Special Issue

Biocatalysis and Whole-Cell Biotransformation in Biomanufacturing

Message from the Guest Editors

Enzyme technology and biocatalysis has become a prominent field in synthetic biology and “green” organic synthesis of chemicals due to the increased demand for environmentally friendly biomanufacturing. Global trends towards sustainability, the reduction of organic waste, and landfill avoidance are driving the demand for greener products with improved properties. Accordingly, the field of enzyme technology and biocatalysis (multi-enzymes and whole-cells) has become a primary focus for the synthesis of bio-based chemicals and high-value compounds. In this Special Issue of Catalysts, we would like to highlight these current advances with special emphasis on the following areas:

- Structure–function analysis and enzyme optimization;
- Enzymatic and whole-cell biotransformation;
- Cascade reactions and co-immobilization of enzymes;
- Strategies for enzyme stabilization and biocatalytic applications;
- Design of novel biocatalytic modules for enhanced transformation of biological waste products;
- Assembly of functional multi-enzyme pathways.

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