

Special Issue

Recent Advances and Innovative Applications of Polymer-Enhanced Composites in Construction

Message from the Guest Editors

The demand for durable, resilient, and sustainable infrastructure has driven the rise of polymer-enhanced composites in construction. Fiber-Reinforced Polymers (FRPs)—including CFRP, GFRP, AFRP, and BFRP—offer high strength-to-weight ratios, corrosion resistance, and electromagnetic neutrality, making them ideal for concrete reinforcement. Yet, challenges such as long-term performance, environmental durability, and behavior under complex loading limit broader adoption. Geopolymer-based materials have emerged as a sustainable alternative to traditional cement, offering superior mechanical performance, thermal stability, and a lower carbon footprint. As key polymer-enhanced construction materials, their long-term durability, workability, and scalability must be addressed. This Special Issue, "Recent Advances and Innovative Applications of Polymer-Enhanced Composites in Construction", aims to highlight cutting-edge research exploring the evolution and application of polymer-enhanced composite materials in civil engineering. Topics include durability under harsh environments, performance under extreme loads, and innovative FRP applications in structural elements.

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Message from the Editor-in-Chief

Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.9.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Alexander Böker

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