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Electrochemical Synthesis of Nanostructures and Their Applications

Guest Editor:

Prof. Dr. Uwe Erb

University of Toronto,
Department of Materials Science
and Engineering, Toronto,
Canada

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Message from the Guest Editor

Dear Colleagues,

Nanostructures can be made by many different synthesis methods, which can be broadly categorized by the following general approaches: Vapor-phase processing, liquid-phase processing, solid-state processing, chemical synthesis and electrochemical synthesis. This Special Issue is concerned with nanostructures made by electrochemical synthesis, which involves charge transfer at interfaces. Examples of such methods are electrodeposition from aqueous and organic baths or ionic liquids, electroless /autocatalytic deposition, galvanic displacement reactions, co-deposition of second phase particles, de-alloying, anodizing, conversion processes or electrochemical deposition under oxidizing conditions. The aim of this Special Issue is to compile a series of articles that highlight the state of the art in this very broad subfield of nanotechnology. Contributions include original articles, reviews and short communications addressing details of the synthesis method, structural characterization and properties of the nanostructures, as well as their current or future potential applications.

Prof. Dr. Uwe Erb

Guest Editor



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Special Issue



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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, Grosspeteranlage 5
4052 Basel, Switzerland

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