Special Issue

Nanostructural Processing Effects in Shape Memory Alloys

Message from the Guest Editor

Starting with the assessment that "precipitation hardening is the oldest nanotechnology", the international scientific community became aware of the crucial role that matter arrangement at nanostructural scale plays in understanding particular material characteristics. Thus, the role of coherent precipitates in matrix strengthening against permanent deformation has been intensely studied with the aim of enhancing reverse martensitic transformation in shape memory alloys (SMAs). On the other hand, although larger oligocrystalline grains have recently been identified as desired structures for facilitating larger superelastic strains, no superelasticity would be obtained without coherent nanoprecipitation.

This Special Issue aims to group, into a single volume, original articles concerning topics related but not limited to the role of nanostructuring, coherent nanoprecipitation, grain and twin boundary engineering, and so on, in the properties of SMAs. We also welcome the submission of articles discussing the requirement to obtain large (oligocrystalline) rather than small (severe plastically deformed) crystalline grains in order to enhance shape memory properties.

Guest Editor

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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
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