

## SPOTLIGHT ISSUE: CALL FOR PAPERS

### Wearable Ultrasound Devices, Materials, and Applications

Submission Deadline: August 31, 2023

Wearable healthcare devices have greatly improved the quality of human life by providing continuous health monitoring, remedying weakened or lost body or organ functions, and sometimes enabling superhuman capabilities. Enabled by recent advancements in soft matter, nanotechnology, integrated circuits, portable power technology, and artificial intelligence (AI), and inspired by the demands of healthcare applications, wearable ultrasound research has gained unprecedented momentum and is expected to play an increasingly important role in continuous healthcare sensing, imaging, therapy, and drug delivery applications. To capture the ongoing cutting-edge research activities and cultivate the next wave of innovations in wearable ultrasound, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control* announces a Spotlight Issue on “*Wearable Ultrasound Devices, Materials, and Applications*.” This Spotlight Issue aims to compile a collection of original research, tutorial papers, full-length review papers, and perspective papers (mini reviews) to promote the publication and dissemination of best practices for a wide range of engineering knowledge essential to wearable ultrasound devices, materials and applications. Each article will emphasize at least one of the following topics:

- 1) **Wearable ultrasound devices and systems:** design, fabrication, and characterization of novel wearable ultrasound sensors, transducers, electronics, and systems; wearable ultrasound-specific imaging methods; AI-assisted signal processing, imaging, and control; portable power supply for wearable ultrasound, ultrasound power transfer for implanted healthcare devices;
- 2) **Wearable ultrasound materials:** material science and engineering related to ultrasound wave generation, detection, coupling, and propagation; passive materials for flexible transducers; soft electronics; flexible interconnect materials; adhesive and body attachment materials;
- 3) **Wearable ultrasound applications:** continuous health monitoring related sensing and imaging; ultrasound sensing and imaging enabled high-performance robotic prostheses and exoskeletons (assistive robots); ultrasound therapy including, but is not limited to, neural stimulation and drug delivery;

Original research manuscripts submitted to this Spotlight Issue are expected to be full-length articles that report new and significant research advances, with feasibility and advantages demonstrated experimentally. Manuscripts that only present theory and simulations without practical experimentation will not be aligned with the focus of this Spotlight Issue.

All contributions must be submitted online via <https://mc.manuscriptcentral.com/tuffc-ieee>, the Manuscript Central system of *IEEE Transactions on UFFC*. When submitting, authors must select the manuscript type as “Spotlight.” It is important for the authors to distinguish their manuscript from a regular submission. In the “Cover Letter” section, authors should state that the submission is intended for the Spotlight Issue on Wearable Ultrasound in UFFC, and they should clearly highlight how their manuscript is topically aligned with at least one of the three sub-themes described above.

All manuscripts will be peer reviewed. The submission deadline is August 31, 2023, with an expected publication date in the 2nd quarter of 2024. Potential contributing authors are encouraged to contact the guest editors to propose specific submission topics that are aligned with the scope of this Spotlight Issue. The Guest Editors are:

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