

Special Issue on: Recent advances in ultrasound technology for brain imaging and therapy

CALL FOR PAPERS

(Submission deadline: **March 31, 2020**)

The emergence of new technologies has dramatically accelerated our understanding of the human brain functions. Ultrasound has become a valuable tool in preclinical animal studies and clinical practice in many areas for the brain. It provides not only information about the structure and function of brain tissues but can also be used as a treatment tool for brain diseases. The success of ultrasound treatment for essential tremor is an example of how ultrasound can revolutionize clinical practice. Recent brain ultrasound advances such as functional brain imaging, super-resolution brain imaging, non-invasive ultrasound neuromodulation, and blood-brain-barrier opening therapy have great potential to improve our human life.

Although there are plenty of ultrasound equipment and methods being used for brain research and relevant clinical studies, there are still challenging niches to overcome for brain imaging and therapeutics. Therefore, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control* will organize a special issue on “Recent advances in ultrasound technology for brain imaging and therapy”. This special issue will embrace the creation and optimization of ultrasound technology for brain imaging and therapy, providing the community with an overview of state-of-the-art ultrasound technology and its unique applications for the brain.

Contributions are sought in new developments related, but not limited, to the followings topics:

- Brain Imaging,
- Functional Neuroimaging,
- Super-resolution Brain Imaging,
- 4D Brain Imaging,
- Multi-modality Imaging
- Brain Therapy,
- Brain Neuromodulation,
- Drug delivery,
- Blood-brain-barrier Opening Therapy,
- HIFU Brain Therapy,
- New Transducer and System for the Brain,
- Transcranial Measurement and Compensation,
- Real-time Monitoring and Evaluation.

All contributions should be submitted to *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control via Manuscript Central* at <https://mc.manuscriptcentral.com/tuffc-ieee>. When submitting, authors should select the Manuscript Type as “Special Issue Papers” or “Special Issue Review”, and enter the name of this special issue in the field “If the manuscript type is ‘Special Issue’, please enter the name of the Special Issue. It is important that

your manuscript is distinguished from a regular submission. In the first paragraph of “Comments to Editor-in-Chief”, you should state that the submission is intended for the Special Issue on “Recent advances in ultrasound technology for brain imaging and therapy”. Instructions for preparation and submission of your manuscript can be found on the IEEE Transactions on UFFC website: <https://ieeexplore.org/ieeexplore/document/9111111>.

All manuscripts are subject to the normal peer-review process. The submission deadline is March 31, 2020 with an expected publication date in August of 2020. It is recommended to submit relevant manuscripts as early as possible. The guest editors will be:

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