

Special Issue

Advances in High-Performance Polymer Fibers: Synthesis, Structure, and Applications

Message from the Guest Editor

This Special Issue focuses on recent progress in the development of polymer fibers that combine outstanding mechanical, thermal, and functional performance. High-performance polymer fibers are essential materials in advanced technologies, and their definition increasingly extends beyond mechanical strength and stiffness to include properties such as thermal stability, environmental resistance, electrical and optical functionality, and sustainability. The Special Issue aims to provide a platform for research on innovative synthesis routes, spinning processes, and structural design strategies that enable the tailoring of fiber performance through the control of morphology, orientation, and crystallinity. Particular attention is given to studies elucidating structure–property relationships and demonstrating novel processing or post-treatment approaches. By integrating perspectives from materials chemistry, processing science, and application engineering, this Special Issue seeks to advance the understanding and development of next-generation high-performance polymer fibers for use in composites, energy systems, smart textiles, and biomedical applications.

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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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