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Metal-Ceramic and Metal-Metal Interactions and Joining

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Deadline for manuscript submissions:
closed (31 December 2021)

Message from the Guest Editors

Dear Colleagues,

This Special Issue aims to stimulate researchers worldwide to share their systematic studies, addressing both basic (wettability, interfacial tension, and phase equilibria determination) and application (e.g., joining by brazing) aspects. Particular consideration will be made to studies aimed at elucidating the role that dissolution, chemical reactions, and additions of active metal elements to the molten matrix have in wetting processes and on solid–liquid adhesion in relation to the desired final properties.

Potential topics include, but are not limited to, the following:

-Surfaces and interfaces at high temperatures;

-Wetting at high temperatures;

-Grain boundaries at high temperatures;

-Liquid-metal penetration;

-Thermodynamic studies;

-Microstructural analyses;

-Soldering, brazing, and joining processes;

-Liquid and solid-state reactivity;

-Liquid/solid interfaces in metallurgical processes (e.g., casting).

mdpi.com/si/46325

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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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Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

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