Special Issue

Breaking Barriers: Microneedles in Therapeutics and Diagnostics

Message from the Guest Editors

This Special Issue welcomes contributions that highlight recent advances in microneedle design, fabrication, and application, with a focus on platforms that enable the precise, targeted, and painless delivery of small molecules, biologics, and vaccines. We welcome original research and reviews covering solid, coated, dissolving, and hollow microneedles and hybrid systems that integrate sensing, controlled release, or smart feedback features. In addition, this Special Issue aims to explore challenges in clinical translation, including regulatory hurdles, manufacturing scalability, and stability concerns. We particularly seek papers that cover topics such as transdermal delivery enhancements (e.g., heat, ultrasound), skin interface optimization, and diagnostic sampling using microneedles. By uniting themes of precision, innovation, and patient-centric design, this Special Issue aims to capture the current momentum in microneedle research and demonstrate how these tiny tools are breaking barriers in both therapeutic and diagnostic landscapes—transforming the future of personalized medicine, painless treatment, and on-skin technology.

Guest Editors

Dr. Satish Rojekar

Center for Translational Medicine and Pharmacology, Department of Pharmacological Sciences, Icahn School of Medicine at Mount Sinai, 1 Gustave L. Levy Pl, New York, NY 10029, USA

Dr. Harsha Jain

Department of Pharmaceutical Sciences and Experimental Therapeutics, College of Pharmacy, University of Iowa, Iowa City, IA 52242, USA

Deadline for manuscript submissions

28 February 2026

Micromachines

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0
Indexed in PubMed

mdpi.com/si/243844

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

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

MDPI

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.

Editor-in-Chief

Prof. Dr. Ai-Qun Liu
Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China

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 17.2 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).