

Special Issue on
**Advances in Nanoelectrochemistry: Synthesis,
Properties, and Characterization**

CALL FOR PAPERS

Nanoelectrochemistry is a term that seeks to bring together two fields of research and industry interests, that is, electrochemistry and nanoscience. The research tools and devices emanating from the merging of these two multidisciplinary research areas yield highly sensitive and versatile technologies with wide-ranging applications. The emerging field of nanotechnology and nanoscience provides for enormous application potential.

Sophisticated, versatile, and state-of-the-art characterization techniques have allowed for characterization of electrode surfaces modified with monolayer thin films. The characterization techniques for nanomaterials and nanostructured surfaces in conjunction with the sophisticated design have allowed for the control and engineering of surface properties. The sophisticated surface characterization techniques such as X-ray photoelectron spectroscopy (XPS) for elemental composition and oxidation state properties, atomic force microscopy (AFM) for morphology and topographical information of the thin films, and the scanning electrochemical microscopy (SECM) for conductivity measurements and surface profiling are amongst the techniques that have allowed for intricate design and applications of nanomaterials and their applications in electrochemistry to grow. These techniques have enabled researchers to demonstrate electrocatalytic “hot-spots” and oxidation states of various materials and their effect in electrocatalysis and electroanalysis.

Thus, the purpose of this special issue is to publish high-quality research papers as well as review articles addressing recent advances in nanoscience application in electrochemistry. Original, high-quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include but are not limited to the following:

- ▶ Versatile techniques for nanostructuration and characterization of electrode surfaces
- ▶ Electron transfer kinetics at nanostructured electrode surfaces
- ▶ Electrocatalysis and electroanalysis at nanofabricated and nanomaterials modified electrode surfaces
- ▶ Scaffolding of nanomaterials onto electrode surfaces for signal transduction and amplification
- ▶ Integration of nanomaterials and biomolecules for nanobiosensors design and applications
- ▶ New sensing strategies with nanomaterials and nanostructured surfaces

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijelc/ansp/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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