



Environment-Assisted Fracture and Fatigue Behavior of Metals

Guest Editor:

Dr. Yao Fu

Department of Aerospace and
Ocean Engineering, Virginia
Polytechnic Institute and State
University, Blacksburg, VA 24061,
USA

Deadline for manuscript
submissions:

closed (30 October 2022)

Message from the Guest Editor

Crack formation often leads to unexpected sudden failure of normally ductile materials. Fatigue failure is one of the most common mechanical failure modes, where cracks are initiated mostly at microstructural heterogeneity and impurities. Therefore, the correlation between the complex microstructure/defects of metals and corrosion-related behavior is becoming important in those applications where the environmental effect plays a critical role.

For this Special Issue of *Metals*, we welcome reviews and articles in the area of environment-assisted fracture and fatigue behavior of metallic materials. The idea is to demonstrate the recent advancement on this topic in a broad range, including but not limited to: the evaluation of novel metallic materials such as advanced manufactured alloys and high-entropy alloys in terms of their environment-assisted fracture and fatigue behavior, the development of multiphysics computational modeling framework for environment-related phenomena, data-driven approaches to predict the failure mode of fatigue behaviors in corrosive environments, etc.





an Open Access Journal by MDPI

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

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.

Author Benefits

Open Access: free for readers, with **article processing charges (APC)** paid by authors or their institutions.

High Visibility: indexed within **Scopus**, **SCIE (Web of Science)**, **Inspec**, **CAPLUS / SciFinder**, and **other databases**.

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

Contact Us

Metals Editorial Office
MDPI, St. Alban-Anlage 26
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/X@Metals_MDPI)