PIBM 2024 Plenary Sessions

Morning Sunday 3 November

Location: **Yazhou Ballroom 崖州厅**	
Opening Ceremony	*Chair:* **Qingming Luo**, Hainan University (China)
8:40-9:00	**PIBM 2024 Program Introduction** **Pengcheng Li**, Hainan University (China) **25 Years of PIBM** **Hua Shi**, Hainan University (China)
Chairs: **Valery V. Tuchin**, Saratov State University (Russia); **Qingming Luo**, Hainan University (China)	
9:00-9:30	**Britton Chance, PIBM and the Luo Lab** **Qingming Luo**, Hainan University (China).....[PL- 1]
9:30-10:00	**Activatable photosensitizers: from single molecules to nanoparticles and beyond** **Gang Zheng**, University of Toronto and Princess Margaret Cancer Centre (Canada).....[PL- 2]
10:00-10:30	**Group photo & Break**
10:30-11:00	**Dynamics of proteins post structural age** **Dongping Zhong**, Shanghai Jiao Tong University (China).....[PL- 3]
11:00-11:30	**Development of localized ablative immunotherapy from benchtop to bedside** **Wei R. Chen**, University of Oklahoma (USA).....[PL- 4]
11:30-12:00	**Morphological and functional characteristics of Adriamycin-induced chronic kidney disease (CKD) based on two-photon microscopy in vivo** **Yu Chen**, Fujian Normal University (China).....[PL- 5]

Afternoon Wednesday 6 November

Location: **Yazhou Ballroom 崖州厅**	
Chairs: **Lihong V. Wang**, California Institute of Technology (USA); **Qingming Luo**, Hainan University (China)	
13:40-14:00	**Legacy of Britton Chance, a Scientist, Inventor, and Engineer** **Shoko Nioka**, University of Pennsylvania (USA)
14:00-14:30	**Tissue optical clearing: new approaches towards in vivo applications** **Valery V. Tuchin**, Saratov State University (Russia)..... [PL- 6]
14:30-15:00	**Photoacoustic, light-speed, and quantum imaging** **Lihong V. Wang**, California Institute of Technology (USA) ..... [PL- 7]
Award and Closing Ceremony	*Chair:* **Ling Fu**, Hainan University (China)
15:00-15:30	**Best Poster Award** **Best Student Paper Award** **Closing Remarks**

PIBM 2024 Topical Sessions

Afternoon Sunday 3 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Translational Biophotonics 1	**Analytical Biophotonics 1**
Chairs: **Lihong V. Wang**, California Institute of Technology (USA); **Changhui Li**, Peking University (China)	*Chairs:* **Bifeng Liu**, Huazhong University of Science and Technology (China); **Liwei Liu**, Shenzhen University (China)
14:00-14:20 ..... [TI- 1] **Real-time photoacoustic 3D imaging** *(invited)* **Changhui Li**, Yu Sun, Peking University (China)	14:00-14:30 ..... [AK- 1] **Photodynamics of molecular probes in solutions, cells, and on organic surfaces** *(keynote)* **Oleg Vasyutinskii**, Ioffe Institute, Russian Academy of Sciences (Russia)
14:20-14:40 ..... [TI- 2] **Deep-tissue optical imaging and stimulation with wavefront shaping-empowered multimode fiber** *(invited)* **Puxiang Lai**, The Hong Kong Polytechnic University (Hong Kong, China)	14:30-14:50 ..... [AI- 1] **Terahertz nanoscopy of single proteins** *(invited)* **Huabin Wang**, Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences (China)
14:40-15:00 ..... [TI- 3] **The application of photoacoustic computed tomography in breast surgery and vascular surgery** *(invited)* **Cheng Ma**[1], Handi Deng[1], Ming-yuan Liu[2], 1.Tsinghua University (China), 2.Beijing Friendship Hospital, Capital Medical University (China)	14:50-15:10 ..... [AI- 2] **AttoNewton force sensing by ion-resonance optical tweezers** *(invited)* **Fan Wang**, Beihang University (China)
15:00-15:20 ..... [TI- 4] **Advancing photoacoustic microscopy: Technology development, artificial intelligence, and innovative applications** *(invited)* **Sung-Liang Chen**, Shanghai Jiao Tong University (China)	15:10-15:25 ..... [AO- 1] **Photodynamic mechanism of the metal nitrosyl complexes and their interaction with proteins** **Hongfei Wang**, Shanxi University (China)
	15:25-15:40 ..... [TO- 16] **Oxygen Concentration Effect for Hypoxic Photodynamic Therapy** **Qinchao Sun**, SIAT (China)

PIBM 2024 Topical Sessions

Afternoon Sunday 3 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Translational Biophotonics 2	**Analytical Biophotonics 2**
Chairs: **Liming Nie**, Guangdong Academy of Medical Sciences (China); **Puxiang Lai**, The Hong Kong Polytechnic University (Hong Kong, China)	*Chairs:* **Guoliang Huang**, Tsinghua University (China); **Pengcheng Li**, Hainan University (China)
15:40-16:00 ..... [TI- 5] **Multimodal photoacoustic tomography of breast tumor for improved early diagnosis** *(invited)* **Li Lin**[1], Keer Huang[1], Peifen Fu[2], 1.Zhejiang University (China), 2.The First Affiliated Hospital, Zhejiang University (China)	15:50-16:10 ..... [AI- 3] **Real-Time Monitoring of Small Extracellular Vesicles (sEVs) by In vivo Flow Cytometry** *(invited)* Fuli Zhang, **Xunbin Wei**, Shanghai Jiao Tong University (China)
16:00-16:20 ..... [TI- 6] **Real-time 3D deconvolutional photoacoustic image reconstruction based on Kirchhoff diffraction extrapolation** *(invited)* Ma Jintao, Xie Songqing, **Shuai Na**, Peking University (China)	16:10-16:30 ..... [AI- 4] **Microfluidics with Optical Detection for Highly Efficient in vitro Diagnosis** *(invited)* **Bifeng Liu**, Huazhong University of Science and Technology (China)
16:20-16:40 ..... [TI- 7] **High-Performance Biomedical Photoacoustic Tomography** *(invited)* **Chao Tian**, University of Science and Technology of China (China)	16:30-16:50 ..... [AI- 5] **Surface plasmon based analytical methods and medical applicaitons** *(invited)* **Xiangwei Zhao**, Southeast University (China)
16:40-17:00 ..... [TI- 8] **DMD High-Speed High-Precision Optical Field Modulation Technology** *(invited)* **Jiamiao Yang**, Shanghai Jiao Tong University (China)	16:50-17:10 ..... [NI- 5] **Towards Bidirectional Optical Brain Interfaces** *(invited)* **Lingjie Kong,** Tsinghua University (China)
17:00-17:15 ..... [TO- 25] **A frequency-domain index for quickly selecting optimal down-sampling factor in photoacoustic imaging** Shihao Tang[1], Min Wan[1], Jiani Li[1], **Yameng Zhang**[1,2], Ling Tao[1], Weitao Li[1], 1.College of Automation engineering, Nanjing University of Aeronautics and Astronautics (China) 2.School of Computer Engineering, Nanjing Institute of Technology (China)	17:10-17:25 ..... [AO- 2] **Structured Illuminations in Biomedical Microscopy with Diffractive Optics** **Jingjing Zhao**, Huazhong University of Science and Technology (China)

PIBM 2024 Topical Sessions

Morning Monday 4 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Neurophotonics 1	**Analytical Biophotonics 3**
Chairs: **Buhong Li**, Hainan University (China); **Jing Yuan**, Huazhong University of Science and Technology (China)	*Chairs:* **Xunbin Wei**, Peking University (China); **Zhen-li Huang**, Hainan University (China)
8:30-8:50 ..... [NI- 1] **High throughput 3D imaging of miniatured model animals by a light-sheet fluidic imaging system** *(invited)* **Hui Li**[1], Yifan Zhang[1], Guang Yang[2], 1.Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences (China) 2.Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences (China)	8:30-8:50 ..... [AI- 6] **Computational volumetric Raman imaging** *(invited)* **Xueli Chen**, Nan Wang, Gong Feng, Xidian University (China)
8:50-9:10 ..... [NI- 2] **Specific control of calcium channels solely by femtosecond laser in vitro and in vivo** *(invited)* **Hao He**, Shanghai Jiao Tong University (China)	8:50-9:10 ..... [AI- 7] **Low-power, single-CW-beam, three-dimensional Super-resolution Fluorescence Microscopy** *(invited)* **Qiuqiang Zhan**, South China Normal University (China)
9:10-9:25 ..... [NO- 1] **High-throughput volumetric mapping of synaptic transmission** **Wei Chen**[1,2], 1.School of Mechanical Science and Engineering, Huazhong University of Science and Technology (China), 2.Advanced Biomedical Imaging Facility, Huazhong University of Science and Technology (China)	9:10-9:25 ..... [AO- 3] **On the development of next generation time-domain stimulated Raman scattering spectroscopy and imaging** **Hanqing Xiong**, Peking University (China)
9:25-9:40 ..... [NO- 2] **Adaptive optics two-photon microscopy for longitudinal high-resolution imaging in deep tissues** **Sicong He**, Southern University of Science and Technology (China)	9:25-9:40 ..... [AO- 4] **Quality evaluation of Traditional Chinese Medicine based on Raman technology** **Qi Zeng**, Xianzhen Zhou, Yuhang Yang, Zhaoyang Cheng, Xueli Chen, Xidian University (China)
9:40-9:55 ..... [NO- 3] **Development of tools and algorithms for mesoscopic all-optical closed-loop neuroscience research in deep brain** **Biqin Dong**, Fudan University (China)	9:40-9:55 ..... [AO- 5] **Rapid volumetric Raman imaging by integrating light-field scheme** Gong Feng, Tingyan Xing, Siqi Jin, **Nan Wang**, Xueli Chen, Xidian University (China)

PIBM 2024 Topical Sessions

Morning Monday 4 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Neurophotonics 2	**Translational Biophotonics 3**
Chairs: **Wei Gong**, Zhejiang University (China); **Hao He**, Shanghai Jiao Tong University (China)	*Chairs:* **Tongsheng Chen**, South China Normal University (China); **Xiaolong Liu**, Mengchao Hepatobiliary Hospital of Fujian Medical University (China)
10:10-10:30 ..... [NI- 3] **Dual-color pulsed laser excitation for the photobiomodulation of traumatic brain injury** *(invited)* **Zhen Yuan**, University of Macau (Macau, China)	10:10-10:30 ..... [TI- 9] **Surface-enhanced Raman spectroscopy: a potential tool for metabolomics research** *(invited)* **Jian Ye**, Shanghai Jiao Tong University (China)
10:30-10:45 .....[NO- 4] **Pattern-modulated optoacoustic neurostimulation with nanocomposites microarrays for visual prostheses** Lin Li, **Pu Wang**, Beihang university (China)	10:30-10:45 .....[TO- 1] **SERS-AI strategy for accurate classification and rapid diagnosis of various meningitis** **Zhang Dongjie**, Wang Zixu, Yan Peirao, Zeng Qi, Chen Xueli, Xidian University (China)
10:45-11:00 .....[NO- 5] **Concurrent imaging of burst firing neurons and vascular oxygen supply at high spatiotemporal resolution in the awake mouse brain** **Zhiqiang Xu**, Tiancheng Lei, Chengbo Liu, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	10:45-11:00 .....[TO- 2] **Raman spectroscopy and microscopy for clinical applications** **Jing Huang**[1,2,3,4,5], Jürgen Popp[1,2,3], Minbiao Ji[4], Qiuqiang Zhan[5], 1.Friedrich-Schiller University (Germany), 2.Leibniz Institute of Photonic Technology (Germany), 3.Jena University Hospital (Germany), 4.Fudan University, 5.South China Normal University (China)
11:00-11:15 .....[NO- 10] **Versatile photoacoustic fiberscopy for comprehensive assessment of sepsis-induced brain oxygenation dysfunction** **Xiaoxuan Zhong**[1], Cong Mai[2], Yizhi Liang[1], Long Jin[1], Bai-ou Guan[1], 1.Jinan University (China), 2.Guangdong Provincial People's Hospital (China)	11:00-11:15 .....[TO- 3] **Raman spectroscopy and machine learning-based classification for biochemical characterization of human myopic corneal stroma and animal corneal stroma** **Jing Li**[1], Qi Zeng[2], 1.Xi'an People's Hospital (Xi'an Fourth Hospital) (China), 2.Xidian University (China)
11:15-11:45 Best Student Paper Award Candidates' Flash-Oral Presentations (Group N)	11:15-11:30 ..... [TO- 26] **Label-free, non-contact, high-resolution quantitative imaging of tissue chromophores using Spatial Frequency Domain Imaging (SFDI)** **Yanyu Zhao**, Beihang University (China)
	11:30-12:00 Best Student Paper Award Candidates' Flash-Oral Presentations (Group T1)

PIBM 2024 Topical Sessions

Afternoon Monday 4 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Neurophotonics 3	**Translational Biophotonics 4**
Chairs: **Xiangning Li**, Hainan University (China); **Chao Tian**, University of Science and Technology of China (China)	*Chairs:* **Shaoqun Zeng**, Huazhong University of Science and Technology (China); **Qin Li**, Beijing Institute of Technology (China)
14:00-14:20 ..... [NI- 6] **Transcranial photobiomodulation improved brain function in healthy older adults** *(invited)* Hong Li[1], Ying Han[2], **Haijing Niu[1]**, 1.Beijing Normal University, (China) 2.Hainan University (China)	14:00-14:20 ..... [TI- 10] **Self-calibrated single-wavelength biosensor for measuring blood pressure** *(invited)* **Dror Fixler**, Bar-Ilan University (Israel)
14:20-14:35 ..... [NO- 6] **Transcranial ultrasound neuromodulation guided by ultrasound imaging** **Zhongwen Cheng**, Guangdong University of Technology (China)	14:20-14:40 ..... [TI- 11] **Integrated effects of far infrared therapy and aerobic exercise on sleep quality of female college students** *(invited)* **BTC Liu**, Feng-Wei Hao, Jin-Yong Huang, South China Normal University (China)
14:35-14:50 ..... [NO- 7] **Ultrasound modulates the activity of different types of neurons in the visual cortex** **Jiaru He**, Zhihai Qiu, Guangdong Institute of Intelligence Science and Technology (China)	14:40-15:00 ..... [TI- 12] **Autofluorescence lifetime imaging technology for tumor diagnosis** *(invited)* **Jiong Ma**, Fudan University (China)
14:50-15:05 ..... [NO- 8] **Scanning structured illumination microscopy for thick sample imaging** **Sha An**, Xuhong Guo, Peng Gao, Xidian University (China)	
15:05-15:20 ..... [NO- 9] **Multi-module recording of neuronal activity and structures using graphene microelectrode arrays in the study of Niemann -Pick disease** **Meng Lu**, Peking University (China)	15:00-15:20 ..... [TI- 13] **Two-photon photodynamic therapy and assessment of cancer prognosis** *(invited)* **Bobo Gu**, Shanghai Jiao Tong University (China)

PIBM 2024 Topical Sessions

Morning Tuesday 5 November

Location: Aoshan 鳌山厅，2F	*Location:* Fushan 富山厅	*Location:* Yazhou 崖州厅
Immunophotonics 1	**Translational Biophotonics 5**	**Neurophotonics 4**
Chairs: **Wei R. Chen**, University of Oklahoma (USA); **Yueqing Gu**, China Pharmaceutical University (China)	*Chairs:* **Lei Xi**, Southern University of Science and Technology (China); **Sung-Liang Chen**, Shanghai Jiao Tong University (China)	*Chairs:* **Zhen Yuan**, University of Macau (Macau, China); **Anan Li**, Huazhong University of Science and Technology (China)
8:30-8:50 ..... [II- 2] **Engineering of radiation-derivatives for anti-tumor immunotherapy** *(invited)* **Honglin Jin,** Huazhong Agricultural University (China)	8:30-8:50 ..... [TI- 14] **High Speed Photoacoustic Imaging and Applications** *(invited)* **Chengbo Liu**, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	8:30-8:50 ..... [NI- 7] **Pushing microscopy boundaries of superconducting nanowire single photon detectors for deep in vivo near-infrared imaging** *(invited)* **Val Zwiller**, KTH Royal Institute of Technology (Sweden)
8:50-9:05 ..... [IO- 1] **Single-cell multi-parametric simultaneous photoacoustic vasculography and lymphography in vivo** **Chao Liu**[1], LIDAI WANG[2], 1.Fudan University (China), 2.City University of Hong Kong (Hong Kong, China)	8:50-9:05 ..... [TO- 5] **Multitask learning-powered large-volume, rapid photoacoustic microscopy with Airy beam** **Wangting Zhou**, Zhiyuan Sun, Jibao Lv, Xueli Chen, Xidian University (China)	8:50-9:10 ..... [NI- 8] **Single-neuron and whole-brain mapping of the arcuate fasciculus in macaque monkeys: insights into human neuroanatomical homolog** *(invited)* **Zheng Wang**, Peking University (China)
9:05-9:20 ..... [IO- 2] **Optical imaging of chlorotoxin-melittin nanodrug targeting and immunotherapy for glioma** **Shuhong Qi**[1], Zhihong Zhang[2], 1.Huazhong University of Science and Technology (China), 2. Hainan University (China)	9:05-9:20 ..... [TO- 6] **In-vivo optical-resolution photoacoustic endoscopy on rat rectal tumor** **Riqiang Lin**, Xiaojing Gong, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen (China)	9:10-9:25 ..... [NO- 11] **Hyperscanning real-world interactions via functional near-infrared spectroscopy** **Dongyuan Liu**, Tianjin University (China)
9:20-9:35 ..... [IO- 3] **Cell Organelle-targeted phototherapy primes checkpoint blockade immunotherapy** **Kuangda Lu**, Peking University (China)	9:20-9:35 ..... [TO- 7] **Exploring the mechanisms of Texaphyrin-Pt conjugate in overcoming tumor resistance assisted by photoacoustic spectral imaging** **Yaguang Ren**, Chengbo LIU, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	9:25-9:40 ..... [NO- 12] **Research on rare earth-doped near-infrared probes in neurodegenerative disease diagnosis and mechanisms** **Lihua Li**, South China Normal University (China)
9:35-9:50 Best Student Paper Award Candidates' Flash-Oral Presentations (Group I)	9:35-9:50 ..... [TO- 8] **Targeted Cyclo[8]pyrrole-based NIR-II Photoacoustic Tomography Probe for Suppression of Orthotopic Pancreatic Tumor Growth and Intra-abdominal Metastases**	9:40-9:55 ..... [NO- 13] **Interpreting neuronal projection features with functional specialization** Deyong Gong[1], Zimin Dai[1], Zican Wang[1], Hui Gong[1,2,*], **Wei Zhou**[1,2,*]

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Morning Tuesday 5 November

	Jingqin Chen, Liu Chengbo, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	1.Huazhong University of Science and Technology (China), 2.HUST-Suzhou Institute for Brainsmatics (China)
	9:50-10:05 .....[TO- 9] **Unsupervised deep learning-based real-time image registration for fast-scanning photoacoustic microscopy** Furong Tang[1], Xiaobin Hong[1], Lidai Wang[2], **Jiangbo Chen**[1], 1.South China University of Technology (China), 2.City University of Hong Kong (Hong Kong ,China)	9:55-10:10 ..... [NO- 14] **A stereotaxic template for integrating the neuroinformation of the mouse brain with isotropic one-micron resolution** **Zhao Feng**, Hainan university (China)

Location: **Aoshan 鳌山厅，2F**	***Location:*** **Fushan 富山厅**	***Location:*** **Yazhou 崖州厅**
Immunophotonics 2	**Translational Biophotonics 6**	**Analytical Biophotonics 4**
Chairs: **Changfeng Wu**, Southern University of Science and Technology (China); **Honglin Jin,** Huazhong Agricultural University (China)	*Chairs:* **Chengbo Liu**, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China); **Cheng Ma**, Tsinghua University (China)	*Chairs:* **Xueli Chen**, Xidian University (China); **Fan Wang**, Beihang University (China)
10:20-10:40 .....[TI- 21] **Fluorescent probes for surgery navigation** *(invited)* **Xiaolong Liu**, Mengchao Hepatobiliary Hospital of Fujian Medical University (China)	10:20-10:35 .....[TO- 10] **Advanced imaging technologies and applications based on photoacoustic remote sensing** **Jiao Li**, Feng Gao, Tianjin University (China)	10:20-10:35 ..... [AO- 6] **Lightening the genome structure to understand its biological function** **Peng Dong**, Shenzhen Institute of Advanced Technology (China)
10:40-11:00 .....[II- 4] **Fluorescent/circular dichroic dual-mode chiral upconversion nanocomposite for the diagnosis and treatment of rheumatoid arthritis** *(invited)* **Xiaomin Liu**, Yang Lu, Geyu Lu, Jilin University (China)	10:35-10:50 .....[TO- 11] **Combined ultrasound/photoacoustic imaging for in vivo evaluation of microbubble-mediated ultrasonic cavitation therapy** **Yihan Wang**, Xidian University (China)	10:35-10:50 ..... [AO- 7] **Rainbow light sheet illumination for snapshot 3D imaging** **Pengfei Zhang**, Tianjin University (China)
11:00-11:20 .....[TI- 20] **Semiconducting polymer dots for photocatalytic hydrogen therapy**	10:50-11:05 .....[TO- 12] **Innovative Approaches for Structural and Functional 3D Imaging of PACT**	10:50-11:05 ..... [AO- 8] **Emission depletion super-resolution microscopy with upconversion**

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Morning Tuesday 5 November

Location: Aoshan 鳌山厅，2F	*Location:* Fushan 富山厅	*Location:* Yazhou 崖州厅
Immunophotonics 2	**Translational Biophotonics 6**	**Analytical Biophotonics 4**
(invited) **Changfeng Wu**, Southern University of Science and Technology (China)	**Rongkang Gao**, Chengbo Liu, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	**nanoparticles** **Rui Pu**, Qiuqiang Zhan, South China Normal University (China)
11:20-11:35 ..... [IO- 4] **Multi-scale visualization of the dynamic transporting from cell to organ by photoacoustic imaging** Fengbing He, Fan Meng, Chaohao Liang, Dong Liu, Yiqing Zhang, **Jian Zhang**, Guangzhou Medical University (China)	11:05-11:20 .....[TO- 13] **Learning-based imaging methods for high quality photoacoustic tomography** **Li Qi**, Southern Medical University (China)	11:05-11:20 ..... [AO- 9] **Single-pixel fluorescence imaging** **Zhong Ji**, Xidian University (China)
11:35-11:50 ..... [IO- 5] **Multimodal collaborative tumor precision therapy based on phototherapy** **Siwen Li**, China Pharmaceutical University (China)	11:20-11:50 Best Student Paper Award Candidates' Flash-Oral Presentations (Group T2)	11:20-11:50 Best Student Paper Award Candidates' Flash-Oral Presentations (Group A)
11:50-12:05 ..... [IO- 6] **Nanocomposite copper carriers regulating tumor cell copper homeostasis for synergistic antitumor studies of photothermal therapy and cuproptosis** **Jin-Xuan Fan**, Huazhong University of Science and Technology (China)		

PIBM 2024 Topical Sessions

Afternoon Tuesday 5 November

Location: Aoshan 鳌山厅，2F	*Location:* Fushan 富山厅	*Location:* Yazhou 崖州厅
Chinese-Russian Workshop 1	**Translational Biophotonics 7**	**Analytical Biophotonics 5**
Chairs: **Valery V. Tuchin**, Saratov State University (Russia); **Dan Zhu**, Huazhong University of Science and Technology (China)	*Chairs:* **Ping Xue**, Tsinghua University (China); **Ling Fu**, Hainan University (China)	*Chairs:* **Xiangwei Zhao**, Southeast University (China); **Hui Li,** Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences (China)
14:00-14:20 .....[CRI- 1] **Spatial-temporal modulation superresolution optical imaging** *(invited)* **Junle Qu,** Shenzhen University (China)	14:00-14:20 ..... [TI- 15] **Identification and risk assessment of atherosclerotic plaques based on IVOCT** *(invited)* **Qin Li**, Beijing Institute of Technology (China)	14:00-14:20 ..... [TI- 19] **QPI techniques in combination with FLIM provide an extended set of dataon cell response to external stimuli** *(invited)* **Irina Semenova**, Ioffe Institute (Russia)
14:20-14:40 .....[CRI- 2] **Future Technologies in Biophotonics: Photo-Therapy of Brain Diseases During Sleep** *(invited)* **Oxana Semyachkina-Glushkovskaya,** Ivan Fedosov, Egor Ilukov, et al., Saratov State University (Russia)	14:20-14:40 ..... [TI- 16] **Synchronous angio-lymphography based on photothermal induced resonance enhanced speckle variance OCT** *(invited)* **Zhilie Tang**, School of Physics, South China Normal University (China)	14:20-14:35 ..... [AO- 11] **Exploration of the generalization and hallucination in deep learning: a study based on imaging through scattering medium** **Honglin Liu**[1], Xuyu Zhang[1,2], Gengcheng Xie[1,2], 1.Shanghai Institute of Optics and Fine Mechanics, CAS (China), 2.University of Shanghai for Science and Technology (China)
14:40-14:55 .....[CRO- 1] **Transcranial photobiomodulation for improving therapy of brain diseases** **Tingting Yu**, Huazhong University of Science and Technology (China)	14:40-15:00 ..... [TI- 17] **High throughput drug screening based on ultrathin slicing, culturing, and label-free dynamic OCT detection** *(invited)* Wei Chen, **Jianbo Tang**, Southern University of Science and Technology (China)	14:35-14:50 ..... [AO- 12] **Diff-FMT: Diffusion model for fluorescence molecular tomography** **Peng Zhang**, Shanxi University (China)
14:55-15:15 .....[CRI- 3] **Label-free fluorescence spectroscopy: novel fluorophores in the human body and clinical translation** *(invited)* **Evgeny Shirshin**, M.V.Lomonosov Moscow State University (Russia)	15:00-15:15 .....[TO- 14] **Label-free structural and functional cellular imaging of fresh ophthalmic tissues with dual-mode full-field optical coherence tomography** **Peng Xiao**, Zhongshan Ophthalmic Center, Sun Yat-sen University (China)	14:50-15:05 ..... [AO- 13] **Light-efficient meso-SCAPE microscopy with multi-millimeter field-of-view and cellular resolution** Zixian Cao, Jiapeng Zhu, Yankan Huang, Wei Liu, Bingxin Shen, **Wenxuan Liang**, University of Science and Technology of China (China)
15:15-15:30 ..... [CRO- 2] **Deep-learning enabled ultra-high temporal-spatial resolution light-field**	15:15-15:30 .....[TO- 15] **Full-field polarization state tomography technique based on coherent synthesis of polarization**	15:05-15:20 ..... [AO- 14] **Reflective Computational Light Sheet Microscopy** **Yue Wang**, Kebin Shi, Peking

PIBM 2024 Topical Sessions

Afternoon Tuesday 5 November

Location: Aoshan 鳌山厅，2F	*Location:* Fushan 富山厅	*Location:* Yazhou 崖州厅
Chinese-Russian Workshop 1	**Translational Biophotonics 7**	**Analytical Biophotonics 5**
microscopy for monitoring 3D biological dynamics **Dongyu Li**, Huazhong University of Science and Technology (China)	**state and orthogonal polarization state separation method** **Peijun Tang**, South China Normal University (China)	University (China)
	15:30-15:45 ..... [TI- 18] **Rational manipulation of excited-states dynamics in organic materials for optimized photodynamic therapy** *(invited)* **Wenbo Hu**, Northwestern Polytechnical University (China)	15:20-15:35 ..... [AO- 15] **Algorithm-accelerated Six-dimensional WAXD Tensor Tomography** **Zheng DONG**, Institute of High Energy Physics, Chinese Academy of Sciences (China)

Location: Aoshan 鳌山厅，2F	*Location:* Poster Areas
Chinese-Russian Workshop 2	**Poster Session**
Chairs: **Oxana Semyachkina-Glushkovskaya**, Saratov State University (Russia); **Junle Qu,** Shenzhen University (China)	15:40-18:00 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 Nov. 3 to 12:00 Nov. 6. No shows will be reported to Conference management and these papers will not be published in the Proceedings of SPIE. After16:00 Nov. 6, posters not removed will be discarded.
15:45-16:05 .....[CRI- 4] **Ergodic optical speckle imaging of 3D blood flowmetry** *(invited)* **Pengcheng Li**, Huazhong University of Science and Technology and Hainan University (China)	
16:05-16:20 ..... [CRO- 4] **LIBS Imaging Instrumentation for the diagnosis of tumor tissue: From in vitro to in vivo** **Qinyu Lin**, Sichuan University (China)	
16:20-16:35 ..... [CRO- 3] **Transmission speckle contrast imaging combined with optical clearing** **Polina Timoshina**[1,2], Yuri Surkov[1], Valery Tuchin[1,2] 1.Saratov State University (Russia), 2.Tomsk State University (Russia)	

PIBM 2024 Topical Sessions

Afternoon Tuesday 5 November

Location: Aoshan 鳌山厅，2F	*Location:* Poster Areas
Chinese-Russian Workshop 2	**Poster Session**
16:35-16:55 .....[CRI- 5] **Forces of erythrocytes aggregation and their interaction with endothelium and the effect of interferon alfa-2b: an *in vitro* study with optical tweezers** *(online invited)* **Alexander Priezzhev**[1], Matvei Maksimov[1], Petr Ermolinskiy[1], Danila Umerenkov[1], Olga Scheglovitova[2], Andrei Lugovtsov[1], 1.Lomonosov Moscow State University(Russia), 2.Gamaleya national center (Russia)	
16:55-17:15 .....[CRI- 6] **Pitfalls in optical clearing agents induced enhancement of blood microcirculation imaging** *(online invited)* **Andrei Lugovtsov**[1], Pavel Moldon[1], Petr Ermolinskiy[1], Matvei Maksimov[1], Polina Timoshina[2], Pengcheng Li[3], Alexander Priezzhev[1], 1.Lomonosov Moscow State University (Russia), 2.Chernyshevsky Saratov State University (Russia), 3.Huazhong University of Science and Technology (China)	

PIBM 2024 Topical Sessions

Morning Wednesday 6 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Translational Biophotonics 8	**Translational Biophotonics 9**
Chairs: **Zhihong Zhang**, Hainan University (China); **Jiong Ma**, Fudan University (China)	*Chairs:* **Sihua Yang**, South China Normal University (China); **Xiaoquan Yang**, Huazhong University of Science and Technology (China)
8:30-8:50 ..... [II- 3] **Biomimetic Porphyrin Nanoparticles** *(invited)* **Juan Chen**[1], Gang Zheng[1,2], 1.University Health Network (Canada), 2.University of Toronto (Canada)	8:30-8:50 ..... [TI- 22] **Custom ultrasonic detectors in biomedical photoacoustic diagnostics** *(invited)* **Pavel Subochev**, IAP RAS (Russia)
8:50-9:05 ..... [TO- 17] **Design, synthesis, and application of BODIPYs phototheranostic agents** **Minhuan Lan**, Central South University (China)	8:50-9:05 ..... [TO- 21] **High-spatiotemporal resolution microwave-induced thermoacoustic imaging** **Huan Qin**, South China Normal University (China)
9:05-9:20 ..... [TO- 18] **Synthetic optical reporter probes for apoptosis imaging** **Fu Wang**, Xi'an Jiaotong University (China)	9:05-9:20 ..... [TO- 22] **Volumetric visualization of whole-body dynamics with rapid wide-field photoacoustic tomography (RAW-PAT)** **Xuanhao Wang**[1], Yuqian Meng[1], Junhui Shi[1,2], 1.Zhejiang Lab (China), 2.Zhejiang University (China)
9:20-9:35 ..... [TO- 19] **Proximity-induced Electrochemiluminescence sensor for capturing of exosomes and probing internal microRNAs related to cancer cell apoptosis** **Lin Shi**, Xueli Chen, Xidian University (China)	9:20-9:35 ..... [TO- 23] **Fast simulation of three-dimensional photoacoustic imaging with arbitrary ultrasound transducer arrays** **Yang Xiao**, Xuanhao Wang, Junhui Shi, Zhejiang Lab (China)
9:35-9:50 ..... [TO- 20] **Photo-Triggered Pt (IV)-Coordinated Nanoprodrug for Tumor Therapy** **Dongbo Guo**, Hainan University (China)	9:35-9:50 ..... [TO- 24] **Accurate assessment of endometrial injury based on multiple modalities of endoscopic optical/acoustic imaging** **Qingrong Xia**, Haoxing Xu, Jinke Zhang, Xiaojing Gong, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)

PIBM 2024 Topical Sessions

Morning Wednesday 6 November

Location: Yazhou Ballroom 崖州厅	*Location:* Fushan Meeting Room 富山厅
Translational Biophotonics 10	**Best Student Paper Award Final**
Chairs **Juan Chen**, University Health Network (Canada); **Feifan Zhou**, Hainan University (China)	*Chairs:* Award Evaluation Committee
10:10-10:30 ..... [TI- 23] **Construction and Application of Organoids for Host-Pathogen Interaction Study and Drug Development** *(invited)* **Liang Li**, Southern University of Science and Technology (China)	10:10-12:00 Winners from Best Student Paper Award Candidates' Flash-Oral Presentations & Poster Session
10:30-10:45 ..... [TO- 27] **Label-free two-photon imaging: From near-infrared to visible excitation** **Hui Li**, Feng Xiang, Jia Yu, Ting Wu, Wei Zheng, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)	
10:45-11:00 ..... [TO- 28] **Rapid and label-free histological imaging of unprocessed surgical tissues via Dark-field Reflectance Ultraviolet Microscopy** **Shiwei Ye**, Zheng Wei, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences (China)	
11:00-11:15 ..... [AO- 16] **Cardio-cerebrovascular organ-on-a-chip and its integration with AI** **Bo Peng**, Northwestern Polytechnical University (China)	
11:15-11:30 ..... [AO- 18] **Noncontact elastic measurement using Laser profilometer with airpuff excitation** **Xiao Chen**, Yichu Chen, Hubei University of Science and Technology (China)	

PIBM 2024 Poster List

Neurophotonics

[NP-1] PIBM2024-0729-1

A high-throughput image preprocessing method for Array-fMOST data using differential-guided filtered convolutional neural networks

Hong Zhang[1,2], Peicong Gong[1,2], Shilong Zhang[1,2], Zhao Feng[1,2], Anan Li[1,2,3], Chi Xiao[1,2]

[1]State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China) [2]Key Laboratory of Biomedical Engineering of Hainan Province, One Health Institute, Hainan University, (China) [3]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China)

[NP-2] PIBM2024-0729-21

Blood oxygenation imaging through transparent cranial window using laminar optical tomography

Zhixuan Xin[1,2], Dafei Yu[2], Maowen Chen[2], Guanglin Li[2], Han Cui[2]

[1]Department of Biomedical Engineering, Southern University of Science and Technology (China) [2]CAS Key Laboratory of Human Machine Intelligence-Synergy Systems, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)

[NP-3] PIBM2024-0731-35

Develop a compact six-axis positioning stage for high-precision multi-color fluorescence simultaneous coplanar imaging

Ziyu Lei[1], Ruiheng Xie[1], Jing Yuan[1,2], Hui Gong[1,2], Jianwei Chen[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China) [2]HUST-Suzhou Institute for Brainsmatics, JITRI (China)

[NP-4] PIBM2024-0731-52

Weakly Supervised Iterative Neuron Image Identification Algorithm

Ganghua Huang[1,2], Jiang Huang[1,2], Xinyi Cheng[1,2], Anan Li[1,2,3], Chi Xiao[1,2]

[1]State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China) [2]Key Laboratory of Biomedical Engineering of Hainan Province, One Health Institute, Hainan University (China) [3]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China)

[NP-5] PIBM2024-0819-7

High-efficiency photoacoustic microscopy for ultrafast hemodynamic imaging

Wei Qin[1], Lei Xi[1,2]

[1]Department of Biomedical Engineering, Southern University of Science and Technology (China) [2]Guangdong Provincial Key Laboratory of Advanced Biomaterials, Southern University of Science and Technology (China)

PIBM 2024 Poster List

[NP-6] PIBM2024-0819-25

Multi-region hemodynamic imaging in freely behaving mice with wearable optical coherence tomography

Linyang Li[1], Haoyang Li[1], Lei Xi[1,2]

[1]Department of Biomedical Engineering, Southern University of Science and Technology (China) [2]Guangdong Provincial Key Laboratory of Advanced Biomaterials, Southern University of Science and Technology (China)

[NP-7] PIBM2024-0820-8

Optical Coherence Tomography-based Robotic Platform for Automatic Craniotomy

Haoyuan Li, Yongchao Wang, Wei Chen, Yanjun Zhang, Xiangsen Guo, Luke Xu, Jianbo Tang

Department of Biomedical Engineering, Southern University of Science and Technology (China)

[NP-8] PIBM2024-0820-22

Design of an open-source program for fluorescence signal correction based on the absorption spectrum of hemoglobin

Xiaonan Chen[1], Shangbin Chen[1,2]

[1]School of Engineering Sciences, Huazhong, University of Science and Technology (China) [2]Briton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology (China)

[NP-9] PIBM2024-0913-1

Rational design of Aβ fluorescent probe with NIR-II emission for early Alzheimer's disease diagnose

Zejun Li[1], Zhenyu Zhang[1], Tianyi Qin[1,2], Yalong Wang[1,2]

[1]State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China) [2]Key Laboratory of Biomedical Engineering of Hainan Province, One Health Institute, Hainan University (China)

[NP-10] PIBM2024-0919-2

Mesoscopic Dissection of the Organizational Logic in One Cortical Connection Hub: Retrosplenial Cortex

Yuxiao Li[1], Miao Ren[1], Hui Gong[2], Xiangning Li[1], Qingming Luo[1]

[1]Key Laboratory of Biomedical Engineering of Hainan Province, School of Biomedical Engineering, Hainan University (China) [2]HUST-Suzhou Institute for Brainsmatics, JITRI (China)

[NP-11] PIBM2024-0725-3

Performance Evaluation and Major Challenges in Automated Neuron Reconstruction

Shengda Bao[1], Wu Chen[1], Mingwei Liao[1], Chaoyi Sun[1], Xiaowei Chen[2], Hui Gong[1,2], Anan Li[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]HUST-Suzhou Institute for Brainsmatics (China)

[NP-12] PIBM2024-0729-10

Distinct spatiotemporal dynamics of inhibitory neurons in the cerebral cortex of Parkinson's mice

Yi Xia[1,3], Liang Shi[1,3], Jinling Lu[1,3], Pengcheng Li[1,2,3]

[1]Britton Chance Center for Biomedical Photonics and MoE Key Laboratory for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology (China) [2]School of

Biomedical Engineering, Hainan University (China) [3]Research Unit of Multimodal Cross Scale Neural Signal Detection and Imaging, Chinese Academy of Medical Science, HUST-Suzhou Institute for Brainsmatics, JITRI (China)

[NP-13] PIBM2024-0729-14

The pH-sensitive Aβ aggregate intelligently turn-on fluorescent ratio probes to visualize the pH microenvironment caused by lysosomal damage around Aβ plaques

Haojie Wang[1], Haiming Luo[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]State Key Laboratory of Digital Medical Engineering, Key Laboratory of Biomedical Engineering of Hainan Province, School of Biomedical Engineering, Hainan University (China)

[NP-14] PIBM2024-0730-5

Enhanced cortical activation in the ipsilesional motor cortex of subacute stroke patients for lower-limb rehabilitation: evidence from a functional near-infrared spectroscopy study

Congcong Huo[1,2], Guangjian Shao[1,2], Tiandi Chen[1,2], Yuanyuan Xiao[1,2], Yanshun Li[1,2], Zengyong Li[1,2]

[1]Beijing Key Laboratory of Rehabilitation Technical Aids for Old-Age Disability, National Research Center for Rehabilitation Technical Aids (China) [2]Key Laboratory of Neuro-functional Information and Rehabilitation Engineering of the Ministry of Civil Affairs, National Research Center for Rehabilitation Technical Aids (China)

[NP-15] PIBM2024-0730-28

NIR-II fluorescence lifetime mesoscope

Jiuling Liao, Wei Zheng

Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (China)

[NP-16] PIBM2024-0730-29

Circuit mechanism underlyting the aging vulnerability of individual neuron

Tingting Sun[1], Hui Gong[1,3], Xiangning Li[2,3]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]Key Laboratory of Biomedical Engineering of Hainan Province, School of Biomedical Engineering, Hainan University (China) [3]HUST-Suzhou Institute for Brainsmatics, JITRI, (China)

[NP-17] PIBM2024-0730-40

Single-neuron and whole-brain mapping of the arcuate fasciculus in macaque monkeys: insights into human homologous organization

Jiahao Huang[1], Ruifeng Li[1], Wenwen Yu[2], Anan Li[3], Xiangning Li[3], Mingchao Yan[4], Lei Xie[1], Qingrun Zeng[1], Qingming Luo[3,5], Hui Gong[3,5], Xiaoquan Yang[3,5], Yuanjing Feng[1], Zheng Wang[5,6]

[1]Institute of Information Processing and Automation, College of Information Engineering, Zhejiang University of Technology (China) [2]Institute of Science and Technology for Brain-inspired Intelligence, Fudan University (China) [3]HUST-Suzhou Institute for Brainsmatics, JITRI (China) [4]Institute of Neuroscience, State Key Laboratory of Neuroscience, Center for Excellence in Brain Science and Intelligence Technology, Chinese Academy of Sciences (China) [5]School of Biomedical Engineering, Hainan University (China) [6]School of Psychological and Cognitive

Sciences, Beijing Key Laboratory of Behavior and Mental Health, IDG/McGovern Institute for Brain Research, Peking-Tsinghua Center for Life Sciences, Peking University (China)

[NP-18] PIBM2024-0731-5

Simultaneous multicolor line-confocal imaging based on line-illumination off-axis coding and linear decoding with PSF

Jiangjiang Zhao[1], Zhangheng Ding[1], Hui Gong[1], Qingming Luo[1,2], Jing Yuan[1]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]School of Biomedical Engineering, Hainan University (China)

[NP-19] PIBM2024-0731-14

Software for high-throughput data acquisition of macaques whole brain imaging system

Qianyi Ma[1], Xiaoquan Yang[2]

[1]Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China)

[NP-20] PIBM2024-0731-15

A high-resolution, large-scale, 3D platform for imaging whole-bodies of mice

Yuting He, Xiaoquan Yang

Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China)

[NP-21] PIBM2024-0731-22

Registration of Mesoscopic Whole-Body Imaging Data in Mouse

Xin Lu[1], Xinbo Ma[1], Anan Li[1,3], Zhao Feng[2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]School of Biomedical Engineering, Hainan University (China) [3]HUST-Suzhou Institute for Brainsmatics (China)

[NP-22] PIBM2024-0731-23

Ultrafast 3D segmentation network for 3D neuronal volume

Qing Huang[1], Shanshan Hu[1], Shijie Liu[2], Lei Ren[1], Tingwei Quan[2]

[1]School of Computer Science & Engineering Artificial Intelligence, Hubei Key Laboratory of Intelligent Robotics, Wuhan Institute of Technology (China) [2]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China)

[NP-23] PIBM2024-0731-28

3D optical imaging of cleared intact organs with consistently high quality integrated with vibration tissue sectioning

Zhilin Zhang[1], Ruiheng Xie[1], Jing Yuan[1,2], Hui Gong[1,2], Jianwei Chen[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China) [2]HUST-Suzhou Institute for Brainsmatics, JITRI (China)

[NP-24] PIBM2024-0731-31

An intact brain RNA fixation method compatible with preserving fluorescence and morphology

Jin Chang[1], Yiqing Liu[1], Xinxin Wang[1], Shujin Feng[1], Qingming Luo[1,2]

[1]Britton Chance Center and MoE Key Laboratory for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]Hainan University (China)

[NP-25] PIBM2024-0731-33

Ultra-thin vibration cutting and three-dimensional high-resolution imaging of the whole heart

Ruiheng Xie[1], Xiaoquan Yang[1,2], Jing Yuan[1,2], Hui Gong[1,2], and Jianwei Chen[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China) [2]HUST-Suzhou Institute for Brainsmatics, JITRI (China)

[NP-26] PIBM2024-0731-42

Computational adaptive optical microscopy for high-resolution large-FOV bioimaging

Yixue Li[1,#], Liulin He[2,#], Jiadong Zhang[2], Wei Chen[1,3], Qinrong Zhang[2,4]

[1]School of Mechanical Science and Engineering, Huazhong University of Science and Technology (China) [2]Department of Biomdecial Engineering, City University of Hong Kong (Hong Kong, China) [3]Advanced Biomedical Imaging Facility, Huazhong University of Science and Technology (China) [4]Tung Biomedical Sciences Centre, City University of Hong Kong (Hong Kong, China)

[NP-27] PIBM2024-0802-2

Adaptive Closed-loop Two-photon Holographic Optogenetic Stimulation

Ziyu Chen, Jiafeng Liu, Jianping Wang, Yao Wu, Biqin Dong

Academy for Engineering and Technology, Yiwu Research Institute, Fudan University (China)

[NP-28] PIBM2024-0804-1

Photo-stimulation of meningeal lymphangiogenesis for therapy of traumatic brain injury

Semiachkina-Glushkovskaia Anastassia[1], Evsukova Arina[1], Tuzhilkin Matvey[1], Ilizarova Inna[1], Trofimov Alexey[1,2], Shirokov Alexander[1,3], Semyachkina-Glushkovskaya Oxana[1]

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[NP-29] PIBM2024-0810-2

Rapid labeling of molecular types of neurons based on CRISPR/Cas9 homology-independent targeted integration

Wenjing Wang, Jie Yang

Britton Chance Center and MoE Key Laboratory for Biomedical Photonics, School of Engineering Sciences, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology (China)

[NP-30] PIBM2024-0814-1

Study on brain function characteristics of children with cerebral palsy during walking based on fNIRS

Tengyu Zhang[1], Zichao Nie[1,2], Yajie Chang[1,2], Aiping Sun[1]

[1]National Research Center for Rehabilitation Technical Aids (China) [2]Institute of Electric Engineering, Yanshan University (China)

[NP-31] PIBM2024-0814-2

PointTree: automatic and accurate reconstruction of long-range axonal projections of single-neuron

Lin Cai[1,2], Taiyu Fan[1,2], Xuzhong Qu[1,2], Ying Zhang[1,2], Xianyu Gou[1,2], Quanwei Ding[1,2,3], Weihua Feng[1,2], Tingting Cao[1,2], Xiaohua Lv[1,2], Xiuli Liu[1,2], Qing Huang[1,2,3], Tingwei Quan[1,2], Shaoqun Zeng[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology (China) [2]MoE Key Laboratory for Biomedical Photonics, Collaborative Innovation Center for Biomedical Engineering, School of Engineering Sciences, Huazhong University of Science and Technology (China) [3]School of Computer Science & Engineering, Hubei Key Laboratory of Intelligent Robot, Wuhan Institute of Technology (China)

[NP-32] PIBM2024-0819-3

Estimate the 3D fiber orientation distributions of white matter in the mouse brain by integrating mesoscopic nissl-staining with dMRI data

Zhikang Lu[1,2], Fengming Qin[1,2], Hong Zhang[1,2], Zhanbo Zhang[1,2], Junjie Zhuo[1,2], Anan Li[1,2,3], Chi Xiao[1,2]

[1]State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China) [2]Key Laboratory of Biomedical Engineering of Hainan Province, One Health Institute, Hainan University (China) [3]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China)

[NP-33] PIBM2024-0819-6

Enhancement of Working Memory in Individuals with Mild Cognitive Impairment through Simultaneous Transcranial Magnetic Stimulation and Transcranial Photobiomodulation

Da Han[1,2,3], Jingsha Zhang[2,3], Zengyong Li[2,3]

[1]Key Laboratory of Measurement Technology and Instrumentation of Hebei Province, Institute of Electric Engineering, Yanshan University (China) [2]Beijing Key Laboratory of Rehabilitation Technical Aids for Old-Age Disability, National Research Center for Rehabilitation Technical Aids (China) [3]Key Laboratory of Neuro-functional Information and Rehabilitation Engineering of the Ministry of Civil Affairs, National Research Center for Rehabilitation Technical Aids (China)

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[NP-34] PIBM2024-0819-17

Mapping the density distribution pattern of microvasculature in whole-mouse brain

Yuxin Li[1], Weijie He[1], Tao Jiang[2], Jia Cao[1], Xiangning Li[3], Anan Li[2,3]

[1]Shaanxi Key Laboratory of Network Computing and Security Technology, School of Computer Science and Engineering, Xi'an University of Technology (China) [2]HUST-Suzhou Institute for Brainsmatics (China) [3]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, MoE Key Laboratory for Biomedical Photonics, Huazhong University of Science and Technology (China)

[NP-35] PIBM2024-0819-24

3D X-Ray reconstruction of neuronal microstructure networks in mouse pbrain hemisphere

LU WANG, JIE ZHANG, TIJIAN DENG, RUI SUN, ZHIMAO WANG, YANPING WANG, GANG LI

Institute of High Energy Physics, Chinese Academy of Sciences (China)

[NP-36] PIBM2024-0820-10

Simultaneous two-photon and three-photon microscopy for multi-ROI and multi-depth brain imaging

Jianping Wang, Kaifeng Wu, Ang Xuan, Ziyu Chen, **Biqin Dong**

Academy for Engineering and Technology, Fudan University (China)

[NP-37] PIBM2024-0820-15

Treatment of peripheral nerve injury with platelet-rich plasma based on multimodal imaging

Huiling Wu

Xiamen University (China)

[NP-38] PIBM2024-0821-1

A large-volume three-dimensional tissue architectonic mapping method for intact organs at high resolution

Jingyi Che, Jiajia Wang, Xinle zhang, Yaoyuan Jiang, Xiaoyan Li, Chi Xiao, Xiaojun Wang

Key Laboratory of Biomedical Engineering of Hainan Province, School of Biomedical Engineering, Hainan University (China)

[NP-39] PIBM2024-0828-2

Characterization of cerebrovascular changes in Alzheimer's disease mice by photoacoustic imaging

Zhongyang Zhang[#], Xi Li[#], Hua Shi, Feifan Zhou

[1]School of Biomedical Engineering, Hainan University (China)

[NP-40] PIBM2024-1016-4

Automatic brain tumor identification using label-free nonlinear optical microscopy and deep learning

Yi Min, Lin Fangrui, Qu Junle

College of Physics and Optoelectronic Engineering, Shenzhen Key Laboratory of Photonics and Biophotonics, Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education and Guangdong Province, Shenzhen University (China)

PIBM 2024 Poster List

Immunophotonics

[IP-1] PIBM2024-0730-13

Precision Engineering of Single Domain Antibody for Biomedical Imaging

Siyu Zhou[1], Xiaofeng Fang[1], Weijun Wei[2], Gang Huang[2], Changfeng Wu[1]

[1]Guangdong Provincial Key Laboratory of Advanced Biomaterials, Department of Biomedical Engineering, Southern University of Science and Technology (China) [2]Department of Nuclear Medicine, Institute of Clinical Nuclear Medicine, Renji Hospital, School of Medicine, Shanghai Jiao Tong University (China)

[IP-2] PIBM2024-0730-31

Nanomicelle hitchhiking neutrophils synergistically light-controlled CO release system for postoperative pancreatic cancer treatment

Jinxian Wu, Wen Song, Feifan Zhou

State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China)

[IP-3] PIBM2024-0731-45

Wearable Ionic-Gel Photothermal Patch Enhanced with Electrostimulation for Diabetic Wound Therapy

Dongna Huang[1], Shuai Zhang[1], Yundi Wu[2], Xilong Wu[1,2]

[1]School of Biomedical Engineering, Hainan University (China) [2]State Key Laboratory of Marine Resource Utilization in South China Sea, Collaborative Innovation Center of One Health, Hainan University (China)

[IP-4] PIBM2024-0815-1

Fluorescence Guided Sentinel Lymph Node Mapping Based on Biomimetic Indocyanine Green Nanoprobes

Chenwei Zhang[1], Wenjing Chen[1], Yinhong Song[1], Zhihong Zhang[2], Xiang Yu[2]

[1] Hubei Key Laboratory of Tumor Microenvironment and Immunotherapy, China Three Gorges University (China)

[2] Key Laboratory of Biomedical Engineering of Hainan Province, One Health Institute, Hainan University (China)

[IP-5] PIBM2024-0630-1

A deep learning multi-organ segmentation method in low-dose CT images of mice for FMT/CT imaging

Yuxiang Dou[1,2], Yuxuan Jiang[1,2], Yujun Wu[1,2], Haofeng Xia[1,2], Yong Deng[1,2]

[1]Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China) [2]MoE Key Laboratory for Biomedical Photonics, Department of Biomedical Engineering, Huazhong University of Science and Technology (China)

[IP-6] PIBM2024-0730-30

Light-triggered nanocarriers modulate mitochondrial metabolism for enhancing anti-tumor immune response

Zhaoming Fu, Wen Song, Feifan Zhou

State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China)

[IP-7] PIBM2024-0730-35

Regulation of lymph node infiltration and cholesterol metabolism confer enhanced nanovaccine-mediated antitumor effect

Zihan Deng, Lisen Lu, Honglin Jin
College of Biomedicine and Health and College of Life Science and Technology, Huazhong Agricultural University (China)

[IP-8] PIBM2024-0730-39
Microwave-triggered ROS Nanobombs Enhanced Ablation/Immunotherapy through Aggravating Ca2+ Homeostasis Perturbation and Capturing in Situ Tumor Antigens
Jiawen He, **Liewei Wen**
Guangdong Provincial Key Laboratory of Tumor Interventional Diagnosis and Treatment, Zhuhai People's Hospital (Zhuhai Clinical Medical College of Jinan University), Jinan University (China)

[IP-9] PIBM2024-0731-4
Mechanistic exploration of tumor vaccine effects with radiation-derived microparticles targeting lymph node CD169^{+} macrophages
Beilei Yue, Jing Huang, Honglin Jin
College of Biomedicine and Health and College of Life Science and Technology, Huazhong Agricultural University (China)

[IP-10] PIBM2024-0810-3
Nanoscale arrangement of PD-L1 in breast cancer cells revealed by super-resolution microscopy
Fulin Xing[1], Jianyu Yang[1], Fen Hu[1], Yali Zhao[1], Wan Li[2], Ke Xu[2], Leiting Pan[1]
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[IP-11] PIBM2024-0816-1
Black phosphorus mediated photoporation: a broad absorption nanoplatform for intracellular delivery of macromolecules
Jielin Wang[1,2,3,4], Aranit Harizaj[4], Yongbo Wu[1,2,3], Xiaofang Jiang[1,2,3], Toon Brans[4], Juan C. Fraire[4], Julián Mejía Morales[4], Stefaan C. De Smedt[4], Zhilie Tang[1,2,3], Ranhua Xiong[4,5], Kevin Braeckmans[4,6]
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[IP-12] PIBM2024-0819-1
Photothermal-Gas Combination Therapy promotes Checkpoint Blockade Immunotherapy in Colon Cancer
Benchao Zheng, Kuangda Lu
Institute of Medical Technology, Peking University Health Science Center (China)

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[IP-13] PIBM2024-0819-4

An Adaptive and Self-Healing Hydrogel Powder for Integrated Optical Glucose Sensing and Therapy

Zhengyu Chen, Xingzhou Peng

School of Biomedical Engineering, Hainan One Health Key Laboratory, Collaborative Innovation Center of One Health, Hainan University (China)

[IP-14] PIBM2024-0819-11

Spatiotemporal co-regulation of lymph node resident and skin-derived dendritic cells inhibits tumor growth and metastasis

Jinxin Liu[1], Aiqiang Xia[1], Jian Li[1], Yifan Zhao[1], Zhan Fan[2], Jiahong Hu[1], Xiang Yu[2], Zhihong Zhang[1,2]

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[IP-15] PIBM2024-0819-15

Intravital molecular imaging reveals that the molecular events of immune response induced by intracellular antigens

Ren Zhang[1], Bolei Dai[1], Jialu Wang[1], Shuhong Qi[1], Zhihong Zhang[1,2]

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[IP-16] PIBM2024-0819-26

Visualization study on polarization and movement patterns of macrophages

Jialu Wang[1], Ren Zhang[1], Yafang Lu[1], Jinxin Liu[1], Zhihong Zhang[1,2]

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[IP-17] PIBM2024-0828-1

The regulation of cerebral lymphatic drainage in the transverse sinus region of mouse brain

Zengjun Xie[1], Zhen Yuan[2], Miao Wang[1], Feifan Zhou[1]

[1]Key Laboratory of Biomedical Engineering of Hainan Province, School of Biomedical Engineering, Hainan University (China) [2]Faculty of Heath Sciences, Center for Cognitive and Brain Sciences, University of Macau (Macau, China)

[IP-18] PIBM2024-1015-6

Direct Visualization of Immune Status for Tumor-Infiltrating Lymphocytes by Rolling Circle Amplification

Yupeng Sun, Ming Wu, Xiaolong Zhang, Yongyi Zeng, Xiaolong Liu

The United Innovation of Mengchao Hepatobiliary Technology Key Laboratory of Fujian Province, Mengchao Hepatobiliary Hospital of Fujian Medical University (China)

[IP-19] PIBM2024-1015-9

Diagnosis of Minimal Hepatic Encephalopathy Based on Photoacoustic Imaging

Mingdong Xie[2,3], Sanmu Li[2,3], Yanfeng Dai[1,2,3], Zhihong Zhang[1,2,3,4]

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Analytical Biophotonics & Agri-Photonics

[AP-1] PIBM2024-0729-5

Rapid fluorescence microscopic image deconvolution through kernel learning

Qiqi Lu[1], Hua Ye[1], Xiuli Liu[2], Shaoqun Zeng[2], Qianjin Feng[1], Shenghua Cheng[1]

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[AP-2] PIBM2024-0729-20

Transient stimulated Raman scattering spectroscopy and imaging

Yu Qiaozhi, Xiong Hanqing

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[AP-3] PIBM2024-0730-24

Stimulated Raman scattering microscopy enables histopathological grading of lung adenocarcinoma by artificial intelligence

Liyang Ma[1,2,3], Yuheng Guo[1,2,3], Minbiao Ji[1,2,3]

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[AP-4] PIBM2024-0731-25

Optical Tweezers with AC Dielectric Levitation: A Powerful Approach to Microparticle Manipulation

Haobing Liu[1], Zongliang Guo[1], Yao Lu[3], Hang Li[2,3], Shuailong Zhang[1,3], Rongxin Fu[2,3]

[1]Beijing Advanced Innovation Center for Intelligent Robots and Systems, School of Mechnical Engineering, Beijing Institute of Technology (China) [2]School of Medical Technology, Beijing Institute of Technology (China) [3]School of Integrated Circuits and Electronics, Engineering Research Center of Integrated Acousto-opto-electronic Microsystems (Ministry of Education of China), Beijing Institute of Technology (China)

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[AP-5] PIBM2024-0731-37

Optical modeling and error correction for Measuring Inclined Surfaces with Confocal Microscopy

Bingxi Wang[1,2], Haijun Lv[1,2], Cong Li[1], Shaoqun Zeng[1,2], Xiaohua Lv[1,2]

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[AP-6] PIBM2024-0731-39

Self-interference digital optofluidic genotyping for integrated and automated label-free pathogen detection

Tianqi Zhou[1], Fan Yang[1], Jialu Hou[1], Zeyin Mao[2], Anni Deng[2], Shuailong Zhang[1], Guoliang Huang[2], Rongxin Fu[1]

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[AP-7] PIBM2024-0819-2

Single-shot probing of phase transients of laser-tissue interaction using cross-polarized common-path temporal interferometry

Shujun Fang, Jun Deng, Zhuoyu Zhang, Xiaohua Lv, Shaoqun Zeng

Huazhong University of Science and Technology (China)

[AP-8] PIBM2024-0819-10

Measurement of multiscale viscoelastic properties for red blood cells with various optical tweezers

Jiawei Tian, Lingyao Yu, Jun Yin

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[AP-9] PIBM2024-0820-2

The investigation of the interaction mechanism between DOX and SIM with DNA using multispectral technology

Abulaiti Remilai, He Qing, Wang Kaige

Key Laboratory of Photoelectric Technology of Shaanxi Province, National Center for International Research of Photoelectric Technology & Nano-Functional Materials and Application, Institute of Photonics and Photon-Technology, Northwest University (China)

[AP-10] PIBM2024-0820-18

Rheological testing method of breast cancer cells by rotationally linear optical tweezers

Runfeng He, Lingyao Yu, Jun Yin

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[AP-11] PIBM2024-0604-1

Research on water distribution detection of plant leaves based on microwave thermoacoustic imaging technology

Shi-Meng Xie, Lin Huang
School of Electronic Science and Engineering, University of Electronic Science and Technology of China (China)

[AP-12] PIBM2024-0715-1
Scattered Light Field Separation and High-Quality Imaging Based on Low-Rank Sparse Matrix Decomposition
Jia Wu, Pinghe Wang
School of Optoelectronic Science and Engineering, University of Electronic Science and Technology of China (China)

[AP-13] PIBM2024-0724-1
Upconversion-based chiral nanoprobe for highly selective dual-mode sensing and bioimaging of hydrogen sulfide in vitro and in vivo
Yang Lu, Xiaomin Liu, Geyu Lu
State Key Laboratory of Integrated Optoelectronics, College of Electronic Science and Engineering, Jilin University (China)

[AP-14] PIBM2024-0727-2
Morphological characterization of oil gland in Citrus based on optical coherence tomography
JunLing Liu[1], Yong Guo[1], Kaihong Chen[1], ShuFeng Zhou[1], Yao Li[2], Zhifang Li[2]
[1]The Internet of Things and Artificial Intelligence College, Fujian Polytechnic of Information Technology (China)
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[AP-15] PIBM2024-0728-5
Advancing super-resolution imaging with all-optical three-dimensional addressable scanning multifocal structured illumination microscopy
Duo Chen, Danying Lin, Bin Yu, Junle Qu
Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education and Guangdong Province, College of Physics and Optoelectronic Engineering, Shenzhen University (China)

[AP-16] PIBM2024-0729-7
A Self-Calibrated High-Speed Delay Scanning System for Time-Domain Stimulated Raman Scattering Microscopy
Jin Guo, Haojie Zhang, Hanqing Xiong
National Biomedical Imaging Center, College of Future Technology, Peking University (China)

[AP-17] PIBM2024-0729-8
Quantitative analysis of lipid unsaturation using spectral focusing coherent anti-Stokes Raman scattering microscopy
Shuqi Li, Guoquan Luo, Junle Qu, Hu Rui, Danying Lin
Shenzhen Key Laboratory of Photonics and Biophotonics, Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education and Guangdong Province, College of Physics and Optoelectronic Engineering, Shenzhen University (China)

[AP-18] PIBM2024-0729-11

Ferricyanide-mediated, electrocatalytic mechanism of electrochemical aptamer-based sensor supports ultra-sensitive analysis of cardiac troponin I in clinical sample

Xuewei Du, Wanxue Zhang, Suyan Yi, Shaoguang Li, Hui Li, Fan Xia

State Key Laboratory of Biogeology and Environmental Geology, Engineering Research Center of Nano-Geomaterials of Ministry of Education, Faculty of Materials Science and Chemistry, China University of Geosciences (China)

[AP-19] PIBM2024-0729-18

A fluorescence-based drug screening strategy for live-cell intracellular targets using cell-penetrating peptides delivery of non-permeable organic fluorescent probes

Yunfei Wei, Xinxin Duan, Wenting Zhang, Meng Zhang, Yuhui Zhang

Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology (China)

[AP-20] PIBM2024-0730-9

The effect of microgravity on changes of biochemical and mechanical signals in human lumbar intervertebral discs

Bing Qin, Jiwen Wu, Zhiyu Qian, Qiaoqiao Zhu

Department of Biomedical Engineering, College of Automation Engineering, Nanjing University of Aeronautics and Astronautics (China)

[AP-21] PIBM2024-0730-26

Mueller matrix imaging with improved resolution by deep learning method

Ao Yi[1], Nan Zeng[1,2], Honghui He[1,2], Hui Ma[1,3]

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[AP-22] PIBM2024-0731-6

Optical trapping of a single virus in a host cell based on active-passive calibration for trap stiffness

Dadi Xu, Liu Liu, Yawen Zheng, Yuyao Li, **Hongwu Tang**

College of Chemistry and Molecular Sciences, Wuhan University (China)

[AP-23] PIBM2024-0731-11

Qualitative analysis of caffeine in beverages based on Raman spectroscopy

Yuhang Yang[1,2], Zexian Zhao[1,2], Wenjun Pu[1,2], Nan Wang[1,2,3], Qi Zeng[1,2,3], Xueli Chen[1,2,3]

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Life Science and Technology, Xidian University (China) [3]Inovation Center for Advanced Medical Imaging and Intelligent Medicine, Guangzhou Institute of Technology, Xidian University (China)

[AP-24] PIBM2024-0802-5

Identification method for prohibited drugs based on X-ray absorption spectroscopy and machine learning

Zheng Fang, **Jingxuan Xu**, Shiliang Song,Yiyao Wang, Mingke Lu, Wei Liang, Huangping Yan, Shunren Li, Siyuan Chen
Xiamen University (China)

[AP-25] PIBM2024-0805-2

Ratiometric Covalently Labeled Fluorescent Probes for Super-resolution Imaging of Mitochondrial HClO During Ferroptosis

Xiangpeng Lin, Yu-hui Zhang
Huazhong University of Science and Technology (China)

[AP-26] PIBM2024-0819-20

Expanding super-resolution imaging versatility in organisms with multi-confocal image scanning microscopy

Wei Ren[1,2], Meiling Guan[1,2,4], Qianxi Liang[1,2], Meiqi Li[3], Peng Xi[1,2]
[1]Department of Biomedical Engineering, College of Future Technology, Peking University (China) [2]National Biomedical Imaging Center, Peking University (China) [3]School of Life Sciences, Peking University (China) [4]Key Laboratory of Computational Optical Imaging Technology, Chinese Academy of Sciences (China)

[AP-27] PIBM2024-0820-5

The interaction between DNA and doxorubicin was studied by reflection interference spectroscopy

Qing He, Abulaiti Remilai, Xiaoqiang Feng, Kaige Wang
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[AP-28] PIBM2024-0831-1

The theoretical research on high-resolution CARS microscopy with multi-focal excitation

Haoyi Hou[1,2], Jun Yin[1,2], Lingyao Yu[1,2]
[1]Guangxi Key Laboratory of Optoelectronic Information Processing, School of Optoelectronic Engineering, Guilin University of Electronic Technology (China) [2]Photonics Research Center, School of Optoelectronic Engineering, Guilin University of Electronic Technology (China)

[AP-29] PIBM2024-0918-1

Strategies and basic applications of biosensing based on Thermus thermophilus Argonaute in gene diagnosis

Lingyi Wu, Ru Huang, Feifan Zhou
State Key Laboratory of Digital Medical Engineering, School of Biomedical Engineering, Hainan University (China)

[AP-30] PIBM2024-1007-1

Excited-states relaxation in FAD: the role of conformation states

D.A. Volkov[1], I.A. Gorbunova[1], D.V. Yashkov[1,2], M.E. Sasin[1], M.G. Khrenova[3], O.S. Vasyutinskii[1]

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[AP-31] PIBM2024-1014-1

Imaging metabolic flow of water in plants with isotope-traced stimulated Raman scattering microscopy

Simin Bi[1,#], Jianpeng Ao[1,#], Ting Jiang[2,#], Xianmiao Zhu[3,4], Yimin Zhu[3,4], Weibing Yang[3,4], Binglian Zheng[2], Minbiao Ji[1]

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[AP-32] PIBM2024-1014-2

Surface Functionalized Gold Nanofluorescent Probes for Live-Cell Super-Resolution Long-Term Imaging of Endoplasmic Reticulum Dynamics

Simei Zhong

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[AP-33] PIBM2024-1015-1

Detection of prostate cancer combining Raman spectroscopy with multilayer perceptron

Lin Xu[1], Houyang Ge[1], Xingen Gao[1], Tong Sun[1], Hongyi Zhang[1], Huali Jiang[1], **Juqiang Lin[1]**

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[AP-34] PIBM2024-1015-5

Raman Spectroscopy Enhancement Based on Deep Learning

Wei Qiao[1,2], Cong Li[1,2], Xingen Gao[1,2], Hongyi Zhang[1,2], Juqiang Lin[1,2]

[1]School of Optoelectronic and Communication Engineering, Xiamen University of Technology (China) [2]Fujian Provincial Key Laboratory of Optoelectronic Technology and Devices (China)

[AP-35] PIBM2024-1015-8

A Multifunctional Fluorescence Imaging Control System By LabVIEW

Ruijie Xiang, Yong Guo, Wei Yan, Xiao Peng, Junle Qu

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[AP-36] PIBM2024-1015-10

Fusion protein localization predicted by AlphaFold2

Zipei Wu[1,#], Changjiang Li[1,#], Zeyu Xiao[1], Xiaoying Zhang[2], Haiying Song[3], **Xiao Peng**[1], Wei Yan[1], Junle Qu[1,4]

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[AP-37] PIBM2024-1015-11

FLIM Monitors Mitochondrial Responses to Microplastics in KYSE-150 cell

Wenzhong Wu[1], Haiying Song[2], Qiao Wen[1], Yifeng Deng[1], Changjiang Li[1], Wei Sun[1], Zhen Lu[3], **Xiao Peng**[1], Wei Yan[1], Junle Qu[1,4]

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[AP-38] PIBM2024-1016-2

Analyzing spatial distribution of multiple histone modifications in single cells and across the genome via super-resolution imaging

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[AP-39] PIBM2024-1016-3

Super-resolution analysis of the spatial distribution of 5hmC in single cell genome

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[AP-40] PIBM2024-0808-1

Generation of non-diffractive optical beam by metasurface for optical imaging and aportable fluorescent lateral flow immunoassay platform for rapid detection of FluA

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Translational Biophotonics

[TP-1] PIBM2024-0727-1

High-speed k-linear swept laser using acousto-optic deflectors with Doppler shift compensation for optical coherence tomography

Zhangwei Hu[1,2], Bin He[1,2], Yejiong Shi[1,2], Chengming Wang[1,2], Zhengyu Chen[1,2], Zichen Yin[1,2], Ruizhi Xue[1,2], Panqi Yang[1,2], Kaiyu Zheng[1,2], Ping Xue[1,2]

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[TP-2] PIBM2024-0727-5

Optical biomarker of metabolism for breast tumor diagnosis: Insights from subcellular dynamics

Zichen Yin[1,2,#], Shuwei Zhang[3,#], Bin He[1,2], Houpu Yang[3], Zhengyu Chen[1,2], Zhangwei Hu[1,2], Yejiong Shi[1,2], Ruizhi Xue[1,2], Panqi Yang[1,2], Yuzhe Ying[4], Chengming Wang[1], Guihuai Wang[4], Shu Wang[3], Ping Xue[1,2]

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[TP-3] PIBM2024-0731-40

Research on multi-focus parallel scanning system for femtosecond laser corneal refractive surgery

Huaming Li[1,2], Zihang Qin[1,2], Ruonan Bian[1,2], Haijun Lv[1,2], Junwen Lu[1,2], Zhuoyu Zhang[1,2], Xiuli Liu[1,2], Shaoqun Zeng[1,2], Xiaohua Lv[1,2]

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[TP-4] PIBM2024-0731-43

Enhancing cervical cell screening with CytoGPT: a multimodal large model integrating expert knowledge for improved accuracy and Interpretability

Shijie Liu[1], Shenghua[2], Xiuli Liu[1]

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[TP-5] PIBM2024-0731-46

Visualization of Hydrogen Polysulfides Level in Type 2 Diabetes via a Mitochondria-Targeted Near-Infrared Fluorescent Probe

Jie Zhang, Wei Chen

Britton Chance Center and MOE Key Laboratory for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (China)

[TP-6] PIBM2024-0731-56

Is it possible to image the tissue surface directly through blood without removing the blood interference?

Yu Liu[1,2], Xiupin Wu[2]

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[TP-7] PIBM2024-0806-1

Enhanced OCTA Imaging through Conditional Guidance Diffusion for Artifact Removal

Jing Xu[1], Suzhong Fu[2], Jiwei Xing[2], Qingliang Zhao[2]

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[TP-8] PIBM2024-0822-1

Wearable nanoplasmonic sensor based on surface-enhanced Raman scattering for multiplexed analysis of sweat

Nan Wang, Duo Lin

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[TP-9] PIBM2024-0919-1

AI-Assisted classification of lung adenocarcinoma subtypes using Swin-Transformer

Wanying Jiang, Lisheng Lin, Hongxin Lin

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[TP-10] PIBM2024-0726-3

Photoacoustic Fiberscope with Enhanced Imaging Speed for Gastrointestinal Endoscopy

Wuxing Liufu, Yizhi liang, Long jin, Bai-Ou Guan

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[TP-11] PIBM2024-0726-4

Enhanced Gastrointestinal Endoscopy through Photoacoustic Tomographic Imaging with Optical Ultrasound Detection

Qi Zhang, Yizhi Liang, Long Jin, Bai-Ou Guan

Jinan University (China)

[TP-12] PIBM2024-0729-6

Advanced Flow Dynamics Mapping Through Volumetric Photoacoustic Particle Velocimetry

Xiali Gao[1], Xuanhao Wang[2], Junhui Shi[1,2]

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[TP-13] PIBM2024-0730-34

Photoacoustic imaging of human peripheral microcirculation by using an omnidirectional optical ultrasound sensor

Wei Li, Xue Bai, Yizhi Liang, Linghao Cheng, Long Jin, Bai-Ou Guan
College of Physics and Optoelectronic Engineering, Jinan University (China)

[TP-14] PIBM2024-0730-41

A Transparent high-numerical-aperture photoacoustic microscopy system for brain functional imaging

Maoyuan Xu[1,2], Yaoyao Cui[1,2,3], Yachao Zhang[1,2,3]
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[TP-15] PIBM2024-0731-26

Non-regular handheld transducer array for improved video-rate ultrasound and photoacoustic imaging

Shen Song[1,2], Yaoyao Cui[1,2,3], Yachao Zhang[1,2,3]
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[TP-16] PIBM2024-0731-48

High-Speed Multispectral Photoacoustic Computational Microscopy for Large-Scale Biomedical Imaging

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[TP-17] PIBM2024-0818-2

Score-based generative model-assisted information compensation for high-quality limited-view reconstruction in photoacoustic tomography

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[TP-18] PIBM2024-0820-13

Dual-band fiber ultrasound transducer array for photoacoustic computed tomography with high resolution and deep penetration

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[TP-19] PIBM2024-0715-2
Label-free identification of fibrotic focus in breast tumor microenvironment using multiphoton microscopy
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[TP-20] PIBM2024-0718-1
Proximal-scanning BM-mode endoscopic OCT elastography
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[TP-21] PIBM2024-0718-2
Speckle decorrelation rate for visualizing therapeutic thermal field with OCT
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[TP-22] PIBM2024-0718-3
Depth-of-focus extension in endoscopic OCT via computer-generated holography
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[TP-23] PIBM2024-0718-4
An embedded clinical decision support system for OCT
Chang Liu[1], Haoran Zhang[1], Zheng Zheng[2,3,4], Wenjia Liu[2,3,4], Chengfu Gu[1], Qi Lan[1], Weiyi Zhang[1], Jianlong Yang[1]
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[TP-24] PIBM2024-0718-5
Deep learning for robotic-assisted OCT
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[TP-25] PIBM2024-0718-6

Fast OCT deconvolution using a light-weight CNN

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[TP-26] PIBM2024-0722-1

Research on defect fingerprint compensation method based on Optical Coherence Tomography

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[TP-27] PIBM2024-0723-2

Stable detection of hepatocellular carcinoma using FAP$^+$ CAFs peptide-targeted NIR-I/II fluorescence imaging: a clinically translatable approach

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[TP-28] PIBM2024-0724-3

A novel dual-targeting pH-responsive autologous neutrophil cell membrane biomimetic drug delivery system targeted to dissolve tumor stroma and fluorescently image the tumor area in HCC

Jiali Zhao, Bo Wang, Zirui Bai, Jian Li, Fifth Affiliated Hospital of Sun Yat-sen University (China)

[TP-29] PIBM2024-0725-4

Image reconstruction based on Graph structure for MRI-guided diffuse optical tomography

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[TP-30] PIBM2024-0725-5

The Impact of SNR Reduction on Tumor in Full-Ring Photoacoustic Tomography for Breast Cancer Imaging

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[TP-31] PIBM2024-0725-6

Rotational Cherenkov-Excited Luminescence Scanned Tomography Reconstruction with Symmetry Vision Mamba

Jingyue Zhang[1,2], Hu Zhang [1,2], Ting Hu[1,2], Zhe Li[1,2], Zhonghua Sun[1,2], Kebin Jia[1,2], Jinchao Feng[1,2]
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[TP-32] PIBM2024-0727-6

Ridge regression optical coherence tomography breaking through the theoretical axial resolution

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[TP-33] PIBM2024-0728-1

Personalized precision imaging of hepatocellular carcinoma via NIR-II fluorescent probe delivered by tumor-derived extracellular vesicles

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[TP-34] PIBM2024-0728-2

Targeting CEACAM5 with Single-Chain Antibody Fluorescent Probes for Ex Vivo Precision Imaging of Colorectal Cancer and Liver Metastases

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[TP-35] PIBM2024-0728-8

A theoretical model of laser speckle contrast imaging based on transmission illumination

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[TP-36] PIBM2024-0729-2

Non-contact measurement of zebrafish heartbeat guided by OCT imaging

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[TP-37] PIBM2024-0729-9

Research on Single-port Endoscopic Theranostic Probe Based on OCT Guided Laser Ablation

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[TP-38] PIBM2024-0729-19

Assessment for pigmentation and vascularity of hypertrophic scar based on residual network

Ruixin Fu[1,2], Peng Tian[3,*], Chong Wang[4], Feng Tu[4], Ming Lu[4], Jiangtao Bai[1,2], Zhe Li[1,2,*], Jinchao Feng[1,2], Kebin Jia[1,2]
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[TP-39] PIBM2024-0730-7

A deep learning method for photoacoustic computed tomography based on sparse array sensor data

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[TP-40] PIBM2024-0730-19

Large-DOF ultraviolet photoacoustic histologic imaging based on liquid crystal modulator

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[TP-41] PIBM2024-0730-20

Application of photon counting micro-CT in mice cerebrovascular imaging

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[TP-42] PIBM2024-0730-27

Non-invasive optical coherence tomography for dynamic acne progression monitoring and severity assessment

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[TP-43] PIBM2024-0730-33

A robust X-ray energy spectrum estimation method for PCCT based on a few-parameter model

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[TP-44] PIBM2024-0730-36

The spatial distribution of tumor cells is an independent prognostic marker in breast cancer

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[TP-45] PIBM2024-0730-38

Fast endoscopic optical coherence elastography system for in vivo assessment of reproductive tract

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[TP-46] PIBM2024-0731-1

Innovative Confocal Endoscope for Real-Time Sub-Micron In Vivo Imaging

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[TP-47] PIBM2024-0731-10

Correction of non-uniform rotational distortion in proximally controlled endoscopic OCT using microfluidic phantom

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[TP-48] PIBM2024-0731-19

Diagnostic Methods for Multimodal Medical Image Fusion in Bladder Cancer

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[TP-49] PIBM2024-0731-21

Deep red light driven hydrogen evolution by heterojunction polymer dots for diabetic wound healing

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[TP-50] PIBM2024-0731-36

Model control of corneal topography during refractive surgery: validation on artificial eyes

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[TP-51] PIBM2024-0731-44

Research on muscle magnetic imaging device based on optically pumped magnetometer

Deng Pan[1], Kun Yang[1], Shuwan Zhou[1], Zhidan Zhang[1], Tiedong Xu[1], Kun Zou[2], Xiangyan Kong[1]

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[TP-52] PIBM2024-0731-49

A fluorescent probe for investigating the level of ONOO- associated with pharmacodynamic assessment of liver injury

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[TP-53] PIBM2024-0801-1

Quantitative OCE-based assessment of femtosecond laser-induced elasticity changes towards visual accommodation in presbyopia treatment

Zhuoyu Zhang, Haijun Lv, Huaming Li, Hao Zhang, Yinan Liao, Yin Zhang, Hanrui Li, Shichen Sun, Honghao Wang, Xu Feng, Xiaohua Lv, Shaoqun Zeng

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[TP-54] PIBM2024-0817-1

Dark-based Optical Sectioning assists Background Removal in Fluorescence Microscopy

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[TP-55] PIBM2024-0818-3

Noise-insensitive defocused signal and resolution enhancement for optical-resolution photoacoustic microscopy via deep learning

Yubin Cao, Yiguang Wang, Qiegen Liu, Xianlin Song

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[TP-56] PIBM2024-0819-8

Compressed single-shot 3D photoacoustic imaging with a single-element transducer

Bingbao Yan, Bowen Song, Gen Mu, Yubo Fan, Yanyu Zhao

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[TP-57] PIBM2024-0819-9

High-precision measurement of tissue optical properties on complex surfaces using multi-frequency and multi-phase method

Xinman Yin, Bingbao Yan, Yanyu Zhao

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[TP-58] PIBM2024-0819-12

A fast time-domain diffuse optical tomography system enabled by projection view optimization and surface extraction

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[TP-59] PIBM2024-0819-14

Development of Betulinic Acid-Conjugated Axially Substituted Silicon Phthalocyanine Nanoparticles for Imaging-Guided Photodynamic Therapy in Breast Cancer Treatment

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[TP-60] PIBM2024-0819-16

Segmentation and reconstruction of renal tubule in mesoscopic mouse kidney images

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[TP-61] PIBM2024-0819-21

Multiphoton microscopy for visualization of fibrous meningioma

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[TP-62] PIBM2024-0819-22

Ultrasensitive near infrared microscopic imaging based on photon-number-resolved SNSPD

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[TP-63] PIBM2024-0820-3

Exploring Organellar Dynamics and Interactions with SZ-SiPcI2: A Two-Photon Photodynamic Synergistic Fluorescent Probe

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[TP-64] PIBM2024-0820-4

Virtual Histopathology through Optical Coherence Tomography

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[TP-65] PIBM2024-0820-17

Assessment of CO_2 Fractional Laser Treatment Efficacy in Localized Scleroderma Using Optical Coherence Elastography

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[TP-66] PIBM2024-0821-2

Multi-Modality Laparoscopic System Design and Application

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[TP-67] PIBM2024-0927-2

Motion artifact correction using normalized cross-correlation of cropped B-scans

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[TP-68] PIBM2024-0929-1

High resolution characterization by air-coupled photoacoustic tomography for femtosecond laser filament

Yu He[1], **Qingsong Zeng**[1], Jiaru Yang[1], Qibo Lin[2], Xize Yu[2], Binqi Zhang[2], Jiaxing He[1], Xiaofei Luo[1]

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[TP-69] PIBM2024-0930-1

In vivo Research of the Blood Flow in a Mouse Pressure Ulcer Model by Using Laser Speckle Contrast Imaging

Qimeng Liu[1], Min Wan[1], Ling Tao[1], Yameng Zhang[2], Weitao Li[1]

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[TP-70] PIBM2024-1009-1

Targeted near-infrared imaging of tissue injury

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[TP-71] PIBM2024-1011-1

Study on the bone thermal injury evaluation in microwave ablation by combining CT and near-infrared parameters

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[TP-72] PIBM2024-1015-2

Study on Surface Enhanced Raman Spectroscopy of Kidney Cancer based on Ag NC Enhanced Substrate

Jingjing Gao, Tong Sun, XingenGao, Houyang Ge, HongyiZhang, HualiJiang, **Juqiang Lin**

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[TP-73] PIBM2024-1015-4

Activatable chemiluminescence probe based on four-arm PEG-conjugated-pyropheophorbide-a for in vivo autofluorescence-free imaging of peroxynitrite

Xiaolong Zhang, Jianmei Ke, Yupeng Sun, Xiaolong Liu

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[TP-74] PIBM2024-1015-7

Deep learning-based De-scattering in Two-photon Fluorescence Microscopy

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[TP-75] PIBM2024-0726-1

A non-invasive method for evaluating changes in subcutaneous fat layer of mice induced by diacylglycerol and their compositions

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