International Journal of Polymer Science

Hindawi

Special Issue on

Synthesis and Characterization of Bio-Based Polymers from Forest and Agriculture Wastes

CALL FOR PAPERS

The demand for polymers in day-to-day life has been increasing despite the dwindling supplies of fossil resources. Fossil fuels were instrumental in developing the modern dependence on plastic but now a new, safe, healthy, and sustainable source is required. Biomass waste from the forestry and agriculture industries is a possible solution as it is an abundant and biorenewable resource. These wastes are full of valuable polysaccharides and phenolic components, which can be converted to high-value and high-performance polymers such as bioepoxy resins, which can replace toxic petro-based bisphenol A. Thus, it is necessary to develop green polymers from plant wastes in order to achieve the goal of a circular economy.

This special issue aims to bring together innovations in green polymers, original research on the use of biomass waste in the synthesis of polymers, and review articles addressing the current challenges in the field and also aims to widen interdisciplinary perspectives. We encourage authors to submit manuscripts which address developments in this important field.

Potential topics include but are not limited to the following:

- Sustainable biopolymers derived from agriculture and forest waste, such as polylactic acid (PLA), bio-based polyurethane, and similar
- Novel synthesis routes to develop bio-based polymers, i.e., the use of phase transfer catalysts to replace the conventional synthesis route of epoxy resins
- High-performance biopolymers applied in advance sectors such as lignin biopolymers in energy harvesting devices: nanocellulose as a light management film
- Advance pretreatments to produce green polymers such as liquefaction, ionic liquid extraction
- Biopolymer and fiber composites, combining biopolymer and biofibers to produce environmentally friendly materials
- Modification of biopolymers, such as acetylation, chain extension, or alkoxylation, to create specific functions
- Synthesis of biopolymers from building blocks generated from biorefinery and newly integrated biorefinery platforms to produce biopolymers

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/ijps/bbppd/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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