Special Issue

Fracture and Fatigue Analysis of Welded Structures in Metallic Materials

Message from the Guest Editor

In this Special Issue, we welcome articles that focus on fracture and fatigue in all structures made from metallic materials. In particular, since most failures occur at the weld, we encourage the submission of research that addresses the factors influencing weld integrity, such as stress concentration, material properties, and welding processes. This includes studies on improving the performance of welding materials, developing advanced welding techniques, and evaluating the long-term durability of welded joints under various loading conditions. Contributions that explore innovative approaches to enhance weld quality and prevent failure through better design, material selection, and process optimization are highly sought. We also welcome information on fatigue/fracture phenomena and behavior caused by cryogenic temperatures, such as liquid hydrogen.

- fracture
- fracture toughness
- fatigue
- welding residual stress
- reliability of large structure
- marine environment risk assessment
- ductile fracture
- brittle fracture
- cryogenic temperature

Guest Editor

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Deadline for manuscript submissions

closed (31 July 2025)

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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.

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