

## Special Issue

# Advancing the Art of Welding: A Spotlight on Advanced Manufacturing Technology

### Message from the Guest Editor

Welding, a cornerstone of numerous manufacturing processes, is undergoing a rapid evolution driven by the integration of advanced technologies. This Special Issue, “Advancing the Art of Welding”, showcases cutting-edge innovations in welding techniques, materials, automation, and process control that are revolutionizing modern manufacturing. Recent advancements in laser welding, friction stir welding, and hybrid welding processes have expanded capabilities of joining diverse alloys with unprecedented precision and efficiency. Topics of interest include, but are not limited to, additive manufacturing with welding, advanced welding processes (e.g., spot, laser, electron beam, and friction stir welding), hybrid welding systems, multi-material joining, automation and robotics in welding, green and sustainable welding, sensor integration and real-time monitoring, artificial intelligence and machine learning for process optimization, in depth microstructural characterization, advanced materials joining, and the development of sustainable and energy-efficient welding solutions.

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### Guest Editor

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### Deadline for manuscript submissions

closed (31 October 2025)



## Machines

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## About the Journal

### Message from the Editor-in-Chief

*Machines* is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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### Editor-in-Chief

Prof. Dr. Antonio J. Marques Cardoso  
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