Special Issue

Lab-on-a-Chip Technologies for High-Throughput Metabolic and Biochemical Analysis

Message from the Guest Editors

Lab-on-a-chip (LoC) technologies are advancing approaches in metabolic and biochemical research through high-performance analytical processes. LoC enables scalable, cost-efficient methods by reducing sample and reagent consumption while allowing for real-time biological monitoring processes across a wide range of scientific fields such as biochemistry and molecular biology, drug screening, CRISPR-based microfluidic screening systems, analytical chemistry, nanotechnology, and environmental-related sciences. This Special Issue aims to showcase the state-of-the-art in LoC technologies for high-performance metabolic and biochemical analysis by including the development, optimization, and application of these technologies.

- Innovative microfabrication methods and novel materials for LoC devices.
- Biosensor integration, microfluidic devices, and advanced detection methods.
- LoC applications in clinical diagnostics, drug screening, metabolic profiling, and systems biology.
- Automation, data analysis strategies, and scalable high-performance screening platforms.
- Emerging directions in standardization, reproducibility, and LoC implementation technologies.

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Deadline for manuscript submissions

closed (15 December 2025)

Micromachines

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Impact Factor 3.0
CiteScore 6.0
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Editor-in-Chief

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