Chinese-Russian Workshop on Biophotonics and Biomedical Optics-2020

Chinese-Russian Workshop on Biophotonics and Biomedical Optics-2020 will be held online, on September 28-29, 2020, which is designed to bring together both Russian and Chinese scientists, engineers and clinical researchers from a variety of disciplines engaged in applying optical science, photonics and imaging technologies to problems in biology and medicine. The scope of this bilateral Forum ranges from basic research to instrumentation engineering, to biological and clinical studies. Topics of this forum are broad and will cover (but not limited to) the following:

- Optical Interactions with Tissue and Cells
- Biomedical Spectroscopy, Microscopy and Imaging
- Advanced Optical Techniques for Clinical Medicine
- Optical Molecular Imaging
- Multimodal Biomedical Imaging
- Nano/Biophotonics
- Photonics Therapeutics, Diagnostics and Instrumentations
- Tissue Optical Clearing and Drug Delivery

Chairs:

Dan Zhu, Ph. D, Professor, SPIE Fellow, Deputy Director of Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, Wuhan, China
Valery V Tuchin, Corr.-member of the RAS, Doc. of Sci., Professor, SPIE/OSA Fellow, Head of Optics and Biophotonics Department, Saratov State University; Head of Laboratory of Laser Diagnostics of Technical and Living Systems, Institute of Precision Mechanics and Control of the RAS, Saratov, Russia; Supervisor of Lab. of Biophotonics, National Research Tomsk State University, Tomsk, Russia

Secretaries:
Tingting Yu, Ph.D, Associate Professor, Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, Wuhan, China
Polina A. Dyachenko, Ph.D, Associate Professor, Optics and Biophotonics Department, Saratov State University, Saratov, Russia

Invited speakers from China:

Structural and Functional Optical Coherence Tomography, Technology and Applications
Zhihua Ding
Zhejiang University, Hangzhou, China

Deep brain Calcium recording in behaving mice
Ling Fu
Huazhong University of Science and Technology, Wuhan, China

High affinity ligands for precise tumor diagnosis
Yueqing Gu
China Pharmaceutical University, Nanjing, China
Silicon-based optical bioimaging and sensing
Yao He
Soochow University, Suzhou, China

Future perspectives for Enhanced photodynamic therapy
Buhong Li
Fujian Normal University, Fuzhou, China

Bioinspired nanovesicles as a Versatile Drug Delivery System for Imaging-Guided Cancer Therapy
Gang Liu
Xiamen University, Xiamen, China

Imaging Processing of Laser Speckle Contrast Imaging of Blood Flow
Pengcheng Li
Huazhong University of Science and Technology; Wuhan, China/Hainan University, Haikou, China

Deep brain Calcium recording in behaving mice
Liwei Liu
Shenzhen University, Shenzhen, China

Nanomedicine in cancer immunotherapy
Xiaolong Liu
Mengchao Hepatobiliary Hospital of Fujian Medical University, Fuzhou, China
Mining polarization features from a Mueller matrix
Hui Ma
Tsinghua University, Beijing, China

Real time assessment of microwave ablation on tumors by NIR spectra techniques
Zhiyu Qian
Nanjing University of Aeronautics and Astronautics, Nanjing, China

Super-resolution imaging for living cell
Junle Qu
Shenzhen University, Shenzhen, China

Near infrared light therapy for treating Alzheimer’s disease
Xunbing Wei
Peking University, Beijing, China

Multiscale photoacoustic microscopy
Lei Xi
Southern University of Science and Technology, Shenzhen, China
Dispersion-mediated conjugate suppression for high speed optical computing OCT imaging

Ping Xue
Tsinghua University, Beijing, China

Gap-enhanced (resonance) Raman tags for bioimaging

Jian Ye
Shanghai Jiao Tong University, Shanghai, China

Break the unbroken limits toward high/super-resolution microscopy

Qiuqiang Zhan
South China Normal University, Shenzhen, China

Dynamic range improvement and contrast enhancement in swept source optical coherence tomography

Jun Zhang
Sun Yat-sen University, Guangzhou, China

Tissue optical clearing imaging: from in vitro to in vivo

Dan Zhu
Huazhong University of Science and Technology, Wuhan, China
Invited speakers from Russia

Correlation of hemorheologic parameters measured in vitro and in vivo by different optical techniques in patients suffering from various socially important diseases

Alexander V. Priezzhev
M.V. Lomonosov Moscow State University, Moscow, Russia

Multimodal tissue imaging at optical clearing

Valery V. Tuchin
Saratov State University, Institute of Precision Mechanics and Control of the RAS, Saratov; National Research Tomsk State University, Tomsk, Russia

Multi-parameter optical diagnostics of microcirculatory-tissue systems: methods and technical means

Andrey V. Dunaev
Orel State University, Orel, Russia

Optimization of spectral and spatial light beam distribution of optical systems for photodynamic therapy

Andrey V. Belikov
ITMO University, Saint-Petersburg, Russia

The Role of Individual Cysteine Substitutions in the Fast Photoswitching and Photoconversion of the Biphotochromic Fluorescent Protein SAASoti

Alexander P. Savitsky
Bach Institute of Biochemistry, Research Center of Biotechnology of the RAS, Moscow, Russia
Two-Component Dielectric Function of Gold Nanostars: Novel Concept for Theoretical Modeling and its Experimental Verification

Nikolai G. Khlebtsov
Institute of Biochemistry and Physiology of Plants and Microorganisms of the RAS, Saratov, Russia

Mechanisms of photostimulation of lymphatic clearance of toxins from the brain

Oxana V. Semyachkina-Glushkovskaya
Saratov State University, Saratov, Russia

Medical applications of IR and THz imaging and machine learning

Yury V. Kistenev
Tomsk State University, Tomsk, Russia

Monte Carlo simulation of COVID-19 spread in early and peak stages in different regions of Russian Federation using an agent-based modelling of fluorescent protein SAASoti

Mikhail Yu. Kirillin
Institute of Applied Physics RAS, Nizhny Novgorod, Russia

In vivo Raman and autofluorescence spectroscopy for skin cancer classification

Ivan A. Bratchenko
Samara National Research University, Samara, Russia
Characterization of tissue elasticity with Optical Coherence Elastography: going beyond the linear paradigm

Vladimir Yu. Zaitsev
Institute of Applied physics RAS & Privolzhsky Research Medical University, Nizhniy Novgorod, Russia

Bimodal optoacoustic & fluorescent probes for theranostics

Dmitry A. Gorin
Skolkovo Institute of Science and Technology, Skoltech, Moscow, Russia

Sapphire fiber bundles for terahertz imaging with spatial resolution beyond the Abbe limit

Kirill I. Zaytsev
Prokhorov General Physics Institute of the Russian Academy of Sciences, Bauman Moscow State Technical University, Moscow, Institute for Regenerative Medicine, Sechenov University, Moscow, Russia

Optical techniques for blood microrheology assessing: red blood cells deformability, aggregation and their interrelation

Aandrei E. Lugovtsov
M.V. Lomonosov Moscow State University, Moscow, Russia

Multimodal optical diagnostics of cancer

Valery P. Zakharov
Samara National Research University, Samara, Russia
Decellularized materials in regenerative medicine through the prism of biophotonics

Peter S. Timashev

Institute for Regenerative Medicine, Sechenov University, Department of Polymers and Composites, N.N. Semenov Institute of Chemical Physics of RAS, Institute of Photonic Technologies, Research Center "Crystallography and Photonics" of RAS, Russia

Laser-induced local vascular responses

Dmitry E. Postnov

Saratov State University, Saratov, Russia

Photodynamic therapy with BPD-based nanoconstructs under complementary fluorescence and optoacoustic imaging monitoring

Ilya V. Turchin

Institute of Applied Physics of the RAS, Nizhny Novgorod, Russia

MOUSE: Advanced Approaches to Skin In Vivo Optical Clearing

Elina A. Genina

Saratov State University, Saratov, Russia

A liquid as a source of terahertz radiation

Alexander P. Shkurinov

Department of Physics, Moscow State University, Moscow, Russia