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## Metallic Materials: Microstructure, Phase Equilibria and Thermodynamics

Guest Editors:

**Dr. Yuling Liu**

**Dr. Peisheng Wang**

**Prof. Dr. Yong Du**

**Prof. Dr. Qun Luo**

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submissions:

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### Message from the Guest Editors

Thermodynamics describes the state of a system and its interaction with its surroundings, which is an extremely powerful tool in the field of materials science. The study of thermodynamics is central to the understanding of phase equilibria and phase transformation, which helps to construct relationships between composition, microstructure, processes and properties.

The relationship between thermodynamic functions and the equilibrium phase diagram of a binary system was made explicit as early as 1908. After more than 50 years of development in engineering design and computational simulation, a particularly successful and widely used modeling method in thermodynamics is the CALPHAD method. This method can now be used to predict phase equilibria, phase diagram and various thermophysical parameters, which are key inputs for microstructure simulation and performance prediction.

Microstructure, phase equilibria and thermodynamics are the basis for integrated computational materials engineering and need to be studied systematically and in depth.

I wish to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome.



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# Special Issue



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### Prof. Dr. Maryam Tabrizian

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

## Message from the Editor-in-Chief

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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

Tel: +41 61 683 77 34  
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