



Nano and Micro Scale Fabrication for Molecular Cybernetics and Molecular Robotics

Guest Editors:

Dr. Ibuki Kawamata

1. Department of Robotics,
Graduate School of Engineering,
Tohoku University, Sendai 980-
8579, Japan

2. Natural Science Division,
Faculty of Core Research,
Ochanomizu University, Tokyo
112-8610, Japan

Dr. Yusuke Sato

Frontier Research Institute for
Interdisciplinary Sciences,
Tohoku University, Sendai 980-
8579, Japan

Deadline for manuscript
submissions:

closed (30 November 2021)

Message from the Guest Editors

Molecular robotics and molecular cybernetics are interdisciplinary research fields that aim to construct autonomous molecular systems by integrating devices built at a molecular level. In those fields, biomolecules such as DNA, RNA, peptides, and lipids are commonly used as building blocks owing to their programmability, functionality, and integrability. Various molecular devices have been designed and proposed using nucleic acid nanotechnology, molecular programming, artificial cell biotechnology, and protein engineering. Many microfluidic or lab-on-a-chip experiments have been conducted for integrating molecular devices to be observed under microscopy. As these techniques have progressed, a variety of systems have been demonstrated in the past few decades. However, there are still open questions on how to develop autonomous molecular machinery in molecular robotics and realize chemical artificial intelligence in molecular cybernetics.

In this Special Issue, contributions on molecular robotics and molecular cybernetics are welcome in forms such as original research articles, short communications, and review articles.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Nam-Trung Nguyen

Queensland Quantum and
Advanced Technologies Research
Institute, Griffith University, West
Creek Road, Nathan, QLD 4111,
Australia

Message from the Editor-in-Chief

You are invited to contribute research articles or comprehensive reviews for consideration and publication in *Micromachines* (ISSN 2072-666X). *Micromachines* is published in the open access format. Research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the general public have unlimited free access to the content as soon as it is published. As an open access journal, *Micromachines* is supported by the authors or their institutes by payment of article processing charges (APC) for accepted papers. We are pleased to welcome you as our authors.

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), PubMed, PMC, Ei Compendex, dblp, and other databases.

Journal Rank: JCR - Q2 (Instruments and Instrumentation) / CiteScore - Q1 (Mechanical Engineering)

Contact Us

Micromachines Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/micromachines
micromachines@mdpi.com
[X@micromach_mdpi](https://twitter.com/micromach_mdpi)