

**Preliminary Program of the 11th Intern. Workshop “Russian Fiber Lasers”  
(23.07.2024)**

19.08.2024	20.08.2024	21.08.2024	22.08.2024	23.08.2024
<b>Registration</b>  <b>Plenary session</b> (in conjunction with NLP24) <b>4 reports</b>	<b>Section 2:</b> Pulsed fiber and hybrid lasers, high power/ ultra-short pulses <b>12 reports</b>	<b>Joint session</b> with the school on nonlinear photonics NLP24 <b>5 reports</b>	<b>Joint online session</b> with the school on nonlinear photonics (NLP24) in English <b>7 reports</b>	<b>Section 7:</b> Photonic Integrated Circuits. Nanophotonics and metamaterials <b>8 reports</b>
Lunch				
<b>Section 1:</b> New media, schemes and regimes of generation of fiber lasers <b>7 reports</b>  <b>Section 4:</b> Multimode / multicore fiber lasers and systems <b>4 reports</b>	<b>Section 3:</b> Nonlinear conversion of radiation <b>4 reports</b>  <b>Section 5:</b> Laser optics and components, interferometers, diffraction and integrated optics <b>8 reports</b>	<b>Section 6:</b> <i>Applications - sensors, communication, processing and photomodification of materials</i> <b>13 reports</b>	<b>Online session</b> in English <b>5 reports</b>  <b>Section 6:</b> <i>Applications - processing and photomodification of materials and biomedicine</i> <b>4 reports</b>	<b>Section 7:</b> Nanophotonics and metamaterials <b>5 reports</b>  <b>Cultural program:</b> Excursion in Academ town  24.07.2024 <b>Picnic on the Ob Sea shore</b> (depends on the weather)
<b>Welcome Quiz</b> in Art-pub	<b>Poster session</b> <b>34 reports</b>	<b>Conference dinner</b>	<b>NLP24 School poster session</b>	

**August 19, 2024 Technopark, big conference hall**

**9<sup>00</sup> -10<sup>00</sup> Registration of participants**

**Plenary session**

Chair: A.M. Shalagin

- 10<sup>00</sup>** Official opening of the Seminar (S.A. Babin, M.P. Fedoruk)
- 10<sup>15</sup>** V.I. Bukhtiyarov, J.V. Zubavichus, E.B. Levichev, P.V. Logachev (SKIF, Novosibirsk)  
Status of the fourth generation synchrotron radiation source project “SKIF”
- 11<sup>00</sup>** A.M. Zheltikov (Texas A&M University, College Station, USA)  
Black swans in nonlinear optics
- 11<sup>45</sup>** I.V. Obronov (NTO "IRE-Polyus", Fryazino)  
Modern industrial lasers and laser technologies
- 12<sup>30</sup>** A.Y. Vasilieva ("Special Systems. Photonics" LLC, St.-Petersburg)  
Components and equipment for fiber lasers assembling

**13<sup>00</sup> -14<sup>00</sup> Lunch break**

## Section 1: New media, schemes and regimes of generation of fiber lasers

Chair: V.B. Tsvetkov

- 14<sup>00</sup>** A.V. Gladyshev (*NCVO, IOF RAS, Moscow*)  
Gas fiber lasers (**inv.**)
- 14<sup>30</sup>** Y.A. Mazhirina, L.A. Melnikov (*SSTU, Saratov*)  
Toward a theory of quantum fluctuations in mode locked fiber lasers
- 14<sup>45</sup>** E.A. Fomiryakov<sup>1,2</sup>, A.V. Reznikov<sup>1</sup>, D.R. Kharasov<sup>1</sup>, S.P. Nikitin<sup>1,3</sup>, O.E. Naniy<sup>1,2</sup>, V.N. Treschikov<sup>1</sup> (*<sup>1</sup>T8 Group of Companies, <sup>2</sup>MSU, <sup>3</sup>Femtovision LLC, Moscow*)  
Subkilohertz diode lasers with an intracavity Fabry-Perot etalon
- 15<sup>00</sup>** M.I. Skvortsov<sup>1</sup>, K.V. Proskurina<sup>1</sup>, E.V. Golikov<sup>1</sup>, S.R. Abdullina, A.V.<sup>1</sup> Dostovalov<sup>1</sup>, D.S. Lipatov<sup>2</sup>, A.S. Lobanov<sup>2</sup>, O.N. Egorova<sup>3</sup>, A.A. Rybaltovskiy<sup>3</sup>, S.A. Babin<sup>1</sup> (*<sup>1</sup>IA&E SB RAS, Novosibirsk; <sup>2</sup>ICHPS RAS, N. Novgorod; <sup>3</sup>FORC, GPI RAS, Moscow*)  
Lasers with distributed feedback based on the composite erbium-ytterbium fiber
- 15<sup>15</sup>** O.A. Gorbunov<sup>1,2</sup>, I.D. Vatnik<sup>1</sup>, D.V. Churkin<sup>1</sup> (*<sup>1</sup>NSU, <sup>2</sup>IA&E SB RAS, Novosibirsk*)  
Influence of phase cross-modulation effects on the narrowband generation mode of a random fiber laser
- 15<sup>30</sup>** E.K. Kashirina, I.A. Lobach, S.I. Kablukov (*IAEE SB RAS, Novosibirsk*)  
A new mechanism for self-sweeping of fiber laser frequency based on the fluctuations of dynamic gratings position
- 15<sup>45</sup>** S.M. Dubrovskikh, O.V. Tkachev, I.D. Prikhod'ko (*E.I. Zababakhin RFNC - VTITF, Snezhinsk*)  
Positive feedback of GaAs laser diode threshold current on the temperature at neutron irradiation
- 16<sup>00</sup> -16<sup>15</sup>** **Tea and coffee break**

## Section 4: Multimode and Multicore Fiber Lasers and Systems

Chair: O.V. Butov

- 16<sup>15</sup>** A.V. Andrianov<sup>1</sup>, E.A. Anashkina<sup>1</sup>, S.A. Skobelev<sup>1</sup>, A.A. Balakin<sup>1</sup>, V.V. Dorofeev<sup>1,2</sup>, S.E. Motorin<sup>1,2</sup>, A.G. Litvak<sup>1</sup> (*<sup>1</sup>IAP RAS, <sup>2</sup>ICHPS RAS, N. Novgorod*).  
Control of optical pulses in laser systems based on multicore fibers (**inv.**)
- 16<sup>45</sup>** M. D. Gervaziev<sup>1,2</sup>, D. S. Kharenko<sup>1,2</sup>, A. A. Revyakin<sup>1,2</sup>, A. G. Kuznetsov<sup>1</sup>, E. V. Podivilov<sup>1,2</sup>, F. Mangini<sup>3</sup>, M. Ferraro<sup>4</sup>, S. Wabnitz<sup>2,3</sup>, S.A. Babin<sup>1,2</sup> (*<sup>1</sup>IA&E, <sup>2</sup>NSU, Novosibirsk; <sup>3</sup>Sapienza University, Rome, <sup>4</sup>University of Calabria, Rende*)  
New Aspects of Nonlinear Photonics of Multimode Fiber Systems (**inv.**)
- 17<sup>15</sup>** O.S. Sidelnikov, M.P. Fedoruk (*NSU, Novosibirsk*)  
Parallel Realizations of Numerical Algorithms for Solution of Propagation Equations in Multimode Communication Lines
- 17<sup>30</sup>** V.S. Terentyev, A.V. Dostovalov, A.G. Kuznetsov, V.A. Simonov, H.A. Rizk, S.K. Golubtsov, S.A. Babin (*IA&E SB RAS, Novosibirsk*)  
Method of Reflector Formation of a Specified Shape in Multimode Fibers
- 19<sup>00</sup>** **Welcome Quiz in Art-pub**

## August 20, 2024 Technopark, big conference hall

### Section 2: Pulsed fiber and hybrid lasers, high-power and ultra-short pulses

Chairs: D.S. Kharenko, A.V. Bednyakova

- 9<sup>00</sup>** Y. Gladush<sup>1</sup>, A. Mkrtychyan<sup>1</sup>, A. Bunkov<sup>1</sup>, A. Davletkhanov<sup>1</sup>, A. Kokhanovsky<sup>2</sup>, E. Kuprikov<sup>3</sup>, D. Krasnikov<sup>1</sup>, A. Nasibulin<sup>1</sup> (<sup>1</sup>*Skoltech, Moscow*; <sup>2</sup>*ITMO University, St. Petersburg*; <sup>3</sup>*NSU, Novosibirsk*)  
Carbon Nanotubes with Controlled Nonlinearity for Fiber Lasers with Passive Mode Locking (**inv.**)
- 9<sup>30</sup>** V.A. Kamynin, A.D. Zverev, Y.N. Rynkov, V.B. Tsvetkov (*GPI RAS, Moscow*)  
Control systems of ultrashort pulse laser generation regimes (**inv.**)
- 10<sup>00</sup>** A.D. Zverev<sup>1</sup>, V.A. Kamynin<sup>1</sup>, S.A. Filatova<sup>1</sup>, Yu. Nasibulin<sup>2</sup>, B.I. Denker<sup>1</sup>, S.E. Sverchkov<sup>1</sup>, V.V. Velmiskin<sup>1</sup>, V.B. Tsvetkov<sup>1</sup> (<sup>1</sup>*GPI RAS*, <sup>2</sup>*Skoltech, Moscow*).  
Sources of ultrashort pulses with subgigahertz repetition rate
- 10<sup>15</sup>** A.V. Ivanenko<sup>1,2</sup>, A.E. Bednyakova<sup>1</sup>, S.V. Smirnov<sup>1</sup>, A.A. Rybak<sup>1,2</sup> (<sup>1</sup>*NSU*, <sup>2</sup>*IAEE SB RAS, Novosibirsk*)  
Generation of pulses with high repetition rate and wavelength tuning based on gain instability in a semiconductor fiber laser
- 10<sup>30</sup>** A. Bunkov<sup>1</sup>, A. Mkrtychyan<sup>1</sup>, A. Davletkhanov<sup>2</sup>, A. Sokolik<sup>3</sup>, D.V. Krasnikov<sup>1</sup>, A. Nasibulin<sup>1</sup>, A. Gladush<sup>1</sup> (<sup>1</sup>*Skoltech, Moscow*; <sup>2</sup>*Institute of Quantum Materials and Technologies, KIT, Karlsruhe, Germany*; <sup>3</sup>*Institute of Spectroscopy RAS, Troitsk*)  
Nonlinear absorption of carbon nanotubes at inter-subband transitions
- 10<sup>45</sup>** V.A. Razukov, L.A. Melnikov, P.V. Kuptsov (*SSTU, Saratov*)  
Lyapunov schemes of dynamic regimes of a fiber ring resonator
- 11<sup>00</sup>-11<sup>15</sup>** **Tea and coffee break**
- 11<sup>15</sup>** V.A. Ribenek, P.A. Itrin, G.V. Tertyshnikova, D.A. Korobko, A.A. Fotiadi (<sup>1</sup>*UISU, Ulyanovsk*; <sup>2</sup>*A.F. Ioffe PTI RAS, St. Petersburg*; <sup>3</sup>*University of Mons, Belgium*)  
Repetition frequency multiplexing of a fiber laser with harmonic mode locking via optoacoustic resonance (**inv.**)
- 11<sup>45</sup>** A.S. Netrusova<sup>1</sup>, A.A. Mkrtychyan<sup>1</sup>, Y.G. Gladush<sup>1</sup>, M.S. Mishevsky<sup>1</sup>, M. Melkumov<sup>2</sup>, N. Dmitriev<sup>3</sup>, A.G. Nasibulin<sup>1</sup>, I.A. Bilenko<sup>3</sup>, K. Minkov<sup>3</sup> (<sup>1</sup>*Skoltech*, <sup>2</sup>*FORC, GPI RAS*, <sup>3</sup>*Russian Quantum Center, Moscow*)  
Self-starting soliton generation using an integrated microresonator embedded in a fiber laser with multiple active media
- 12<sup>00</sup>** E.K. Mikhailov<sup>1</sup>, A.E. Levchenko<sup>1</sup>, V.V. Velmiskin<sup>1</sup>, T.S. Zaushitsina<sup>1</sup>, D.S. Lipatov<sup>2</sup>, A.V. Shirmankin<sup>3</sup>, V.A. Kamynin<sup>3</sup>, M.E. Likhachev<sup>1</sup> (<sup>1</sup>*FORC, GPI RAS, Moscow*; <sup>2</sup>*ICHPS RAS, N. Novgorod*; <sup>3</sup>*GPI RAS, Moscow*).  
All-fiber tapered ytterbium amplifier with pumping through the lateral surface
- 12<sup>15</sup>** N.A. Kolyada<sup>1,2</sup>, Ya.G. Isaeva<sup>1,3</sup>, D.V. Brazhnikov<sup>1</sup>, A.A. Filonov<sup>1</sup>, V.S. Pivtsov<sup>1,3</sup> (<sup>1</sup>*ILP SB RAS*, <sup>2</sup>*IA&E SB RAS*, <sup>3</sup>*NSTU, Novosibirsk*)  
Measurement of dispersion of optical fibers using femtosecond radiation source
- 12<sup>30</sup>** N.A. Aprelov<sup>1,2</sup>, A.Yu. Kolesnikova<sup>1</sup>, P.A. Elizarova<sup>1,2</sup>, A.V. Dostovalov<sup>1</sup>, S.A. Babin<sup>1,2</sup>, I.D. Vatnik<sup>1</sup>, A.A. Redyuk<sup>1</sup> (<sup>1</sup>*NSU*, <sup>2</sup>*IAEE SB RAS, Novosibirsk*)  
Study of compact dispersive elements for Fourier transform dispersive spectroscopy
- 12<sup>45</sup>** I.V. Timofeev<sup>1,2</sup> (<sup>1</sup>*L.V. Kirensky Institute of Physics, FIC KSC SB RAS*, <sup>2</sup>*Siberian Federal University, Krasnoyarsk*)  
Geometric phase in vertically emitting lasers based on chiral high-contrast grating

13<sup>00</sup>-14<sup>00</sup> Lunch break

**Section 3: Nonlinear conversion of FL radiation: SRS, SBS, parametric generation, harmonics and terahertz radiation generation**

Chair: A.V. Gladyshev

- 14<sup>00</sup> S.V. Tsvetkov<sup>1</sup>, T.S. Zaushitsyna<sup>1</sup>, A.S. Lobanov<sup>2</sup>, D.S. Lipatov<sup>2</sup>, L.D. Iskhakova<sup>1</sup>, M.E. Likhachev<sup>1</sup> (<sup>1</sup>FORC, GPI RAS, Moscow; <sup>2</sup>ICHPS RAS, Nizhny Novgorod)  
Single-mode fiber with large mode area and increased power threshold for SBS (more than 11 dB) (**inv.**)
- 14<sup>30</sup> A.A. Surin<sup>1</sup>, N.D. Magnitsky<sup>1,2</sup>, M.A. Chernikov<sup>1</sup>, I.O. Khramov<sup>1,2</sup> (<sup>1</sup>NTO "IRE-Polus", Fryazino, <sup>2</sup>MIPT (National Research University), Moscow)  
Single-frequency (< 10 MHz) fiber continuous laser at 1310 nm with power of 20 W based on Raman amplification of single-frequency signal of semiconductor DFB laser
- 14<sup>45</sup> A.A. Surin<sup>1</sup>, Y.A. Tezadov<sup>1</sup>, V.P. Surovtseva<sup>1,2</sup>, N.D. Magnitsky<sup>1,2</sup> (<sup>1</sup>NTO "IRE-Polus", Fryazino; <sup>2</sup>MIPT (National Research University), Moscow).  
Fiber Raman amplifier of a continuous single-frequency signal (< 10 mW) DFB laser at 1650 nm to the watt level
- 15<sup>00</sup> A. S. Abramov<sup>1</sup>, D. A. Korobko<sup>1</sup>, V. A. Lapin<sup>1</sup>, A. A. Fotiadi<sup>1,2,3</sup> (<sup>1</sup>UIGU, Ulyanovsk; <sup>2</sup>Optoelectronics and Measurement Techniques Unit, University of Oulu, Finland; <sup>3</sup>University of Mons, Belgium)  
Generation of tunable spectral combs in ring circuits with active photonic crystal structures

**Section 5: Laser optics and components: waveguides, fiber and hybrid resonator elements, interferometers, diffractive and integrated optics**

Chairs: S.I. Kablukov, I.D. Vatnik

- 15<sup>00</sup> A.Yu. Kolesnikova<sup>1</sup>, S.A. Spirin<sup>1</sup>, A.D. Novikov<sup>1</sup>, N.A. Makarova<sup>1</sup>, V.S. Terentyev<sup>2</sup>, B. Sturman<sup>2</sup>, E.V. Podivilov<sup>2</sup>, I.D. Vatnik<sup>1</sup> (<sup>1</sup>NSU, <sup>2</sup>IA&E SB RAS, Novosibirsk).  
Kerr nonlinearity in cylindrical optical fiber-based microresonators (**inv.**)
- 15<sup>45</sup> M.S. Mishevsky<sup>1</sup>, A.A. Mkrtchyan<sup>1</sup>, K.N. Minkov<sup>2</sup>, I.A. Bilenko<sup>2</sup>, A.G. Nasibulin<sup>1</sup>, Y.G. Gladush<sup>1</sup> (<sup>1</sup>Skoltech, <sup>2</sup>Russian Quantum Center, Moscow)  
Investigation of optical frequency combs in the scheme with a crystal microresonator embedded in a fiber amplifier
- 16<sup>00</sup> -16<sup>15</sup> Tea and coffee break
- 16<sup>15</sup> E.A. Anashkina, A.V. Andrianov (IPF RAS, Nizhny Novgorod)  
Multistable states of light in nonlinear microspherical resonators (**inv.**)
- 16<sup>45</sup> V. Simonov, V. Terentyev (IAIE SB RAS, Novosibirsk)  
Reflective interferometers with oblique incidence of light for measurement of refractive index (**inv.**)
- 17<sup>15</sup> P.A. Itrin<sup>1</sup>, D.A. Korobko<sup>1</sup>, D.P. Kachalkin<sup>1</sup>, A.A. Fotiadi<sup>1,2,3</sup> (<sup>1</sup>UIGU, Ulyanovsk; <sup>2</sup>A.F. Ioffe FTI, Russian Academy of Sciences, St. Petersburg; <sup>3</sup>University of Mons, Belgium)  
Microfiber knot resonators for laser and sensor applications
- 17<sup>30</sup> E.O. Zhermolenko, A.A. Mkrtchyan, Y.G. Gladush (Skoltech, Moscow)  
Optical gas sensor based on adsorption using polished optical fiber integrated with single-layer carbon nanotubes

**17<sup>45</sup>** M.P. Gaskov, V.A. Simonov, V.S. Terentyev, I.A. Lobach (*IA&E SB RAS, Novosibirsk*)  
High-speed interrogator using photonic integrated circuits for interrogation of fiber sensors based on the Fabry-Fabry interferometer

**18<sup>00</sup>** A.A. Goldobin<sup>1</sup>, K.A. Safaryan<sup>1,2</sup>, A.S. Sidorov<sup>1</sup>, N.V. Kolchanov<sup>1</sup> (<sup>1</sup>*PGNIU, Perm;*  
<sup>2</sup>*NIU ITMO, St. Petersburg*)  
Development of fiber-optic inclinometer

### **18<sup>15</sup> -19<sup>30</sup> Poster session**

1. A.N. Denisov, S.L. Semenov (*E.M.Dianov FORC, A.M.Prokhorov GPI RAS, Moscow*)  
Anticrossing and mode coupling in bent all-glass microstructured fiber waveguides with outflow channels
2. I.S. Chekhovskoy, G.A. Patrin, O.V. Shtyrina, M.P. Fedoruk (*NSU, Novosibirsk*)  
Analytical approximate stationary solution for nonconservative multicore fibers
3. M.I. Skvortsov<sup>1</sup>, K.V. Proskurina<sup>1</sup>, E.V. Golikov<sup>1</sup>, S.R. Abdullina<sup>1</sup>, A.V. Dostovalov<sup>1</sup>, O.N. Egorova<sup>2</sup>, S.L. Semenov<sup>2</sup>, S.A. Babin<sup>1</sup> (<sup>1</sup>*IA&E SB RAS, Novosibirsk;* <sup>2</sup>*FORC, GPI RAS, Moscow*). Application of a 2-core waveguide with core coupling for realization of a narrow-band erbium laser
4. M.G. Slobozhanina, A.N. Slobozhanin (*E.I. Zababakhin FGUP RFNC-VNIITF, Snezhinsk*) Analysis of the dependence of the amplified laser radiation spectrum broadening on the pump radiation input direction in high-power fiber amplifiers
5. E.A. Evmenova, C.I. Kablukov, A.G. Kuznetsov, S.A. Babin (*IAEE SB RAS, Novosibirsk*)  
Frequency doubling of a direct diode-pumped Raman laser in a resonant cavity
6. A.V. Sudin<sup>1</sup>, I.A. Volkov<sup>1</sup>, S.N. Ushakov<sup>1,2</sup>, K.N. Nishchev<sup>1</sup> (<sup>1</sup>*N.P. Ogarev NIU Mordovian State University, Saransk;* <sup>2</sup>*GPI RAS, Moscow*) Generation of Single and Multi-soliton Pulses in a Ring Fiber Laser
7. D.A. Khudozhitkova, A.E. Bednyakova, M.P. Fedoruk (*NSU, Novosibirsk*) Theoretical and numerical study of pulse modes of generation in hybrid fiber lasers based on semiconductor optical amplifier
8. A.S. Abramov, V.A. Lapin, P.P. Mironov (*Ulyanovsk State University, Ulyanovsk*)  
Propagation of a wave with strong phase modulation in a waveguide with dependence of group velocity dispersion on length
9. A.S. Abramov<sup>1</sup>, S.G. Moiseev<sup>1,2</sup>, D.G. Sannikov<sup>1</sup> (<sup>1</sup>*UISU,* <sup>2</sup>*Ulyanovsk branch of V.A.Kotelnikov Institute of Radio-Electronics RAS, Ulyanovsk*) Dynamics of frequency-modulated laser radiation in ring fiber circuits based on nanocarbon saturable absorbers
10. I.A. Volkov<sup>1</sup>, A.V. Sudin<sup>1</sup>, S.N. Ushakov<sup>1,2</sup>, K.N. Nishchev<sup>1</sup> (<sup>1</sup>*N.P. Ogaryov MSU, Saransk;* <sup>2</sup>*GPI RAS, Moscow*) Spectral and temporal dynamics of noise-like pulses in a ring fiber ErYb laser
11. D.E. Artemov<sup>1,2</sup>, V.N. Treschikov<sup>1</sup>, A.I. Fedoseev<sup>2</sup>, A.A. Ershov<sup>3</sup>, A.A. Nikitin<sup>3</sup>, A.B. Ustinov<sup>3</sup> (<sup>1</sup>*"T8" LLC,* <sup>2</sup>*Lomonosov Moscow State University, Moscow;* <sup>3</sup>*Ulyanov St. Petersburg State Electrotechnical University "LETI"*) Model for calculating the goodness of fit of micro-ring resonators. Comparison with experiment.
12. H.A. Rizk<sup>1,2</sup>, A.Yu. Kolesnikova<sup>2</sup>, A.D. Novikov<sup>2</sup>, D.V. Kudashkin<sup>2</sup>, V.A. Simonov<sup>1</sup>, I.D. Vatik<sup>2</sup> (<sup>1</sup>*IA&E SB RAS,* <sup>2</sup>*NSU, Novosibirsk*) Induced thermal dispersion of axial WGMs in a cylindrical microresonator under intense pumping

13. G.A. Patrin<sup>1,2</sup>, O.V. Shtyrina<sup>1</sup>, I.S. Chekhovskaya<sup>1</sup>, M.P. Fedoruk<sup>1</sup> (<sup>1</sup>NSU, <sup>2</sup>FIC ICT SB RAS, Novosibirsk) Application of fiber laser modeling methods to the study of soliton optical communication lines bandwidth capacity
14. E.I. Shevelev, A.A. Redyuk, V.R. Danilko, M.P. Fedoruk (NSU, Novosibirsk) Perturbation theory and multi-parameter optimization for compensation of nonlinear signal distortions in optical communication systems
15. I.K. Yakushin<sup>1,3</sup>, A.S. Remizova<sup>1,3</sup>, L.A. Samodelkin<sup>1,3</sup>, D.D. Starykh<sup>1</sup>, O.E. Naniy<sup>1,2,3</sup>, V.N. Treschikov<sup>1</sup> (<sup>1</sup>"T8 NTC" LLC, <sup>2</sup>MIPT, <sup>3</sup>Lomonosov Moscow State University, Moscow) Investigation of the influence of OTDR pulses on coherent DWDM channels
16. A.D. Kozmin<sup>1</sup>, A.A. Redyuk<sup>1</sup>, O.E. Kalashev<sup>2,3</sup>, A. Chernenko<sup>3</sup> (<sup>1</sup>NSU, Novosibirsk; <sup>2</sup>MIPT, <sup>3</sup>"T8" LLC, Moscow) Application of machine learning methods in distributed acoustic sensor data processing
17. A.A. Bannikova<sup>1</sup>, A.N. Kondrashov<sup>1</sup>, A.A. Ogleznev<sup>2</sup>, I.A. Trefilov<sup>1,2</sup>, A.D. Yurina<sup>1,3</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, <sup>3</sup>Institute of Continuous Media Mechanics, UB RAS, Perm) Modeling of fiber-optic pressure sensor based on optical fibers with special geometry
18. M. A. Davydov<sup>1,2</sup>, A. A. Goldobin<sup>1</sup>, A.A. Bannikova<sup>1</sup>, D.G. Rizvanov<sup>2</sup>, R.A. Melnikov<sup>1</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, Perm) Fiber-optic vibration sensor based on fixed Bragg grating
19. R.M. Melnikov<sup>1,2</sup>, K.A. Safaryan<sup>1,3</sup>, M.V. Bannikov<sup>1</sup>, E.R. Vinokurova<sup>2</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, Perm; <sup>3</sup>NIU ITMO, St. Petersburg) Development of a high-temperature deformation sensor based on a Fabry-Perot interferometer
20. T.M. Ovchinnikov<sup>1</sup>, I.N. Cherepanov<sup>1</sup>, M.M. Goncharov<sup>1</sup>, E.S. Popov<sup>1</sup>, A.A. Ogleznev<sup>2</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, Perm) Research of characteristics of fiber-optical pressure sensor based on membrane
21. A.D. Yurina<sup>1,2</sup>, S.V. Uvarov<sup>2</sup>, A.N. Balakhnin<sup>2</sup>, O.B. Naimark (<sup>1</sup>PGNIU, <sup>2</sup>IMSS UrO RAS, Perm) Digital Processing of PDV Signals under Low-Speed Loading
22. P.A. Yakovleva<sup>1</sup>, A.A. Ogleznev<sup>2</sup>, E.O. Nokhrin<sup>2</sup>, I.N. Cherepanov<sup>1</sup>, M.A. Davydov<sup>1</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, Perm) Development of a system for measuring the overcoating layer of the FBG
23. A.A. Kazakova<sup>1</sup>, I.A. Trefilov<sup>1,2</sup>, A.A. Ogleznev<sup>2</sup>, P.V. Krauzin<sup>1</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, Perm) Temperature Determination by Distributed Fiber Optic Sensor DTS
24. E.S. Popov<sup>1</sup>, R.M. Melnikov<sup>1</sup>, K.A. Safaryan<sup>1,2</sup>, A.A. Ogleznev<sup>3</sup> (<sup>1</sup>PGNIU, Perm; <sup>2</sup>NIU ITMO, St. Petersburg; <sup>3</sup>"Inversion-Sensor" LLC, Perm) Investigation of characteristics of fiber-optical pressure sensor based on bellows
25. K.A. Safaryan<sup>1,2</sup>, I.A. Trefilov, P.V. Krauzin, A.D. Yurina (<sup>1</sup>PGNIU, Perm; <sup>2</sup>NIU ITMO, St. Petersburg; <sup>3</sup>IMSS UB RAS, Perm) Development of fiber-optic accelerometer based on Fabry-Perot interferometer
26. I.A. Trefilov<sup>1,2</sup>, A.N. Kondrashov<sup>1</sup>, P.V. Krauzin<sup>1</sup>, O.O. Fattalov<sup>1</sup>, I.N. Cherepanov<sup>1</sup> (<sup>1</sup>PGNIU, <sup>2</sup>"Inversion-Sensor" LLC, <sup>3</sup>IMSS UB RAS, Perm) Applicability of distributed fiber optic systems for conveyor elements condition control
27. S.L. Mikerin, V.D. Ugozhaev (IA&E SB RAS, Novosibirsk) Monolithic interferometer with precise spatial fixation of the tunable interference grating

28. A.S. Kuchyanov, P.A. Chubakov, V.A. Sorokin, A.A. Apolonsky (*IA&E SB RAS, Novosibirsk*) Transfer of rhodamine molecules from the condensed phase to the gas phase by means of non-resonant laser radiation
29. O.N. Shevchenko<sup>1,2</sup>, V.D. Antsygin<sup>1</sup>, N.A. Nikolaev<sup>1,2</sup> (<sup>1</sup>*IA&E SB RAS*, <sup>2</sup>*NSU, Novosibirsk*) Estimation of Nonlinear Optical Coefficient of GaSe:S Crystals by Electro-Optical Measurements.
30. A.A. Rybak<sup>1,2</sup>, N.A. Nikolaev<sup>1,2</sup>, S.A. Kuznetsov<sup>1,2,3</sup> (<sup>1</sup>*IA&E SB RAS*, <sup>2</sup>*NSU*, <sup>3</sup>*KTIPM, ISP SB RAS, Novosibirsk*) Pulse terahertz spectroscopy of segnetoelectric crystals using antialias filtering
31. V.E. Fedyai<sup>1,2</sup>, A. Tarasova<sup>2,3</sup>, A. Eliseev<sup>2,3</sup>, L. Isaenko<sup>2,3</sup>, P. Krinitsyn<sup>2,3</sup>, A. Kuchmizhak<sup>4,5</sup>, S.A. Babin<sup>1,2</sup>, A.V. Dostovalov<sup>1</sup> (<sup>1</sup>*IA&E SB RAS*, <sup>2</sup>*NSU*, <sup>3</sup>*IGM SB RAS, Novosibirsk*; <sup>4</sup>*IACP FEB RAS*, <sup>5</sup>*FEFU, Vladivostok*) Creation of antireflection microstructures on the surface of nonlinear crystals
32. S.R. Yeghiyan, A.A. Knyazeva, O.A. Klimenko, V.N. Antonov (*Skoltech, Moscow*) Plasmons in Arrays of Graphene Nanoribbons on Silicon Carbide
33. A.V. Nemykin (*IAEE SB RAS, Novosibirsk*) Phase optimization of the peak amplitude of the sum of harmonics
34. L.L. Frumin<sup>1</sup>, A.E. Chernyavsky<sup>1,2</sup> (<sup>1</sup>*IA&E SB RAS*, <sup>2</sup>*NSU, Novosibirsk*) "Super-fast" algorithm for solving scattering problems

## August 21, 2024 Technopark, big conference hall

### Joint session with the International School on Nonlinear Photonics 2024 (inv. papers)

Chairs: A.A.Redyuk, S.A.Babin

- 9<sup>00</sup> O.V. Butov, D.V. Przhiyalkovsky, A.S. Shikin, A.I. Lopunov (*V.A.Kotelnikov IRE, RAS, Moscow*)  
Fiber Bragg gratings written by femtosecond laser: technology, properties, prospects
- 9<sup>45</sup> S.I. Kudryashov<sup>1,2</sup>, P.A. Danilov<sup>1,2</sup>, N.A. Smirnov<sup>1,2</sup>, D.A. Pomazkin<sup>1,2</sup>, P.P. Pakholchuk<sup>1,2</sup>, A.E. Rupasov<sup>1,2</sup>, G.K. Krasin<sup>1,2</sup>, E.V. Kuzmin<sup>1,2</sup>, Y.S. Gulina<sup>1,2</sup> (*<sup>1</sup>P.N. Lebedev Physical Institute, RAS, <sup>2</sup>Bauman Moscow State Technical University, Moscow*)  
Femtosecond laser recording in dielectrics for micro- and quantum-optical applications: current problems, basic principles, results, authors
- 10<sup>30</sup> A.A. Apolonsky (*IA&E SB RAS, Novosibirsk*)  
Optical methods of medical diagnostics
- 11<sup>15</sup> -11<sup>30</sup> **Tea and coffee break**
- 11<sup>30</sup> A.E. Bednyakova<sup>1</sup>, K.P. Saraeva<sup>1</sup>, A.A. Redyuk<sup>1</sup>, M.S. Mishevsky<sup>2</sup>, A.A. Mkrtychyan<sup>2</sup>, Y.G. Gladush<sup>2</sup> (*<sup>1</sup>NSU, Novosibirsk; <sup>2</sup>Skoltech, Moscow*)  
Modeling of Nonlinear Dynamics of Optical Pulses in Laser Systems by Machine Learning Methods
- 12<sup>15</sup> A. V. Arsenin (*MIPT, Moscow*)  
Quasi-2D materials: optical properties and promising applications in nanophotonics
- 13<sup>00</sup>-14<sup>00</sup> **Lunch break**  
(after the break, the workshop and school sessions run in parallel)

### Section 6.1: Applications - sensors, communications

Chair: I.A. Lobach

- 14<sup>00</sup> A.Yu. Kokhanovsky (*ITMO University, St. Petersburg*)  
Application of Machine Learning Algorithms for Data Analysis of Fiber Temperature and Strain Sensors (**inv.**)
- 14<sup>30</sup> D.R. Kharasov<sup>1</sup>, E.A. Fomiryakov<sup>1,2</sup>, D.M. Bengalsky<sup>1</sup>, A.Yu. Danilov<sup>1</sup>, S.P. Nikitin<sup>1,3</sup>, O.E. Naniy<sup>1,2</sup> and V.N. Treschikov<sup>1</sup> (*<sup>1</sup>T8 Group of Companies, <sup>2</sup>M.V. Lomonosov Moscow State University, <sup>3</sup>Femtovision LLC, Moscow*)  
Distributed acoustic sensor based on the phase-sensitive Rayleigh OTDR with the length up to 240 km
- 14<sup>45</sup> O.S. Sidelnikov<sup>1</sup>, A.A. Redyuk<sup>1</sup>, M.P. Fedoruk<sup>1</sup>, S.K. Turitsyn<sup>2</sup> (*<sup>1</sup>NSU, Novosibirsk; <sup>2</sup>Institute of Photonic Technologies, Aston University, Birmingham, UK*)  
Component models of transceiver devices based on neural network layers for communication system with digital subcarrier densification
- 14<sup>30</sup> I.S. Chekhovskoy<sup>1</sup>, E.V. Sedov<sup>1</sup>, S.K. Turitsyn<sup>2</sup>, M.P. Fedoruk<sup>1</sup> (*<sup>1</sup>NSU, Novosibirsk; <sup>2</sup>Aston University, Birmingham, UK*)  
Application of nonlinear Fourier transform in optical telecommunications
- 15<sup>15</sup> L.A. Samodelkin<sup>1,3</sup>, D.D. Starykh<sup>1</sup>, O.E. Naniy<sup>1,2,3</sup>, V.N. Treschikov<sup>1</sup> (*<sup>1</sup>"T8 NTC" LLC, <sup>2</sup>MIPT, <sup>3</sup>Lomonosov Moscow State University, Moscow*)  
Nonlinear Noise Accumulation in Coherent Fiber-Optic Lines
- 15<sup>30</sup> A.A. Redyuk<sup>1</sup>, E.I. Shevelev<sup>1</sup>, V.R. Danilko<sup>1</sup>, O.S. Sidelnikov<sup>1</sup>, M.P. Fedoruk<sup>1</sup>,



Bazarov T.O.<sup>2</sup>, Senko M.A.<sup>2,4</sup>, Samodelkin L.A.<sup>3,4</sup>, Starykh D.D.<sup>3</sup> (<sup>1</sup>NSU, Novosibirsk; <sup>2</sup>"T8" LLC, <sup>3</sup>"T8 NTC" LLC, <sup>4</sup>MSU, Moscow)  
Algorithms of compensation of nonlinear signal distortions for experimental 600-km DP-QPSK optical link

15<sup>45</sup> E.G. Shapiro, D.A. Shapiro (*IAEE SB RAS, Novosibirsk*)  
Spectral design of a signal with non-central multiple chirping

16<sup>00</sup> -16<sup>15</sup> **Tea and coffee break**

## Section 6.2: Applications - Materials Processing and Photomodification

Chairs: A.V.Dostovalov, I.V.Obronov

16<sup>15</sup> A.V. Shevlyagin<sup>1</sup>, D.V. Pavlov<sup>1</sup>, Y.M. Borodaenko<sup>1</sup>, A.B. Cherepakhin<sup>1</sup>, D.E. Banny<sup>1,2</sup>, A.V. Bozhok<sup>1,2</sup>, V.M. Ilyashenko<sup>1</sup>, A.A. Kuchmizhak<sup>1,2</sup> (<sup>1</sup>IACP FEB RAS, <sup>2</sup>FEFU, Vladivostok)

When laser fabrication technology meets semimetal and semiconducting silicides: advanced transparent conductors and optical absorbers (**inv.**)

16<sup>45</sup> V.V. Likhov, S.V. Vasiliev, G.K. Alagashev, A.G. Ohrimchuk (*FORC, GPI RAS, Moscow*)

Spiral Bragg gratings recorded by a femtosecond laser beam (**inv.**)

17<sup>15</sup> S.M. Popov<sup>1</sup>, D.V. Ryakhovsky<sup>1</sup>, A.O. Kolosovsky<sup>1</sup>, V.V. Voloshin<sup>1</sup>, I.L. Vorobyov<sup>1</sup>, V.A. Isaev<sup>1</sup>, M.Y. Vyatkin<sup>1</sup>, A.A. Rybaltovsky<sup>2</sup>, D.S. Lipatov<sup>3</sup>, A.A. Fotiadi<sup>4</sup>, Y.K. Chamorovsky<sup>1</sup> and O.V. Butov<sup>5</sup> (<sup>1</sup>V.A. Kotelnikov FIRE RAS, Fryazino; <sup>2</sup>GPI RAS, Moscow; <sup>3</sup>ICHPS RAS, N. Novgorod; <sup>4</sup>UIGU, Ulyanovsk; <sup>5</sup>V.A. Kotelnikov IRE RAS, Moscow)

Optical fibers with fiber Bragg grating arrays recorded during optical fiber drawing process

17<sup>30</sup> K.A. Bronnikov<sup>1,2</sup>, V.S. Terentyev<sup>1</sup>, V.A. Simonov<sup>1</sup>, V.E. Fedyai<sup>1,3</sup>, A.E. Simanchuk<sup>1</sup>, S.A. Babin<sup>1,3</sup>, A.A. Kuchmizhak<sup>4,5</sup>, A.V. Dostovalov<sup>1</sup> (<sup>1</sup>IA&E SB RAS, Novosibirsk; <sup>2</sup>ITMO University, St. Petersburg; <sup>3</sup>NSU, Novosibirsk; <sup>4</sup>IACP FEB RAS, <sup>5</sup>FEFU, Vladivostok)

Recording of laser-induced periodic structures on the surface of optical fibers by fs laser irradiation

17<sup>45</sup> A.V. Dostovalov<sup>1</sup>, Zh.E. Munkueva<sup>1,2</sup>, E.V. Golikov<sup>1</sup>, A.Yu. Kokhanovsky<sup>3</sup>, S.A. Babin<sup>1</sup> (<sup>1</sup>IA&E SB RAS, <sup>2</sup>NSU, Novosibirsk; <sup>3</sup>ITMO University, St. Petersburg)  
Femtosecond laser recording of reflective structures using a spatial light modulator

18<sup>00</sup> S.R. Rosenthal, D.A. Kislov (*MIPT, Moscow*) Use of hybrid anapole state for selective optomechanical sorting of nanoparticles in the laser radiation field

## **Technopark, small conference hall (No.1)**

### **\*Parallel Session of the International School on Nonlinear Photonics 2024**

**14<sup>00</sup>** I.I. Ryabtsev<sup>1,2</sup>, V.V. Preobrazhensky<sup>1</sup>, I.B. Chistokhin<sup>1</sup>, M.A. Putyato<sup>1</sup>, M.S. Aksenov<sup>1</sup>, E.A. Emelyanov<sup>1</sup>, M.O. Petrushkov<sup>1</sup>, D.B. Tretyakov<sup>1,2</sup>, A.S. Pleshkov<sup>1</sup>, A.V. Kolyako<sup>1</sup>, V.M. Entin<sup>1</sup>, I.G. Neizvestny<sup>1</sup> (<sup>1</sup> *ISP SB RAS*, <sup>2</sup> *NSU, Novosibirsk*).

Single photon detectors and their applications in quantum communications (**inv.**)

**15<sup>00</sup>** I.S. Panyaev, P.A. Itrin, V.A. Ribenek, D.A. Korobko, A.A. Fotiadi (*UISU, Ulyanovsk*)

Low noise lasers for microwave photonics applications (**inv.**)

**16<sup>00</sup> -16<sup>15</sup>**      **Tea and coffee break**

**16<sup>15</sup>** A.G. Malikov, A.A. Golyshev (*ITPM SB RAS, Novosibirsk*)

Achievements of ITPM SB RAS in the field of laser additive growth of metal-ceramic materials (**inv.**)

**17<sup>15</sup>** B.G. Vainer (*IFP SB RAS, NSU, Novosibirsk*)

Modern thermal imaging photonics (**inv.**)

**18<sup>15</sup>**      **Conference dinner**

## August 22, 2024 Technopark, big conference hall

### Joint online session with the International School on Nonlinear Photonics 2024 (invited papers)

Chairpersons: S.A. Babin, A.A. Rediuk

- 9<sup>00</sup> Chunyu Guo (*Shenzhen University, Shenzhen, China*)  
High-power Mid-infrared fiber lasers
- 9<sup>30</sup> Zinan Wang (*University of Electronic Science and Technology of China, Chengdu*)  
Replica symmetry breaking in 1D Rayleigh scattering system
- 10<sup>00</sup> Daniele Tosi (*Nazarbayev University, Astana, Kazakhstan*)  
Fiber optic sensors based on fiber-optic ball resonators for applications in biosensing
- 10<sup>30</sup> Mukul Chandra Paul (*Central Glass and Ceramic Research Institute, Kolkata, India*)  
Advanced Optical Materials and Specialty Optical Fibers for Photonics Applications

### 11<sup>00</sup>-11<sup>30</sup> Tea and coffee break

- 11<sup>30</sup> Jiaqi Zhou (*SIOM, Shanghai, China*)  
Nonlinear optical gain modulation: a novel approach towards high performance ultrafast Raman fiber laser
- 12<sup>00</sup> Parviz Elahi (*Özyeğin University, Istanbul, Turkey*)  
GHz repetition rate fiber lasers, development and applications in material processing and spectroscopy
- 12<sup>30</sup> Philippe Grellu (*University of Burgundy, Dijon, France*)  
Energy-managed soliton fiber laser for efficient flexible picosecond pulse generation

### 13<sup>00</sup>-14<sup>00</sup> Lunch break (after the break, the workshop and school sessions run in parallel)

### Seminar session (online invited papers), big conference hall

- 14<sup>00</sup> Uğur Teğın (*Koç University, İstanbul, Turkey*)  
Engineering nonlinearities for high-power and single-mode output from spatiotemporally mode-locked fiber lasers
- 14<sup>30</sup> Tianfu Yao (*College of Advanced Interdisciplinary Studies, NUDT, Changsha, China*)  
Beam cleanup with power scaling in multimode fiber via nonlinear effects
- 15<sup>00</sup> Mario Ferraro (*Sapienza University of Rome, Italy*)  
Recent advances in the thermodynamic description of beam cleaning in multimode fibers
- 15<sup>30</sup> Lei Gao (*Chongqing University, China*)  
Ultrafast two dimensional imaging beyond the frame rate of MHz
- 16<sup>00</sup> -16<sup>15</sup> Tea and coffee break
- 16<sup>15</sup> Chengbo Mou (*Shanghai university, Shanghai, China*)  
GHz harmonic mode-locked fiber laser using carbon nanotube saturable absorbers

## Section 6.3: Applications - materials processing and photomodification, biomedicine

Chairperson: N.A. Nikolaev

- 16<sup>45</sup>** Konrad Rolle (*Institute of Automation and Electrometry SB RAS, Novosibirsk, Russia*)  
Laser warming of cryopreserved samples at the water absorption wavelength: From global to local approaches (**inv.**)
- 17<sup>15</sup>** A.E. Simanchuk<sup>1</sup>, S.L. Mikerin<sup>1</sup>, A.A. Kalinin<sup>2</sup>, M.Y. Balakina<sup>2</sup> (<sup>1</sup>*IA&E SB RAS, Novosibirsk*; <sup>2</sup>*Institute of Organic and Physical Chemistry, FIC Kazan Scientific Center RAS, Kazan*)  
Search and investigation of organic electro-optical materials with high second-order resonant nonlinearity (**inv.**)
- 17<sup>45</sup>** V.A. Sorokin, P.A. Chubakov, S.L. Mikerin, A.A. Apolonsky (*IAIE SB RAS, Novosibirsk*)  
Emission discharge spectroscopy of air mixture: off-discharge luminescence
- 18<sup>00</sup>** T.A. Agliullin<sup>1</sup>, O.G. Morozov<sup>1</sup>, A.Zh. Sakhabutdinov<sup>1</sup>, D.S. Grabovetsky<sup>1</sup>, D.I. Nurmukhametov<sup>2</sup>, A.S. Lutsenko<sup>3</sup>, R.S. Ponomarev<sup>3</sup>, V.P. Pervadchuk<sup>2</sup>, A.F. Agliullin<sup>4</sup>, I.I. Nureev<sup>5</sup>, R.A. Yusupov<sup>6</sup>, D.N. Matveev (<sup>1</sup>*KNITU-KAI, Kazan*; <sup>2</sup>*PGNIU*, <sup>3</sup>*PNIPU, Perm*; <sup>4</sup>*"MFS" LLC*, <sup>5</sup>*Research Institute of Applied Electrodynamics, Photonics and Living Systems*, <sup>6</sup>*Research Institute of Medical and Biological and Sports Engineering*).  
Multiparameter in-fiber sensors of pressure, temperature and relative humidity of atmospheric air for monitoring of the course of Sufflation processes during endoscopic operations

## Technopark, small conference hall (No.1)

### \*Parallel Session of the International School on Nonlinear Photonics 2024

- 14<sup>00</sup>** O.N. Prudnikov et al. (*ILP SB RAS, Novosibirsk*)  
Quantum sensors based on ultracold atoms and ions: new methods and approaches (**inv.**)
- 15<sup>00</sup>** D.V. Brazhnikov et al. (*ILP SB RAS, Novosibirsk*)  
Development of Methods of Laser Spectroscopy of Alkali Metal Atoms for Creation of a New Generation of Miniature Atomic Clocks and Magnetometers (**inv.**)
- 16 -16<sup>0015</sup>** **Tea and coffee break**
- 16<sup>15</sup>** E.V. Podivilov (*IAEE SB RAS, Novosibirsk*)  
Ring resonators on ferroelectrics (**inv.**)
- 17<sup>15</sup>** O.P. Cherkasova<sup>1,2</sup>, N.A. Nikolaev<sup>1</sup> (<sup>1</sup>*IA&E SB RAS*, <sup>2</sup>*NSTU, Novosibirsk*)  
Application of Terahertz Radiation for Biomedical Problems (**inv.**)
- 18<sup>15</sup>** **NLP 2024 School poster session**

## August 23, 2024 Technopark, big conference hall

### Section 7: Photonic Integrated Circuits. Nanophotonics and metamaterials.

Chairs: V.P. Drachev, S.S. Kosolobov

- 9<sup>00</sup>** V.V. Kovalyuk<sup>1,2</sup>, I.O. Venediktov<sup>1,2</sup>, K.O. Sedykh<sup>1,2</sup>, A.Y. Kuzin<sup>1,3</sup>, I.N. Florya<sup>1,4</sup>, A.I. Prokhodtsov<sup>1,5</sup>, V.S. Galanova<sup>1,5</sup>, D.M. Kobtsev<sup>1,2</sup>, A.D. Golikov<sup>1,5</sup>, S.S. Svyatodukh<sup>2,4</sup>, P.P. Ahn<sup>1,4</sup>, G.N. Goltsman<sup>1,7</sup> (<sup>1</sup>MISIS, <sup>2</sup>National Research University "Higher School of Economics", <sup>3</sup>Skoltech, <sup>4</sup>Moscow State Pedagogical University, Moscow; <sup>5</sup>NIU MIET, Zelenograd; <sup>6</sup>Bauman Moscow State Technical University, <sup>7</sup>Russian Quantum Center, Moscow).  
Photonic integrated circuits for optical computing, communications, and sensors (**inv.**)
- 9<sup>30</sup>** S.S. Kosolobov, A.S. Smirnov, A.I. Vergules, D.S. Zemtsov, I.A. Pshenichniuk, A.K. Zemtsova, K.R. Taziev, D.M. Zhigunov, K.N. Garbuzov, V.P. Drachev (Skoltech, Moscow)  
Electro-optical devices on silicon photonic integrated circuits (**inv.**)
- 10<sup>00</sup>** R.S. Starikov (MEPhI, Moscow)  
FIS for Radio Engineering Systems: State of the Art (**inv.**)
- 10<sup>30</sup>** P.I. Lazarenko (NIU MIET, Zelenograd)  
Energy-independent photonics elements on the basis of phase-change materials (**inv.**)
- 11<sup>00</sup>-11<sup>15</sup>** **Tea and coffee break**
- 11<sup>15</sup>** H.L. Bhatta, M.K. Pogodaeva, E.P. Kozhina, S.A. Bedin, S.S. Kosolobov, C. V. Levchenko, V.P. Drachev (Skoltech, Moscow)  
Structures with spin polarization in microelectronics and nanophotonics (**inv.**)
- 11<sup>45</sup>** A.S. Kadochkin<sup>1,2</sup>, S.G. Moiseev<sup>1</sup>, E.P. Kitsyuk<sup>2</sup> (<sup>1</sup>UIGU, Ulyanovsk, <sup>2</sup>NPK "Technological Center", Zelenograd)  
Resonant amplification of slow surface plasmon-polaritons by drift current (**inv.**)
- 12<sup>15</sup>** A.K. Sarychev<sup>1</sup>, A.V. Ivanov<sup>1</sup>, I.V. Bykov<sup>1</sup>, M.S. Shestopalov<sup>2,3</sup>, K.E. Mochalov<sup>2</sup>, D.S. Korzhov<sup>2,3</sup>, A.F. Smyk<sup>4</sup>, A.V. Shurygin<sup>4</sup>, D.V. Basmanov<sup>5</sup> (<sup>1</sup>ITAE RAS, <sup>2</sup>M.M. Shemyakin and Yu.A. Ovchinnikov Institute of Bioorganic Chemistry RAS, <sup>3</sup>Institute laser and plasma technologies of NIU MEPhI, <sup>4</sup>"James River Branch" LLC, <sup>5</sup>Institute of Systems Biology and Medicine of Rospotrebnadzor, Moscow)  
Plasmon resonance in metallic nanoshells and Raman scattering in biological objects (**inv.**)
- 12<sup>45</sup>** A.S. Beryoza<sup>1</sup>, A.E. Chernyavsky<sup>1,2</sup>, S.V. Perminov<sup>3</sup>, D.A. Shapiro<sup>1</sup> (<sup>1</sup>IA&E SB RAS, <sup>2</sup>NSU, <sup>3</sup>ISP SB RAS, Novosibirsk)  
Scattering of a cylindrical wave by an array of circular cylinders
- 13<sup>00</sup>-14<sup>00</sup>** **Lunch break**
- 14<sup>00</sup>** D.A. Mukhamedyanov<sup>1</sup>, A.A. Zyablovsky<sup>1,2</sup>, E.S. Andrianov<sup>1,2</sup> (<sup>1</sup>MIPT, <sup>2</sup>N.L. Dukhov VNI Avtomatika, Moscow)  
Parametric instability and rigid mode excitation in optomechanical systems with strong photon-phonon coupling (**inv.**)
- 14<sup>30</sup>** D.M. Zhigunov<sup>1</sup>, D.A. Shilkin<sup>2</sup>, V.O. Bessonov<sup>2,3</sup> (<sup>1</sup>Skoltech, <sup>2</sup>Lomonosov Moscow State University, <sup>3</sup>Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Moscow)  
Femtosecond laser printing of Mi-resonant Si, Ge, and SiGe nanoparticles and their optical response (**inv.**)

- 15<sup>00</sup>** I.S. Panyaev<sup>1</sup>, P.A. Itrin<sup>1</sup>, D.A. Korobko<sup>1</sup>, A.A. Fotiadi<sup>1,2</sup> (<sup>1</sup>*UIGU, Ulyanovsk*; <sup>2</sup>*A.F. Ioffe Institute of Physics of the Russian Academy of Sciences, St. Petersburg*)  
Sub-100-Hz fiber laser based on frequency self-capture effect
- 15<sup>15</sup>** S.A. Dyakov<sup>1</sup>, N.S. Salakhova<sup>1</sup>, A.V. Ignatov<sup>1</sup>, I.M. Fradkin<sup>1,2</sup>, N.A. Gippius<sup>1</sup> (<sup>1</sup>*Skoltech*, <sup>2</sup>*MIPT, Moscow*)  
Chiral light in a Fabry-Perot resonator
- 15<sup>30</sup>** A.S. Bereza, A.V. Nemykin (*IA&E SB RAS, Novosibirsk*)  
Wave scattering on a perfectly conducting belt-type grating
- 15<sup>45</sup>-16<sup>00</sup>**      **Tea and coffee break**

## **Technopark, small conference hall (No.1)**

### **\*Parallel Session of the International School on Nonlinear Photonics 2024**

- 9<sup>00</sup>** S.Y. Alyatkin, I.S. Gnusov, K.A. Sitnik, P.G. Lagoudakis (*Skoltech, Moscow*)  
Periodic and quasiperiodic arrays of coupled polariton arrays condensates in inorganic microresonators (**inv.**)
- 10<sup>00</sup>** A. Shalin (*MIPT, Moscow*)  
Light and dark modes in nanophotonics (**inv.**)
- 11<sup>00</sup>-11<sup>15</sup>**      **Tea and coffee break**
- 11<sup>15</sup>** Lectures on the program of the International School on Nonlinear photonics 2024
- 13<sup>00</sup>-14<sup>00</sup>** **Lunch break**
- 14<sup>00</sup>** Lectures on the program of the International School on Nonlinear photonics 2024
- 15<sup>45</sup> -16<sup>00</sup>**      **Tea and coffee break**
- 16<sup>00</sup>**      **Conference and school closing**

### **Cultural program:**

Excursion in Academ town

## **August 24, 2024**

Picnic on the Ob Sea shore (depends on the weather)