



## Ultrasonic Transducers and Devices: Design, Fabrication and Applications

Guest Editors:

**Prof. Dr. Aneela Zameer**

Department of Computer and Information Sciences, Pakistan Institute of Engineering and Applied Sciences, Islamabad 45650, Pakistan

**Prof. Dr. Muhammad Asif Zahoor Raja**

Future Technology Research Center, National Yunlin University of Science and Technology, Douliou, Yunlin 64002, Taiwan

**Dr. Ammara Mehmood**

School of Engineering, RMIT University, Melbourne 3001, Australia

Deadline for manuscript submissions:

**closed (31 October 2023)**

### Message from the Guest Editors

Dear Colleagues,

Ultrasonic transducers have been widely used to convert one form of energy into vibration energy classified according to the medium of wave generation. Ultrasonic transducers and sensors are devices that generate or sense ultrasound energy, and can further be divided into three broad categories: transmitters, receivers, and transceivers. Since piezoelectric materials generate a voltage when force is applied to them, they can also work as ultrasonic detectors. Systems use separate transmitters and receivers or combine both functions into a single piezoelectric transceiver. Ultrasound transmitters can also use non-piezoelectric principles, such as magnetostriction. Materials with this property change slightly in size when exposed to a magnetic field and can be used as practical transducers.

Piezoelectric crystals, including quartz, Rochelle salt, and certain types of ceramic, convert an oscillating electric field applied to the crystal into a mechanical vibration. They are the most popular and versatile type of ultrasonic transducer.





an Open Access Journal by MDPI

## 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

## 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 (*Physics, Applied*) / CiteScore - Q2 (*Mechanical Engineering*)

## Contact Us

---

*Micromachines* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/micromachines](http://mdpi.com/journal/micromachines)  
[micromachines@mdpi.com](mailto:micromachines@mdpi.com)  
[X@micromach\\_mdpi](https://twitter.com/micromach_mdpi)