

## Special Issue

# Recent Advances in Biobased and Biodegradable Polymer Materials for Packaging Applications

### Message from the Guest Editor

The longevity and environmental impact of conventional petroleum-based plastics have triggered intensive research into sustainable alternatives for packaging applications. This Special Issue presents a curated selection of advanced studies on bio-based and biodegradable polymers from renewable resources, including different polymers such as polysaccharides, aliphatic polyesters (e.g., PLA, PHAs), proteins, lignin-based systems, etc. The focus of the contributions is on the molecular design, structural optimisation, and functionalisation of these materials to improve mechanical, thermal and barrier properties while ensuring controlled biodegradability. Innovative approaches such as the formulation of nanocomposites, bio-based blends, multilayer structuring and environmentally friendly processing technologies will be investigated for their potential to overcome current performance limits. In addition to material innovation, the issue also looks at broader sustainability metrics, recycling processes, including life cycle assessment, end-of-life scenarios, and evolving regulatory frameworks.

### Guest Editor

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## Polymers

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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 4.7.

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.

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### Editor-in-Chief

Prof. Dr. Alexander Böker

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