

## Special Issue

# Acoustical Tweezers: From Fundamental Research to Applications

### Message from the Guest Editors

Acoustic tweezers are a versatile tool that has been developed and broadly applied in a variety of contexts from cell manipulations to genetic engineering during the past two decades. Based on acoustic waves with various frequencies from kHz to hundreds of MHz ranges, the sample can be manipulated with sizes ranging from millimeter scales (e.g., multicellular organisms), to micrometer scales (e.g., leukemia cells, droplets or clusters), to nanometer scales (e.g., extracellular vesicles). Acoustic tweezers can also control cell–cell interactions, measure intercellular force, explore cell mechanical properties, and separate cell types. Compared with optical tweezers, acoustic tweezers can provide larger forces in the nanonewton range with relative safety of the acoustic power, which are similar to that used in ultrasonic imaging for diagnostic applications. This Special Issue seeks to showcase research papers, short communications, and review articles that focus on acoustic tweezers in novel methodological developments and various applications in biology and medicine. We look forward to receiving your submissions!

---

### Guest Editors

Dr. Hsiao-Chuan Liu

Department of Ophthalmology, University of Southern California, Los Angeles, CA 90033, USA

Prof. Dr. K. Kirk Shung

Biomedical Engineering, University of Southern California, Los Angeles, CA 90089, USA

---

### Deadline for manuscript submissions

closed (31 May 2024)



## Micromachines

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.0  
CiteScore 6.0  
Indexed in PubMed



[mdpi.com/si/176415](https://mdpi.com/si/176415)

*Micromachines*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[micromachines@mdpi.com](mailto:micromachines@mdpi.com)

[mdpi.com/journal/  
micromachines](https://mdpi.com/journal/micromachines)





# Micromachines

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.0  
CiteScore 6.0  
Indexed in PubMed



[mdpi.com/journal/  
micromachines](https://mdpi.com/journal/micromachines)



## About the Journal

### 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

#### 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)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the second half of 2025).