

Special Issue

Valorization of Biomass and Agri-Food Waste Towards Sustainable Polymers: Bridging Chemistry, Mechanical Processing, and Circular Design

Message from the Guest Editors

This Special Issue, "Valorization of Biomass and Agri-Food Waste towards Sustainable Polymers: Bridging Chemistry, Mechanical Processing, and Circular Design", focuses on transformative strategies for converting renewable feedstocks into high-performance polymeric materials. We welcome contributions that highlight the synergy between mechanical processing techniques—such as extrusion, solid-state shear milling, melt mixing, grinding, and compounding—and chemical or physicochemical modifications to tailor material properties. Topics of interest include advanced characterization, performance evaluation, and the integration of lifecycle assessment to guide circular design. Keywords:

- sustainable polymers
- biomass valorization
- lignocellulosic biomass
- bio-based polymeric materials
- mechanical processing (extrusion, milling, etc.)
- mechano-chemical processing
- polymer characterization and performance evaluation
- lifecycle assessment (LCA)
- circular economy
- process scale-up and industrial implementation

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 5.8.

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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