



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

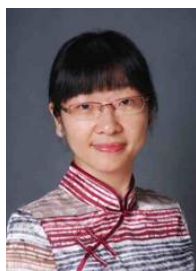
Invited speakers from China:



**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

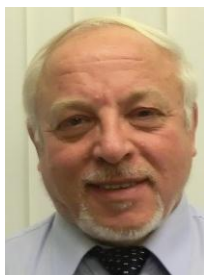


Tissue optical clearing imaging: from *in vitro* to *in vivo*

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**