

Special Issue

Reconfiguration and Control of Parallel Mechanism

Message from the Guest Editors

Reconfiguration and control of parallel mechanisms play a pivotal role in enabling smart and reconfigurable manufacturing by supporting rapid adaptation to changing production needs. Modular designs and open architectures allow these mechanisms to integrate effortlessly into larger manufacturing ecosystems, enabling flexible layouts and the swift introduction of new products. Advanced control strategies, such as model-based, adaptive, and AI-driven controls, ensure precise and efficient operation even during reconfiguration, minimizing downtime and maintaining product quality. Moreover, the integration of parallel mechanisms with Industry 4.0 technologies—such as smart sensors, digital twins, and real-time monitoring systems—facilitates predictive maintenance and autonomous operation. This enables dynamic adjustments to production parameters, task sequencing, and resource allocation, maximizing efficiency and responsiveness in fluctuating market conditions. This Special Issue provides a comprehensive overview of these developments, highlighting their impact on key manufacturing applications like machining, assembly, and robotics.

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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