Special Issue

Advances in Biomedical Optical Imaging: Advances, Technologies, and Emerging Applications

Message from the Guest Editors

Biomedical optical imaging is a rapidly evolving field that continues to push the boundaries of the non-invasive, high-resolution visualization of biological structures and physiological processes. Recent advancements in imaging systems, including optical coherence tomography (OCT), multiphoton microscopy (MPM), fluorescence microscopy (FM), photoacoustic imaging (PAI), hyperspectral imaging (HSI), and structured illumination microscopy (SIM), are revolutionizing biomedical research, clinical diagnostics, and therapeutic monitoring. This Special Issue aims to bring together pioneering research in biomedical optical imaging, encompassing novel imaging hardware, computational and AI-driven image processing techniques, multimodal imaging integration, and translational applications in clinical and preclinical settings. We welcome contributions that highlight technological innovations, theoretical advancements, and emerging applications in diverse fields such as oncology, neurology, ophthalmology, dermatology, cardiovascular imaging, regenerative medicine, and point-of-care diagnostics.

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Deadline for manuscript submissions

31 October 2025

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