



IEEE Transactions on Industrial Informatics

CALL FOR PAPERS



for Special Section on

Advances in Coordination of Large-Scale EV Charging Networks

Theme Due to the energy demand growth and environmental concerns, electric vehicles (EVs) have received a prominent interest by academia, industry, and government. This has attracted in recent years the study on the integration of EVs in the market. To make this integration widespread, several challenges need to be addressed and various shortcomings require solutions. One of these challenges is controlling the charging/discharging of EVs which benefits different parties, e.g., EV customers, charging stations, and power grid. EV customers are reasonably the main decision makers, who decide how, when, and where to charge their EVs on the basis of their demands and behaviors. These decisions are affected by the statuses and policies of the charging stations that have different objectives, locations, and types of charging infrastructure. These stations are generally connected to the power grid which is mostly the main source/sink to charge/discharge EVs. Although the charging loads of EVs can impact the performance of the grid, the EV energy batteries could support the operation of the grid, such as peak load shaving and stability of voltage and frequency. Moreover, controlling a large scale of geographically distributed EVs in terms of spatial-temporal coordination, travel navigation, communication, and cybersecurity can further increase the challenges of their adoptions. For effective coordination of these networked charging systems, new approaches and innovations are needed to improve the overall performance such as efficiency, flexibility, stability, resiliency, security, and reliability.

This Special Section on “Advances in Coordination of Large-Scale EV Charging Networks” is focused on the development of modeling the charging loads and behaviors of EVs and on the novel control methods for navigating and charging/discharging EVs.

This special section will focus on (but not limited to) the following topics:

- Planning of EV charging stations
- Selection of charging stations by EVs
- Modeling and extracting of EV loads (e.g., residential and industrial)
- Utilization of smart meters and communication devices
- Description of user charging behaviors
- Load-flow initialization methods of EVs
- Optimal and intelligent charging control
- Spatial-temporal charging coordination
- Privacy protection and cybersecurity

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 website: <http://mc.manuscriptcentral.com/tii>. On the submitting page #1 in popup menu of manuscript type, select SS on **Advances in Coordination of Large-Scale EV Charging Networks**

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	December 30, 2021
Expected publication date (tentative)	July 31, 2022

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