

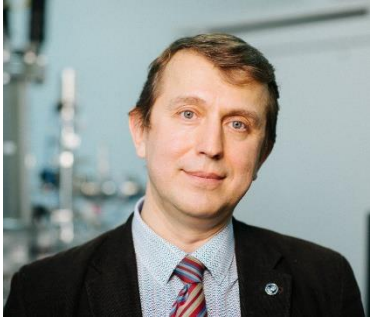


APCOM 2023

**21st Asia-Pacific Conference on Fundamental
Problems of Opto- and Microelectronics**

CONFERENCE PROGRAMME

Invited Speakers



Prof. Andrey NAUMOV

Institute for Spectroscopy, Russian Academy of Sciences, Troitsk, Russia

Topic: Spectromicroscopy of semiconductor quantum dots: dedicated to Nobel prize 2023

Biography: born in November 1974, an academic researcher from Institute for Spectroscopy, Russian Academy of Sciences (RAS), doctoral, Professor of RAS, Corresponding Member of RAS. Director of Troitsk branch of Lebedev Physics Institute RAS. Head of Department of Theoretical Physics of Moscow State Pedagogical University. Member of Council of Quantum Electronics and Optics Division, European Physical Society. Editorial board member of the journals “Bulletin of RAS: Physics”, “Photonics Russia”, “JETP Letters”.

Authored for more than 250 papers in refereed journals and conferences.

Research interests include selective laser spectroscopy, fluorescent nanoscopy, single molecule spectroscopy and microscopy, single quantum emitters, nanosystems, photon-echo spectroscopy of ultrafast processes.



Prof. Jianzhong ZHANG

Harbin Engineering University. Harbi, P.R. China

Topic: Optical fiber sensors and their applications in Harbin Engineering University

Biography: born in October 1978, is an academic researcher from Harbin Engineering University, doctoral, professor, doctoral tutor of optical engineering, deputy secretary-general of Heilongjiang Optical Society, member of China Optical Society, member of American Optical Society. Visiting Research Fellow at the University of New South Wales, Sydney, NSW, Australia, in 2006 and 2012. Since 2012, he is a Professor with the College of Science, Harbin Engineering University. Authored for more than 300 papers in refereed journals and conferences, edited three books, and holds more than forty patents.

Research interests include optical fiber devices, optical fiber sensing technologies, and their applications, fiber intelligent structures.

Day 1st, December 25, Monday

NOTE: Conference time zone GMT +10

	13:00-14:00	Online Registration. Testing of zoom connections.
	14:00 - 14:15	Opening Ceremony
I-1	14:15-14:55	INVITED Prof. Andrey NAUMOV <i>P.N. Lebedev Physical Institute of RAS, Troitsk Branch, Moscow, Russia</i> Spectromicroscopy of semiconductor quantum dots: dedicated to Nobel prize 2023

Section NM1. Novel Materials for Photonics, Micro- and Nanoelectronics

Chairman: Prof. Roman Romashko

NM1-1	14:55-15:10	Mikhail MIRONOV <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Ultrathin and ultrasmooth gold films on monolayers of van der Waals materials
NM1-2	15:10-15:25	Dmitry YAKUBOVSKY <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Spectroscopic ellipsometry of van der Waals two-dimensional materials and heterostructures
NM1-3	15:25-15:40	Igor CHERNEV <i>Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia</i> FeSi and CrSi ₂ thin films as transparent conductive layers for VIS/SWIR sensitive Mg ₂ Si films grown on Si
NM1-4	15:40-15:55	Aleksandr PETROV <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Inter-edge chiral Berry plasmon and its excitation by direct current
NM1-5	15:55-16:10	Andrey PANOV <i>Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia</i> On the optical field confinement at the anapole mode in nanohole silicon metasurfaces
NM1-6	16:10-16:25	Adilet TOKSUMAKOV <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Dry assembly of van der Waals heterostructures using exfoliated and CVD-grown 2D materials

16:25-17:00 **COFFEE BREAK**

Section NM2. Novel Materials for Photonics, Micro- and Nanoelectronics

Chairman: Prof. Oleg Vitrik

NM2-1	17:00-17:15	Alexander SYUY <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Narrowband photoluminescence in MXenes
NM2-2	17:15-17:30	Alexey KUZNETSOV <i>Moscow institute of physics and technology, Dolgoprudny, Russia</i> On-chip hybrid photonic system based on GaP single nanowires and MoS ₂ monolayer for highly directed PL outcoupling
NM2-2	17:30-17:45	Arthur NELIUBOV <i>P.N. Lebedev Physical Institute of RAS, Troitsk Branch, Moscow, Russia</i> Unidentified color centers in micro diamonds with extremely bright and narrow-band luminescence
NM2-3	17:45-18:00	Aleksandr SLAVICH <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Exploring van der Waals crystals with high optical anisotropy
NM2-4	18:00-18:15	Maxim POVOLOTSKIY <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Antiferromagnet CoPS ₃
NM2-5	18:15-18:30	Dmitriy GRUDININ <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Ultraviolet transparent high-refractive index material with giant optical anisotropy

Section LM1. Light Matter Interaction

Chairman: Dr. Anton Dyshlyuk

LM1-1	18:30-18:45	Aleksandra PETUKHOVA <i>Perm National Research Polytechnic University, Perm, Russia</i> Mathematical model of radiation scattering on quasi-periodic microstructure in optical fiber
LM1-2	18:45-19:00	Andrey AMOSOV <i>Far Eastern Federal University, Vladivostok, Russia</i> Energy states of an exciton in truncated paraboloid in the intermediate confinement conditions
LM1-3	19:00-19:05	Ahmed KAMAL ABU-NAB (poster online) <i>Moscow Institute of Physics and Technology, Dolgoprudny, Russia</i> Theoretical and numerical investigation of acoustic microcavitation bubble based on the influence of ultrasound frequency
LM1-4	19:05-19:10	Ameerah HAKAMI (poster online) <i>Jazan University, Jazan, Saudi Arabia</i> Mechanically laser-induced acoustic cavitation in viscoelastic tissue: Theoretical study

Day 2nd, December 26, Tuesday

Invited session

Chairman: Prof. Roman Romashko

I-2	13:00- 13:40	INVITED
		Prof. Jianzhong ZHANG <i>Harbin Engineering University, Harbin, China</i> Optical fiber sensors and their applications in Harbin Engineering University

Section PS1. Photonics Systems & Optical Sensors

Chairman: Dr. Anton Dyshlyuk

PS1-1	13:40- 13:55	Igor KUZNETSOV <i>Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia</i> An approach of increasing MZI-based electrooptic electric field sensor sensitivity
PS1-2	13:55- 14:10	Alexander BEZPALY <i>Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia</i> Spatially inhomogeneous structures in a surface-doped lithium niobate crystal for a light beam transform
PS1-3	14:10- 14:25	Alexey GARKUSHIN <i>Perm National Research Polytechnic University, Perm, Russia</i> Intelligent power supply system with power transmission via optical fiber
PS1-4	14:25- 14:40	Yuri KONIN <i>ITMO University, Saint Petersburg, Russia</i> Fiber optic sensor for cryogenic liquids

14:40- **COFFEE BREAK**
15:00

Section PS2. Photonics Systems & Optical Sensors

Chairman: Prof. Oleg Vitrik

PS2-1	15:00- 15:15	Haibin ZHANG <i>Hainan University, China</i> Laser-based active infrared thermography for identification of crack depth in concrete bridge deck
PS2-2	15:15- 15:30	Zhi ZHOU, Huanyu YANG <i>Hainan University, China</i> Optical-Electrical Co-Sensing technology for full-scale and whole-process strain monitoring of structures
PS2-3	15:30- 15:45	Zhexiong SHANG <i>Hainan University, China</i> Automated 3D reconstruction of underground pipelines using depth cameras
PS2-4	15:45- 16:00	Tong JIAO <i>Chengdu University of Technology, China</i> Distributed coaxial strain sensing cable for structural large strain monitoring

PS2-5	16:00-16:15	Guandong QIAO <i>Hainan University, China</i> Moving load identification of the bridge-vehicle interaction system
PS2-6	16:15-16:30	Wanqiu LIU <i>Hainan University, China</i> Mechanical property evaluation methods for asphalt mastic

Section LS1. Photonics for Life Sciences

Chairman: Dr. Anton Dyshlyuk

LS1-1	16:30-16:45	Anzhelika BELAVENTSEVA <i>Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia</i> Features of blood supply to patients with systemic lupus erythematosus and systemic scleroderma revealed by imaging photoplethysmography
LS1-2	16:45-17:00	Timofey EFIMOV <i>Far Eastern Federal University, Vladivostok, Russia</i> Label-Free Laser Biosensor for Biomarkers Diagnostics
LS1-3	17:00-17:15	Sergey KOZHANOV <i>Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia</i> Linearly polarized light impact on maize development

Section PS3. Photonics Systems & Optical Sensors

Chairman: Dr. Anton Dyshlyuk

PS3-1	17:15-17:30	Georgii PAVLIUK <i>Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia</i> Multifunctional superhydrophobic platform for control of water microdroplets by non-uniform electrostatic field
PS3-2	17:30-17:45	Daniil RASTRYGIN (poster online) <i>Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia</i> The kinetics of the formation of multiplexed chirped multilayer photopolymer-liquid crystal diffraction structures
PS3-3	17:45-18:00	Victor DOLGIREV (poster online) <i>Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia</i> Diffraction characteristics of multiplexed multilayer inhomogeneous holographic diffraction structures in photopolymerizing compositions with liquid crystals

	18:00-18:35	Closing Ceremony
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