



Manufacturing and Defects Influence on Fatigue Performance of Rolling Elements

Guest Editors:

Dr. Raffaella Sesana

Dipartimento di Ingegneria
Meccanica e Aerospaziale,
Politecnico di Torino, Corso Duca
degli Abruzzi 24, 10129 Torino,
Italy

Dr. Irene Pessolano

Mechanical Engineering,
Politecnico di Torino, 10129 Turin,
Italy

Deadline for manuscript
submissions:

closed (31 December 2021)

Message from the Guest Editors

Dear Colleagues,

Rolling bearings are widely used and investigated as mechanical systems, and they are currently facing new challenges relating to new technologies such as electric vehicles and sustainable development. Their related rolling elements (balls, rollers, needles), less studied in bibliography, need to be investigated and developed in parallel with the investigation on their fatigue performance and their potential defects, limit and impacts. The development of new materials, new technologies and manufacturing processes for rolling elements requires a deeper investigation on material behavior, to estimate the failure mechanisms and the life of systems during service. The investigation of the fatigue behavior of rolling element when affected by manufacturing processes, material properties, surface and inner defects can become, in this frame, critical.

The Special Issue aims at presenting the latest research on rolling elements manufacturing, damage detection and localization and their influence on rolling elements' life expectancy.





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://x.com/Metals_MDPI)