



## Feature Papers in Metal Failure Analysis

Guest Editors:

**Dr. Andrey Belyakov**

Laboratory of Mechanical  
Properties of Nanostructured  
Materials and Superalloys,  
Belgorod National Research  
University, Pobeda 85, Belgorod  
308015, Russia

**Dr. Anna Bodyakova**

Laboratory of Mechanical  
Properties of Nanostructured  
Materials and Superalloys,  
Belgorod National Research  
University, Pobeda 85, Belgorod  
308015, Russia

Deadline for manuscript  
submissions:

**closed (30 November 2023)**

### Message from the Guest Editors

We are pleased to announce the launch of this Special Issue devoted to metal failure analysis. Failure analysis is especially important for structural materials as their fracture may have terrible consequences. Progress in the development of safe and sound constructions requires comprehensive investigation of fracture mechanisms, effects of internal stresses, and microstrains on crack nucleation and propagation. Thus, studying the microstructural mechanisms underlying the fracture mechanics is of great practical importance.

The aim of this Special Issue, “Feature Papers in Metal Failure Analysis”, is to highlight the current achievements in theoretical and experimental investigations of fracture behavior and its effect on mechanical performance of various metallic materials, focusing on the hottest success in analyzing the crack nucleation and propagation in metals and alloys under cyclic or monotonous loading as well as during exploitation. Papers dealing with experimental investigation, simulation, and analysis of failure of structural steels and alloys are also welcome.





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 and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

## Contact Us

---

Metals Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/metals](http://mdpi.com/journal/metals)  
[metals@mdpi.com](mailto:metals@mdpi.com)  
[X@Metals\\_MDPI](https://twitter.com/Metals_MDPI)