Optimization; Data center; Electric vehicle integration; Flexible resources