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Nanoalloy Electrocatalysts for Electrochemical Devices

Guest Editor:

Prof. Dr. César Augusto Correia de Sequeira
Materials Electrochemistry Group, Instituto Superior Técnico, University of Lisbon, 1049-001 Lisbon, Portugal

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Message from the Guest Editor

Metallic, bimetallic, trimetallic, and other nanoalloy electrocatalysts have the potential to provide superior and cost-effective solutions to meet the requirements of contemporary and evolving electrochemical devices. The main factors that influence the catalytic activity of nanoalloys are the electronic, geometric and other poststructural effects, point defects, synergistic effects, surface strain, carbon-based stabilizers, etc. The fields of direct borohydride and alcohol fuel cells, batteries, supercapacitors, water electrolyzers, solar cells, sensors, electrochromic displays, electro-degradation devices and hydrogen peroxide producers, among others, offer key application opportunities for novel nanoalloys developed by new synthesis techniques, and presenting unique properties.

This Special Issue will cover the most recent advances in nanoalloy electrocatalysts, concerning, not only the synthesis, characterization, and modeling, but especially reports of their activity, functionality, durability, and low-cost for electrochemical devices.

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Editor-in-Chief

Prof. Dr. Shirley Chiang
Department of Physics, University of California Davis, One Shields Avenue, Davis, CA 95616-5270, USA

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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Nanomaterials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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