



Chinese-Russian Workshop on Biophotonics and Biomedical Optics-2022

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

September 26, Monday

ON-LINE INVITED LECTURES

Conference Hall 8, Building 3

ZOOM: <https://osachapter.zoom.us/j/97105128804>

SESSION I

Chairs: **Valery V. Tuchin**, Saratov State University, Russia

Dan Zhu, Huazhong University of Science and Technology, China

Saratov time/China time

9:20-9:30/13:20-13:30

Welcome speech from the chairs of the Chinese-Russian Workshop on Biophotonics and Biomedical Optics-2022

Dan Zhu, Huazhong University of Science and Technology, Wuhan, China

Valery V. Tuchin, Saratov State University, Russia

9:30-9:50/13:30-13:50

Three-photon microscopy for neuroscience applications

Bo Li

Department of Neurology, Huashan Hospital, MOE Frontiers Center for Brain Science,

State Key Laboratory of Medical Neurobiology, Institutes for Translational Brain Research, Fudan University, Shanghai, China

9:50-10:10/13:50-14:10

High speed photoacoustic imaging

Chengbo Liu

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

10:10-10:30/14:10-14:30

Platform for combined monte carlo and k-wave simulations of optoacoustic images for blood saturation mapping

Alexander V. Khilov

Institute of Applied Physics RAS, Nizhny
Novgorod, Russia

10:30-10:50/14:30-14:50

**Quantitative photoacoustic evaluation of
the liver and kidney fibrosis**

Liming Nie

Guangdong Academy of Medical Sciences,
Guangzhou, China

10:50-11:10/14:50-15:10

**Development of in vivo cytometry
systems with photoacoustics and
lightsheet detection**

Daniil N. Bratashov

Department of innovation, Institute of
physics and Laboratory of biomedical
theranostics, Science medical center,
Saratov state university, Russia

11:10-11:30/15:10-15:30

**Upconversion super-resolution
microscopy**

Qiuqiang Zhan

South China Academy of Advanced
Optoelectronics & MOE Key Laboratory of
Laser Life Science, South China Normal
University, Guangzhou, P. R. China

11:30-11:50/15:30-15:50

**Imaging blood and endothelial cells and
measuring their interaction forces with
laser tweezers**

Peter B. Ermolinskiy

Faculty of Physics, Lomonosov Moscow
State University, Moscow, Russia

11:50-12:10/15:50-16:10

**High-performance biomedical
photoacoustic tomography**

Chao Tian

University of Science and Technology of
China; Institute of Artificial Intelligence,
Hefei Comprehensive National Science
Center, Hefei, China

12:10-12:30/16:10-16:30

**Analysis of mouse blood serum in the
dynamics of U87 glioblastoma by
terahertz spectroscopy and machine
learning**

Denis. A. Vrazhnov

V.E. Zuev Institute of Atmospheric Optics
SB RAS, Tomsk, Russia and
Laboratory of Biophotonics, National
Research Tomsk State University, Tomsk,
Russia

September 27, Tuesday

ON-LINE INVITED LECTURES

Conference Hall 8, Building 3

ZOOM: <https://osachapter.zoom.us/j/97105128804>

SESSION II

Chairs: **Valery V. Tuchin**, Saratov State University, Russia

Dan Zhu, Huazhong University of Science and Technology, China

Saratov time/China time

9:30-9:50/13:30-13:50

**Deep imaging and focusing through
scattering medium based on reflection
matrix optical coherence tomography**

Jing Cao

Key Laboratory of Biomedical Engineering
of Hainan Province, School of Biomedical
Engineering, Hainan University, Haikou,
China

9:50-10:10/13:50-14:10

**Ultra-small fluorescent metal
nanoclusters for biological applications**

Roman S. Tumskiy

Institute of Biochemistry and Physiology of
Plants and Microorganisms, Saratov
Scientific Centre of the Russian Academy
of Sciences, Russia

10:10-10:30/14:10-14:30

**Single-molecule localization super-
resolution microscopy and its
applications**

Leiting Pan

The Key Laboratory of Weak-Light
Nonlinear Photonics of Education Ministry,
School of Physics and TEDA Institute of
Applied Physics, Nankai University,
Tianjin, China; State Key Laboratory of
Medicinal Chemical Biology, Frontiers
Science Center for Cell Responses, College
of Life Sciences, Nankai University, Tianjin,
China

10:30-10:50/14:30-14:50

**Synergistic therapeutic strategies for
cancer treatment**

Feifan Zhou

Key Laboratory of Biomedical Engineering
of Hainan Province, School of Biomedical
Engineering, Hainan University, Haikou,
China

10:50-11:10/14:50-15:10

**Night photo-therapy of alzheimer's
disease**

Oxana Semyachkina-Glushkovskaya

Head of Chair of Physiology of Human and
Animals, Saratov State University,
Department of Biology, Russia

11:10-11:30/15:10-15:30

**Mesoscopic fluorescence molecular
tomography combined with fluorescence
lifetime determination**

Ilya D. Solovyev

The Federal Research Center
“Fundamentals of Biotechnology” of the
Russian Academy of Sciences, Moscow,
Russia

11:30-11:50/15:30-15:50

Metal clusters for biomedical application

Fu Wang

School of Biomedical Engineering,
Shanghai Jiao Tong University, Shanghai,
China

11:50-12:10/15:50-16:10

**Sapphire shaped crystals for optically-
based multimodal medical instruments**

Irina N. Dolganova

Institute of Solid State Physics of the
Russian Academy of Sciences,
Chernogolovka, Russia

12:10-12:30/16:10-16:30

Closing Speech

Dan Zhu, Huazhong University of Science and Technology, China

Valery V.Tuchin, Saratov State University, Russia