

Special Issue

Intelligent Control and Optimization in Manufacturing

Message from the Guest Editors

The advent of cutting-edge AI and digital technologies is driving a transformative shift in the manufacturing environment. The industry is currently navigating a period of significant evolution, driven by the Industry 4.0 paradigm, enabling the development of Smart Manufacturing Systems, supported by several technologies such as Cyber-Physical Systems and Digital Twins. Modern manufacturing systems use real-time monitoring with multi-sensor data fusion to detect process anomalies and product defects. Statistical Process Monitoring (SPM) and Machine Learning (ML) algorithms play a key role in supporting intelligent decision-making. This Special Issue seeks to provide a platform for researchers, academicians, and practitioners to share the latest research on intelligent control and optimization in manufacturing. We also welcome review papers. The issue will be a valuable resource for professionals interested in novel methodologies, applications, and challenges in this rapidly evolving field.

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Deadline for manuscript submissions

20 September 2025



Mathematics

an Open Access Journal
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Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/230044

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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