Special Issue

Advances in Smart Digital Tools for Research and Development

Message from the Guest Editors

This Special Issue is devoted to the impact of computer-aided methods on the diverse stages of development and manufacture of biopharmaceutical drugs. The focus is set on computer methods that support the different stages and scales in R&D: bioinformatics (gene-level modeling), molecular dynamics simulation, cell-level modeling including MFA and FBA, reactor-scale modeling such as CFD and model-based process control, system-level modeling for high-throughput and sequential experimental design and operation, as well as modeling approaches supporting the regulatory PAT (e.g., soft sensors) and QbD approaches (e.g., process design and optimization). Possible topics of interest of this Special Issue include, but are not limited to:

- Big Data in gene sequencing
- Genome, metabolic, and flux modeling
- Big Data in bio-analytics and soft sensors
- Big Data in high-throughput systems
- Dynamical modeling of biosystems
- Computational fluid dynamics for bioreactors
- Bioprocess design, optimization, and upscaling

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About the Journal

Message from the Editor-in-Chief

"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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