

PROGRAM
of the International Symposium «Topical Problems of Biophotonics – 2011»

Saturday, July 16

	Optical Bioimaging	Nanobiophotonics	Neuroimaging and Neurodynamics
Chairs	Karsten König (Germany), Natalia Shakhova (Russia), Bruce Tromberg (USA)	Juergen Popp (Germany), Konstantin Sokolov (USA), Elena Zagaynova (Russia)	Alexander Dityatev (Italy-Russia), Victor Kazantsev (Russia), Alexey Semyanov (Japan-Russia)
	Advanced Lasers in Biomedicine	German-Russian Workshop «Clinical Biophotonics»	
Chairs	Patrick Audebert (France), Vladislav Panchenko (Russia), Herbert Stepp (Germany)	Rudolf Steiner (Germany), Ilya Berishvili (Russia)	
12:00-19:00	Registration		
19:00-20:30	Dinner		
20:00	Departure from St.-Petersburg		
21:00-21:30	Opening remarks		
22:00	Welcome party		

7:30-8:30	<i>Breakfast</i>		
8:00	Arrival in Valaam		
8:30-13:00	Excursion		
13:00	Departure from Valaam		
13:30-15:00	<i>Lunch</i>		
	HALL A		
15:00-15:50	Karsten König (<i>Germany</i>), Clinical CARS combined with two-photonfluorescence and SHG imaging (Plenary)		
15:50-16:40	Hans-Ulrich Dodt (<i>Austria</i>), Ultramicroscopy: technology and applications (Plenary)		
16:40-17:00	<i>Coffee break</i>		
	HALL A	HALL B	HALL C
	Optical Bioimaging	Nanobiophotonics	Neuroimaging and Neurodynamics
	<u>Session:</u> Microscopy in the biomedical sciences <u>Chair:</u> Karsten König	<u>Session:</u> Fluorescent proteins for biomedical applications <u>Chairs:</u> Robert Hoffmann, Alexander Savitsky	<u>Session:</u> ECM-dependent mechanisms <u>Chair:</u> Constanze Seidenbecher
17:00-19:30	17:00-17:30 H. Schneckenburger (<i>Germany</i>), P. Weber, M. Wagner, T. Bruns, et al., Methods, applications and relevant light doses in 3D fluorescence microscopy (Invited)	17:00-17:30 R. Hoffman (<i>USA</i>), Imaging the <i>in vivo</i> cell biology of cancer (Invited)	17:00-17:30 A. Dityatev (<i>Italy</i>), Neurodynamics and extracellular matrix (Invited)
	17:30-18:00 A. Uchugonova (<i>Germany</i>), R. Hoffman, M. Weinigel, and K. Koenig, Non-destructive stem cell tracking in hair follicles of living mice (Invited)	17:30-18:00 A. Salih (<i>Australia</i>), Photoactive GFP-type fluorescent proteins in reef corals: biological roles and bioimaging applications (Invited)	17:30-18:00 R. Frischknecht (<i>Germany</i>), Y. Klyueva, A. Bikbaev, and M. Heine, How remodeling of the brain perineuronal nets influences cell surface trafficking of postsynaptic glutamate receptors (Invited)
	18:00-18:20 P. Weber (<i>Germany</i>), M. Wagner, P. Kioschis, and H. Schneckenburger, Label-free fluorescence microscopy of glioblastoma cells with different malignancy	18:00-18:20 A. Rusanov (<i>Russia</i>), V.A. Mironov, B.L. Grigorenko, A.V. Nemukhin, and A.P. Savitsky, Conformational equilibrium in pH-induced fluorescence of the kindling fluorescent protein	18:00-18:30 R. Pawlak (<i>UK</i>), Regulation of anxiety by extracellular proteolysis in the amygdala (Invited)
	18:20-18:40 V. Shcheslavskiy (<i>Germany</i>), M. Kaiser, S. Pautot, and W. Becker, Scanning total internal reflection fluorescence lifetime microscopy	18:20-18:40 D. Shcherbo (<i>Russia</i>), I.I. Shemyakina, A.G. Zarakisky, et al., Near-infrared fluorescent proteins for whole-body imaging	18:30-19:00 E. Ponimaskin (<i>Germany</i>), U. Renner, A. Zeug, F. Kobe, et al., Heterodimerization of serotonin 5-HT _{1A} and 5-HT ₇ receptors and regulation of receptor trafficking and signalling (Invited)
	18:40-19:00 I. Gruia (<i>Romania</i>), C. Gavrilă, M.I. Gruia, S. Yermolenko, and P. Ivashko, Polarization microscopy of cancer changes of the prostate tissue	18:40-19:00 A. Bogdanov (<i>Russia</i>), A.V. Titelmaer, and K.A. Lukyanov, Oxidative photoconversion of GFPs <i>in vitro</i> and <i>in vivo</i>	
	19:00-19:20 V. Shcheslavskiy (<i>Germany</i>), W. Becker, B. Su, and A. Bergmann, Lifetime imaging: from picoseconds to milliseconds	19:00-19:20 M. Shirmanova (<i>Russia</i>), S.Lukyanov, E. Zagaynova, et al., Fluorescent protein Killer-Red as a potential photosensitizer for cancer treatment (a pilot study)	
19:30-20:30	<i>Dinner</i>		
21:00-22:00	Concert of classical music		
22:30	Dancing		

Monday, July 18, morning

8:00-9:00	Breakfast		
	HALL A		
9:00-9:50	Alexey Semyanov (Japan-Russia) , New versus old techniques for subcellular optical neuroimaging (Plenary)		
9:50-10:40	Kiminori Kondo (Japan) , Development of laser driven cancer therapy machine (Plenary)		
10:40-11:00	Coffee break		
	HALL A	HALL B	HALL C
	Optical Bioimaging	Nanobiophotonics	Clinical Biophotonics & Advanced Lasers in Biomedicine
	Session: Coherence domain optical methods and optical coherence tomography Chair: Johannes de Boer	Session: Plasmonics in biomedicine Chairs: Kostia Sokolov, Elena Zagaynova	Session: Laser sources for medical applications Chair: Kiminori Kondo
11:00-13:30	11:00-11:30 K.V. Larin (USA) , Optical imaging in mammalian embryology (Invited)	11:00-11:30 R. Pini (Italy) , P. Matteini, F. Ratto, F. Rossi, et al., Laser-activated hybrid materials loaded with plasmonic nanoparticles for tissue repair (Invited)	11:00-11:30 J.J. Wilkens (Germany) , Towards radiation therapy with laser-driven ion beams (Invited)
	11:30-12:00 M.Yu. Kirillin (Russia) , P.D. Agrba, E.A. Sergeeva, E.A. Bakshaeva, et al., Contrast enhancement in optical tomography of biotissues (Invited)	11:30-12:00 B. Khlebtsov (Russia) , E.V. Panfilova, T.E. Pylaev, et al., Tunable plasmonic nanoparticles for biomedical applications (Invited)	11:30-12:00 A.A. Seryi (UK) , Overview of developments towards laser-plasma acceleration based x-ray sources for biomedicine and other applications in the John Adams Institute for Accelerator Science (Invited)
	12:00-12:20 V.M. Gelikonov (Russia) , G.V. Gelikonov, and I.V. Kasatkina, Polarization-sensitive time domain optical coherence tomography based on two orthogonal elliptically polarized mutually coherent waves	12:00-12:30 M. Canva (France) , A. Bellemain, and J. Moreau, Surface plasmonic biochips – from instrumentation to nano-micro-structured substrates (Invited)	12:00-12:20 A. Soloviev (Russia) , Prospects of PEARL medicine
	12:20-12:40 P.A. Shilyagin (Russia) , V.M. Gelikonov, G.V. Gelikonov, Complementary single-shot registration of full complex optical spectrum in SD-OCT	12:30-13:00 W. Fritzsche (Germany) , A. Csaki, Th. Schneider, et al., Plasmonic nanoparticles for bioanalytics and therapy at the limit (Invited)	
	12:40-13:00 E.R. Tkaczyk (Estonia) and K. Mauring, Backscattering assessment device for cataract diagnostics	13:00-13:30 I. Fedosov (Russia) , I.S. Nefedov, B.N. Khlebtsov, and V.V. Tuchin, Measurements of laser induced temperature fields in gold colloids using light microscopy (Invited)	
	13:00-13:20 D.N. Agafonov (Russia) , P.A. Timoshina, M.A. Vilensky, I.V. Fedosov, and V.V. Tuchin, Flow monitoring with LASCA		
13:30-15:00	Lunch		

Monday, July 18, afternoon

	HALL A	HALL B	HALL C
	Optical Bioimaging	Nanobiophotonics	Advanced Laser Applications in Biomedicine
	<u>Session:</u> Advances in optical coherence tomography <u>Chair:</u> Kirill Larin	<u>Session:</u> Plasmonics in biomedicine <u>Chair:</u> Roberto Pini	<u>Session:</u> Laser sources for perspective medical applications <u>Chair:</u> Alexander Sergeev
15:00-17:30	15:00-15:20 I.V. Larina (USA) , S. Syed, K.V. Larin, and M.E. Dickinson, Live in utero embryonic imaging with OCT	15:00-15:30 K. Sokolov (USA) , J. Aaron, S. Mallidi, et al., Plasmonic nanosensors for molecular and functional cellular imaging <i>in vivo</i> (Invited)	15:00-15:30 A. S. Pirozhkov (Japan) , M. Kando, T. Zh. Esirkepov, P. Gallegos, et al., New coherent x-ray source based on relativistic high harmonic generation in gas jet targets (Invited)
	15:20-15:40 A.A. Moiseev (Russia) , G.V. Gelikonov, and V.M. Gelikonov, Processing optical coherence tomography data as a synthetic digital hologram	15:30-15:50 M. Sirotkina (Russia) , V.V. Elagin M.V. Shirmanova, V.A. Nadochenko, et al., Local hyperthermia of a cervical carcinoma based on gold nanoparticles	15:30-16:00 A.A. Shaykin (Russia) , V.N. Ginzburg, E.V. Katin, E.A. Khazanov, et al., Upgrade of petawatt-level PEARL laser for medical applications (Invited)
	15:40-16:00 E.B. Kiseleva (Russia) , N.D. Gladkova, O.S. Streltsova, N.S. Robakidze, et al., Numerical analysis of CP-OCT images in clinical study	15:50-16:10 Hao He (China) , K.T. Chan, Y.F. Li, M.L. Hu, and C.Y. Wang, DNA delivery and gene expression by gold nanorods excited by femtosecond laser	16:00-16:20 K.F. Burdonov (Russia) and A.A. Soloviev, Direct plasma diagnostics in electron acceleration experiments at PW-class PEARL facility
	<u>Session:</u> Image reconstruction for biomedical diagnostics <u>Chair:</u> Mikhail Kirillin	<u>Session:</u> Biosensors and Lab-on-aChip <u>Chair:</u> Michael Canva	16:20-16:40 A.A. Kuzmin (Russia) , A.A. Shaykin, and E.A. Khazanov, Project of 200 J 20 ns 1 shot/minute Nd:glass laser for CPA in Ti:Sapphire
	16:00-16:30 J. Ripoll (Greece) , Optical tomography in small scattering samples: new illumination and detection schemes in microscopy for 3D in-vivo imaging (Invited)	16:10-16:40 A. Ivanov (Russia) , O.V. Gnedenko, Yu.V. Mezentsev, A.A. Molnar, and A.V. Lisitsa, Highly sensitive detection of human cardiac myoglobin using reverse sandwich immunoassay with Au nanoparticles-enhanced SPR biosensor Biacore-3000 (Invited)	16:40-17:00 M.S. Kuzmina (Russia) , M.A. Martyanov, A.K. Poteomkin, E.A. Khazanov, and A.A. Shaykin, Theoretical and experimental investigation of cubic nonlinearity and thermally induced birefringence impact on modern PW laser systems
	16:30-16:50 C. Gavrilă (Romania) , V. Petrehus, and I. Gruia, Image reconstruction using the inverse radon transform	16:40-17:10 T. Mappes (Germany) , C. Vannahme, T. Großmann, S. Klinkhammer, et al., On-chip lasers for biophotonic Lab-on-a-Chip applications (Invited)	
	16:50-17:10 I. Fiks (Russia) , M. Kirillin, E. Sergeeva, and I. Turchin, Reconstruction method for solving inverse problem in diffuse fluorescence tomography based on non-negative Tikhonov regularization	17:10-17:40 P. Nikitin (Russia) , A.V. Orlov, M.P. Nikitin, I.A. Sergachev, et al., Advanced label-free biosensors with low-cost consumables for nanobiotechnology research and <i>in vitro</i> diagnostics (Invited)	
	17:10-17:30 V.E. Turlapov (Russia) , D.K. Bogolepov, and N.I. Gavrilov, High performance engine for 3D-visualization and reconstruction of volumetric data in biomedicine		
17:30-17:50	Coffee break		
18:00	Arrival in Kizhi		
18:00-20:00	Excursion		
20:00-21:00	Dinner		
21:00	Departure from Kizhi		

Monday, July 18, evening

	Poster Session I	
	Nanobiophotonics	Neuroimaging and Neurodynamics
21:00-22:30	[PS I - 1] V.V. Elagin (Russia), A.A. Brilkina, E.A. Sergeeva, M.A. Bugrova, et al., The combined influence of gold nanoparticles and laser radiation on cancer cells <i>in vitro</i> [PS I - 2] Y.F. Loginova (Salykina) (Russia), V.V. Zherdeva, S.V. Dezhurov, M.S. Wakstein, and A.P. Savitsky, Advantages of double polymer/silica coated cadmium selenide quantum dots as new promising agents for <i>in vivo</i> application in the gastrointestinal tract [PS I - 3] E.L. Guryev (Russia), A.S. Zhabereva, E.V. Kondratieva, A.L. Chernorudskiy, et al., Studying of the specific protein-protein interactions between ubiquitin system components [PS I - 4] E.I. Cherkasova (Russia), E.A. Minakova, M.V. Shirmanova, E.V. Kiseleva, et al., Fluorescence imaging of the tumor – mesenchymal stem cells interaction [PS I - 5] N.I. Kazachkina (Russia), Y.F. Salykina, V.V. Zherdeva, and A.P. Savitsky, Effect of solvent on the toxicity and biodistribution of quantum dots in mice [PS I - 6] M.B. Gongalsky (Russia), A.Yu. Kharin, S.A. Korolev, L.A. Osminkina, and V.Yu. Timoshenko, Optical properties of colloidal silicon nanoparticles for applications in biomedicine [PS I - 7] E.A. Ivukina (Russia), V.K.A. Sreenivasan, O.A. Stremovskiy, A.V. Zvyagin and S.M. Deyev, Fluorescent nanodiamond complexes on the base of barnase: barstar interaction [PS I - 8] N.N. Mitrakova (Russia), E.V. Peganova, V.L. Ryzhkov, A.A. Mitrakov, A.A. Rozhentsov, Quantitative analysis of NBI images for improving diagnosis of esophageal and stomach pathology	[PS I - 9] L.E. Frumkina (Russia), A.A. Lizhin, and L.G. Khaspekov, Ultrastructural features of reparative processes in cultured neurons exposed to glutamate excitotoxicity [PS I - 10] I.A. Kastalskiy (Russia), S.A. Lobov, A.S. Pimashkin and V.B. Kazantsev, Repeatability of burst activation pathways in STDP driven neuronal network model [PS I - 11] L.G. Khaspekov (Russia), S.A. Korotchenko, M.V. Vedunova, et. al., Modulation of spontaneous network activity in hippocampal cell culture by glutamate and N-arachidonoyl dopamine [PS I - 12] E.A. Koriagina (Russia), A.S. Pimashkin, V.B. Kazantsev and I.V. Mukhina, Dynamics of neuron network bioelectrical activity caused by periodic local electrical stimulation [PS I - 13] S.G. Lushnikov (Russia), S.V. Stokov and A.V. Svanidze, Fractal properties of proteins [PS I - 14] V.I. Mironov (Russia) and V.B. Kazantsev, Mathematical model of network navigated neuronal cell growth [PS I - 15] L.A. Orlova (Russia), V.A. Vodeneev, E.A. Sergeeva, and A.L. Gribkov, Role of calcium ions in generation of electrical signals in plants induced by damaging irritation [PS I - 16] M.V. Tsurkan (Russia), O.A. Smolyanskaya, S.A. Kozlov, et al., Influence of terahertz radiation with a frequency $0.05 \div 2$ THz on the growth of neurites of sensory ganglion [PS I - 17] M.M. Van Hulle (Belgium), A. Combaz, N. Chumerin, N.V. Manyakov, Error-related potential for correcting P300 Speller brain-computer interface: is it really worth it? [PS I - 18] M.V. Vedunova (Russia), T.A. Sakharova, S.A. Korotchenko et al., Hyaluronidase potentiation of epileptiform activities caused by 4-aminopyridine in cultured mice hippocampal neurons [PS I - 19] Yu.N. Zakharov (Russia) and A.V. Ershova, Quantitative calcium ion concentration measurements with the help of single wavelength dyes [PS I - 20] A.V. Zhuravlev (Russia), A.A. Petrov and E.V. Savvateeva (Popova), The distribution of the phosphorylated cyclic AMP-responsive element binding protein (pCREB) in the brain structures of <i>Drosophila melanogaster</i>
22:30	Dancing	

Tuesday, July 19, morning

8:00-9:00	Breakfast		
	HALL A		
9:00-9:50	Johannes de Boer (<i>The Netherlands</i>), OCT and depth resolved fluorescence endoscopy (Plenary)		
9:50-10:40	Turgut Durduran (<i>Spain</i>), Bed-side transcranial optical monitors for neuro-intensive care monitoring (Plenary)		
10:40-11:00	Coffee break		
	HALL A	HALL B	HALL C
	Advanced Laser Applications in Biomedicine, Clinical Biophotonics & Optical Bioimaging	Nanobiophotonics	Neuroimaging and Neurodynamics
	Session: Photodynamic therapy Chair: Herbert Stepp	Session: Biospectroscopy and advanced microscopy technique Chair: Michael Schmitt, Alexander Priezzhev	Session: Modeling approach Chair: Alexey Semyanov
11:00-13:30	11:00-11:30 M. Gelfond (<i>Russia</i>), A. Arseniev, G. Gafton, V. Klimenko, et al., Radical and palliative PDT programs in combined treatment of malignant neoplasms (Invited)	11:00-11:30 M. Leahy (<i>Ireland</i>), Novel methods in microcirculation imaging (Invited)	11:00-11:30 V. Kazantsev (<i>Russia</i>) and I.Yu. Tyukin, STDP-based spiking phase binding in synaptically coupled neuronal oscillators (Invited)
	11:30-12:00 L. Lilge (<i>Canada</i>), C. Fisher, and J. Eubanks, Does PDT have a future for intracranial neoplasm: engineering and biological approaches to increase survival? (Invited)	11:30-11:50 R. Riesenbergr (<i>Germany</i>), P. Petruck, and R. Heintzmann, Superresolution by structured illumination microscopy, principle and set-up with nano hole array	11:30-12:00 D. Iudin (<i>Russia</i>), V.B. Kazantsev, and I.Y. Tyukin, Structural phase transitions in neuronal networks (Invited)
	12:00-12:30 E.Ph. Stranadko (<i>Russia</i>), Photodynamic therapy of the most aggressive forms of malignant neoplasms (Invited)	11:50-12:20 C. Campbell (<i>UK</i>), C.A.R. Auchinvole, H. McNab, K. Donaldson, Imaging redox-mediated cellular processes using surface enhanced Raman spectroscopy (Invited)	12:00-12:20 D. Smirnov (<i>Russia</i>) and B.P. Bezruchko, Detection and characterization of directional couplings from time series: methods and applications to neurodynamics
	12:30-12:50 L.G. Klapshina (<i>Russia</i>), W.E. Douglas, I.S. Grigoryev, E.Yu. Ladilina, et al., Novel PEG-organized biocompatible fluorescent nanoparticles doped with an ytterbium cyanoporphyrine complex for biophotonic applications	12:20-12:50 M. Schmitt (<i>Germany</i>), B. Dietzek, D. Akimov, T. Meyer, et al., Nonlinear optical imaging for biomedical diagnosis (Invited)	12:20-12:40 S. Asatryan (<i>Russia</i>), V.B. Kazantsev, and A.V. Semyanov, Subcellular Ca ²⁺ dynamics in spatially extended model of astrocyte
	12:50-13:10 I.G. Meerovich (<i>Russia</i>), V.V. Zherdeva, N.I. Kazachkina, and A.P. Savitsky, Development of a technique of screening of agents for photodynamic therapy of cancer <i>in vivo</i> using color fluorescent proteins	12:50-13:10 V. Shcheslavskiy (<i>Germany</i>), D. Ivanov, M. Geissbühler, T. Lasser, et al., Correlation spectroscopy based on third-harmonic generation	
13:30-15:00	Lunch		

Tuesday, July 19, afternoon

	HALL A	HALL B	HALL C
	Optical Bioimaging	Clinical Biophotonics	Neuroimaging and Neurodynamics
	<u>Session:</u> Optical diffuse spectroscopy and optical diffuse tomography <u>Chair:</u> Jorge Ripoll	<u>Session:</u> Fluorescence and spectroscopy techniques for clinical diagnostics <u>Chair:</u> Natalia Shakhova	<u>Session:</u> Microelectrode array approach <u>Chair:</u> Victor Kazantsev
15:00-16:40	15:00-15:30 R. Choe (USA) , <i>In vivo</i> cancer characterization and therapy monitoring with diffuse optics (Invited)	15:00-15:30 N.N. Bulgakova (Russia) , V.V. Sokolov, and K.A. Vereschagin, <i>In vivo</i> autofluorescence spectroscopy for clinical application in oncology (Invited)	15:00-15:30 I. Mukhina (Russia) , A.S. Pimashkin, E.A. Koriagina, E.V. Mitroshina, Monitoring of functional network activity <i>in vitro</i> (Invited)
	15:30-15:50 A.G. Orlova (Russia) , A.V. Maslennikova, G.Yu. Golubiatnikov, V.A. Kamensky, et al., Monitoring of experimental tumor oxygenation by diffuse optical spectroscopy	15:30-16:00 A. Douplik (Germany) , W.L. Leong, A.M. Easson, S. Done, et al., Preliminary experience of autofluorescence mammary ductoscopy (Invited)	15:30-16:00 L. Berdondini (Italy) and A. Maccione, Imaging neurodynamics with high-resolution electrode arrays (Invited)
	15:50-16:10 D. Khoptyar (Sweden) , M. Saleem, A.A. Subash, and S. Andersson-Engels, Wide-bandwidth time of flight spectroscopy of turbid media	16:00-16:30 Ch. Dullin (Germany) , Applied biophotonics in pre-clinical research and its further perspectives for clinical practice (Invited)	16:00-16:30 T. Seidenbecher (Germany) , Patterns of theta synchronization in amygdala-hippocampal-prefrontal cortical network during fear memory consolidation and extinction (Invited)
16:40-17:00	Coffee break		
	HALL A	HALL B	HALL C
	Clinical Biophotonics	Nanobiophotonics	Optical Bioimaging & Advanced Lasers in Biomedicine
	<u>Session:</u> Optical techniques for clinical diagnostics <u>Chair:</u> Rudolf Steiner		<u>Session:</u> Biomedical applications of terahertz radiation <u>Chair:</u> Victor Bagratashvili
17:00-19:00	17:00-17:30 H. Schneckenburger (Germany) , 3D imaging techniques and their perspectives for clinical use (Invited)		17:00-17:20 V.P. Wallace (Australia) , Progress in biomedical applications of terahertz technology
	17:30-18:00 A. Poellinger (Germany) , C. Schmitz, P. Schneider, and D. Grosenick, Near-infrared imaging of breast cancer using optical contrast agents (Invited)		17:20-17:40 E.V. Fedulova (Russia) , I.N. Smirnova, A.V. Kargovsky, D.A. Sapozhnikov, et al., Temperature dynamics of corticosteroid hormones in THz frequency range
	18:00-18:30 A. Maslennikova (Russia) , N. Gladkova, I. Balalaeva, E. Kiseleva, et al., <i>In vivo</i> imaging of oral mucosa microstructure by optical coherence tomography for mucositis severity prediction (Invited)		<u>Session:</u> Laser-tissue interaction <u>Chair:</u> Herbert Stepp
	18:30-19:00 M. Meinke (Germany) , A. Lauer, B. Taskoparan, S. Haag, et al., Applications of electron paramagnetic resonance (EPR) spectroscopy in dermatology (Invited)		
			17:40-18:10 M. Frenz (Switzerland) , D.S. Schöni, S. Boggi, A. Wirth, et al., Laser-tissue soldering using ICG loaded silica nanoshells (Invited)
			18:10-18:40 V.N. Bagratashvili (Russia) , V.I. Yusupov, and V.M. Chudnovskii, Laser-induced hydrodynamics nearby optical fiber tip (Invited)

19:00-20:00	Dinner
	Poster Session II
	Optical Bioimaging, Advanced Laser Applications in Biomedicine & Clinical Biophotonics
20:00-21:30	[PS II - 1] P.D. Agrba (<i>Russia</i>), E.A. Bakshaeva, and M.Yu. Kirillin, The effect of biotissue deformation on OCT image contrast [PS II - 2] A.A. Brilkina (<i>Russia</i>), L.V. Dubasova, I.V. Balalaeva, E.A. Sergeeva, et al., Study of photosensitizers uptake and intracellular distribution in human normal and malignant cell lines [PS II - 3] D.D. Bundina (<i>Russia</i>), O.V. Kachalina, I.A. Kuznetsova, E.V. Grebenkina, and N.M. Shakhova, Planning of PDT of cervical neoplasia with optical introscopy [PS II - 4] V.V. Chernov (<i>Russia</i>), K.V. Kulakova, and T.G. Sherbatyuk, Experimental capabilities of low intensity laser radiation in the blue light range [PS II - 5] S.V. Gamayunov (<i>Russia</i>), R.R. Kalugina, V.V. Slugarev, A.N. Denisenko, and N.M. Shakhova, Analysis of problems in PDT of skin cancer and their potential solution based on clinical results [PS II - 6] N. Gladkova (<i>Russia</i>), F. Feldchtein, Yu. Fomina, M. Karabut, et al., Laser patterned microcoagulation (LPM) treatment of gingival pathology: pilot clinical study [PS II - 7] A.S. Goryashenko (<i>Russia</i>), V.V. Zherdeva, T.V. Ivashina, and A.P. Savitsky, Genetically encoded microsecond-time-resolved substrate for caspase-3: Development of the technique of experiments on living cells [PS II - 8] E.V. Grebenkina (<i>Russia</i>), O.V. Kachalina, S.V. Gamayunov, O.V. Onoprienko, et al., Perspectives of PDT of vulva diseases [PS II - 9] I. Gruia (<i>Romania</i>) and S. Yermolenko, Polarization spectrometry in diagnostics of malignant transformation of biotissues [PS II - 10] A.R. Katichev (<i>Russia</i>) and E.A. Sergeeva, GPU-based simulation of nonlinear fluorescence imaging in biotissue with inhomogeneous fluorophore distribution [PS II - 11] M. Kochueva (<i>Russia</i>), V. Kamensky, N. Ignatjeva, O. Zakharkina, et al., Study of radiation damage of connective tissue structures by optical methods [PS II - 12] G.D. Lapshin (<i>Russia</i>), T.V. Ivashina, L.M. Vinokurov, A.L. Rusanov, and A.P. Savitsky, Genetically encoded FRET sensor for matrix metalloproteinases [PS II - 13] V.S. Maryakhina (<i>Russia</i>), and S.N. Letuta, Optical diagnostics of biotissue cells cultivated in polymer media [PS II - 14] V.S. Maryakhina (<i>Russia</i>), V.V. Anipko, and L.L. Abramova, Definition of selenium concentration change in blood after application of selenium preparations by fluorometric technique [PS II - 15] A.N. Morozov (<i>Russia</i>), V.A. Kamensky, M.Y. Kirillin, and M.A. Shakhova, Polarized reflectance spectroscopy based on polarization maintaining single mode optical fiber [PS II - 16] O. Panteleeva (<i>Russia</i>), N. Shakhova, G. Gelikonov, and E. Yunusova, OCT in reproductive gynecology [PS II - 17] I.A. Popov (<i>Russia</i>), V.A. Papshev, E.L. Surmenko, and T.N. Sokolova, Laser treatment of plasma-sprayed hydroxyapatite coatings of dental implants [PS II - 18] T.I. Pryanikova (<i>Russia</i>), A.V. Maslennikova, A.G. Orlova, G.Yu. Golubiatnikov, et al., The study of cyclophosphane effect on blood oxygen saturation level in tumor models using diffuse optical spectroscopy [PS II - 19] E.A. Sergeeva (<i>Russia</i>), A.R. Katichev, and M.Yu. Kirillin, Refined forward problem solution for biotissue optical properties reconstruction [PS II - 20] K.V. Shatilova (<i>Russia</i>), A.V. Belikov, A.V. Skrypnik, T.V. Strunina, Investigation of damage threshold of hard tooth tissues by single-mode YAG:Er laser radiation [PS II - 21] P.A. Shilyagin (<i>Russia</i>), V.M. Gelikonov, G.V. Gelikonov, A.A. Moiseev, D.A. Terpelov, Recording linear in-wavenumber spectrum with SD-OCT without resampling [PS II - 22] L.B. Snopova (<i>Russia</i>), N.N. Prodanets, E.V. Zagaynova, O.S. Strelzova, and A.G. Orlova, Fluorescence cystoscopy, optical coherence tomography and immunohistochemistry for detection of early bladder cancer [PS II - 23] O.S. Streltsova (<i>Russia</i>), E.V. Zagaynova, and E.A. Tararova, Optical imaging for monitoring post-TUR patients [PS II - 24] P.V. Subochev (<i>Russia</i>), R.V. Belyaev, A. Morozov, and I.V. Turchin, High-frequency acoustic detectors for photoacoustic tomography [PS II - 25] D.A. Terpelov (<i>Russia</i>), V.M. Gelikonov, G.V. Gelikonov, and P.A. Shilyagin, Improved interface system for SD-OCT with coherence noise reduction [PS II - 26] V.A. Vodeneev (<i>Russia</i>), E.K. Akinchits, L.A. Orlova, and I.V. Balalaeva, Fluorescent analysis of excitation potentials generation in higher plants [PS II - 27] V.V. Zherdeva (<i>Russia</i>), L.R. Arslanbaeva, M.M. Shchigreva, I.G. Meerovich, et al. Fluorescent tumor animal models as a perspective tool for anticancer drug testing [PS II - 28] S. Zinovjev (<i>Russia</i>), A. Orlova, B. Aboghessimengane-Zo'o, G. Golubiatnikov, et al., Matching of diffuse reflectance spectroscopy data and clinical outcomes in breast cancer [PS II - 29] N.Y. Lekanova (<i>Russia</i>), M.V. Shirmanova, I.V. Balalaeva, L.G. Klapshina, and E.V. Zagaynova, Biocompatible polymeric nanoparticles dopped with ytterbium porphyrine as potential photosensitizer
21:30	Concert

Wednesday, July 20, morning

7:00-8:00	Breakfast		
7:00	Arrival in Goritsy		
8:00-10:00	Bus tour		
10:00	Departure from Goritsy		
10:20-10:40	Coffee break		
	HALL A	HALL B	HALL C
	Advanced Laser Applications in Biomedicine & Clinical Biophotonics	Nanobiophotonics	Neuroimaging and Neurodynamics
	<u>Session:</u> Lasers in therapy and surgery <u>Chair:</u> Ronald Sroka	<u>Session:</u> Nanodiamonds <u>Chairs:</u> Stefan Andersson-Engels	<u>Session:</u> Imaging and optogenetics approaches <u>Chair:</u> Hajime Hirase
10:40-13:30	10:40-11:10 F. Feldchtein (USA), K. Magid, A. Belikov, A. Scrypic, and G. Altshuler, Advanced contact and non-contact soft tissue surgery with diode lasers (Invited)	10:40-11:10 A. Priezzhev (Russia), A.E. Lugovtsov, V.G. Ionova, Yu.S. Samsonova, et al., Complex laser-optic study of the interactions of nanodiamond particles with blood components at <i>in vitro</i> measurements (Invited)	10:40 -11:10 A. Gourine (UK), Probing astroglial biology with light (Invited)
	11:10-11:40 I.I. Berishvili (Russia), L.E. Chvichia, P.V. Gusev, M.S. Semenov, and Yu.V. Ignatyeva, Lasers in cardiac surgery: fourteen years experience (Invited)	11:10-11:40 Ch-L. Cheng (Taiwan), E. Perevedentseva, A.V. Logoustov, and A.V. Priezzhev, Nanodiamond used for bio imaging and drug delivery (Invited)	11:10 -11:40 A. Semyanov (Japan-Russia), Subcellular mechanisms of Ca ²⁺ activity in astrocytes (Invited)
	11:40-12:10 V.M. Chudnovskii (Russia), V.I. Yusupov, and V.N. Bagratashvili, Experimental justification of laser puncture treatment of spinal osteochondrosis (Invited)	11:40-12:00 E. Perevedentseva (Taiwan), A. Karmenyan, C.Y. Lee, et al., Features of interaction of nanodiamond-biomolecule conjugates with target systems	11:40-12:10 Ch. Henneberger (UK), Plasticity-associated morphology changes of hippocampal astrocytes (Invited)
	12:10-12:30 O.L. Antipov (Russia), N.G. Zakharov, M. Fedorov, N.M. Shakhova, et al., Cutting effects induced by 2-µm laser radiation of cw Tm:YLF and cw and Q-switched Ho:YAG lasers on <i>ex-vivo</i> tissue		12:10-12:40 A. Abramov (UK), Study of mitochondrial physiology in neurons and astrocytes using flash photolysis of caged calcium (Invited)
	12:30-13:00 R. Brinkmann (Germany), S. Koinzer, K. Schlottl, L. Ptaszynski, et al., Temperature controlled retinal photocoagulation (Invited)		12:40-13:10 D. Samigullin (Russia), Properties of the calcium transient in the nerve endings of peripheral synapses (Invited)
	13:00-13:30 R. Muschter (Germany), Lasers in the treatment of benign prostatic hyperplasia: concepts and clinical results (Invited)		
13:30-15:00	Lunch		

Wednesday, July 20, afternoon

	HALL A		
15:00-15:50	Alfred Vogel (Germany) , Femtosecond and nanosecond laser nanosurgery: new perspectives for controlled nonlinear energy deposition (Plenary)		
15:50-16:40	Hajime Hirase (Japan) , <i>In vivo</i> investigation of astrocytic dynamics by imaging and electrophysiology (Plenary)		
16:40-17:00	Coffee break		
	HALL A	HALL B	HALL C
	Optical Bioimaging	Nanobiophotonics	Neuroimaging and Neurodynamics
	Session: Fluorescence imaging Chair: Ilya Turchin	Session: Quantum-dots and fluorescent nanoparticles Chair: Michael Canva	Session: Pre- and postsynaptic mechanisms Chair: Alexander Dityatev
17:00-19:00	17:00-17:30 A. Savitsky (Russia) , Small animal whole-body imaging of quantum dots pharmacokinetics (Invited)	17:00-17:30 S. Andersson-Engels (Sweden) , Upconverting nanoparticles as luminescent contrast agents (Invited)	17:00-17:30 A. Kleschevnikov (USA) , Optical monitoring of activity-evoked pH changes in hippocampal slices from Ts65Dn mice, a model of Down syndrome (Invited)
	17:30-18:00 C. Nombela-Arrieta (USA) , Quantitative imaging cytometry of hematopoietic tissues (Invited)	17:30-17:50 L. Osminkina (Russia) , M.B. Gongalsky, R.A. Galkin, S.N. Shevchenko, Silicon nanocrystals as photo- and sonosensitizers for biomedical applications	17:30-18:00 J. Diamond (USA) , N.W. Oesch, Synaptic computation of visual contrast in the retina (Invited)
	18:00-18:20 J. Kinnunen (Finland) , M. Hauta-Kasari, H.T. Kokkonen, P. Vahimaa, et al., Collagen cross-link modified fluorescence excitation-emission matrix of articular cartilage	17:50-18:10 A. Turshatov (Germany) , Ch. Wohnhaas, V. Mailänder, K. Landfester, et al., Annihilation upconversion of NIR photons in water phase: synthesis, properties and perspectives in bio applications upconverting nanocapsules	18:00-18:30 A. Fejtova (Germany) , V. Lazarevic, C. Schöne, M. Heine, E.D. Gundelfinger, Synaptic plasticity induced dynamics of presynaptic cytomatrix at the active zone (Invited)
	18:20-18:40 I.V. Balalaeva (Russia) , E.A. Malekhanova, N.Y. Lekanova, I.V. Krutova, et al., Studies of anti-HER2/neu immunotoxin antineoplastic activity on fluorescent tumor model		18:30-18:50 E. Savvateeva (Popova) (Russia) , A.N. Kaminskaya, T.L. Payalina, A.V. Medvedeva, E.A. Nikitina, Adult thoracic neuromuscular junction of drosophila: are pCREB and pCofilin glial or neural?
	18:40-19:00 M.S. Kleshnin (Russia) , I.I. Fiks, I.V. Turchin, I.V. Balalaeva, and A.P. Savitsky, Fluorescence imaging with lifetime and spectral resolution for detection of RFP-expressed tumors		
19:00-20:00	Dinner		
	HALL A		
20:30-21:50	Evening session		
20:30-21:10	Dmitri Ossipov (Olympus Europa Holding GmbH and MNB Experts Ltd) , Leonard Khirug (Univ. of Helsinki and Neurotar Ltd), and Dmitry Slavashevich (Olympus Moscow Corporation), Multi-parametric and longitudinal two-photon imaging in living rodents and humans		
21:10-21:50	Arnd Krueger (Newport/Spectra-Physics) , New developments in lasers for multiphoton microscopy		
22:00	Dancing		

Thursday, July 21

8:00-9:00	<i>Breakfast</i>		
9:00	Arrival in Yaroslavl		
9:00-14:00	Bus tour (Yaroslavl-Rostov)		
14:00	Departure from Yaroslavl		
14:00-15:30	<i>Lunch</i>		
	HALL A		
15:30-16:20	Ronald Sroka (<i>Germany</i>), Laparoscopic and endoluminal laser treatments (Plenary)		
16:20-16:40	<i>Coffee break</i>		
	HALL A	HALL B	HALL C
	Advanced Laser Applications in Biomedicine & Clinical Biophotonics	Nanobiophotonics	
	<u>Session</u> : Lasers in therapy and surgery <u>Chair</u> : Felix Feldchtein	<u>Session</u> : Modeling in cell biology and immunology <u>Chair</u> : Sergey Deyev	
17:00-19:00	17:00-17:30 R. Steiner (<i>Germany</i>), Clinical aspects of laser treatment of bone and teeth (Invited)	17:00-17:20 M. Ivanchenko (<i>Russia</i>), and D.Y. Zorin, Complex transients in multi-component cell ensembles	
	17:30-18:00 M.R. Hamblin (<i>USA</i>), W. Xuan, Y.Y. Huang, Q. Wu, et al., Low level light therapy for traumatic brain injury (Invited)	17:20-17:50 A. Zaikin (<i>UK</i>), and M. Ivanchenko, New functions of the proteasome and its role in immunology (Invited)	
	18:00-18:20 M. Karabut (<i>Russia</i>), N. Gladkova, F. Feldchtein, Y. Fomina, et al., Oral mucosa regeneration after laser patterned microcoagulation treatment: an animal study	17:50-18:20 M. Or-Guil (<i>Germany</i>), N. Wittenbrink, and J. Faro, Aspects of modelling antibody affinity maturation in germinal centres: What data are we still missing? (Invited)	
	18:20-18:40 K.V. Shatilova (<i>Russia</i>), A.V. Belikov, A.V. Skrypnik, Comparative study of hard tooth tissues ablation by radiation of YAG: Er and YLF: Er lasers	18:20-18:40 N. Wittenbrink (<i>Germany</i>), and M. Or-Guil, Is there a typical germinal center?	
19:30	Conference Reception		

Friday, July 22

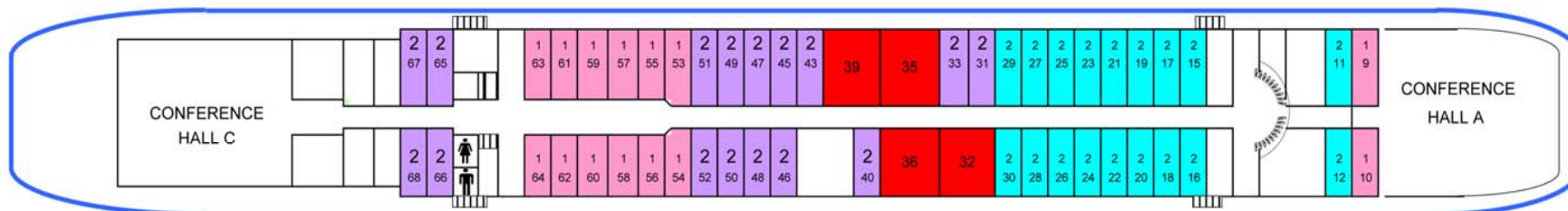
7:00-8:00	Breakfast
8:00	Arrival in Gorodets
8:00-10:00	Excursion
10:00	Departure from Gorodets
	HALL A
10:00-10:50	Sergey Deyev (<i>Russia</i>), Protein-assisted self-assembly of nanoparticles for bioimaging and drug delivery (Plenary)
	Round Table
10:50-11:20	Paul Reinhard (<i>Coherent GmbH</i>), Chameleon Family of Lasers: a multimodal imaging platform
11:20-11:50	Yury Belyaev (<i>EMBL</i>), Access to cutting edge imaging technologies in Europe
11:50-12:20	Valery Smirnov (<i>RFBR</i>), Modern trends in the activity of the Russian Foundation for Basic Research
12:20-12:30	Coffee break
	HALL A
12:30-13:30	Closing session
13:30-14:30	Lunch
15:00	Arrival in Nizhny Novgorod
15:00-22:00	Departure of participants
21:00-23:00	Night tour of Nizhny Novgorod (for the foreign participants)

DECK MAP

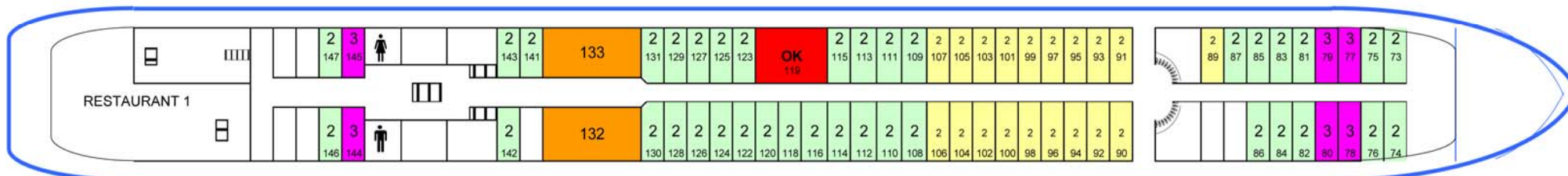
SUN DECK



BOAT DECK



PROMENADE DECK



MAIN DECK

