



## Advances on Welded Joints: Microstructure and Mechanical Properties

Guest Editors:

**Dr. Vincenzo Moramarco**

Dipartimento di Meccanica,  
Matematica e Management,  
Politecnico di Bari, Bari, Italy

**Dr. Gilda Renna**

Department of Engineering for  
Innovation, Università del  
Salento, 73100 Lecce, Italy

Deadline for manuscript  
submissions:

**20 April 2025**

### Message from the Guest Editors

Advances in welded joints continue to play a critical role in various industries. Researchers and engineers continue to innovate to further enhance the microstructure and mechanical properties of welded joints in order to meet the evolving demands of modern applications.

Additionally, in recent decades, new welding technologies (e.g., FSW, hybrid techniques, etc.) that allow dissimilar or “non-weldable” materials to be joined have been developed. These innovative joints require in-depth study in order to evaluate their reliability and durability under real service conditions.

The aim of this Special Issue is to collect original contributions focusing on the microstructural assessment and mechanical properties characterization of welded joints, the procedure used to design them, and the development of new materials that expand the applicative potential of welding. Topics of interest include, but are not limited to, the following: the characterization of welded joints, fatigue performance, crack propagation, experimental investigations, simulations and analyses of welded joints, the effect of residual stresses, non-destructive testing (NDT) and in situ monitoring.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

## Message from the Editor-in-Chief

*Materials* (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

## 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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:** JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

Materials Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)