

Special Issue

Therapeutic Ultrasound Across Scales: From Cellular Models to Clinical Applications

Message from the Guest Editors

This Special Issue aims to highlight recent advances, emerging methodologies, and translational approaches that bridge the gap between laboratory studies and clinical practice. We invite contributions that explore the multifaceted roles of ultrasound as a therapeutic and modulatory tool across biological systems. Topics of interest include, but are not limited to, the following:

- High-intensity ultrasound (e.g., thermal ablation, focused ultrasound surgery);
- Low intensity pulsed ultrasound (e.g. regenerative medicine, triggered drug and gene delivery);
- Ultrasound and acoustic cavitation technologies for the enhancement of neurotherapies;
- Non-invasive acoustic modulation of neural cells;
- Next-generation technologies for advancing ultrasound therapies from preclinical research to clinical practice;
- High-precision ultrasound approaches for cellular applications;
- Mechanistic studies of ultrasound–tissue and ultrasound–cell interactions in in vitro models;
- Integration of ultrasound with imaging, nanotechnology, and regenerative medicine for enhanced therapeutic efficacy;
- Ultrasound-guided therapeutic intervention.

Guest Editors

Dr. Andrea Cafarelli

The BioRobotics Institute, Scuola Superiore Sant'Anna, 56127 Pisa, Italy

Dr. Allegra Conti

Medical Physics Section, Department of Biomedicine and Prevention, University of Rome Tor Vergata, 00133 Roma, RM, Italy

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Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
appls@mdpi.com

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,
20133 Milano, Italy

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