

Special Issue

Next-Generation Biopolymers: Innovations at the Interface of Sustainability and Functionality

Message from the Guest Editors

Biopolymers have moved beyond curiosity, prompting a broader scientific and industrial rethinking of how materials could be better designed, used, and returned to nature. Derived from renewable resources and endowed with tunable functionalities, they constitute one of the most promising material classes of our time. This Special Issue, 'Next-Generation Biopolymers: Innovations at the Interface of Sustainability and Functionality', brings together cutting-edge research at the convergence of chemistry, biology, materials science, and engineering. We invite original research articles and reviews on the design, synthesis, modification, and characterization of biomass polymers, including polysaccharides, proteins, polyhydroxyalkanoates, polylactic acid, and lignocellulosic polymers, as well as their composites and hybrid systems. Application domains of interest include biomedical devices, sustainable packaging, agriculture, water remediation, adhesives, optics, and energy. This Special Issue aims to present the trajectory of biopolymer innovation, from fundamental molecular insights to real-world impact.

Guest Editors

Prof. Dr. Tsuyoshi Michinobu

Department of Materials Science and Engineering, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8552, Japan

Dr. Puhup Puneet

Department of Materials Science and Engineering, Institute of Science Tokyo, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8552, Japan

Deadline for manuscript submissions

30 November 2026



Polymers

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 11.0
Indexed in PubMed



mdpi.com/si/279687

Polymers
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
polymers@mdpi.com

[mdpi.com/journal/
polymers](https://mdpi.com/journal/polymers)





Polymers

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 11.0
Indexed in PubMed



[mdpi.com/journal/
polymers](https://mdpi.com/journal/polymers)



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.

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, PubMed, PMC, FSTA, CAPIus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q1 (Polymer Science) / CiteScore - Q1 (Polymers and Plastics)