catalysts

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Recent Advances in Nanobiocatalysts Design, and Their Industrial and Biomedical Applications

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Deadline for manuscript submissions:
closed (15 February 2024)

Message from the Guest Editors

Dear Colleagues,

Biocatalysts or enzymes, unlike metal catalysts, are biodegradable and easily replenished through inexpensive and environmentally benign fermentation processes. Modern-day techniques such as genetic engineering, directed evolution, rational protein engineering, computational enzyme design, and metagenomics has paved the way to produce enzymes of diverse functionality. Furthermore, advances in nanotechnology have shown the way forward to generate nano-scale materials with tunable hysicochemical properties. Nanomaterials are often used as a support for the immobilization of enzymes to increase their surface area. The amalgamation of nanotechnology and biocatalysis technology holds promising potential in industrial as well as biomedical applications, such as biosensors, biofuel cells, bioelectronics, biodiesel production, biomedical diagnostics, etc.

The current Special Issue focuses on the synthesis, characterization, and application of biocatalysts for industrial and biomedical applications. We invite experimental as well as theoretical studies such as research articles, reviews, short communications, and perspectives for submission.