

Special Issue

Advances in Polymer Biotechnology: Sustainable Materials, Biocatalysis, and Industrial Applications

Message from the Guest Editors

This Special Issue will focus on recent advances in polymer biotechnology, exploring innovative strategies for the design, synthesis, functionalization, and application of polymers across diverse industrial sectors. The aim is to gather contributions that demonstrate how biotechnology tools, such as enzymes, microbes, and molecular engineering, can be integrated with polymer science to produce sustainable, high-performance, and multifunctional materials. Key topics will include studies on bio-based and biodegradable polymers, biocatalytic polymer modification, smart and responsive materials, nanocomposites, and polymer-based systems for energy, environmental, and industrial applications. Special attention will be given to studies that bridge experimental, computational, and modeling approaches, as well as translational works that connect academic research with industrial innovation. We expect to receive original research articles, reviews covering recent breakthroughs and emerging trends. This Special Issue will serve as a platform to stimulate interdisciplinary collaboration and enhance the visibility of innovative research in polymer biotechnology.

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