

Special Issue

Artificial Intelligence (AI) and Automation-Driven Innovations in Chemical Engineering

Message from the Guest Editor

This Special Issue, entitled “*Artificial Intelligence (AI) and Automation-Driven Innovations in Chemical Engineering*”, invites the submission of original research and review articles that demonstrate the integration of intelligent algorithms, data-driven modeling, and autonomous systems in chemical engineering applications. Topics of interest include, but are not limited to, the following:

- Machine learning and AI-based process modeling, control, and optimization;
- Smart and autonomous chemical manufacturing systems;
- AI-assisted materials and catalyst discovery;
- Applications in carbon capture, utilization, and storage (CCUS);
- Data-driven strategies for energy-efficient and sustainable process design.

This Special Issue aims to highlight interdisciplinary research where AI and automation serve as key enablers of next-generation chemical engineering solutions, particularly in the context of decarbonization, renewable energy integration, waste management, and resource efficiency.

Guest Editor

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You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

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