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Advances in Novel Nanostructured Materials for Electrocatalysis–Trends and Future, 2nd Edition

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Message from the Guest Editors

Electrocatalysts play critical roles in energy and environmental applications, for example, electrocatalytic hydrogen production from water and the conversion of carbon dioxide into useful hydrocarbon fuels, providing an innovative solution for both the shortage of fossil fuels and the global warming problem. By using nanosized materials as electrocatalysts, one can expect an enhanced amount of electrocatalytic sites and reduce the amount of precious catalyst materials without sacrificing efficiency.

We invite authors to contribute original research and review articles, with a particular focus on recent advancements in novel nanosized electrocatalysts for energy and environmental applications:

- Recent developments in nanosized electrocatalysts for energy and environmental applications;
- Theoretical calculation, simulation, and modeling;
- Strategies for synthesis of new nanosized electrocatalysts;
- Roles of composition, morphology, and structure of electrocatalysts;
- Identification of electrocatalytic mechanisms;
- Investigation of nanosized electrocatalysts for water splitting and oxygen/carbon dioxide/nitrogen electroreduction.

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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.

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