

Special Issue

Polyurethane Functionalization and Recycling

Message from the Guest Editor

Polyurethanes (PURs) are highly versatile polymers whose properties can be precisely tailored through chemical modifications, raw material selection, and processing methods. They are widely used in transportation, construction, energy, electronics, medicine, furniture, and packaging. Recent research emphasizes functionalization to introduce properties such as self-healing, conductivity, flame retardancy, barrier performance, and biodegradability. Meanwhile, recycling and reuse of PUR waste are increasingly critical in line with environmental concerns and circular economy principles, while bio-based feedstocks and sustainable production attract growing attention. This Special Issue of *Polymers* welcomes original research and reviews on advances in polyurethane functionalization, modification, and recycling. Topics include:

- Functional PURs (conductive, self-healing, barrier)
- Bio-based polyols and isocyanates for PUR synthesis
- PUR composites
- Foam morphology and performance
- Flame retardancy and stability of PUR materials
- Recycling and upcycling of PUR waste
- Sustainable production
- Studies on degradation and environmental impact
- Applications in medicine, transportation, construction, and energy.

Guest Editor

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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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