Special Issue

Data-Driven Modeling, Optimization and Control for Chemical Processes

Message from the Guest Editors

Advances in digitalization, big data generation, collection, and analytics, as well as advanced computing, have revolutionized the modeling, optimization, and control of modern chemical process systems. In this Special Issue, we showcase original research articles and review articles that focus on the latest advancements and real-world applications of data-driven methods for chemical process modeling, optimization, and process control. The topics covered in this Special Issue include simple yet powerful linear regression modeling, cutting-edge artificial intelligence modeling approaches, model-based optimization and control, and model-free control strategies (such as reinforcement learning) applied to a wide range of chemical process systems (such as crystallization, flow reactors, self-assembly, separations, and so on).

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Deadline for manuscript submissions

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