

Special Issue

Creep and Fatigue Behavior of Alloys

Message from the Guest Editor

To achieve the goal of reducing carbon dioxide emissions and using fossil fuel effectively, high-efficiency electric power plants with a higher steam temperature have been developed. Because the operating conditions of these power plants are exposed to more severe conditions than conventional systems, such as high temperature, high pressure, start-stop, and multi-axial stress, it is required to develop a highly accurate life prediction technique. Therefore, it is essential to standardize the testing and estimation methods of crack initiation and growth lives under high temperature creep-fatigue conditions accompanied with studies on the clarification of the deteriorated mechanism based on material science, which is useful to clarify the mechanism of damage formation under creep and fatigue conditions. The scope of this Special Issue includes research fields focusing on the clarification of the mechanism of damage formation and crack growth, the prediction of fracture life, and the establishment of testing methods under both stress- and strain-controlled creep and fatigue conditions.

Guest Editor

Prof. Dr. A. Toshimitsu Yokobori, Jr.

Advanced Comprehensive Research Organization, Teikyo University,
Tokyo, Japan

Deadline for manuscript submissions

closed (15 April 2025)



Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



mdpi.com/si/115619

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

mdpi.com/journal/

[metals](https://mdpi.com/journal/metals)





Metals

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.3



[mdpi.com/journal/
metals](https://mdpi.com/journal/metals)



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

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

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).