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Nanocomposite High Performance Alloys

Guest Editors:

Dr. Hongyu Yang
Department of Materials Processing Engineering, Jilin University, Changchun, China

Dr. Chao Chen
Key Laboratory of Automobile Materials, School of Materials Science and Engineering, Jilin University, Changchun 130025, China

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Message from the Guest Editors

Dear Colleagues,

High-performance alloys provide both high performance and metallic characteristics, and they are synthesized using two or more kinds of metals, or a metal or nonmetal. These nanocomposites are materials based on high-performance alloys that are reinforced with a dispersed nanophase. The inorganic compounds are usually ceramics, metals, etc., and the organic compounds are usually organic polymer materials. Because of their designability, high-performance alloys and their nanocomposites have desirable properties, such as high modulus, high strength, and good toughness. Hence, high-performance alloys and their nanocomposites have been developed into new types of material, which have been widely applied in many fields, such as the military, aerospace, and automotive fields.

Thus, we welcome studies about the fabrication, characterization, and testing of high-performance alloys and metal-matrix composites reinforced with different nanophases to be submitted for publication in this Special Issue. Furthermore, studies on the manufacturing process of high-performance alloys and nanocomposites and analyses of their strengthening mechanism will also be considered.

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Editors-in-Chief

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1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Prof. Dr. Yuguang Ma
State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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