

Special Issue

Advanced Polymer-Based Packaging Materials: Integrating Sustainability, Functionality, and Circular Economy

Message from the Guest Editors

Polymer-based packaging materials are at the forefront of technological transformation, driven by the imperatives of sustainability, circular bioeconomy, and environmental stewardship. This Special Issue invites research and review articles addressing the design, synthesis, modification, and application of polymeric systems engineered for advanced packaging. Topics of interest include the development of renewable and biodegradable polymers, functional nanocomposites, and hybrid systems with improved mechanical, thermal, and barrier properties. Studies exploring polymer-additive interactions, stimuli-responsive and self-healing behaviors, active and intelligent mechanisms for food preservation, and advanced coating or lamination technologies are particularly encouraged. Furthermore, research integrating life cycle assessment, recycling strategies, and circularity-driven innovations to reduce plastic waste is welcomed. This Special Issue aims to provide an interdisciplinary platform bridging polymer chemistry, materials science, and food technology, fostering a holistic understanding of the evolving landscape of sustainable packaging materials.

Guest Editors

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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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