Special Issue

Advances in Nanoporous Metallic Materials

Message from the Guest Editors

Nanoporous metallic materials (Au, Pd, Cu, Sn, Bi, etc.) have been successfully applied in many fields, due to their high specific surface area, unique bicontinuous structure, tunable ligament/pore size, good conductivity, etc. More and more techniques, including dealloying, templating and electrochemical synthesis, have been used to synthesize nanoporous metals. In addition, a growing number of technologies are combining (for instance, 3D printing combined with dealloying and templating combined with selective corrosion) to design and fabricate new porous structures that exhibit excellent physical and chemical properties.

This Special Issue focuses on recent advances of nanoporous metallic materials by different methods from fundamental studies to various applications. Research areas may include, but are not limited to, structural design of nanoporous metals, novel preparation methods, characterization of nanoporous structures, calculation and simulation toward nanoporous metals and different reaction processes, and applications of nanoporous metallic materials in various fields. Original research and review papers are welcome. We look forward to receiving your contributions.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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