International Journal of Electrochemistry

Hindawi

Special Issue on

Role of Electrochemistry and Surface Modification for Improved Materials Performance

CALL FOR PAPERS

Electrochemistry plays an important role in improving materials performance by modifying the surface activities. The fundamental understanding of the surface behavior is critical for a wide range of applications, such as catalysis, chemical- and biosensing, corrosion, and energy conversion and storage. In this special issue, we focus on various electrochemical effects at nano- as well as microscale which change the surface chemistry of materials and thus its performance. We also cover the study of interfaces and the associated chemical changes for the application in extreme environments. Work specific to advances *in situ*and *ex situ* characterization of materials by X-ray microscopy, SEM, TEM, AFM, SERS, and neutron diffraction will be highly appreciated.

This special issue is intended to offer an insight of the role of electrochemistry to the diverse communities of chemists, physicists, materials scientists, and biologists.

Potential topics include but are not limited to the following:

- Surface chemistry, nucleation, and growth phenomena
- Role of electrochemistry in developing corrosion resistant materials
- *In situ* and *ex situ* microscopic characterization of interface chemistry by XRD, SEM, TEM, AFM, SERS, and neutron diffraction
- Electrochemical kinetics
- Interface-driven applications for energy conversion and storage

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