



Laser Ultrasonics

Guest Editors:

Prof. Dr. Vitaliy E. Gusev

Laboratoire d'Acoustique de
l'Université du Maine, LAUM
UMR-CNRS 6613, Le Mans
Université, 72085 Le Mans, France
vitali.goussev@univ-lemans.fr

Prof. Dr. Zhonghua Shen

School of Science, Nanjing
University of Science and
Technology, Nanjing 210094,
People's Republic of China
shenzh@njust.edu.cn

Prof. Dr. Todd Murray

Department of Mechanical
Engineering, University of
Colorado Boulder, Boulder,
Colorado 80309, USA
todd.murray@colorado.edu

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Message from the Guest Editors

The field of laser ultrasonics encompasses fundamental research on laser–matter interactions, as well as applications of opto-acoustic and acousto-optic phenomena in industry and biomedicine. Laser ultrasonics is a promising technique for the evaluation of novel materials and elastic/mechanical structures across spatial dimensions. New applications of it in industry continue to emerge as advanced manufacturing techniques are developed. The progress in laser science and development of new lasers, as well as advances in instrumentation and signal processing approaches, has broadened the reach of this technique.

The goal of this Special Issue is to provide a platform for the presentation of recent achievements in all areas of laser ultrasonics. This issue welcomes papers from the evaluation of fundamental light-matter interactions at femtosecond temporal and nanometer spatial scales and studies of coherent phonon interactions with other excitations and particles to the NDT, industrial and biomedical applications of laser ultrasonics. Topics of interest for this issue include, but are not limited to, new laser ultrasonic generation and/or detection techniques and instrumentation, signal processing approaches and inverse analysis, materials characterization and NDE, industrial applications, simulation and theory, and fundamental acousto-optic and wave propagation phenomena.

