

INTRODUCTION

Sponsored by IEEE, IEEE IAS, organized by Shanghai Jiao Tong University, co-organized by University of Electronic Science and Technology of China, Shandong University, and North China Electric Power University, 2022 IEEE IAS Industrial and Commercial Power System Asia (IEEE I&CPS Asia 2022) Conference will be held during July 8-11, 2022 in Shanghai, China.

IEEE I&CPS Asia 2022 will focus on '**Towards Low-carbon Power System**', and aim to provide a high quality platform for researchers, practitioners, professionals, and students from all over the world to present their latest research findings, ideas, and applications in the related fields of Power Systems. Featured with keynote session, technical session, tutorial session and special session, IEEE I&CPS Asia 2022 will provide the delegates an unparalleled opportunity to exchange with qualified professionals and build future partnership.

SPECIAL SESSION ON

Modeling, Operation Optimization, and Market Mechanism Design for Local Energy Communities

The worldwide increasing energy demand and environmental concerns define the compelling need of energy system decentralization and evolution in the role of terminal customers from passive consumers to active prosumers. The local energy communities concept refers to a set of energy users deciding to make operation choices to satisfy their energy need and to maximize the benefits deriving from this collegial approach. This ongoing energy transition offers advantages including reduced need of transmission infrastructures, reduced power losses, and a higher share of zero-carbon electricity. Introducing novel techniques and mechanisms for modeling, operation optimization, and architecture design for local energy communities is of great significance in promoting distributed energy integration and deployment, and active involvement of individual consumers to achieve common goals in energy security, energy equity, and environmental sustainability.



TECHNICAL OUTLINE OF THE SESSION

This special session focuses on the emerging research topic —Modeling, operation, and market mechanism design for local energy communities. With the increasing penetration levels of the distributed renewable energy resources, the centralized energy system is continuously being transformed into a decentralized, renewable, volatile, uncertain, and complex one. During the transition pathway, the local energy community plays an important role since it enables deployment of sustainable energy technologies and customer engagement, bringing various benefits to community users and contributing to the overall energy and climate targets. The concept of local energy community responds on the needs of local communes and settlements for a sustainable energy supply. The goal is to combine new innovative technologies with locally available natural resources, and to raise awareness of energy efficiency and possibilities to use the renewable energy based on the model of local cycle economy. Novel techniques and theories in related area are encouraged in this special session. Topics of interest include (but are not limit to): types and market frameworks of local energy communities, modeling of local energy community, operation optimization of the distributed energy sources in the local energy community, mechanism and architecture design for local energy market, etc.

SPECIAL SESSION ORGANIZERS

Xiaorong Sun

Hohai University

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IMPORTANT DATES

Submission Deadline

May 15, 2022

Notification Deadline

June 15, 2022

PUBLICATION

Submissions to IEEE I&CPS 2022 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.

Please enter IEEE I&CPS Asia 2022 online submission system and choose 'SP006. Modeling, Operation Optimization, and Market Mechanism Design for Local Energy Communities' to submit papers.

Submission Link:

<https://easychair.org/conferences/?conf=ieeEICPSAsia2022>