

## Special Issue

# Structural Design and Performance Optimization of High-Performance Composites

### Message from the Guest Editor

This Special Issue will address current challenges, novel advances, and groundbreaking insights related to microstructure design methods and property optimization technologies. It will focus on a range of relevant technologies, including multidisciplinary optimization, multiscale architectural modeling and design, reliability-based design, microstructure shape and topology optimization, material parameter and property identification, inverse design, uncertainty optimization, machine learning, artificial intelligence, and Bayesian optimization. Furthermore, the scope of this Special Issue will feature an array of innovative materials and structures, lightweight high-performance structural materials, lightweight efficient thermal protection materials, thermal management materials, new multifunctional composite materials, extreme temperature-resistant functional materials, nanocomposites, intelligent composites, metamaterials, 3D-printed materials, and 4D-printed materials. Submissions including, but not limited to, the abovementioned material systems and optimization technologies are welcome.

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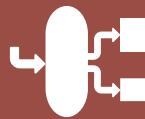
### Guest Editor

Dr. Shuyuan Zhao  
School of Astronautics, Harbin Institute of Technology, Harbin 150080, China

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### Deadline for manuscript submissions

closed (30 April 2026)



## Processes

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### Editor-in-Chief

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