

IEEE AWPL Special Cluster 2024 on “Antennas and Metasurfaces for Advanced Wireless Power Transfer”

Wireless power transfer (WPT) is a key technology for the next generation of wireless technology, e.g., 6G and beyond. Highly efficient and reliable WPT systems are crucial for enabling the deployment of wireless charging solutions for a wide range of low-power applications, such as sensors for health care or ambient monitoring in smart cities. In any scenario involving WPT, antennas play a critical role as they are responsible for efficiently transmitting and receiving electromagnetic waves carrying a specific amount of power. Advancements in antenna design and optimization directly impact the overall efficiency and performance of WPT systems.

This special cluster aims to provide an international forum for researchers to disseminate their latest findings on the application of novel antenna designs, metasurfaces, and innovative techniques to enhance the efficiency, range, and safety of WPT links. The editors especially welcome both theoretical and experimental works that cover the following topics:

- Innovative rectennas, antennas and antenna arrays for WPT
- Metasurfaces, Metamaterial- or Metasurface-based antennas for WPT
- Prototyping and experimentation of WPT
- Design of high-efficiency WPT systems
- Novel WPT-related antenna designs
- Sensors for WPT
- Innovative metamaterial-based rectifiers with improved conversion efficiency
- Theoretical and circuit models of metamaterial-based rectennas for WPT

The Guest Editors of this Special Cluster are:

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Prospective authors are encouraged to contact the Guest Editors for any questions or to determine the suitability of their contribution to this special cluster. Papers should be prepared following the same submission instructions as for regular IEEE AWPL manuscripts (four-page technical content maximum and one reference page, double-column, IEEE format), available via the Information for Authors website (<http://awpl.ee.cuhk.edu.hk/resources.html>). The authors should indicate in the cover letter to the Editor-in-Chief that the manuscript is being submitted in response to the Call for Papers for the focused cluster. Prospective authors should refer to the timeline below for key dates.

Key dates:

- Submission deadline: **March 31, 2024**
- First decision: May 15, 2024
- Revised manuscripts deadline: June 15, 2024
- Final decision: July 30, 2024
- Final manuscripts due by: September 1, 2024
- Online publication: Shortly after final manuscript submission
- Cluster publication: November (or December) 2024 issue of AWPL