# Special Issue

# In-Situ Investigations of Metals

## Message from the Guest Editor

The in situ testing of metallic materials provides insight into different phenomena as they happen. In the hunt for deeper knowledge about metals and alloys, advanced characterization techniques are used. Whether it is understanding exactly at which temperature phase transformations occur, or how deformation fields initiate and interact with obstacles, the use of experimental in situ methodologies brings us a step forward in understanding the behavior of the materials. Even though the in situ approach gives us new and valuable information about metallurgical phenomena, there are still challenges and limitations to the different experimental in situ techniques, e.g., if investigated areas are representative, bulk behavior vs. free surface effects, sample preparation, and test increments. With this Special Issue, I welcome original research related to metallurgical phenomena investigated using novel in situ techniques, as well as contributions elucidating the latest developments within in situ methodologies, e.g., sample preparation, optimization of parameters, and new and alternative test setups.

## Guest Editor

Prof. Dr. Ida Westermann

Head of the Physical Metallurgy Group, Department of materials science and engineering, Norwegian University of Science and Technology, Alfred Getz v. 2, 7491 Trondheim, Norway

## Deadline for manuscript submissions

closed (20 July 2021)

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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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# About the Journal

## 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.

## Editors-in-Chief

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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

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