PROGRAM

Sunday, July 21, morning

	Optical Bioimaging	**Nanobiophotonics**	**Neurobiophotonics**
Chairs	**Karsten König (Germany)** **Natalia Shakhova (Russia)** **Bruce Tromberg (USA)**	**Alberto Diaspro (Italy)** **Juergen Popp (Germany)** **Elena Zagaynova (Russia)**	**Victor Kazantsev (Russia)** **Alexey Semyanov (Japan, Russia)**
	Advanced Laser Applications in Biomedicine	**Biophotonics in Stem Cell Research and Developmental Biology**	**Clinical Biophotonics**
Chairs	**Victor Bagratashvili (Russia)** **Felix Feldchtein (USA)** **Rudolf Steiner (Germany)**	**Igor Adameyko (Sweden)** **Alexey Tomilin (Russia)**	**Mark Gelfond (Russia)** **Herbert Stepp (Germany)**
7:00-9:30	**Registration**		
8:00-9:30	**Breakfast**		
9:00	**Departure from Nizhny Novgorod**		
11:00-11:40	**Opening ceremony (HALL A)**		
	HALL A		
11:40-12:30	**Ammasi Periasamy** (*USA*). Dynamic imaging of protein-protein interactions in living cells using exogenous and endogenous fluorophores **(Plenary)** ***Introduction: Peter So*** **Technical support - Vladimir Plehanov**		
12:30-13:20	**Valery Tuchin** (*Russia, Finland*). Fundamentals and advances of tissue optical clearing **(Plenary)** ***Introduction: Alexander Sergeev*** **Technical support - Vladimir Plehanov**		
13:30-15:00	**Lunch**		

Sunday, July 21, afternoon

	HALL A	HALL B	HALL C
	Optical Bioimaging	**Nanobiophotonics**	**Neurobiophotonics**
	Session: Optical coherence elastography and polarization-sensitive OCT **Chair: Rainer Leitgeb** **Technical support: Dmitry Ellinski**	**Session: Quantum dots and fluorescent nanoparticles** **Chairs: Sergey Deyev** **Technical support: Anton Pavlikov**	**Session: Neuron-glia interactions** **Chair: Juergen Klingauf** **Technical support: Sergey Stasenko**
15:00-17:00	**15:00-15:30 Kirill Larin** (*USA*). Optical coherence elastography: a brief review of current techniques and challenges **(Invited)**	**15:00-15:30 Stefan Andersson-Engels** (*Sweden*). Fluorescence imaging and tomography utilizing upconverting nanoparticles as contrast agent **(Invited)**	**15:00-15:30 Glenn Dallerac** (*France*). Glial D-serine drives dopamine-glutamate cross-talks in the prefrontal cortex **(Invited)**
	15:30-16:00 David Sampson (*Australia*). New tools to assess breast cancer tumor margins: OCT needle probes and optical coherence elastography **(Invited)**	**15:30-16:00 Viktor Timoshenko** (*Russia*). Photoluminescent silicon-based nanoparticles and nanowires for bio medical applications **(Invited)**	**15:30-16:00 Robert Zorec** (*Slovenia*). Regulated exocytosis: fusion pore intermediates of peptidergic vesicles **(Invited)**
	16:00-16:20 Valentin Gelikonov (*Russia*). Common path cross-polarization spectral domain OCT with orthogonal incoherent waves	**16:00-16:20 Anastasia Ryabova** (*Russia*). Upconversion nanomaterials for fluorescent bioimaging	**16:00-16:30 Alexey Semyanov** (*Japan, Russia*). Spatio-temporal properties of calcium dynamics in hippocampal astrocytes **(Invited)**
	16:20-16:40 Lev Matveev (*Russia*). Correlation-stability approach in OCT elastography: possibilities of using different-scale features of OCT images	**16:20-16:40 Maxim Gongalsky** (*Russia*). Laser ablated silicon nanoparticles for biomedical applications	
	16:40-17:00 Elena Kiseleva (*Russia*). CP OCT assessment of the depolarizing properties of connective tissue stroma in human mucosa in vivo		
17:00-17:20	**Coffee break**		
17:20-19:30	**Advanced Laser Applications & Optical Bioimaging**	**Nanobiophotonics**	**Neurobiophotonics**
	Session: Lasers in biomedical research **Chair: Rudolf Steiner** **Technical support: Maria Karabut**	**Session: Quantum dots and fluorescent nanoparticles** **Chair: Stefan Andersson-Engels** **Technical support: Vadim Elagin**	**Session: Genetic mechanisms in normal and pathological brain** **Chair: Alexey Semyanov** **Technical support: Sergey Stasenko**
	17:20-17:50 Peter Andersen (*Denmark*). Green, compact diode laser-based systems for biophotonics application **(Invited)**	**17:20-17:50 Vladimir Sivakov** (*Germany*). Innovative metal and semiconductor nanostructures for (bio)-photonic applications **(Invited)**	**17:20-17:50 Alexander Kleschevnikov** (*USA*). Antagonists of GABAergic receptors as cognitive enhancers in Down syndrome **(Invited)**
	17:50-18:10 Natalia Ignatieva (*Russia*). Laser-induced alteration of biomechanical properties and shape of costal cartilage in application to pectus exavatum repair	**17:50-18:20 Alexey Feofanov** (*Russia*). Chlorin e_6 fused with a cobalt bis(dicarbollide) nanoparticle: Scylla and Charybdis for cancer cells **(Invited)**	**17:50-18:30 Elena Savvateeva-Popova** (*Russia*). Conformational dynamics of DNA: biological manifestations and physical approach **(Invited)**
	18:10-18:30 Vladimir Vaks (*Russia*). High precise THz spectroscopy based on quantum cascade lasers for studying biomolecules and biological tissues	**18:20-18:40 Larisa Klapshina** (*Russia*). Novel fluorescent porphyrazine macrocycles as functional viscosity probes in live cells	

		18:40-19:00 Natalya Shilyagina (*Russia*). Study of novel photosensitizers based on the cyanoporphyrazine chromophors incorporated into biocompatible polymeric brush nanoparticles	
19:30-20:30	**Dinner**		
21:00	**Welcome party / Music program**		

Monday, July 22

8:00-9:00	**Breakfast**		
9:00-14:00	**YAROSLAVL**	**Bus tour (9:00-13:00)**	
13:30-15:00	**Lunch**		
	HALL A		
15:00-15:50	**Sergey Deyev** (*Russia*).. Theranostics: multifunctional agents for diagnostics and therapy **(Plenary)** ***Introduction: Elena Zagaynova,*** **technical support - Vladimir Plehanov**		
15:50-16:40	**Juergen Klingauf** (*Germany*). High and superresolution microscopy for probing protein-protein interactions and subcellular dynamics **(Plenary)** ***Introduction: Alexey Semyanov*** **Technical support - Vladimir Plehanov**		
16:40-17:00	**Coffee break**		
	HALL A	**HALL B**	**HALL C**
	Clinical Biophotonics, Advanced Laser Applications, Optical Bioimaging	**Nanobiophotonics**	**Neurobiophotonics**
	Session: Photodynamic therapy **Chair: Tayyaba Hasan** **Technical support: Alina Meller**	**Session: Fluorescent proteins** **Chair: Elena Zagaynova** **Technical support: Daria Kusnetzova**	**Session: Monitoring neuronal networks on multielectrode arrays** **Chair: Victor Kazantsev** **Technical support: Ekaterina Agrba**
17:00-19:30	**17:00-17:30 Herbert Stepp** (*Germany*). Progress in fluorescence detection and photodynamic therapy for the management of malignant glioma **(Invited)**	**17:00-17:30 Marina Shirmanova** (*Russia*). In vivo study of genetically encoded phototoxic proteins for tumor therapy **(Invited)**	**17:00-17:30 Daisuke Ito** (*Japan*). Analysis and control of cultured neuronal networks using multi-electrode arrays: from gene expression to network dynamics **(Invited)**
	17:30-18:00 Stephen Bown (*UK*). Photochemical internalisation – basic science and clinical potential **(Invited)**	**17:30-18:00 Maria Khrenova** (*Russia*). Molecular modeling of the Forster resonance energy transfer between fluorescent proteins **(Invited)**	**17:30-18:00 Irina Mukhina** (*Russia*). Microelectrode arrays and Ca^{2+} imaging in combination with in vitro model of stroke as a tool to investigate pathological changes in network activity **(Invited)**
	18:00-18:30 Rudolf Steiner (*Germany*). Crystalline organic nanoparticles – a new concept for PDT **(Invited)**	**18:00-18:20 Alexander Mishin** (*Russia*). Rational selection of bacterial proteins for specific binding of fluorogenic chromophores	**18:00-18:30 Chi-Keung Chan** (*Taiwan*). Spontaneous reverberations in developing neuronal culture networks **(Invited)**
	18:30-18:50 Sergey Gamayunov (*Russia*). Monitoring of clinical PDT with fluorescence imaging	**18:20-18:40 Victoria Zherdeva** (*Russia*). FRET-FLIM of caspase-3 activation *in vivo* using genetically encoded biosensors	**18:30-19:00 Pik-Yin Lai** (*Taiwan*). A simulation study of reverberation in developing neuronal cultures **(Invited)**
	18:50-19:10 Elena Grebenkina (*Russia*). PDT in management of CIN and VIN	**18:40-19:00 Karen Sarkisyan** (*Russia*). A bright monomeric green fluorescent protein with a fluorescence lifetime of 5.0 ns	
	19:10-19:30 Irina Meerovich (*Russia*). Study of the action of local photodynamic therapy on the growth of primary tumor and development of metastases		
19:30-20:30	**Dinner**		
21:00	**Classical music concert**		

Tuesday, July 23, day

8:00-9:00	**Breakfast**		
9:00-12:00	**SOSENKI**	**Riverside outings, Universiade**	
13:30-15:00	**Lunch**		
	HALL A	**HALL B**	**HALL C**
	Optical Bioimaging	**Nanobiophotonics**	
	Session: Fluorescence and bioluminescence imaging **Chair: Ilya Turchin** **Technical support: Alexander Khilov**	**Session: Synthetic biology** **Chair: Alexey Zaikin** **Technical support: Anton Pavlikov**	
15:00-16:50	**15:00-15:30 Karsten König** (*Germany*). Multiphoton / CARS tomography for small animal research and clinical studies **(Invited)**	**15:00-15:30 Nicolas Szita** (*UK*). Development of microfluidic bioreactors for synthetic biology **(Invited)**	
	15:30-15:50 Mikhail Kleshnin (*Russia*). Versatile system for small animal fluorescence imaging	**15:30-15:50 Ekkehard Ullner** (*UK*). Multi-stability in the coupled noisy repressilator	
	15:50-16:10 Iliya Fiks (*Russia*). Reconstruction in fluorescence diffuse tomography based on non-negativity condition	**15:50-16:10 Alexey Zaikin** (*Russia*). Effect of stochasticity on classifying genetic networks	
	16:10-16:30 Natalia Klementieva (*Russia*). In vivo bioluminescence imaging of tumor cells using firefly luciferase luc2	**16:10-16:30 Mikhail Ivanchenko** (*Russia*). Distributed synthetic gene oscillators	
		16:30-16:50 Oleg Kanakov (*Russia*). Distributed synthetic gene competition circuit	
16:40-17:00	**Coffee break**		

Tuesday, July 23, evening

	Poster Session I	
	Nanobiophotonics & Stem Cell Research and Developmental Biology	**Neurobiophotonics**
17:00-18:30	[PS I - 1] **Anastasiya Belova** (*Russia*). Use of genetically encoded sensor HyPer for studying hydrogen peroxide implication in the mechanism of cisplatin action [PS I - 2] **Yu Chung Lin** (*Taiwan*). Raman spectroscopic signature of life cycle in single unicellular organism (Amoeba) [PS I - 3] **Irina Druzhkova** (*Russia*). Measuring of pH in tumor xenografts using new genetically encoded sensor [PS I - 4] **Daria Kuznetsova** (*Russia*). 3D-tumor spheroids as a model for testing photodynamic therapy with genetically encoded photosensitizers [PS I - 5] **Alexandra Meleshina** (*Russia*). Fluorescent bioimaging in the study of the different models ″stem cell-tumor″interaction [PS I - 6] **Kristina Mironova** (*Russia*). Photo-induced cytotoxic effect of 4D5scFv-miniSOG on HER2/neu-overexpressing cells [PS I - 7] **Nataliya Mishina** (*Russia*). Imaging PIP_3 and H_2O_2 with one genetically encoded fluorescent sensor [PS I - 8] **Grigory Mysov** (*Russia*). Silicon nanowires and nanologs for biophotonic applications [PS I - 9] **Natalia Prodanets** (*Russia*). Morphological analysis of the nanoparticle – labeled tumors after laser treatment [PS I - 10] **Ekaterina Putintseva** (*Russia*). Bright circularly permuted variants of fluorescent protein FusionRed [PS I - 11] **Ludmila Snopova** (*Russia*). Pathomorphological changes in the tumors induced by PDT with genetically encoded photosensitizers	[PS I - 12] **Ekaterina Agrba** (*Russia*). Selectivity of the neural network of the primary hippocampal culture to the electrical stimulation [PS I - 13] **Lidia Frumkina** (*Russia*). Ultrastructural correlates of functional network activity of hippocampal neurons developing in vitro [PS I - 14] **Leonid Khaspekov** (*Russia*). Neuroprotective properties of cannabinoid N-arachidonoyl dopamine in hippocampal neural network cultured on multielectrode arrays [PS I - 15] **Yaroslava Mitaeva** (*Russia*). ATP-induced calcium signaling in rat hippocampal cells [PS I - 16] **Elena Mitroshina** (*Russia*). Antihypoxic effect of N-arachidonoyl dopamine in the hippocampal culture neuron network [PS I - 17] **Tatiana Sakharnova** (*Russia*). The effect of the brain-derived neurotrophic factor (BDNF) and k252a on the spontaneous neural network activity of primary dissociated hippocampal cultures during hypoxia in vitro [PS I - 18] **Sergey Stasenko** (*Russia*). Mathematical model of interneuron firing driven by excitatory and inhibitory inputs coordinated by astrocyte [PS I - 19] **Yury Zakharov** (*Russia*). Quantitative real-time neuroimaging of multiple functions by laser scanning microscopy
18:30-19:30	**Dinner**	
19:30-21:30	**MYSHKIN.** **Excursion**	
21:00	**Evening program**	

Wednesday, July 24, morning

8:00-9:00	**Breakfast**		
	HALL A		
9:00-9:50	**Peter So** (*USA*). High throughput, high content tissue image informatics **(Plenary)** ***Introduction: Karsten Koenig*** **technical support - Vladimir Plehanov**		
9:50-10:40	**Daniel Razansky** (*Germany*). High performance molecular imaging with real-time multispectral optoacoustic tomography **(Plenary)** ***Introduction: Martin Frenz*** **Technical support - Vladimir Plehanov**		
10:40-11:00	**Coffee break**		
	HALL A	**HALL B**	**HALL C**
	Optical Bioimaging	**Biophotonics in stem cell research and developmental biology**	**Neurobiophotonics**
	Session: Microscopy **Chair: Karsten König** **Technical support: Ekaterina Gubarkova**	**Chairs: Alexey Tomilin, Igor Adameiko** **Technical support: Alexandra Meleshina**	**Session: Monitoring neurons and neuronal network dynamics: models and experiments** **Chair: Irina Mukhina** **Technical support: Ekaterina Agrba**
11:00-13:30	**11:00-11:30 Francesco Pavone** (*Italy*). Morpho-chemical analysis of tissues **(Invited)**	**11:00-11:30 Igor Adameiko** (*Sweden*). Confocal imaging, optical projection tomography and following 3D-reconstructions of whole-mount stained vertebrate embryos applied for stem cell research **(Invited)**	**11:00-11:30 Michele Giugliano** (*Belgium, Switzerland, UK*). Connectivity motifs in networks of model neurons with plastic synapses **(Invited)**
	11:30-12:00 Sebastian Wachsmann-Hogiu (*USA*). Nano-scale cellular imaging using super-resolution microscopy **(Invited)**	**11:30-12:00 Victor Nadtochenko** (*Russia*). Laser nanosurgery of preimplantation mammalian embryos **(Invited)**	**11:30-12:00 Valeri Makarov** (*Spain*). Disentanglement of local field potentials opens a window to the network dynamics **(Invited)**
	12:00-12:20 Vladislav Shcheslavskiy (*Germany*). Lifetime imaging with near-infrared fluorophores	**12:00-12:20 Nicolas Szita** (*UK*). Towards real-time monitoring and control of stem cell process conditions in microfabricated bioreactors	**12:00-12:30 Alexander Simonov** (*Russia*). A simple network model of epileptiform activity in dissociated neuronal cultures **(Invited)**
	12:20-12:40 Alexander Goryashchenko (*Russia*). Far-red FRET-sensor for determination of Caspase-3 activity	**12:20-12:35 Elena Cherkasova** (*Russia*). Fluorescent imaging modalities for mesenchymal stem cell-tumor tropism	**12:30-13:00 Ivan Tyukin** (*UK*). Explicit reduced-order integral formulations of state and parameter estimation problems for a class of nonlinear systems with applications to modelling of action potentials **(Invited)**
	12:40-13:00 Alexander Moiseev (*Russia*). Interferometric synthetic aperture microscopy with automated parameters evaluation and phase equalization	**12:35-13:00 Ekaterina Kiseleva** (*Russia*). Studying of cellular mechanisms of Facioscapulohumeral muscular dystrophy (FSHD) development **(Invited)**	
		13:00-13:30 Irina Larina (*USA*). Studying mammalian embryonic development through optical imaging **(Invited)**	
13:30-15:00	**Lunch**		

Wednesday, July 24, afternoon

	HALL A	HALL B	HALL C
	Optical Bioimaging	**Biophotonics in stem cell research and developmental biology**	
	Session: Optoacoustic imaging **Chair: Daniel Razansky** **Technical support: Valeria Perekatova**	**Chairs: Alexey Tomilin, Igor Adameiko** **Technical support: Alexandra Meleshina**	
15:00-16:05	**15:00-15:30 Martin Frenz** (*Switzerland*). Methods of clutter reduction in epi-illumination optoacoustic imaging **(Invited)**	**15:00-15:25 Mikhail Liskovykh** (*Russia*). Embryonic stem cells carrying human artificial chromosome: perspectives in research and medicine **(Invited)**	
	15:30-15:50 Pavel Subochev (*Russia*). Simultaneous photoacoustic and optically mediated ultrasound microscopy for bimodal bioimaging of function and structure	**15:25-15:50 Artashes Karmenyan** (*Taiwan*). Laser analysis and micromanipulation of preimplantation mouse embryo **(Invited)**	
		15:50-16:05 Dmitry Sitnikov (*Russia*). Application of femtosecond laser scalpel and optical tweezers in assisted reproduction techniques and stem cell research	
16:00-19:00	**PLYOS.**	**Excursion**	

19:00-20:00	**Dinner**
20:00-21:30	**Poster Session II**
	Optical Bioimaging, Advanced Laser Applications in Biomedicine & Clinical Biophotonics
	[PS II - 1] **Vasilisa Aksenova** (*Russia*). Capabilities of Operetta system for high-content screening
	[PS II - 2] **Vladimir Chernov** (*Russia*). Impact of low-intensity laser radiation with wavelengths of 405 and 475 nm on spermatogenesis of male rats
	[PS II - 3] **Dmitry Ellinski** (*Russia*). Identification of structural layers of thick and thin skin in OCT-images
	[PS II - 4] **Natalia Gladkova** (*Russia*). The potential of optical coherence tomography in cardiology
	[PS II - 5] **Ekaterina Gubarkova** (*Russia*). Assessment of the "vulnerable" atherosclerotic plaque structure with cross-polarization optical coherence tomography (CP-OCT)
	[PS II - 6] **Aleksandr Khilov** (*Russia*). Investigation of the fluorescence response from deep-seated fluorophore for the fluorescence lifetime imaging of biological tissues
	[PS II - 7] **Marina Kochueva** (*Russia*). Comprehensive study of radiation damage of extracellular matrix of biological tissues
	[PS II - 8] **Hojka Kraigher** (*Slovenia*). A confocal microscopy study of surface bound phosphatase activity in ectomycorrhizal fungus Scleroderma sp. growing under different temperature conditions
	[PS II - 9] **Alexey Krainov** (*Russia*). Study of contrasting properties of nanoparticles for diffuse optical spectroscopy applications
	[PS II - 10] **Vasiliy Matkivskiy** (*Russia*). Numerical aberration correction method for digital holography optical coherent tomography
	[PS II - 11] **Alina Meller** (*Russia*). OCT-assisted monitoring in diagnosing and treatment control
	[PS II - 12] **Nina Mitrakova** (*Russia*). Identification of molecular markers for early diagnosis of fat embolism syndrome (FES) and optimization of the method for prognosis, prevention and treatment of FES in patients with fractures
	[PS II - 13] **Alexander Moiseev** (*Russia*). Method of performing nonuniform Fourier transform and its validation by spectral domain optical coherence tomography data
	[PS II - 14] **Oksana Onoprienko** (*Russia*). PDT in management of HPV-related vulva pathology
	[PS II - 15] **Anton Pavlikov** (*Russia*). In vitro investigation of laser-induced hydrodynamics on tumor cells
	[PS II - 16] **Valeriya Perekatova** (*Russia*). Point spread functions of focused ultrasonic detectors used in photoacoustic microscopy: numerical calculations
	[PS II - 17] **Ekaterina Sergeeva** (*Russia*). Monte Carlo simulation of optical brain sensing in different geometries
	[PS II - 18] **Vladislav Shcheslavskiy** (*Germany*). Fluorescence lifetime-transient effects recorded by line scanning
	[PS II - 19] **Maria Shakhova** (*Russia*). Optical coherence tomography in diagnosing of non-neoplastic lesions in ENT
	[PS II - 20] **Irene Shlivko** (*Russia*). OCT-study of neonatal skin structural features
	[PS II - 21] **Olga Strokova** (*Russia*). Improving the fluorimetric method of vitamins A and E definition in blood and its application in gynecology
22:00	**Concert**

Thursday, July 25, morning

8:00-9:00	**Breakfast**		
	HALL A		
9:00-9:50	**Yasunori Hayashi** (*Japan*). Application of two-photon FRET-FLIM in study of cytoskeletal dynamics during structural plasticity of dendritic spine **(Plenary)** ***Intro: Alexey Semyanov*** **Technical support - Vladimir Plehanov**		
9:50-10:40	**Alexey Tomilin** (*Russia*). Genetic sensitization for a safer use of pluripotent stem cells in tissue-replacement therapy **(Plenary)** ***Introduction: Igor Adameiko*** **Technical support - Vladimir Plehanov**		
10:40-11:00	**Coffee break**		
	HALL A	**HALL B**	**HALL C**
	Optical Bioimaging & Clinical Biophotonics	**Nanobiophotonics**	**Neurobiophotonics**
	Session: Biomedical applications of OCT **Chair: Felix Feldchtein** **Technical support: Dmitry Ellinski**	**Session: High resolution microscopy and nanoscale imaging** **Chair: Michael Schmitt** **Technical support: Vadim Elagin**	**Session: Novel sensors for brain imaging** **Chair: Yasunori Hayashi** **Technical support: Sergey Stasenko**
11:00-13:30	**11:00-11:30 Johannes de Boer** (*The Netherlands*). Miniature motorized catheter for OCT, depth resolved fluorescence and polarization sensitivity **(Invited)**	**11:00-11:30 Hans-Ulrich Dodt** (*Germany*). Imaging of cleared biological samples with the Ultramicroscope **(Invited)**	
	11:30-12:00 Alex Vitkin (*Canada*). Shedding light on radiotherapy: optical coherence tomography for assessment of radiobiological responses in-vivo **(Invited)**	**11:30-12:00 Alexander Douplik** (*Germany*). Real time microendoscopy **(Invited)**	**11:30-12:00 Andrei Zvyagin** (*Australia*). Luminescent nanomaterials for molecular-specific biomedical imaging **(Invited)**
	12:00-12:30 Mikhail Kirillin (*Russia*). Interpretation of OCT images in biotissue diagnostics: numerical simulation and analysis **(Invited)**	**12:00-12:30 Rainer Riesenberg** (*Germany*)**.** Lens less holographic microscopy and speckle photometry in biophotonics **(Invited)**	**12:00-12:30 Uhna Sung** (*South Korea*). Development of new fluorescent voltage sensor proteins **(Invited)**
	12:30-12:45 Olga Panteleeva (*Russia*). Optical introscopy as a new technique for solution of topical problems in reproductive gynecology	**12:30-12:50 Lili Huang** (*China*). Broadband second harmonics generation from GaAs nanowires excited by high power supercontinuum from a photonic bandgap fiber	**12:30-13:00 Lawrence Cohen** (*USA, South Korea*). Comparing protein reporters of membrane potential and calcium as indicators of odorant responses in the in vivo mouse olfactory bulb **(Invited)**
	12:45-13:00 Pavel Agrba (*Russia*). The influence of compression and temperature regime on formation of human skin OCT-image	**12:50-13:05 Alexander Moiseev** (*Russia*). Practical aspects of Stochastic Optical Reconstruction Microscopy (STORM) realisation	
		13:05-13:30 Martin Leahy (*Ireland*). Towards Optical Coherence Tomography enabled functional imaging **(Invited)**	
13:30-15:00	**Lunch**		

Thursday, July 25, afternoon

15:00-17:00	**NIZHNY NOVOGOROD**	**Spare time**	
	HALL A	**HALL B**	**HALL C**
	Optical Bioimaging	**Nanobiophotonics**	**Neurobiophotonics**
	Session: Coherent and phase imaging technologies **Chair: Johannes de Boer** **Technical support: Maria Karabut**	**Session: Biospectroscopy** **Chair: Martin Leahy** **Technical support: Anton Pavlikov**	**Session: Towards neuromorphic intelligence: learning and memory in cultured networks on multielectrode arrays** **Chair: Michele Giugliano** **Technical support: Sergey Stasenko**
17:00-19:00	**17:00-17:30 Yoshiaki Yasuno** (*Japan*). Full Jones matrix tomographic imaging in vivo by optical coherence tomography **(Invited)**	**17:00-17:30 Rainer Heintzmann** (*Germany*). Optical photon reassignment microscopy **(Invited)**	**17:00-17:30 Joost le Feber** (*The Netherlands*). Memory in cultured cortical networks: experiment and modelling **(Invited)**
	17:30-18:00 Robert Huber (*Germany*). Megahertz Optical Coherence Tomography (MHz-OCT): technology and applications **(Invited)**	**17:30-18:00 Michael Schmitt** (*Germany*). Raman spectroscopy – a powerful approach towards label free biomedical diagnostic **(Invited)**	**17:30-18:00 Alexey Pimashkin** (*Russia*). Learning and adaptation in dissociated neural cultures grown on multielectrode arrays **(Invited)**
	18:00–18:30 George Barbastathis (*USA*). Compressive quantitative phase imaging **(Invited)**	**18:00-18:30 Mark Bathe** (*USA*). Bayesian total internal reflection fluorescence correlation spectroscopy reveals the organization of hIAAP-induced domains on plasma membrains **(Invited)**	**18:00-18:30 Michela Chiappalone** (*Italy*). Linking biological and artificial systems: towards the future integration of brain and machines **(Invited)**
	18:30-18:45 Pavel Shilyagin (*Russia*). Double-prism correction of spectrometer for SD OCT	**18:30-18:45 Vladislav Shcheslavskiy** (*Germany*). Nonlinear optical correlation spectroscopy	
	18:45-19:00 Dmitry Shabanov (*Russia*). 3D broadband digital holographic microscopy	**18:45-19:00 Yisen Wang** (*China*). Autophagy induced by femtosecond laser in HeLa cells	
19:00-20:00	**Dinner**		
	HALL A		
20:00-21:20	**Sponsor session. Chair Pavel Subochev**		
	Jithin Jose, FUJIFILM Visualsonics (*The Netherlands*). In-vivo photoacoustic molecular imaging and therapy of tumors **Catherine Kitts, Nikon Instruments Europe BV** (*The Netherlands*). Nikon incubation microscopy **Nikolay Akimov, OPTEC LLC** (*Russia*). Optical sectioning and superresolution microscopy systems for biological research **Ron Koop, PerkinElmer** (*USA*). Optical imaging tomography to study disease pathology and gene regulation in vivo **Sergey Pentegov, LaserTrack** *(Russia)*. Coherent ultrafast lasers for MPE		
22:00	**Music program**		

Friday, July 26

8:00-9:00	**Breakfast**		
	HALL A		
9:00-9:50	**Tayyaba Hasan** (*USA*). Photodynamic therapy: A slice of clinical biophotonics bridging science, technology and medicine **(Plenary)** ***Introduction: Herbert Stepp*** **technical support - Vladimir Plehanov**		
9:50-10:40	**Alberto Diaspro** (*USA*). Multi-photon nanoscopy and super resolution microscopy **(Plenary)** ***Introduction: Francesco Pavone*** **Technical support - Vladimir Plehanov**		
10:40-11:00	**Coffee break**		
	HALL A	**HALL B**	**HALL C**
	Advanced Laser Applications in Biomedicine	**Nanobiophotonics**	
	Session: Lasers in therapy and surgery **Chair: Herbert Stepp** **Technicial support: Elena Kiseleva**	**Session: Nanodiamonds** **Chair: Valery Tuchin** **Technical support: Vadim Elagin**	
11:00-13:30	**11:00-11:30 Felix Feldchtein** (*USA*). Advances in thermo optically powered surgery **(Invited)**	**11:00-11:30 Chia-Liang Cheng** (*Taiwan*). Nanodiamond-hemoglobin complex designed for artificial blood substitute **(Invited)**	
	11:30-12:00 Raimund Hibst (*Germany*). Aspects of diode-pumped Er:YAG lasers for medical applications **(Invited)**	**11:30-12:00 Elena Perevedentseva** (*Taiwan*)**.** Using nanodiamond's fluorescence in bioapplications **(Invited)**	
	12:00-12:30 Ronald Sroka (*Germany*). Laser assisted implantation of Nitibond prothesis **(Invited)**	**12:00-12:30 Alexander Priezzhev** (*Russia*). Effect of nanodiamonds on the microrheologic properties of blood and vasomotor reactions of isolated vessels of rats under in vitro and in vivo incubation **(Invited)**	
	12:30-12:50 Emil Sobol (*Russia*). Magnetite nanoparticles for diagnostics and laser regeneration of cartilage	**12:30-12:50 Ekaterina Grebenik** (*Australia*). Fluorescent nanorubies for background-free imaging in cells	
	12:50-13:10 Maria Karabut (*Russia*). Laser patterned microcoagulation for oral tissues treatment		
	13:10-13:30 Ksenia Shatilova (*Russia*). Sub-ablative treatment of human hard tooth tissues by the YLF:Er laser radiation		
13:30-15:00	**Lunch**		
15:00-20:00	**KAZAN**	**Bus tour (15:00-18:30), spare time**	
20:00	**Conference reception**		

Saturday, July 27

8:00-9:00	**Breakfast**		
	HALL A	**HALL B**	**HALL C**
	Clinical Biophotonics & Optical Bioimaging	**Nanobiophotonics**	
	Session: Optical spectroscopy **Chair: Natalia Shakhova** **Technical support: Alexey Karainov**	**Session: Plasmonics and biosensors** **Chair: Victor Timoshenko** **Technical support: Anton Pavlikov**	
9:00-11:30	**9:00-9:30 David Busch** (*USA*). Clinical applications of non-invasive optical monitoring of tissue metabolism **(Invited)**	**9:00-9:20 Alexis Ivanov** (*Russia*). The using of surface plasmon resonance biosensors in biomedical applications	
	9:30-10:00 Ekaterina Borisova (*Bulgaria*). Optical biopsy of cutaneous tumors – from laboratory experiments to clinical applications **(Invited)**	**9:20-9:50 Christoph Biskup** (*Germany*). Some strategies to measure intracellular sodium concentrations **(Invited)**	
	10:00-10:30 Lothar Lilge (*Canada*). Optical breast spectroscopy for mammography surveillance stratification **(Invited)**	**9:50-10:20 Alain Geloen** (*France*). Testing impact of nanoparticles on cell proliferation: tricks and traps **(Invited)**	
	10:30-11:00 Anna Maslennikova (*Russia*). Optical methods for prediction of the effect of neoajuvant chemotherapy of breast cancer **(Invited)**	**10:20-10:40 Vadim Elagin** (*Russia*). The intracellular distribution of gold nanoparticles stabilized by various agents	
	11:00-11:20 Tatiana Pryanikova (*Russia*). Influence of irradiation on the oxygenation of experimental tumor estimated by Diffuse Optical Spectroscopy		
11:30-11:50	**Coffee break**		
	HALL A		
11:50-12:40	**Rainer Leitgeb** (*Austria*). Label free microvascular imaging of healthy and diseased with Doppler Optical Coherence Tomography **(Plenary)** ***Introduction: Valery Tuchin*** **Technical support - Vladimir Plehanov**		
12:40-13:30	**General discussion**		
13:30-15:00	**Lunch**		
15:00-16:30	**Round table 1**	**Round table 2**	**Panel discussion: ways to popularize biophotonics**
17:30-18:30	**Closing ceremony (HALL A)**		
18:30-19:30	**Dinner**		
20:00	**Arrival in Nizhny Novgorod**		
20:00-21:30	**Departure (except Lufthansa passengers)**		