Special Issue

Fermentation Optimization and Modeling

Message from the Guest Editor

The majority of fermentations are still run in a discontinuous fashion, e.g., as batch or fed-batch processes, where the fed-batch variant offers significantly more handles to perform optimization. These discontinuous processes, however, result in time-varying variables, such as the concentrations of biomass, substrates, and products. Moreover, the intracellular composition of the cells or flux patterns through the metabolism may change when limitations by substrates occur that are often desired, e.g., to initiate a secondary metabolism. To account for this dynamic behavior on a rational basis in the context of optimization, mathematical models to describe growth and production have to be formulated. For this reason, it is the intent of this Special Issue to collect new results which show—based on a mathematical modeling of a real, experimental system—the application of a model-based optimization for the real process. Both experiments in lab-scale and industrial applications are welcome.

Guest Editor

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Editor-in-Chief

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