



Advances in Technology and Applications of Diffusion Bonding

Guest Editor:

Prof. Dr. Amir Shirzadi

1. Open University, Milton Keynes, UK
2. Wuhan University of Science and Technology, Wuhan, China
3. Cambridge Joining Technology, Cambridge, UK

Deadline for manuscript submissions:
closed (31 July 2023)

Message from the Guest Editor

Welding techniques are generally classified into two categories: fusion welding processes (e.g., arc/laser welding) and solid-state welding processes (e.g., forge welding). Diffusion bonding, as a subdivision of both solid-state welding and liquid-phase welding, is a joining process wherein the principal mechanism is interdiffusion of atoms across the interface. Diffusion bonding enables joining materials and fabricating complex components for which conventional welding processes have proved unsuccessful.

Original submissions in the following five categories will be considered for publication in the Special Issue:

- 1—Joining un-weldable dissimilar alloys, e.g., Ti to Al and W to Cu;
- 2—Joining materials sensitive to melting or high temperatures, e.g., metal matrix composites and oxide dispersion strengthened alloys;
- 3—Joining metals to ceramics, e.g., aluminium to sapphire and steel to structural glass;
- 4—Joining similar or dissimilar non-metallic materials, e.g., cemented carbides and polymers;
- 5—Joining high-precision components which require maintaining the original shape and dimensions of the parts, e.g., electronic devices and microwave guides.





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 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/metals
metals@mdpi.com
[X@Metals_MDPI](https://twitter.com/Metals_MDPI)