

# Special Issue

## Joining and Integration of Ceramics with Dissimilar Materials for Advanced Components and Applications

### Message from the Guest Editors

Ceramics, known for their exceptional properties such as high hardness, wear resistance, thermal stability, and corrosion resistance, are increasingly used in industries such as aerospace, automotive, energy, and electronics. While alumina is one of the most widely used advanced ceramics, other materials such as silicon carbide, boron carbide, silicon nitride, and zirconia also offer unique properties suited for specific applications. Joining techniques must therefore be carefully selected based on the properties of both the ceramic and metal components. This Special Issue seeks high-quality contributions that address various joining methods, from conventional techniques like brazing and diffusion bonding to emerging methods like laser-assisted and ultrasonic vibration-assisted joining. Topics of interest include stress relief strategies, interface design, and novel materials for filler and reinforcement, aiming to provide insights into the development of reliable, high-performance ceramic-ceramic and ceramic-metal joints for advanced technologies.

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### Guest Editors

Dr. Heloisa Ramlow

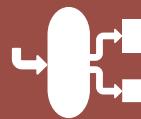
Dr. Gurdial Blugan

Dr. Stefan Niklaus Heinen

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### Deadline for manuscript submissions

8 April 2026



## Processes

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