

CALL FOR PAPERS

Special Issue on Micromachined Ultrasonic Transducers

(Submission deadline: March 31, 2022)

Extensive research on micromachined ultrasonic transducers over the last 25 years has enabled new tools for imaging, therapy, and sensing and has successfully reached the phase of commercialization. Research and development efforts within the academia and the industry have been dedicated to the development of highly miniaturized and smart ultrasound devices, often leveraging the enhanced compatibility of silicon micromachining and electronic integration technologies. At the same time, thanks to the broad design space and available fabrication flexibilities, basic research on these transducers is still going on to devise new structures and geometries, operating modes, modeling approaches, and fabrication techniques to improve the performance, add new features, and enable new applications.

Typically, micromachined ultrasonic transducers are considered in two groups based on the physical mechanism of sensing and actuation: capacitive micromachined ultrasonic transducers (CMUT) and piezoelectric micromachined ultrasonic transducers (PMUT). However, the definition can be broadened by including all ultrasonic transducers that are enabled by the use of micromachining techniques, e.g., laser micromachining.

The *IEEE Open Journal on Ultrasonics, Ferroelectrics and Frequency Control (OJ-UFFC)* invites submission of manuscripts on Micromachined Ultrasonic Transducers that fall within the scope of the UFFC Society. This special issue seeks contributions from authors who are engaged in any aspect of micromachined transducers design, implementation, and use. Review articles and original contributions are sought in a wide range of topics including, but not limited to, the following:

- Analytical and numerical modeling
- Microfabrication and packaging technologies
- Characterization
- Electronic integration and custom electronic design
- Imaging and therapy in 2D and 3D
- Applications: immersion, airborne, and solid contact

All contributions should be submitted online via <https://mc.manuscriptcentral.com/oj-uffc/>, the Manuscript Central system of *IEEE Open Journal on UFFC*. When submitting, authors should state in the cover letter that the submission is intended for the Special Issue on “Micromachined Ultrasonic Transducers”, and they should clearly highlight how their manuscript is topically aligned with this area.

All manuscripts will be subjected to peer review. The submission deadline is March 31, 2022. Accepted special issue manuscripts will be published in the *IEEE Open Journal on Ultrasonics, Ferroelectrics and Frequency Control* in the second quarter of 2022. The guest editors for this special issue are:

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