

## Special Issue

# Advances in Polymer Recycling and Upcycling: Toward a Circular and Sustainable Future

### Message from the Guest Editors

This Special Issue explores advances and challenges in polymer recycling and upcycling, highlighting strategies to enhance material circularity and reduce environmental impacts. It covers:

- **Recycling Technologies:** Advances in mechanical, chemical, and biological methods, improved sorting, and innovations preserving polymer properties.
- **Upcycling Approaches:** Converting plastic waste into higher-value products, developing functionalized polymers, and employing advanced methods.
- **Sustainability & Circular Economy:** Using life cycle assessments (LCAs) to evaluate impacts, explore policies, and analyze trends.
- **Novel Materials & Composites:** Creating biologically derived materials for better performance and recyclability.
- **Integration of Safety & Sustainability:** Minimizing impact from design and enhancing performance for a circular economy.
- **Challenges & Future Directions:** Addressing polymer degradation, contamination, and leveraging AI and robotics in waste management.

This issue aims to foster collaboration among academia, industry, and policymakers, driving innovation in polymer recycling and upcycling for a sustainable future.

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### Guest Editors

Dr. Nuno Gama

CICECO—Aveiro Institute of Materials and Department of Chemistry, University of Aveiro—Campus Santiago, 3810-193 Aveiro, Portugal

Dr. Alessandra Lorenzetti

Department of Industrial Engineering, University of Padova, Via Marzolo, 9, 35131 Padova, Italy

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### Deadline for manuscript submissions

closed (31 January 2026)



## Polymers

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*Polymers*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[polymers@mdpi.com](mailto:polymers@mdpi.com)

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## About the Journal

### 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.

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### Editor-in-Chief

Prof. Dr. Alexander Böker

Fraunhofer-Institut für Angewandte Polymerforschung, Lehrstuhl für Polymermaterialien und Polymertechnologie, Universität Potsdam, Geiselbergstraße 69, 14476 Potsdam-Golm, Germany

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