Special Issue

Gas Flows in Microsystems

Message from the Guest Editors

The last decades have witnessed a rapid development of microelectromechanical systems (MEMS) involving gas microflows in various fields: micro heat exchangers for chemical applications or electronic components cooling, fluidic micro-actuators for active flow control purposes, micronozzles for propulsion of nano and picosats, micro gas analysers or separators, vacuum generators and Knudsen micropumps, etc. These flows are rarefied due to the small MEMS sizes and the rarefaction can be increased by low pressure conditions. The flows relate to the slip flow, transition or free molecular regimes, and can involve monatomic or polyatomic gases. Heat and mass transfer are strongly impacted by rarefaction effects and temperature driven microflows offer new opportunities for designing original MEMS for gas pumping or separation. Accordingly, this Special Issue seeks to showcase research papers, short communications or review articles that focus on novel theoretical models or numerical data, and on new experimental developments, for improving knowledge on gas microflows. Papers dealing with the development of original gas MEMS are also welcome. We look forward to receiving your submission.

Guest Editors

Prof. Stéphane Colin

Institut Clément Ader, Université de Toulouse, 3 rue Caroline Aigle, 31400 Toulouse, France

Dr. Lucien Baldas

Institut Clément Ader, Université de Toulouse, 3 rue Caroline Aigle, 31400 Toulouse, France

Deadline for manuscript submissions

closed (31 January 2019)

Micromachines

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0
Indexed in PubMed

mdpi.com/si/14786

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

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
1. Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
2. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

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).

MDPI