

Special Issue

An Overview of the Recent Advances in Advanced Electron Microscopy Imaging, Spectroscopy and Their Related Applications

Message from the Guest Editors

Advanced electron microscopic techniques including aberration-corrected TEM/STEM, in situ TEM and the corresponding analytical techniques (EDS and EELS) have had a tremendous impact on the way nanomaterials are currently being visualized, analyzed and understood. The very high spatial resolution and temporal resolution made possible by some of the recent developments have made them very exciting, with several new and recent discoveries related to the field of materials. This Special Issue thus serves to bring a status update to this exciting field. Electron microscopic techniques and their applications to a variety of clusters, nanomaterials and 2D materials including catalysts and energy-related materials are the focus of this Special Issue. In addition, techniques including 3D tomography, spectroscopic tomography and in situ techniques which are being explored are also encouraged to be part of this Special Issue. Recent advances in electron microscopic techniques including operando TEM employing specialized holders: liquid cell holders, gas cell holders, etc., and their related applications are also encouraged to contribute to this Special Issue.

Guest Editors

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano–alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

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