Special Issue

Development, Modelling and Simulation of Biocatalytic Processes

Message from the Guest Editors

The development of biocatalytic processes requires a thorough understanding of the underlying reaction mechanisms, as well as the identification and optimization of appropriate reaction conditions and parameters. Mathematical modelling and simulation tools can help predict and optimize process conditions, reduce experimental effort, and facilitate the scale-up of biocatalytic processes from the laboratory to industrial production. However, there are still challenges in accurately modelling these complex systems, such as the lack of reliable kinetic data and the need for sophisticated parameter estimation methods. Overcoming these challenges requires interdisciplinary collaboration between experts in biotechnology, mathematics and engineering. This Special Issue focuses on all aspects of addressing the above challenges, namely:

- Development of enzymatic cascade reactions, including chemo- and electroenzymatic cascades;
- Conventional and novel modelling approaches for biocatalytic processes;
- Simulation and mathematical optimization of biocatalytic processes;
- Intesification of biocatalytical processes.

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Editor-in-Chief

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