Special Issue

Applications of Microfluidics and Nanofluidics

Message from the Guest Editor

Microfluidics and nanofluidics enable people to investigate and control mass transport under the micro- to nanometer-confined space with artificial force fields, such as electric, hydraulic, concentration, pressure, light, etc. Due to the precise detection at a single-particle scale, microfluidics has played an irreplaceable role in modern medicine and chemistry, bioengineering, drug discovery, and environmental engineering. Meanwhile, nanofluidics, with 100 nm to angstrom-sized confined effect, can achieve atomic-scale mass transport and reaction by rational design of nanometer platforms, regarded as a frontier in condensed physical, biomimetic iontronics, membrane separation, and energy. As multi-discipline-crossing edge subjects, microfluidics and nanofluidics rely on fundamental subjects, and in turn, they can challenge the current knowledge, bridge the knowledge gaps, and develop new knowledge. Accordingly, this Special Issue seeks to showcase research papers, short communications, and review articles focusing on all aspects of microfluidic and nanofluidics, including fundamental science, material platform, device fabrication, and applications.

Guest Editor

Dr. Jun Lu

Department of Chemical and Biological Engineering, Monash Centre for Membrane Innovation, Monash University, Clayton, VIC 3800, Australia

Deadline for manuscript submissions

20 November 2025

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/216933

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)