

Special Issue

Nanostructured Materials for Heterogeneous Electrocatalysis

Message from the Guest Editor

Nanostructured materials have emerged as transformative catalysts in heterogeneous electrocatalysis, offering unparalleled advantages such as high surface-to-volume ratios, tunable electronic properties, and cost-effective scalability. These materials enable precise control over reaction pathways, driving innovations in energy conversion, environmental remediation, and sustainable chemical synthesis. However, critical challenges—including long-term stability under operational conditions, selectivity toward desired products, and the scalability of synthesis methods—must be addressed to bridge the gap between laboratory breakthroughs and industrial applications. This Special Issue of *Nanomaterials* seeks to showcase cutting-edge research addressing these challenges across diverse heterogeneous electrocatalysis processes.

Guest Editor

Dr. Dawei Chen

College of Material Science and Engineering, Qingdao University of Science and Technology, Qingdao 264002, China

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

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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

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and Environmental Science, University of
Birmingham, Birmingham B15 2TT, UK

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