Special Issue

MEMS/NEMS for Biomedical Imaging and Sensing

Message from the Guest Editors

In the past two decades, a variety of small-scale optical imaging and sensing devices have been developed based on MEMS/NEMS technologies, enabling effective miniaturization and performance improvement of basic optical elements, such as high-speed scanner, thereby realizing the development of complex optical systems, e.g., miniaturized nonlinear microscopes, endomicscopes, silicon optical bench. In terms of sensing, MEMS/NEMS technologies have broadened the horizon of optical and biomolecular sensing, enabling various biological and medical applications through metamaterials, photonic crystals and plasmonics on various platforms, e.g., optofluidic resonators, optical coatings and nanostructures. To realize the full potential of MEMS/NEMS in biophotonics and address the practical applications of new emerging methods, this Special Issue calls for research papers, communications, and review articles that focus on new biomedical imaging and sensing methods enabled by MEMS/NEMS. This issue also welcomes submissions addressing new micro-optical elements and sensing techniques based on MEMS/NEMS technologies for the design, integration, and optimization of complex systems.

Guest Editors

Prof. Shih-Chi Chen

Mechanical and Automation Engineering, Chinese University of Hong Kong, Hong Kong, China

Prof. Wei-Chuan Shih

Department of Electrical and Computer Engineering, Biomedical Engineering, and Chemistry, University of Houston, Houston, TX 77204, USA

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Editor-in-Chief

Prof. Dr. Ai-Qun Liu
1. Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
2. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

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