Special Issue

Failure Analysis of Biometals

Message from the Guest Editor

Metallic biomaterials are widely used for the manufacture of medical implants, because of their favourable combination of properties including high strength, fracture toughness, biocompatibility, wear and corrosion resistance. Additionally, they can be fabricated using well-established techniques (such as casting and forging), and recently, additive manufacturing to produce complex and customised implants. Due to the significant consequences of implant material failure, in terms of both personal and financial burden, failure analysis of biometals has been always of paramount importance in order to understand the failure mechanisms and implement suitable solutions with the aim to improve the longevity of implants in the body. This Special Issue aims to present the latest developments in the area of biometals failure. The scope includes (but is not limited to): Advanced biometals, microstructural evaluation, mechanical properties, failure/degradation analysis, fracture, fatigue, wear, corrosion, in vitro and in vivo assessments, implant retrieval studies, biocompatibility assessments, porous biometals, surface modifications and simulations.

Guest Editor

Dr. Reza Hashemi

College of Science and Engineering, Flinders University, Adelaide, Australia

Deadline for manuscript submissions

closed (15 January 2020)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/10919

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

mdpi.com/journal/ metals





Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3





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).