Special Issue

Translational Advances in Polysaccharide-Based Materials: Bridging Pharmacy, Biomedicine, and Engineering

Message from the Guest Editors

This Special Issue aims to showcase cutting-edge research and applications of natural polysaccharides as key building blocks in the development of advanced materials for pharmaceutical, biomedical, and engineering purposes. Contributions will highlight the role of polysaccharides in designing bioactive coatings, smart hydrogels, drug delivery systems, 3D bioprinted constructs, and biocompatible sensors. Particular emphasis will be placed on translational approaches that connect fundamental discoveries with industrial and clinical implementation, including the development of materials for controlled drug release, regenerative medicine, cell and organ-on-a-chip models, and sustainable alternatives to animal testing. This Special Issue welcomes interdisciplinary studies integrating polysaccharide chemistry, materials science, pharmacology, tissue engineering, and microfluidic technologies. The overarching goal is to present innovative strategies that facilitate the translation of laboratory achievements into clinical and industrial applications, promoting the creation of safe, effective, and sustainable biomaterials for the next generation.

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About the Journal

Message from the Editor-in-Chief

Polysaccharides and their derivatives are ubiquitous biopolymers, and therefore, in recent years, their potential use has increasingly been explored. *Polysaccharides* are still the biggest class of biopolymers used in classical industries such as the paper and textile industries. The progress and fundamental aspects of the new synthesis pathways and derivatization routes, characterization, properties, as well as processing of polysaccharides are important for their possible application in modern sustainable functional materials and future green technologies. *Polysaccharides* is a new open access journal that will provide the rapid publication of scholarly articles on studies related to polysaccharides. Its mission is to publish cutting-edge articles, encouraging the application of a sustainability-based approach to many complex, interesting phenomena and breaking boundaries among different disciplines.

Editor-in-Chief

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