Special Issue

Microbes Meet Metals

Message from the Guest Editor

Microorganisms play an important role in the biogeochemical cycling of various metals. Metals can serve as electron donors and acceptors in energy yielding metabolism and act as co-factors in various enzymes. The capabilities of microbes to oxidise, reduce, solubilize, precipitate, sorb, and accumulate metals have been utilized for a range of biotechnical applications, such as biomining, bioremediation, wastewater treatment and nanoparticle production. These have allowed the recovery of resources from low grade ores and wastes, decreased environmental impacts from metal-containing effluents, and facilitated the generation of nano-scale metal particles for multiple application areas. For this Special Issue, we invite contributions on various aspects of microbe-metal interactions, including, but not limited to, fundamentals of biogeochemical metal cycling, biotechnical applications and ecology of metal cycling microorganisms, and microbial metal tolerance mechanisms.

Guest Editor

Dr. Anna H. Kaksonen
School of Biomedical Sciences, University of Western Australia, Crawley 6009, Australia

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Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/metals

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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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Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang
Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

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