



Call for Papers

IEEE Open Journal of Instrumentation and Measurement (IEEE OJIM)

Special Section on

Advances in Impedance Spectroscopy: Fundamentals and Applications

Impedance Spectroscopy (IS) is a versatile and powerful technique for measurement and sensing applications enabling the measurement of otherwise inaccessible parameters, ensuring high measurement accuracy, and allowing the simultaneous assessment of multiple quantities. EIS has proven to be invaluable in several application areas by providing a quantitative understanding of electrochemical processes and systems, analyzing the impedimetric behavior of biological tissues, and realizing outstanding sensors that go far beyond conventional ones. It provides in-depth insight into materials and systems while being non-intrusive, highly efficient in terms of measurement time and procedures, and easily adaptable for integration into embedded systems.

This *Special Section*, in the IEEE OJIM focuses on recent developments in impedance spectroscopy for sensing and measurement, fundamental methodological advancements, development of instruments and devices, and innovative applications of impedance spectroscopy. The topics for this special section include, but are not limited to, the following:

- Impedance spectroscopy for biomedical applications
- Sensors and biosensors, including physical and electrochemical sensors
- Energy storage systems: Batteries, fuel cells and capacitors
- Characterization of food quality and composition
- Design and development of sensors, embedded systems, and devices
- Signal processing and modeling of impedance spectra (ECS, DIA, DRT, ...)
- Use of machine learning (ML) and artificial intelligence (AI) for impedance spectroscopy

Each Submitted paper will go through a rigorous review process consistent with the IEEE OJIM requirements. The Open-Access [Article Processing Charge](#) (APC) of \$2,075 (in 2025) will be *waived* for accepted papers. Please note that the [Overlength Page Charge](#) fee will still be charged for papers longer than eight pages. Papers will be published as they are accepted, and the Special Section is intended to be published in the latter part of 2025, consistent with the following Schedule:

Deadlines

Submission: April 30, 2025

First Decision: June 15, 2025

Final Decision: August 15, 2025

Publication Volume: Volume #4, 2025

For more information and submission instructions, please visit OJIM's website:

<https://iee-ims.org/publication/ieee-ojim/about>

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