Advanced Energy Internet Applications in Industrial Power and Energy Systems

Theme: Initiated around 2004, the concept of Energy Internet (EI) could provide new windows for the industrial power system society by incorporating the features of physical systems and cyber systems simultaneously. Technically, physical systems like electricity generation resources must be controlled and managed according to the instructions received from the cyber-systems. Being equipped by the smart grid and the internet idea, the EI can yield significant benefits such as higher reliability, improved power quality and mitigated the cost and losses. In the EI structure, the multiway flow of information and communication is monitored and controlled by the widespread and heterogeneous devices including the energy router, smart meters, etc. These technologies and devices bring many security concerns for the EI. Moreover, there are emerging concerns over the way to control, predict, manage, combine, and coordinate the energy resources in the EI. However, there exist many challenges that should be investigating and addressing before formal adoption of EI in industrial power and energy systems. To this end, this special issue invites the authors from both industry and academia to submit original research works on EI challenges in the power system.

Potential topics of interest include, but are not limited to:

- Energy router role in the power system
- Operation, management and control of Energy Hub as an EI
- Operation, modeling and management of the smart city as an EI
- Optimal modeling and scheduling of the microgrids as an EI
- Control and coordination schemes in the EI
- Peer to Peer energy trading in the EI structure
- EI-based power grid reliability and resiliency
- EI-based protection and malfunction

Manuscript Preparation and Submission
Follow the guidelines in “Information for Authors” in the IEEE Transaction on Industrial Informatics http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics. Please submit your manuscript in electronic form through Manuscript Central web site: https://mc.manuscriptcentral.com/tii. On the submitting page #1 in popup menu of manuscript type, select: SS on Advanced Energy Internet Applications in Industrial Power and Energy Systems

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable: Deadline for manuscript submissions October 30, 2021
Expected publication date (tentative) July 2022

Guest Editors:

- Dr. Morteza Dabbaghjamanesh, University of Texas at Dallas, USA mortezadabba@utdallas.edu
- Prof. Josep M. Guerrero, Aalborg University, Denmark joz@et.aau.dk
- Dr. Abdollah Kavousi-Fard, Shiraz University of Technology, Iran kavousi@sutech.ac.ir
- Dr. Boyu Wang, Data Scientist, Tacoma Public Utilities, USA bwang1@cityoftacoma.org

Editor-in-Chief: Prof. Dr.-Ing. Ren C. Luo tii@ira.ee.ntu.edu.tw
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