

Special Issue

Biopolymer-Derived Carbon Materials: Applications in Environmental Remediation and Renewable Energy Production

Message from the Guest Editors

The growing demand for sustainable and high-performance materials has driven intense interest in biopolymers as versatile precursors for advanced carbon materials. Derived from renewable biomass, biopolymers such as cellulose, hemicellulose, lignin, starch, chitosan, alginate, and proteins possess diverse molecular structures and abundant functional groups, enabling the design of biopolymer-derived carbons with tunable porosity, surface chemistry, and electrical conductivity. These materials have demonstrated remarkable potential in environmental remediation, including adsorption, catalysis, and sensing, as well as in renewable energy production and storage, encompassing batteries, supercapacitors, and fuel cells. This Special Issue aims to showcase recent advances in the conversion, modification, and functionalization of biopolymers into high-value carbon materials and their integration into environmental and energy technologies. We welcome original research articles and reviews that elucidate structure–property relationships, mechanistic insights, and polymer-guided synthesis strategies relevant to this rapidly evolving interdisciplinary field.

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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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