

## Special Issue

# Development and Application of High-Performance Support Structures and Functional Materials for Extreme Environment

### Message from the Guest Editors

As globalization and technological advancements progress, the demand for infrastructure that is capable of withstanding extreme environments—such as high temperatures and humidity, freeze–thaw cycles, severe corrosion, and deep-sea high pressure—continues to rise. Key projects, including polar research bases, deep-sea energy exploration, island reef protection, and disaster response facilities, face unprecedented challenges in meeting stringent requirements for adaptability and durability. Traditional structural support systems and conventional building materials often exhibit significant limitations in such environments, including rapid performance degradation, insufficient durability, poor corrosion resistance, and a lack of intelligent functionality. These shortcomings make them inadequate for the long-term service life required in extreme conditions. Consequently, there is an urgent need to develop high-performance support structures and functional materials that can adapt to environmental changes and dynamically adjust their performance to maintain structural integrity.

### Guest Editors

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### Deadline for manuscript submissions

closed (20 July 2025)



## Materials

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### Message from the Editorial Board

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