

## **Special Session 24: Artificial Intelligence in Electricity and Carbon Markets: Theory and Applications**

### **Session Organizer:**

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### **Brief Description of the Session Thematic:**

With the global attention to climate change and the acceleration of energy transition, the importance of electricity and carbon markets is becoming increasingly prominent. In this context, it is of great significance to carry out the research of artificial intelligence in this field. As the electricity and carbon markets face challenges such as price fluctuations, unstable supply and demand, and complex and changing policies, artificial intelligence technology can provide strong support for market forecasting and analysis, trading strategy and optimization, carbon emission monitoring and management, energy system optimization and coordination, and policy formulation and evaluation. At the same time, conducting these studies can help improve the efficiency and transparency of the electricity carbon market, reduce transaction costs and risks, promote the achievement of carbon reduction targets, and promote the sustainable development of the energy system.

### **Topics and Keywords:**

- 1 Forecast and Analysis of Market Price, Supply and Demand, Trend
- 2 Intelligent Trading Strategies, Combinatorial Optimization, and Trading Risk Assessment
- 3 Data Monitoring and Accounting, Reduction Strategy and Optimization of Carbon Emission
- 4 Optimization, Collaboration and Management of Energy Systems
- 5 Energy Policy Development, Regulatory and Compliance Checks