Room G (Miami), 2F	Chair: Hsiang-Chieh Lee (National Taiwan University)
Tu3G	June 30 (Tue), 2026
Advanced Biomedical Imaging and Microscopy	13:15-14:45

Tu3G-1 Invited 13:15-13:45

Breaking the Scattering Barrier: Non-Invasive Deep Tissue Imaging Using Reflection Matrix Based Wavefront Shaping

Zhongping Chen
University of California, Irvine

Multiple light scattering is the primary obstacle for deep tissue imaging. We present an innovative method to overcome this limitation, enabling the delivery of light energy to unprecedented depths within scattering media.

Tu3G-2 Invited 13:45-14:15

Vibrational Imaging of Cells and Semiconductors with Stimulated Raman Scattering

Yasuyuki Ozeki
The University of Tokyo

Stimulated Raman scattering (SRS) microscopy enables high-speed vibrational imaging. We present recent advances including super-multiplexed and super-resolution imaging of cells, as well as applications to two-dimensional materials, wide-bandgap semiconductors, and silicon.

Tu3G-3 14:15-14:30

Versatile Mid-Infrared Photoacoustic Microscopy for Label-Free Biomedical Imaging

Eunwoo Park[1], Dong Gyu Hwang[1], Jinah Jang[1], Chulhong Kim[1,2]
[1]Pohang University of Science and Technology, [2]Opticho Inc.

We present versatile mid-infrared photoacoustic microscopy (MIR-PAM) for label-free biomedical imaging through deep learning-based image transformation and polarization-sensitive analysis. These approaches enable chemically sensitive visualization and structural characterization of biological samples, demonstrating expanded capabilities of MIR-PAM.

Tu3G-4 14:30-14:45

High-Resolution Biomedical Imaging with Structured Illumination by Random Plasmonic Nanostructures

Sukhyeon Ka, Hajun Yoo, Minghao Wang, KwanHwi Ko, Donghyun Kim
Yonsei University

We demonstrate super-resolution imaging using random plasmonic near-field illumination produced by gold nanoislands. By combining speckle patterns with the blindSIM algorithm, we resolved 130-nm adjacent features in cellular microtubules, providing a simplified, cost-effective biomedical sensing platform.