

PIBM 2026 Plenary Sessions

Morning Sunday 19 July

Location: Yazhou Ballroom 崖州厅	
Opening Ceremony <i>Chair: Valery V. Tuchin, Saratov State University (Russia)</i>	
8:45-9:00	PIBM 2026 Program Introduction Hua Shi, Hainan University (China)
<i>Chairs: Valery V. Tuchin, Saratov State University (Russia); Ling Fu, Hainan University (China)</i>	
9:00-9:30	From optical to optoacoustic imaging: the time has come for broad clinical application Vasilis Ntziachristos, Technical University of Munich (Germany)[PL- 1]
9:30-10:00	AI Enhanced Ultrahigh-Resolution Optical Coherence Tomography for 3D Cerebrovascular Imaging in Rodent Brain <i>in vivo</i> Yingtian Pan, Stony Brook University (USA)[PL- 2]
10:00-10:30	Group photo & Break
10:30-11:00	Low-coherence Biophotonics Imaging for the Brain Xingde Li, Johns Hopkins University (USA)[PL- 3]
11:00-11:30	Neurophotonic imaging to study drug addiction Congwu Du, Stony Brook University (USA)[PL- 4]
11:30-12:00	Advances in tissue optical clearing Valery V. Tuchin, Saratov State University (Russia)[PL- 5]

Morning Tuesday 21 July

Location: Yazhou Ballroom 崖州厅	
<i>Chair: Qingming Luo, Hainan University (China)</i>	
11:00-11:30	Photoacoustic, Light-Speed, and Quantum Imaging/Physics Lihong V. Wang, California Institute of Technology (USA) [PL- 6]
Award and Closing Ceremony <i>Chair: Pengcheng Li, Hainan University (China)</i>	
11:30-12:00	Best Poster Award Best Student Paper Award Closing Remarks

PIBM 2026 Topical Sessions

Afternoon Sunday 19 July

Location: Yazhou 崖州厅 1+2	Location: Fushan 富山厅	Location: Yazhou 崖州厅 3
Translational Biophotonics 1	Analytical Biophotonics 1	Neurophotonics 1
<i>Chairs:</i> Ping Xue , Tsinghua University (China); Buhong Li , Hainan University (China)	<i>Chairs:</i> Zhihua Ding , Zhejiang University (China); Dan Zhu , Huazhong University of Science and Technology (China)	<i>Chairs:</i> Shaoqun Zeng , Huazhong University of Science and Technology (China); Xiaoquan Yang , Hainan University (China)
14:00-14:30 [TK- 1] Evaluation of transplant liver viability with optical coherence tomography (Keynote) Yu Chen , Fujian Normal University (China)	14:00-14:20 [AI- 1] Upconverting nonlinearity enabled deep tissue super-resolution imaging (invited) Fan Wang , Beihang University (China)	14:00-14:20 [NI- 1] Ultrasound-triggered nitric oxide boosts neuromodulation efficacy (invited) Zhen Yuan , University of Macau (Macau, China)
14:30-14:50 [TI- 1] Influence of biomechanics on postoperative corneal asphericity after femtosecond laser refractive surgery (invited) Feng Xu , Huazhong University of Science and Technology (China)	14:20-14:40 [AI- 2] Sparse scanning structured illumination microscopy (SS-SIM) for super-resolution imaging of thick samples (invited) Peng Gao , Xidian University (China)	14:20-14:35 [NO- 1] Ultrasound Modulation of Visual Circuits in Mice Independent of Auditory Confound Jiaru He , Guangdong Institute of Intelligence Science and Technology (China)
14:50-15:05 [TO- 1] Dual-mode endoscopic probe for optical coherence tomography and plasma ablation Minghui Chen , University of Shanghai for Science and Technology (China)	14:40-15:00 [AI- 3] Ultrasound and photoacoustic dual-modal imaging-guided deep penetration acoustic volumetric bioprinting (invited) Qiangzhou Rong , Xi'an Jiaotong University (China)	14:35-14:50 [NO- 2] Polarization-sensitive photoacoustic imaging Zhenhui Zhang , South China Normal University (China)
15:05-15:20 [TO- 2] Advanced in Non-contact Optical Coherence Elastography Yirui Zhu , Nanchang Hangkong University (China)	15:00-15:20 [AI- 4] A Study on a Highly Sensitive CRISPR-Based Single-Tube Dual-Gene Detection Method Using FWHT (invited) Niancai Peng , Xi'an Jiaotong University (China)	14:50-15:05 [NO- 3] Photoacoustic imaging and modulation of the brain lymphatic system Zhiyang Wang , South China Normal University (China)
15:20-15:35 [TO- 3] A novel fast and high resolution IVOCT image reconstruction method Haiyi Bian , Huaiyin Institute of Technology (China)	15:20-15:35 [AO- 1] Development of a High-Sensitivity Piezoelectric Ultrasonic Transducer Based on PZT Thin Films for Deep-Sea Sonar Detection Xiang Shi-Li , Hubei Jiufengshan Laboratory (China)	15:05-15:20 [NO- 4] A High-Synchronization Wearable fNIRS-EEG System for Investigating Neurovascular Coupling Dynamics at Millisecond Temporal Resolution Dongyuan Liu , Tianjin University (China)

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Location: Yazhou 崖州厅 1+2	Location: Fushan 富山厅	Location: Yazhou 崖州厅 3
Translational Biophotonics 2	Analytical Biophotonics 2	Neurophotonics 2
<i>Chairs: Junle Qu</i> , Shenzhen University (China); <i>Mingxing Ouyang</i> , Changzhou University (China)	<i>Chairs: Tongsheng Chen</i> , South China Normal University (China); <i>Fan Wang</i> , Beihang University (China)	<i>Chairs: Zhen Yuan</i> , University of Macau (Macau, China); <i>Jiong Ma</i> , Fudan University (China)
16:00-16:20 [TI- 2] Stimulated Raman Histology for Label-free Cancer Diagnosis (<i>invited</i>) Minbiao Ji , Fudan University (China)	16:00-16:20 [AI- 5] SERS Biosensing Technology and Liquid Biopsy Applications (<i>invited</i>) Duo Lin , Fujian Normal University (China)	15:50-16:10 [NI- 2] Specific control of calcium channels via two-photon excitation (<i>invited</i>) Hao He , Shanghai Jiao Tong University (China)
16:20-16:40 [TI- 3] Functional Dynamic OCT and Applications (<i>invited</i>) Jianbo Tang , Southern University of Science and Technology (China)	16:20-16:40 [AI- 6] Super-broadband stimulated Raman scattering spectroscopy and imaging (<i>invited</i>) Hanqing Xiong , Peking University (China)	16:10-16:30 [NI- 3] High-throughput two-photon microscope for multiparameter and quantitative brain function imaging (<i>invited</i>) Shiwei Ye , Shenzhen Institute of Advanced Technology, CAS (China)
16:40-16:55 [TO- 4] Accurate Extraction of OCE Elastic Waves and Motion Artifact Correction Based on Color Feature Segmentation and Double-Line Template Matching Gang Shi , Nanyang institute of Technology (China)	16:40-17:00 [AI- 7] What is hidden in water? Infrared-Raman-fluorescence microscopy reveals molecular signatures from nanoplastics to living systems (<i>invited</i>) Delong Zhang , Zhejiang University (China)	16:30-16:45 [NO- 5] Two-Photon 3D Imaging of Optically Evoked Neural Activity at 100 Hz Dongli Xu , Huazhong University of Science and Technology (China)
16:55-17:20 Best Student Paper Award Candidates' Flash-Oral Presentations (Group TP+IP)	17:00-17:20 [AI- 9] Optical micromanipulation: from in vitro trapping to in vivo actuation (<i>invited</i>) Hongbao Xin , Jinan University (China)	16:45-17:10 Best Student Paper Award Candidates' Flash-Oral Presentations (Group NP)
	17:20-17:44 Best Student Paper Award Candidates' Flash-Oral Presentations (Group AP)	

PIBM 2026 Topical Sessions

Morning Monday 20 July

Location: Poster Areas

Poster Session

9:00-11:30

Poster presenters must set up the posters in person before the Poster Session.

The poster must not exceed the boundaries of the poster board and 80 cm (width) × 120 cm (height) is recommended.

Each poster has been assigned a NEW number, re-ordered by the topics. This number is also pasted on the poster board.

Please check the Poster List for the NEW number, and set up the poster on the exact board.

Presenters are required to be standing by their posters for the duration of this session to answer questions and further discuss their work with attendees.

ALL the posters will be evaluated by the Poster Award Evaluation Committee for Best Poster Award.

Please make sure your poster is SHOWN from 13:00 July 19 to 18:30 July 20.

No shows will be reported to Conference management and these papers will not be published in the Proceedings of SPIE.

After 12:00 July 21, posters not removed will be discarded.

PIBM 2026 Topical Sessions

Afternoon Monday 20 July

Location: Yazhou 崖州厅 1+2	Location: Fushan 富山厅	Location: Yazhou 崖州厅 3
Translational Biophotonics 3	Immunophotonics 1	Neurophotonics 3
<i>Chairs:</i> Qin Li , Beijing Institute of Technology (China); Jianbo Tang , Southern University of Science and Technology (China)	<i>Chairs:</i> Feifan Zhou , Hainan University (China); Zheng Liu , Hainan University (China)	<i>Chair:</i> Xiangning Li , Hainan University (China)
13:00-13:20 [TI- 4] AI-Enabled Molecular Cytopathology Using Stimulated Raman Scattering Microscopy (invited) Shuhua Yue , Beihang University (China)	13:00-13:20 [II- 1] Monitoring circulating melanoma cells by in vivo photoacoustic flow cytometry (invited) Xunbin Wei , Peking University (China)	13:00-13:20 [NI- 4] Intervention of IL-6 signaling in the area postrema ameliorates cancer cachexia in mice (invited) Qingtao Sun , Institute of Genetics and Developmental Biology, CAS (China)
13:20-13:40 [TI- 5] Identifying molecular fingerprints for metabolic stress response and disease mechanisms by bond-selective microscopy (invited) Hyeon Jeong Lee , Zhejiang University (China)	13:20-13:40 [II- 2] Photobiomodulation Improves Cognitive Function in Sleep-Deprived Mice by Inhibiting the TLR4-Mediated Pyroptosis Pathway (invited) Hongli Chen , Institute of Biomedical Engineering, Chinese Academy of Medical Sciences & Peking Union Medical College (China)	13:20-13:35 [NO- 6] Synaptic level remodeling of basal forebrain PV projection in Alzheimer's Disease Jiaojiao Tian , The First Affiliated Hospital of Zhengzhou University (China)
13:40-13:55 [TO- 5] SERS-Enabled Liquid Biopsy for Precision Diagnostics Jing Wang , Fujian Normal University (China)	13:40-13:55 [IO- 1] Non-invasive modulation of meningeal lymphatics ameliorates ageing and Alzheimer's disease-associated pathology and cognition in mice Miao Wang , Hainan University (China)	13:35-13:50 [NO- 7] A dorsal subiculum-medial mammillary body pathway for spatial memory Jianping Zhang , The First Affiliated Hospital of Chongqing Medical University (China)
13:55-14:10 [TO- 6] Study on Correlation Indicators of Intestinal Barrier Function Based on the Combination of Multidimensional Metabolomic Data and Raman Spectroscopy Qi Zeng , Xidian University (China)	13:55-14:10 [IO- 2] Photobiomodulation: Regulation of Metabolic Function and Neuroinflammation in Diabetic Rats Hui Chen , Tianjin Medical University General Hospital (China)	
14:10-14:25 [TO- 7] Application of SERS-Based Multifactor Analysis of Extracellular Vesicles for Cancer Detection and Monitoring Quan Zhou , Fuzhou University (China)	14:10-14:25 [IO- 3] In Vivo Hyperspectral CARS Imaging Reveals Photobiomodulation-Driven Remodeling of Fatty Acid Homeostasis in AD Mouse Model Ziyi Luo , Shenzhen University (China)	

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Location: Yazhou 崖州厅 1+2	Location: Fushan 富山厅	Location: Yazhou 崖州厅 3
Translational Biophotonics 4	Immunophotonics 2	AI for Biophotonics
Chairs: Hongbao Xin , Jinan University (China); Pu Wang , Beihang University (China)	Chairs: Xunbin Wei , Peking University (China); Haiming Luo , Hainan University (China)	Chairs: Hao He , Shanghai Jiao Tong University (China); Anan Li , Hainan University (China)
14:55-15:15 [TI- 6] Label-free quantitative imaging of tissue chromophores with Spatial Frequency Domain Imaging (SFDI) <i>(invited)</i> Yanyu Zhao , Beihang University (China)	14:55-15:15 [II- 3] Adaptive optics two-photon microscopy for deep-tissue imaging of immune cell dynamics <i>(invited)</i> Sicong He , Southern University of Science and Technology (China)	14:20-14:40 [AII- 1] Molecular Knowledge-Driven Cross-Fusion Transformer: A Generalized Multimodal Neural Network for Biomedical Data Integration <i>(invited)</i> Jiong Ma , Fudan University (China)
15:15-15:35 [TI- 7] Upconversion nanoparticles in biological labeling, imaging, and therapy <i>(invited)</i> Irina Yanina , Saratov State University (Russia)	15:15-15:35 [II- 4] Photobiomodulation protects chronic kidney disease by inhibiting oxidative stress and inflammation <i>(invited)</i> Ji Bian , University of Sydney, Royal North Shore Hospital (Australia)	14:40-14:55 [AIO- 1] AI-assisted quantitative brightfield microscopy for label-free phenotyping of appendix-derived gut organoids Shaohua Ma , Tsinghua University (China)
15:35-15:55 [TI- 8] Nanoparticle-Mediated Targeting of Pulmonary Metastases through an In Vivo Coagulation Cascade <i>(invited)</i> Daiqin Chen , Innovation Academy for Precision Measurement Science and Technology, CAS (China)	15:35-15:50 [IO- 4] Mesoscale imaging of liver vasculature and immune niches uncovers a nerve-associated portal macrophage subset Zheng Liu , Hainan University (China)	14:55-15:10 [AIO- 2] A Hybrid Deep Learning Model for Oral Disease Classification Based on Sub-Diffuse Reflectance Spectroscopy Technique Zhang Limin , Tianjin University (China)
15:55-16:10 [TO- 8] Bioinformatics-Driven SR-SIM with Machine Learning Quantifies Mitochondrial-ATP Spatial Features for Early Parkinson's Disease Prediction Lihua Li , South China Normal University (China)	15:50-16:05 [IO- 5] Study on the Pathological Mechanisms of Sterile Inflammation Using Photoacoustic Detection and Imaging Technology Yizhou Tan , Chinese PLA General Hospital (China)	15:10-15:25 [AIO- 3] SERS-AI strategy for rapid classification of CNS-related diseases Dongjie Zhang , Xidian University (China)
16:10-16:25 [TO- 9] Hyaluronic acid-engineered infection-responsive liposomes achieve biofilm penetration and synergistic photothermal-photodynamic antibacterial therapy Huijuan Yin , Chinese Academy of Medical Sciences & Peking Union Medical College Institute of Biomedical Engineering (China)	16:05-16:20 [IO- 6] Targeted modulation of the meningeal lymphatic reverse pathway for immunotherapy of breast cancer brain metastasis Yanfeng Dai , Hainan University (China)	15:25-15:40 [AIO- 4] PanoMito: mapping mitochondrial heterogeneity from morphofunctional profiling to single-mitochondrion spatial transcriptomics Karl Zhanghao , Eastern Institute of Technology, Ningbo (China)

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Translational Biophotonics 4	Immunophotonics 2	AI for Biophotonics
16:25-16:40 [TO- 10] Review and prospects of corneal topography-guided personalized laser corneal refractive surgery Shangbin Chen , Huazhong University of Science and Technology (China)		15:40-16:16 Best Student Paper Award Candidates' Flash-Oral Presentations (Group AIP)
16:40-16:55 [TO- 11] A motion-tolerant method for biomagnetic measurements with moving subjects in unshield environment Yinan Hu , Innovation Academy for Precision Measurement Science and Technology, CAS (China)		

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<i>Location: Yazhou 崖州厅 1+2</i>	<i>Location: Fushan 富山厅</i>
Translational Biophotonics 5	Analytical Biophotonics 3
<i>Chairs: Niancai Peng, Xi'an Jiaotong University (China); Yanyu Zhao, Beihang University (China)</i>	<i>Chairs: Minbiao Ji, Fudan University (China); Duo Lin, Fujian Normal University (China)</i>
8:50-9:10 [TI- 9] All-Optical IVUS-FFR Dual-Modal Imaging System for Precision Cardiovascular Care (invited) Pu Wang, Beihang University (China)	9:00-9:20 [AI- 8] The Molecular Biophysics of EGFR and PDGFR Systems in Regulating their Distinct Kinetics of Biochemical Signals through FRET imaging study (invited) Mingxing Ouyang, Changzhou University (China)
9:10-9:25 [TO- 12] Biomedical Microwave-Induced Thermoacoustic Imaging Huan QIN, South China Normal University (China)	9:20-9:40 [AI- 10] Ratiometric Polymer Dot Biosensor for Point-of-Care Metabolic Monitoring (invited) Haobin Chen, Central South University (China)
9:25-9:40 [TO- 13] Multispectral Photoacoustic Tomography for High-Precision Delineation of Thermal Ablation Zones in Subcapsular Hepatocellular Carcinoma Yihan Wang, Xidian University (China)	9:40-9:55 [AO- 2] Ice-Interface Optothermal Tweezers for Programmable Cryogenic Assembly and Biosensing Jiajie Chen, Shenzhen University (China)
9:40-9:55 [TO- 14] Sparse-Sampling Photoacoustic Imaging and Artifact Suppression Jiangbo Chen, South China University of Technology (China)	9:55-10:10 [AO- 3] Gene-Editing Proteins-based highly sensitive gene detection technologies Ru Huang, Hainan University (China)
9:55-10:10 [TO- 15] All-optical ultrasound detector for photoacoustic microscopy and computed tomography Pengfei Zhang, Tianjin University (China)	10:10-10:25 [AO- 4] Engineering Functional Protein-Based Sensing Platforms for Biomedical Applications Liu Fang, Hainan University (China)
10:10-10:25 [TO- 16] Co-registered Real-Time Intravascular Photoacoustic/Ultrasound/Optical Coherence Tomography for Characterization of Lipid-Rich Carotid Plaques Zhang Jinke, Shenzhen Institute of Advanced Technology, CAS (China)	
10:25-10:40 [TO- 17] Optical-resolution photoacoustic microscopy of tumor organoids Xiaofei Luo, Changsha University of Science and Technology (China)	
10:40-10:55 [TO- 18] Fiber-optic Photoacoustic Imaging for Human Peripheral Microcirculation Dynamic Monitoring Li Wei, Jinan University (China)	