

**CONFERENCE PROGRAM**

Time	Hall: Saalastinsali	Hall: TS128	Hall: TS101	Hall: TS127
<b>June 9, Wednesday</b>				
<b>REGISTRATION</b>				
08:00-08:30				
08:30-10:00	Nano-Biophotonics I: Ricardas Rotomskis, chair	Single Cells and Molecules I: Instrumentation Karl Otto Greulich, chair	Novel Optical Devices for Biomedicine I Arthur Chiou, chair	Laser Microscopies I Timo Jääskeläinen, chair
08:30-08:45		<b>KEYNOTE (004)</b> Feeling for cells with light: Illuminating the role of biomechanics for tumor progression, A. Fritsch, F. Wetzel, T. Kiessling, K.D.	<b>KEYNOTE (K009)</b> Optical imaging in ophthalmology, <u>Y. Yasuno</u>	<b>INVITED (167)</b> Time-resolved micro-spectroscopy of endogenous metabolites in living cells, <u>A. Chorvatova</u> , A. Mateasik, D. Chorvat Jr.
08:45-09:00		A. Fritsch, F. Wetzel, T. Kiessling, K.D. Nnetu, M. Zink, <u>J.A. Käs</u>		<b>INVITED (170)</b> Nanodiamond interaction with human red blood cells: the microspectroscopic point of view, Y.-C. Lin, F.-Y. Su, E.
09:00-09:15				Perevedentseva, T.-H. Su, Y.-S. Ye, A. Lugovtsov, A. Priezzhev, A. Karmenyan, <u>C.-L. Cheng</u>
09:15-09:30	<b>INVITED (001)</b> Protein self-assembler for synthesis of multifunctional heterostructures, <u>S.M. Dejev</u>	<b>INVITED (213)</b> Light takes shape: advanced biophotonics with spatial light modulation, <u>K. Dholakia</u>	<b>INVITED (190)</b> Measuring polarization properties of the human retina with polarization- sensitive OCT and adaptive optics, <u>B. Cense</u> , K. Kurokawa, M. Yamanari, S. Makita, Y. Yasuno, T. Yatagai	<b>(168) Controllable infrared continuum source for multiphoton imaging</b> , <u>C. de Mauro</u> , D. Alfieri, M. Arrigoni, D. Armstrong, F.S. Pavone
09:30-09:45				
09:45-10:00	<b>(177) Noninvasive multiphoton methods for <i>in vivo</i> flow cytometry</b> , <u>E.R. Tkaczyk</u> , A.H. Tkaczyk, C.F. Zhong, K. Mairing, G.D. Luker, J.R. Baker Jr., T.B. Norris	<b>(109) NanoTracker: Force-sensing optical tweezers for quantitative single-molecule nanomanipulation</b> , <u>A. Wozniak</u> , J. van Mameren, G. Behme, T. Jaehnke	<b>(187) Imaging of mouse embryos through the uterus with optical coherence tomography</b> , <u>I.V. Larina</u> , S.H. Syed, K.V. Larin, M.E. Dickinson	<b>(222) New Prevention strategies for the palmar-plantar erythrodysesthesia (PPE)</b> , <u>J. Lademann</u> , A. Martschick, M. Darvin, A. Patzelt, J. Sehouli, H. Richter, G. Oskay-Özcelik, W. Sterry, L. Zastrow
10:00-10:30	<b>COFFEE BREAK</b>			
10:30-11:30	Nano-Biophotonics II TBA, chair	Single Cells and Molecules II: From Instrumentation to Applications Josef Käs, chair	Novel Optical Devices for Biomedicine II Barry Cense, chair	Laser Microscopies II Victor Loshchenov, chair
10:30-10:45	<b>INVITED (004)</b> Interfacing nanodiamonds with the biomolecule world, <u>A.V. Zvyagin</u> , Varun K.A.S., W. Deng, Ye.A. Ivukina, T.A. Zdobnova, S.V. Lukash, S.M. Deyev	<b>INVITED (106)</b> Next generation biophotonics workstation, <u>J. Glückstad</u>	<b>INVITED (178)</b> Spectroscopic online diagnostics for laser therapy, <u>R. Steiner</u> , D. Russ, K. Stock, R. Hibst	<b>INVITED (171)</b> Fluorophore illumination effects in different laser scanning microscopy methods: A comparison of single-beam and multi-beam confocal microscopy and multiphoton microscopy methods, <u>T. Zimmermann</u> , A. Mallabiarrena, R.G. Olivias
10:45-11:00				
11:00-11:15	<b>INVITED (010)</b> Laser assessment of the effect of diamond nanoparticles on deformability and aggregation of red blood cells <i>in vitro</i> , <u>A.V. Priezzhev</u> , A.E. Lugovtsov, V.G. Ionova, E. Perevedentseva, C.-L. Cheng	<b>INVITED (103)</b> Single cell analyses using optical manipulation, <u>M. Goksör</u>	<b>INVITED (179)</b> Probing the viscoelastic properties of individual human RBCs by optical trap-and-stretch: a brief overview and recent progresses, <u>A. Chiou</u>	<b>INVITED (174)</b> Fluorescence life-time imaging of enzyme activities in living cells, <u>A. Savitsky</u>
11:15-11:30				
11:30-11:45	<b>OPENING REMARKS</b> (Vice rector Taina Pihlajaniemi, Prof. Risto Myllylä, Prof. Victor Zadkov)			
11:45-12:45	<b>PLENARY LECTURE 1, Hall: Saalastinsali</b> <b>Bruce Tromberg, Univ. of California, USA,</b> <b>“Medical imaging in thick tissues using spatially and temporally modulated light”</b>			
12:45-14:00	<b>General photo of all participants, LUNCH</b>			

PLENARY LECTURE 2, Hall: Salastinsali Lihong Wang, Washington Univ. in St. Louis, USA, "Photoacoustic tomography: High-resolution <i>in vivo</i> imaging of optical contrast at new depths"				
Time	Hall: Saalastinsali	Hall: TS128	Hall: TS101	Hall: TS127
14:00-15:00				
15:00-17:00	Nano-Biophotonics III, Andrei Zvyagin, chair	Single Cells and Molecules III: Applications Arthur Chiou, chair	Novel Optical Devices for Biomedicine III Rudolf Steiner, chair	Laser Microscopies III Timo Zimmermann, chair
15:00-15:15	INVITED (002) Photochemical internalization. From bench to bedside with a novel technology for site-specific drug delivery, <u>K. Berg</u> , O.-J. Norum, W. Jerjes, C. Hopper, P.K. Selbo, A. Weyergang, A. Høgset	(102) Cell transport in microfluidic channels by photon pressure, <u>L. Lilje</u> , L. Charron	INVITED (185) Microfluidic lab-on-a-chip platform for bioanalytics and bimolecular photochemistry, <u>K.-H. Feller</u>	KEYNOTE (K008) Multi-dimensional fluorescence microscopy of living cells, <u>H. Schneckenburger</u> , M. Wagner, P. Weber, T. Bruns, R. Wittig, W.S.L. Strauss
15:15-15:30		(105) Raman spectroscopic study of haemoglobin degradation in optically trapped erythrocytes, R. Dasgupta, S. Ahlawat, <u>R.S. Verma</u> , A. Uppal, P.K. Gupta		
15:30-15:45	INVITED (006) Phototransformations of quantum dots: intersection of coating, environment and light, <u>S. Bagdonas</u> , R. Rotomskis	INVITED (099) DNA damages induced by UV Vis (lasers) and their repair in pharmacological therapy and ageing, <u>K.O. Greulich</u>	INVITED (184) New trends in medical equipment for photodynamic therapy and fluorescent diagnostics, <u>K.G. Linkov</u>	(175) Time-resolved 3D confocal fluorescence microscopy on living cells, <u>W. Neu</u> , G. Kauer, M. Kloster, J. Napier, E. Peev, M. Schellenberg
15:45-16:00				
16:00-16:15	INVITED (008) Nanoparticles in the photodynamic therapy of tumour, <u>R. Rotomskis</u> , J. Valanciunaite, V. Karabanovas, S. Bagdonas	(098) Response of calcium channel blockers on human endothelial cells after EMFA, a variant of optical tweezers, <u>S. Monajembashi</u> , G. Günther, S. Schulz, K.O. Greulich	(188) Yellow-red semiconductor disk lasers for biophotonics applications, <u>T. Leinonen</u> , A. Härkönen, V.-M. Korpijärvi, J. Puustinen, M. Guina	(210) Imaging the 3D vascular distribution of colloid quantum dots in mice using multiphoton fluorescence microscopy, <u>E.A. Sergeeva</u> , A.R. Katichev, M.V. Shirmanova, O.S. Evdokimova, I.V. Balalaeva
16:15-16:30		(107) Laser-microbeam for elucidating molecular mechanisms of DNA repair, <u>P. Grigaravičius</u> , T. Lenser, S. Monajembashi, K.O. Greulich	(182) Multiple scattering effects in whole blood measured with Doppler optical coherence tomography, <u>J. Kalkman</u> , A.V. Bykov, T.G. van Leeuwen	(172) Diffraction tomography for biological cells imaging using digital holographic microscopy, <u>I. Bergeand</u> , C. Arfire, N. Pavillon, C. Depeursinge
16:30-16:45	(007) Optical and photothermal properties of gold nanocages, nanorods, and silica/gold nanoshells: A comparative study, B. Khlebtsov, V. Khanadeev, I. Maksimova, G. Terentyuk, <u>N. Khlebtsov</u>	INVITED (233) From scientific results to marketable products, <u>K. Schütze</u> , R. Schütze	(183) Evaluation of microfluidic channels with optical coherence tomography, <u>J. Czajkowski</u> , T. Prykäri, E. Alarousu, J. Lauri, R. Myllylä	(173) In-line color digital holographic microscope for water quality measurements, <u>Z. Göröcs</u> , M. Kiss, V. Tóth, L. Orzó, S. Tökés
16:45-17:00	(017) Fabrication, bio-conjugation and photothermal conversion from porous silica-modified gold nanorods, <u>F. Ratto</u> , P. Matteini, S. Centi, F. Rossi, F. Fusi, R. Pini			(240) Using digital holographic microscopy for 4D tracking of colloid particles, <u>D. Ekimov</u> , A. Mäkynen, V. Kaikkonen
17:00-17:30	<b>COFFEE BREAK</b>			
17:30-18:30	<b>POSTER SESSION</b>			
18:30	Bus to Welcome reception, leaves from the University			
19:00-21:00	<b>WELCOME RECEPTION AT THE CITY HALL</b>			

**POSTER SESSION (June 9, Wednesday)**

**LALS01: Nano-Biophotonics**

Chursanova (003), Buividas (005), Matulionyte (009), Popov (011), Stasheuski (012), Romashko (013), Tervo (014), Sonny (015), Zhao (016), Rotomskis (230).

**LALS02: Laser-Tissue Interactions**

Muravyov (024), Kurki (025), Perevedentseva (029), Kogan (031), Makropoulou (035), Timchenko (038), Brachenko (040), Tuchina (042), Perezhogin (044), Yanina (046), Orlovich (048); Tuchin (049), Zólei (051), Lihachev (063), Huttunen (147), Drozd (148), Shelly (214), Peuser (228), Bykov (229).

**LALS03: Laser Biomedical Diagnostics, Sensing and Therapy**

Maryakhina (069), Yermolenko (072), Gruia (073), Smirnov (074), Agrba (076), Khachaturova (077), Volkov (079), Kuzmina (083), Shirshin (084), Cernat (086), Hattuniemi (087), Pavone (088), Pavone (089), Aballah (090), Lugovtsov (093), Karimov (218), Huotari (227).

**LALS04: Single Cells and Molecules**

Bruns (097), Kotsifaki (100), Spyratou (101), Verma (104).

**LALS05: THzWaves in Biophotonics**

Mernea (116), Fedulova (117), Nazarov (119), Mankova (120), Cherkasova (122).

**LALS06: Vibrational Spectroscopy, Structure and Dynamics of Biological Systems**

Nikitin (127), Schaberle (128), Perevedentseva (129), Orlovich (134), Shirshin (136), Shirshin (137), Orlov (138), Kuzminov (139), Dolenko (159), Kursula (231).

**LALS07: Molecular and Bioimaging**

Awazu (154), Gostev (155), Kemnitz (161), Patsaeva (162), Eckert (163), Deliolanis (164), Deliolanis (165), Karimov (220).

**LALS08: Laser Microscopies**

Yu (169), Yang (203), Katichev (209).

**LALS09: Novel Optical Devices for Biomedicine**

Jakovels (156), Kapsokalyvas (180), Hsieh (181), Grachev (186), Rao (204), Kinnunen (221).

**LALS10: Printing Techniques and their Applications in Biotechnology**

Cheng (192).

**LALS11: Symposium on Water in Bioenvironment**

Burikov (160).

**Full titles with corresponding authors are at the end of the Program**

Time	Hall: TS128	Hall: Saalastinsali	Hall: TS101	Hall: TS127
<b>June 10, Thursday</b>				
08:30-10:00	THzWaves in Biophotonics I Alexander Shkurinov, chair	Laser-Tissue Interactions I Valery Tuchin, chair	Molecular and Bioimaging I Frank Chuang, chair	Symposium on Water in Bioenvironment I Gerald Pollack, chair
08:30-08:45 08:45-09:00	KEYNOTE (K005-1) THz techniques for skin measurement, <u>K. Kawase</u> , T. Shibuya, K. Suizu	KEYNOTE (K002) Morpho-functional non-linear laser imaging of tissues, R. Cicchi, L. Sacconi, <u>F.S. Pavone</u>	INVITED (132) Label-free, multi-colour, high-speed imaging of a living cell by CARS spectral imaging, <u>H. Kano</u> , M. Okuno, H.-o Hamaguchi	INVITED (197) Hydrogen bonding and water dynamics in peptide systems probed by non-linear infrared spectroscopy, <u>T.L.C. Jansen</u> , C. Liang, S. Roy, J. Knoester
09:00-09:15			(150) New staining methods for yeast-like fungi under special consideration of human pathogenic fungi, <u>A. Paulitsch</u> , F. Treiber, E. Grasser, W. Buzina, C. Rosker	INVITED (194) Quantum origin of a jump in erythrocyte penetration through a microcapillary at 36.6 °C: Ortho-para H <sub>2</sub> O in bio-water, <u>S.M. Pershin</u>
09:15-09:30	INVITED (232) Terahertz molecular imaging for medical applications, <u>J.-H. Son</u>	(037) Excitation energy transfer in the phycobiliprotein light harvesting complex of the cyanobacterium <i>acaryochloris marina</i> investigated by transient femtosecond absorption spectroscopy, <u>C. Nganou</u> , M. Grehn, C. Theiss, H. J. Eichler, and H.-J. Eckert	(149) Quantitative cell bioimaging using resonance scattering from gold-nanoshell bioconjugates, <u>V. Khanadeev</u> , B. Khlebtsov, S. Staroverov, I. Vidyasheva, V. Bogatyrev, L. Dykman, N. Khlebtsov	
09:30-09:45		(041) Femtosecond laser fabrication of collagen free form scaffolds, <u>V. Hovhannisyan</u> , Y.-F. Chen, S.-J. Chen, C.-Y. Dong	(166) Environmental sensing by αV-integrins, <u>T. Teräväinen</u> , S. Myllymäki, A. Manninen	(201) Hydrogen bonding in aqueous ethanol solutions studied by Raman spectroscopy, <u>S. Burikov</u> , T. Dolenko, M. Hojo, S. Patsaeva, V. Yuzhakov
09:45-10:00	(113) THz spectroscopy and molecular modeling of large proteins, <u>T. Dascalu</u> , A. Leca, M. Mernea, O. Calborean, D. Mihailescu	(067) Femtosecond solid state laser for refractive eye surgery, <u>M. Vengris</u> , E. Gabryte, O. Ruksenas, A. Vaiceliunaite, E. Danieliene, R. Danielius	(144) Algorithms for the blue fluorescent protein and other optical control challenges, <u>E.R. Tkaczyk</u> , K. Mairing, A.H. Tkaczyk, J.R. Baker, Jr., T.B. Norris	(200) Floating water bridge: H <sup>+</sup> (H <sub>2</sub> O) <sub>n</sub> and OH <sup>-</sup> (H <sub>2</sub> O) <sub>n</sub> are current carrier?, <u>S.M. Pershin</u> , A.F. Bunkin, V.K. Klinkov, V.N. Lednev, V.A. Luk'yanchenko
10:00-10:30	<b>COFFEE BREAK</b>			
10:30-11:30	THzWaves in Biophotonics II Kodo Kawase, chair	Laser-Tissue Interactions II Francesco Pavone, chair	Molecular and Bioimaging II Nikolaos Deliolanis, chair	Symposium on Water in Bioenvironment II Elmar Fuchs, chair
10:30-10:45	KEYNOTE (K005-2) The THz dance of the protein with the water, <u>M. Havenith</u>	(058) Precise laser microsurgery of mammalian oocytes and preimplantation embryos, <u>A.V. Karmenyan</u> , A.S. Krivokharchenko, A.K. Shakhbazyan, E. Perevedentseva, A.E.T. Chiou	INVITED (152) Biophotonic applications in molecular medicine, <u>F. Chuang</u> , T. Huser, D. Matthews	KEYNOTE (K011) Surprising effects of light on water, <u>G.H. Pollack</u>
10:45-11:00		(207) A Comparison of Fluorescence and Raman Spectroscopy for Clinical Diagnosis of Oral Neoplasia, S.K. Majumder, <u>H. Krishna</u> , M. Sidramesh, P. Chaturvedi, P.K. Gupta		
11:00-11:15		INVITED (019) How tissue optical properties affect dosimetry for laser procedures and phototherapy, <u>S.L. Jacques</u>	(151) Light-harvesting antenna of photosynthetic purple bacteria: What mechanism of two-photon excitation? <u>A.P. Razjivin</u> , I.A. Stepanenko, R. Yu. Pishchalnikov, V.O. Kompanetz, S.V. Chekalin, Z.K. Makhneva, A.A. Moskalenko	
11:15-11:30	(123) Probing biological water with THz spectroscopy, <u>Z. Ahmed</u> D. Plusquellic		(145) Infrared absorbing dyes tailored for detection and therapy of solid tumours, <u>L.G. Amaut</u> , M.M. Pereira, G.F.F. Sá, F.A. Schaberle	
11:30-12:30	<b>PLENARY LECTURE 3, Hall: Saalastinsali</b> Jürgen Popp, Friedrich-Schiller-Univ. Jena, Germany, "Raman microspectroscopy – a powerful tool for biomedical diagnosis"			
12:30-13:45	<b>LUNCH</b>			

Time	Hall: TS128	Hall: Saalastinsali	Hall: TS101	Hall: TS127
13:45-15:15	THzWaves in Biophotonics III Martina Havenith, chair	Laser-Tissue Interactions III Steven Jacques, chair	Molecular and Bioimaging III Alexander Savitsky, chair	Symposium on Water in Bioenvironment III Thomas Jansen, chair
13:45-14:00	INVITED (110) THz emitter development for THz wave applications in biophotonics, <u>J. Wilke</u> , S. Sengupta, P.S. Dutta	(056) Endovenous laser treatment using radial laser light energy application, <u>R. Sroka</u> , K. Weick, A. von Conta, S. Scheibe, I. Sroka, S. Winter, R. Blagova, C. Burgmeier, R. Baumgartner, C.G. Schmedt	INVITED (153) <i>In vivo</i> cancer therapy monitoring with diffuse optics, <u>R. Choe</u> , T. Durduran, A.G. Yodh	INVITED (195) Stable gas nanobubbles in water and aqueous solutions of salts; their role in living processes and bioenvironment, <u>N.F. Bunkin</u> , N.V. Suyazov, A.V. Shkirin
14:00-14:15		(061) Non-contact reflectance spectroscopy applied for age determination of blood stains, <u>R.H. Bremmer</u> , T.G. van Leeuwen, M.C.G. Aalders		
14:15-14:30	INVITED (118) State-resolved THz spectroscopy and dynamics of peptide/water systems, <u>D.F. Plusquellic</u> , Z. Ahmed, K. Siegrist	(060) Determination of physiological parameters for the age determination of bruises, <u>B. Stam</u> , B.C. Drijber, U.J.L. Reijnders, T.G. van Leeuwen, M.C.G. Aalders	(146) Fiber-optic solutions for <i>in vivo</i> neuron-activity mapping, <u>L.V. Doronina-Amitonova</u> , I.V. Fedotov, O.I. Ivashkina, M.A. Zots, A.B. Fedotov, K.V. Anokhin, A.M. Zheltikov	INVITED (196) Mass and charge transfer within a floating water bridge, <u>E.C. Fuchs</u> , M. Eisenhut, L.L.F. Aghostinho, J. Woisetschlager
14:30-14:45			INVITED (143) Current developments and challenges in molecular diffuse optical and bioluminescence tomography, <u>H. Dehghani</u>	
14:45-15:00	(111) Electric oscillations generated by collective vibration modes of microtubule, <u>M. Cifra</u> , D. Havelka			(193) Four-wave mixing spectroscopy of biomolecules hydration shell in aqueous solutions, A.F. Bunkin, <u>S.M. Pershin</u>
15:00-15:15			(212) Developing novel <i>in vivo</i> and <i>in vitro</i> imaging technologies that are based on conditional expression of Lodavin fusion protein allowing targeting of biotinylated indicators, <u>L. Skovorodkin</u> , U. Saarela, S. Murugan, K. Airene, S. Ylä-Herttula, S. Vainio	
15:15-15:45	<b>COFFEE BREAK</b>			
15:45-17:30	THzWaves in Biophotonics IV Ingrid Wilke, chair	Laser-Tissue Interactions IV Horacio Lamela, chair	Molecular and Bioimaging IV Giannis Zacharikis, chair	Symposium on Water in Bioenvironment IV Sergey Pershin, chair
15:45-16:00	INVITED (115) Assessing interactions between terahertz radiation and biological materials at a tissue, cellular, and molecular level, <u>G.J. Wilmink</u>	(027) Spatially-resolved reflectance measurements for monitoring <i>in vivo</i> optical properties of brain tissue, <u>B. Günther</u> , W. Beyer, T. Beck, A. Johansson	INVITED (158) Fluorescence tomography of red fluorescent protein expressed tumors in small animals, <u>I. Turchin</u> , I. Fiks, M. Kleshnin, A. Orlova, A. Rusanov, A. Savitsky	INVITED (198) Aquaphotonics: water light interaction as biological marker, <u>R. Tsenkova</u>
16:00-16:15		(036) Accelerated Monte Carlo modelling of photon migration in tissues using multiple graphics processing units (GPUs), W.C.Y. Lo, L.		
16:15-16:30	INVITED (114) The need of high accuracy frequency measurements for detection of atmospheric pollutants, <u>R. Bocquet</u> , G. Mouret, F. Hindle, A. Cuisset, Y. Chun	(030) 3D Monte Carlo model of optical transport in laser-irradiated cutaneous vascular malformations, <u>B. Majaron</u> , M. Milanič, W. Jia, J.S. Nelson	INVITED (157) NIR imaging of human prefrontal cortex activity for verbal N-Back tasks, <u>Q. Luo</u> , T. Li, Z. Zhang, H. Gong	INVITED (202) Water dynamics near hydrophobes: What can 2D IR teach us? A.A. Bakulin, C. Petersen, H.J. Bakker, <u>M.S. Pshenichnikov</u>
16:30-16:45		(043) Study on human breast imaging by use of three-dimensional Monte Carlo modeling, <u>C.-C. Chuang</u> , C.-M. Chen, Y.-S. Hsieh, C.-Y. Wang, P.-L. Lee, C.-W. Lu, C.-W. Sun		
16:45-17:00	(112) Computer and experimental modelling terahertz systems for express diagnostics of pathologies of blood system and integuments, <u>Q.A. Smolyanskaya</u> , Ya.V. Grachev, Yu.V. Philippova	(057) Three-dimensional Monte-Carlo simulation of light propagation in biological tissues, <u>M.S. Pavlov</u> , A.Yu. Seteikin	KEYNOTE (K007) Illuminating biomedical discovery with multi-spectral opto-acoustic tomography (MSOT), V. Ntziachristos	(199) Spectroscopy on laser-induced plasmas in cavitation bubbles, <u>S. Koch</u> , M. Reck, W. Neu, R. Reuter
17:00-17:15	INVITED (217) Terahertz time-domain spectroscopy and spectrochromography: From basis to spectral line assignment, A. Borodin, D. Sapozhnikov, I. Smirnova, <u>A. Shkurinov</u>			
17:15-17:30				
17:30	Bus to Conference dinner, leaves from the University			
18:00-22:00	<b>CONFERENCE DINNER (OUTSIDE the CITY)</b>			

Time	Hall: TS101	Hall: Saalastinsali	Hall: TS128	Hall: TS127
<b>June 11, Friday</b>				
09:00-11:00	Laser Biomedical Diagnostics, Sensing and Therapy I Alexander Priezhev, chair	Laser-Tissue Interactions V Victor Loshchenov, chair	Vibrational Spectroscopy, Structure and Dynamics of Biological Systems I Maxim Pshenichnikov, chair	Symposium on Bioprinting I Hanna Haverinen, chair
09:00-09:15	<b>KEYNOTE</b> Using elastic scattering spectroscopy to reveal early stages of apoptosis in viable cells, <u>L.J. Bigio</u> , C. Mulvey	(039) <b>Simulating light-tissue interactions in voxelized tissues using GPU acceleration</b> , <u>A.M. Krivtsun</u> , A.Yu. Seteikin	<b>KEYNOTE</b> Development of UV Raman spectroscopy for incisive investigations of simple questions in complex systems: Can we study the reaction coordinate in protein folding? <u>S.A. Asher</u>	<b>KEYNOTE (K010)</b> Prospects of inkjet printing in bioapplications, G. Jabbour
09:15-09:30 09:30-09:45		<b>INVITED (066)</b> Summation of energy of two singlet oxygen molecules in dye containing systems under laser excitation. <b>Mechanisms and analytical applications</b> , <u>A. Krasnovsky</u>		
09:45-10:00	<b>INVITED (082)</b> Non-invasive and early detection of oxidative stress leading to normal aging on Earth and accelerated aging during spaceflight, <u>R.R. Ansari</u> , M.B. Dattiles, S. Vitale, S. Zigler, F. Ferris	(026) <b>The photodynamic therapy effect of aluminium and zinc tetrasulphophthalocyanines on melanoma cancer cells</b> , <u>K. Maduray</u> , A. Karsten, B. Odhav, T. Nyokong	<b>INVITED (226)</b> Surface enhanced Raman spectroscopy (SERS) of selected neurotransmitters Bombesin family compounds, analogs, and fragments, E. Podstawka-Proniewicz, <u>L.M. Proniewicz</u>	<b>INVITED (236)</b> Integrated biosensors, <u>K. Salama</u>
10:00-10:15		(045) <b>In vivo measurement of reduced hemoglobin concentration and oxygen saturation from different rat tissues by using diffuse reflectance</b> , <u>R. Kanawade</u> , G. Saiko, A. Zam, F. Stelzle, A. Douplik		
10:15-10:30	<b>INVITED (096)</b> Physical mechanism of "poisoning" the proteins and enzymes by heavy metals, <u>G.P. Petrova</u> , Yu. M. Petrusovich, K.V. Fedorova, I.A. Sergeeva, T.N. Tikhonova, Z. Xiaolei	(020) <b>Laser-induced photodissociation of oxyhemoglobin and the mechanism of biostimulating and therapeutic effect of cold laser radiation</b> , <u>M.M. Asimov</u> , R.M. Asimov, A.N. Rubinov	<b>INVITED (215)</b> Laser spectroscopy and computer simulation of the effect of solvent molecules on protein dynamics and function, N.N. Brandt, O.A. Chichigina, <u>A.Yu. Chikishev</u> , I.K. Sakodynskaya	(191) <b>Femtosecond laser microstructuring of biocompatible polymers for biomedicine applications</b> , <u>M. Malinauskas</u> , V. Purlys, A. Žukauskas, M. Rutkauskas, G. Bičkauskaitė, D. Paipulas, D. Baltriukienė, R. Širmenis, V. Bukelskienė, R. Gadonas, V. Sirvydis, A. Piskarskas
10:30-10:45		(052) <b>IR-spectroscopy vs. Raman scattering by measurement of glucose concentration</b> , <u>O. Abdallah</u> , A. Bolz, J. Hansmann, H. Mertsching		(237) <b>Printed, bioelectrochemically active layers for power source applications</b> , <u>M. Smolander</u> , A. Vaari, S. Tuurala, M. Valkiainen, H. Boer, A. Koivula, J. Keskinen, O.-V. Kaukonen, J. Uotila, M. Bergelin
10:45-11:00	(080) <b>Interferometry for topographic diagnostics of RBCs in optical tweezers</b> , <u>R. Kumar</u> , S. Saraswati, C. Shaker, D.S. Mehta	(064) <b>Optical phantoms of varying geometry based on thin building blocks with controlled optical properties</b> , <u>D.M. de Bruin</u> , R.H. Bremmer, T.G. van Leeuwen, D.J. Faber	(142) <b>Sum frequency generation spectroscopy of amyloid fibrils and oligomers at air/water interface</b> , <u>G. Niaura</u> , R. Budvytyte, G. Valincius, Z. Kupronis	(238) <b>Printed biosensing surfaces for microfluidic biosensors</b> , <u>L. Hakalahti</u> , M. Kurkinen, S. Aikio, R. Liedert, L. Kivimäki
11:00-11:30	<b>COFFEE BREAK</b>			
11:30-12:45	Laser Biomedical Diagnostics, Sensing and Therapy II, Irving Bigio, chair	Laser-Tissue Interactions VI Alexander Krasnovsky, chair	Vibrational Spectroscopy, Structure and Dynamics of Biological Systems II Andrei Chikishev, chair	
11:30-11:45	<b>INVITED (234)</b> Diffuse fluorescence spectroscopy for tissue diagnostics and treatment control, <u>S. Andersson-Engels</u> , J. Axelsson, J. Swartling, K. Svanberg	(023) <b>Fluorescence recovery after photobleaching as a method to determine local diffusion coefficient in the stratum corneum</b> , <u>Yu.G. Anissimov</u> , X. Zhao, M.S. Roberts, A.V. Zvyagin	(135) <b>Application of a stochastic theory for Raman intensities and absorption modelling. Chlorophyll A and bacteriochlorophyll A</b> , <u>R.Y. Pishchalnikov</u> , A.P. Razjivin	
11:45-12:00		<b>INVITED (032)</b> Structural transformation of nanophotosensitizers in biological environments, <u>V.B. Loshchenov</u> , S.Yu. Vasilchenko, A.V. Ryabova	<b>INVITED (219)</b> Modelling excitation transport in photosynthetic light harvesting complexes, J. Linnanto, <u>J. Korppi-Tommola</u>	
12:00-12:15	(091) <b>Photon time-of-flight absorption/scattering spectrometer for biophotonics and pharmaceutical applications</b> , <u>D. Khoptyar</u> , S. Enayat, J. Håkansson, E. Alerstam, T. Svensson, S. Andersson-Engels			
12:15-12:30 12:30-12:45	<b>INVITED (085)</b> Molecular interaction studies on membrane-bound proteins using backscattering interferometry, <u>D.J. Bornhop</u> , A. Kussrow, M. Baksh, M.G. Finn	<b>INVITED (050)</b> Optical diagnostics and laser hyperthermia of tumors with plasmon-resonant gold nanoparticles, <u>E.V. Zagaynova</u> , M.A. Sirotkina, M.V. Shirmanova, V.V. Elagin, M. Kirillin, P. Agrba, V.A. Kamensky, P. Subochev, V.A. Nadochenko	<b>INVITED (130)</b> Spontaneous Raman microscopy and coherent anti-Stokes Raman microscopy of developing bone, <u>C. Otto</u> , V.V. Pully, M. Jurna, C. van Blitterswijk, J. Herek, H. Offerhaus	
12:45-14:00	<b>LUNCH</b>			

Time	Hall: TS101	Hall: Saalastinsali	Hall: TS128	
14:00-16:00	Laser Biomedical Diagnostics, Sensing and Therapy III Jürgen Lademann, chair	Laser-Tissue Interactions VII Elena Zagaynova, chair	Vibrational Spectroscopy, Structure and Dynamics of Biological Systems III Jouko Korppi-Tommola, chair	
14:00-14:15 14:15-14:30	INVITED (065) Noninvasive functional imaging of early embryonic development in mammalian systems with optical coherence tomography, <a href="#">K. Larin</a>	INVITED (208) Novel interferometric sensors for optoacoustic imaging and biomedical applications, <a href="#">H. Lamela</a> , D. Gallego, A. Oraevsky	INVITED (131) Structure and dynamics of electronic excited states of DIBENAZEPINE, <a href="#">H. Takahashi</a> , M. Sakai, M. Mizuno	
14:30-14:45	INVITED (235) Challenges in deep tissue imaging, <a href="#">M.J. Leahy</a>	(053) New strategies for laser welding in microvascular applications: <i>in vivo</i> study F. Rossi, P. Matteini, F. Ratto, <a href="#">R. Pini</a> , G. Esposito, A. Puca, A. Albanese, G. Maira	INVITED (225) Electron detachment and recombination in aqueous solutions studied with 2- and 3-pulse femtosecond spectroscopy, <a href="#">H. Iqlev</a> , A. Laubereau	
14:45-15:00		(033) Composite fillings microleakage after TEM <sub>00</sub> Er:YAG laser texturing of human tooth enamel surface, A.V. Belikov, A.V. Skrypnik, <a href="#">K.V. Shatilova</a>		
15:00-15:15	(092) Advanced diagnostics in renal mass using quantitative optical coherence tomography: A preliminary report, <a href="#">D.M. de Bruin</a> , K. Barwari, E. Cauberg, J. de la Rosette, M. P. Laguna, T.G. van Leeuwen, D.J. Faber	(062) Investigations on the repulsion of uroliths induced by pulsed laser light application, <a href="#">R. Sroka</a> , V. Hecht, D. Steigenhofer, R. Waidelich, D. Haseke, M. Bader	(126) Raman investigations of bio-SiC ceramics, V.O. Yukhymchuk, V.S. Kiselov, A.E. Belyaev, <a href="#">M.V. Chursanova</a> , M.Ya. Valakh, M. Danailov, I. A. Khodasevich	
15:15-15:30	(075) Contrast enhancement in OCT imaging of biotissues: Nanoparticles administration versus mechanical compression, <a href="#">M.Yu. Kirillin</a> , P.D. Agrba, V.V. Kamensky	(054) Selective removal of carious dentin using a nanosecond pulsed laser with the wavelength range of 6 um for minimal intervention, <a href="#">K. Ishii</a> , M. Saiki, K. Yasuo, K. Yamamoto, K. Yoshikawa, K. Awazu	(133) Nonlinear Raman spectrometry of halogenated volatile anesthetics, <a href="#">Y. Nagashima</a> , T. Suzuki, S. Terada, A. Iwata, S. Tsuji, K. Misawa	
15:30-15:45	(081) Oxygenation signals analysis of patients in intensive care unit based on near-infrared spectroscopy, <a href="#">C.-Y. Wang</a> , S.-J. Liang, C.-C. Chuang, Y.-S. Hsieh, C.-W. Lu, P.-L. Lee, C.-W. Sun	(034) Hard tooth tissue removal efficiency by single-mode low energy Er:YAG Laser, <a href="#">A.V. Belikov</a> , A.V. Skrypnik, K.V. Shatilova	(141) Cancer tissue screening using surface enhanced Raman scattering, S.C. Pinzaru, C.A. Dehelean, <a href="#">A. Fălămas</a> , N. Leopold, C. Lehene	
15:45-16:00	(071) Mueller matrix images analysis in prostate cancer diagnostics, O.V. Angelsky, <a href="#">S.B. Yermolenko</a> , P.V. Ivashko, I. Gruia			
16:00-16:30	<b>COFFEE BREAK</b>			
16:30-18:30	Laser Biomedical Diagnostics, Sensing and Therapy IV Rafat Ansari, chair		Vibrational Spectroscopy, Structure and Dynamics of Biological Systems IV Hiroaki Takahashi, chair	
16:30-16:45 16:45-17:00	INVITED (223) Interaction between antioxidants and free radicals in human skin, <a href="#">J. Lademann</a> , W. Sterry, M.E. Darvin		INVITED (124) Vibrational energy redistribution after NH-stretching excitation in hydrogen bonded dimers and DNA oligomers, <a href="#">W. Werncke</a> , V. Kozich, J. Dreyer, Ł. Szyc, E.T.J. Nibbering, T. Elsaesser	
17:00-17:15	INVITED (095) Laser cytometry <i>in vivo</i> , <a href="#">V.V. Tuchin</a> , E.I. Galanzha, V.P. Zharov		(125) The "Raman spectroscopic signature of life" is related to haem biosynthesis in cells, <a href="#">L.-da Chiu</a> , H.-o Hamaguchi	
17:15-17:30			(239) Rapid investigation on fresh human whole blood by means of Raman and SERS technique, <a href="#">M. Casella</a> , A. Lucotti, M. Tommasini, M. Bedoni, E. Forvi, F. Gramatica, G. Zerbi	
17:30-17:45	(070) Coherent phase microscopy enabled determination of a single T-lymphocyte's individual functional state, <a href="#">V. Tychinsky</a> , A. Kretushev, O. Stogov, T. Vyshenskaya			
17:45-18:00	(078) Evaluation of the tissue pathology by diffuse optical tomography (DOT), <a href="#">M. Patatchia</a> , D.C. Dutu, D.C. Dumitras			
18:00-18:15	(094) Optical parametric oscillator-based trace gas sensing for rapid gas analysis in exhaled breath, D.D. Arslanov, <a href="#">F.J.M. Harren</a>			
18:15-18:45	<b>CLOSING REMARKS</b>			

LALS01: Nano-Biophotonics

- (003) **Surface enhanced Raman spectroscopy of semiconductor nanoparticles**,  
M.V. Chursanova, V.M. Dzhagan, O.S. Lytvyn, M.Ya. Valakh, M. Danailov, I. A. Khodasevich,  
V.A. Orlovich
- (005) **Ripple-patterned substrates for light enhancement applications**,  
R. Buividas, T. Kudrius, R. Sliupas, S. Juodkazis
- (009) **CdTe quantum dots stabilization by protein in aqueous solution**,  
M. Matulionytė, D. Motekaitis, V. Poderys, R. Rotomskis
- (011) **Investigation of borate nanoparticles containing rare earth elements as agents for the cancer diagnostics and therapy**, A.V. Ryabova, V.B. Loschenov, A.V. Popov, Y.K. Voron'ko
- (012) **Laser induced singlet oxygen generation by semiconductor quantum dots and self-assembled nanocomposites "quantum dot-porphyrin"**,  
A.S. Stasheuski, V.A. Galievsky, E.I. Sagun, V.N. Knyuksho, E.I. Zenkevich, C. von Borczyskowski
- (013) **Adaptive interferometer with nanometer resolution for 1 um-scale objects inspection**,  
R.V. Romashko, T.A. Efimov, Y.N. Kulchin, A.A. Kamshilin
- (014) **The development of SPR device for biomarker detection**,  
P. Tervo, J. Katainen, A. Sesay, V. Virtanen
- (015) **Development of diagnostic SPR based biosensor for the detection of pharmaceutical compounds in saliva**, S. Sonny, A.M. Sesay, V. Virtanen
- (016) **Piezoelectric detection of laser-induced microbubbles in nanoparticle suspensions**,  
Z. Zhao, R. Myllylä
- (230) **Complex of water-soluble CdSe/ZnS quantum dots and chlorine e<sub>6</sub>: Interaction and FRET**,  
J. Valanciunaite, A. Skripka, R. Rotomskis

ALS02: Laser-Tissue Interactions

- (024) **Wavelet analysis of laser-induced skin temperature oscillations changes**,  
S. Podtaev, A. Dumler, N. Muravyov, M. Myasnikov, K. Tsiberkin
- (025) **A new Monte Carlo steady-state radiative transfer code featuring Raman scattering**,  
L. Kurki
- (029) **Raman investigations of mammalian oocytes and preimplantation embryos**,  
E. Perevedentseva, A.V. Karmenyan, A.S. Krivokharchenko, A.K. Shakhbazyan, A.E.T. Chiou,  
C.-L. Cheng
- (031) **Tumor vasculature damage using laser microexplosions of nanoparticles**,  
A.V. Butenin, B.Y. Kogan, A.A. Pankratov, R.A. Feyzulova, T.N. Andreeva, R.I. Yakubovskaya,  
V.M. Negrimovsky, E.A. Luk'yanets, G.N. Vorozhtsov
- (035) **UV and mid-IR laser ablation effects on UV pre-exposed intraocular lenses**,  
E. Spyratou, G. Zoulinakis, C. Bacharis, D. Tsoutsis, I. Asproudis, M. Makropoulou, A.A. Serafetinides
- (038) **Application of biological tissue backscattering for atmospheric pollutants mapping**,  
V.P. Zakharov, E.V. Timchenko, P.E. Timchenko, O.N. Makurina
- (040) **Mathematical model of optical energy transport in multiple scattering fluorescent medium based on spherical harmonics approximation**, I.A. Brachenko, V.P. Zakharov
- (042) **Indocyanine green and its combination with nanoparticles for photodynamic antimicrobial action of infrared (805 nm) radiation on *Staphylococcus epidermidis***,  
E.S. Tuchina, V.V. Tuchin
- (044) **Spectroscopic features of polarization singularities in second harmonic beam generated from the surface of isotropic chiral medium**, V.A. Makarov, I.A. Perezhogin, and N.N. Potravkin
- (046) **Structural changes in adipose tissue under photodynamic/photothermal action**,  
I.Yu. Yanina, V.V. Tuchin, G.V. Simonenko, V.I. Kochubey
- (048) **Application of low power continuous-wave diode-pumped thulium laser for precise coagulation of tissues**, L.E. Batay, A.I. Vodchits, V.A. Orlovich, T.E. Kuznetsova, V.S. Ulastchik
- (049) **Multiscaled modeling for precise controlling of laser pulsed local tissue hyperthermia mediated by nanoparticles**, Yu.A. Avetisyan, A.N. Yakunin, V.V. Tuchin
- (051) **Multi-exposure laser speckle contrast analysis for the blood perfusion measurement in skin**,

- D. Zölei, T. Smausz  
 (063) **Low power cw-laser signatures on human skin**, A. Lihachev, J. Lesins, D. Jakovels, J. Spigulis  
 (147) **Absolute probe of surface chirality based on focused circular polarizations**, M.J. Huttunen, M. Virkki, M. Erkintalo, E. Vuorimaa, A. Efimov, H. Lemmetyinen, M. Kauranen  
 (148) **Atomic force microscopy probing of cancer cells elasticity**, E.S. Drozd, S.A. Chizhik, O.V. Kvitko  
 (214) **Effect of low level GaAs laser irradiation on the proliferation rate of human periodontal ligament fibroblast: An *in vitro* study**, A. Shelly, M. Pankaj, C. Amit  
 (228) **Follow-up of cortical function and structure after lesion with laser speckle imaging (LSI) and MRI**, J. Peuser, B.S. Abderraouf, E. Schmidlin, A. Hamadjida, A.-D. Gindrat, F. Scheffold, E. Roullier  
 (229) **Skin phantoms with realistic vessel structure for OCT measurements**  
A.V. Bykov, A.P. Popov, M. Kinnunen, T. Prykäri, M. Lehto, A.V. Priezzhev, R. Myllylä

### LALS03: Laser Biomedical Diagnostics, Sensing and Therapy

- (069) **The delayed fluorescence kinetics is method of diagnostic biological tissue**, S. Letuta, V. Maryakhina  
 (072) **Polarization structure and spectral properties of aminoacid's crystal layers**, O.V. Angelsky, S.B. Yermolenko, O.G. Prydij, P.V. Ivashko  
 (073) **Spectropolarimetry features of biotissue's malignant changes**, I. Gruia, S.B. Yermolenko, C. Gavrilă, P.V. Ivashko, M.I. Gruia, T. Ștefănescu  
 (074) **The prognostic significance of the factor of von willebrand and endogenous anticoagulants is in the sharpest period of ischemic stroke**, M.Yu. Martynov, A.N. Yasamanova, E.M. Smirnov  
 (076) **Study of mechanical deformation effect on contrast of OCT-images of biotissues**, P.D. Agrba, M.Yu. Kirillin, V.A. Kamensky  
 (077) **Straightforward optical transmission method for imaging of biological objects**, A. Khachaturova, S. Varzhapetyan, A. Badalyan, K. Vardanyan, S. Shmavonyan, A. Papoyan  
 (079) **Fibre-optic delivery system for intratumoral PDT and thermotherapy**, V.V. Volkov, V.B. Loschenov, S.G. Kuz'min  
 (083) **Multispectral imaging of pigmented and vascular cutaneous malformations: the influence of laser treatment**, I. Kuzmina, L. Asare, I. Diebele, D. Jakovels, A. Kempele, J. Spigulis  
 (084) **Proteins aggregation investigation using non-linear fluorimetry**, E.A. Shirshin, N.G. Zhdanova, A.A. Maskevich, V.I. Stepuro, V.V. Fadeev  
 (086) **Design of optical phantoms based on polyvinyl alcohol (PVA) slime for diffuse optical tomography (DOT)**, R. Cernat, C. Matei, M. Patachia, D.C.A. Dutu, D. Dumitras  
 (087) **Rapid flow cytometry analysis of antimicrobial properties of nettle powder and cranberry powder**, J. Rätty, M. Hattuniemi, J. Korhonen, M. Jaakkola, V. Virtanen  
 (088) **Non-linear imaging of healthy bladder mucosa and carcinoma *in situ***, R. Cicchi, A. Crisci, A. Cosci, G. Nesi, S. Giancane, M. Carini, F.S. Pavone  
 (089) **Two-photon based optical biopsy for a microscopic assessment of the effects of fractional laser resurfacing**, R. Cicchi, D. Kapsokalyvas, M. Troiano, C. Morini, P. Campolmi, T. Lotti, F.S. Pavone  
 (090) **Light scattering by detection of glucose concentration and design of a compact laser-system for that aim**, O. Abdallah, A. Bolz, J. Hansmann, H. Mertsching  
 (093) **Diffraction and scattering of laser beam on red blood cells as basis for laser diffractometry and aggregometry techniques**, A.E. Lugovtsov, A.V. Priezzhev, S.Yu. Nikitin  
 (218) **Mathematical modelling of the analyzer of a scattered radiation with use of neural networks**, A.M. Abdullaeva, K.M. Karimov, M.G. Karimov, M.A. Magomedov  
 (227) **Arterial stiffness measurements based on pulse wave analysis**, M. Huotari, K. Määttä, J. Kostamovaara

### LALS04: Single Cells and Molecules

- (097) **Microfluidic system for single cell sorting with optical tweezers**, T. Bruns, L. Becsi, M. Talkenberg, M. Wagner, U. Mescheder, H. Schneckenburger  
 (100) **Optical tweezers, ultra-violet ablation and fluorescence excitation on U937 promonocytic cell line**, D.G. Kotsifaki, I. Kokkinou, M. Makropoulou, A.A. Serafetinides

- (101) **Fusion events in liposomes in aqueous alcohol solutions and liposomes-malignant cells interaction by optical manipulation**, E. Spyratou, M. Makropoulou, and A.A. Serafetinides  
(104) **Raman spectroscopic studies on optically trapped red blood cells in malaria infected blood sample**, R. Dasgupta, R. S. Verma, S. Ahlawat, A. Uppal, P. K. Gupta

#### LALS05: THz Waves in Biophotonics

- (116) **Protein association investigated by THz spectroscopy and molecular modelling**, M. Mernea, O. Calborean, L. Petrescu, A. Leca, T. Dascalu, D. Mihailescu  
(117) **Structure dependent resonance THz absorption of steroid hormones**, E.V. Fedulova, A.A. Man'kova, M.M. Nazarov, O.P. Cherkasova  
(119) **Total internal reflection study of protein solutions in THz range**, M.M. Nazarov, O.P. Cherkasova, A.P. Shkurinov  
(120) **THz absorption of  $\alpha$ -chymotrypsin in various solvents**, A.A. Mankova, N.N. Brandt, M.M. Nazarov  
(122) **Vibrational spectra of corticosteroid hormones in THz range**, O.P. Cherkasova, M.M. Nazarov, D.A. Sapozhnikov, A.A. Mankova, E.V. Fedulova, V.A. Volodin, V.A. Minaeva, B.F. Minaev, G.V. Baryshnikov

#### LALS06: Vibrational Spectroscopy, Structure and Dynamics of Biological Systems

- (127) **Surface plasmon dispersive Fourier spectroscopy of thin films at Terahertz frequencies**, O.V. Khitrov, A.P. Kyrianov, A.K. Nikitin, G.N. Zhizhin  
(128) **Analytical solution for the time resolved photoacoustic calorimetry convolution: Simulation of the transducer waveform and resolution**, F.A. Schaberle, R.M.D. Nunes, L.G. Arnaut  
(129) **Spectroscopic investigation of nanodiamond influence on the structure and functions of biological objects**, E. Perevedentseva, A. Chatterjee, C.-Y. Lee, I-T. Chiang, F.-Y. Su, Y.-C. Lin, C.-Y. Cheng, T.-H. Su, Y.-S. Ye, A. Karmenyan, A. Priezhev, C.-L. Cheng  
(134) **SERS of tetrapyrrolic molecules adsorbed at silvered porous materials**, A.Yu. Panarin, S.N. Terekhov, N.I. Mukhurov, I.A. Khodasevich, V.A. Orlovich, P. Mojzes, P.-Y. Turpin  
(136) **Luminescence enhancement of molecules placed into micellar nanostructures**, E.A. Shirshin, K.V. Yablocky, V.V. Fadeev, I.A. Veselova  
(137) **On the possibility of intramolecular vibrations investigation using FRET**, E.A. Shirshin, N.G. Zhdanova, V.L. Druza, V.V. Fadeev  
(138) **Investigation of the transcapillary exchange by laser method**, S.N. Bagayev, V.A. Orlov, S.V. Panov, V.N. Zakharov  
(139) **Studying of photoprotection mechanisms in photosynthetic apparatus of cyanobacteria using non-linear laser fluorometry and variable fluorescence techniques**, F.I. Kuzminov, E.G. Maximov, M.Y. Gorbunov, V.V. Fadeev  
(159) **Fluorescence and Raman studies of fermented beverages and distilled spirits**, S. Burikov, T. Dolenko, M. Hojo, A. Nose, S. Patsaeva, V. Yuzhakov  
(231) **Biophysical studies on the structure and function of molecules from the vertebrate myelin sheath**, C. Wang, M. Myllykoski, P. Kursula

#### LALS07: Molecular and Bioimaging

- (154) **Development of a novel stigmatic imaging mass spectrometer using laser ionization and a multi-turn time-of-flight mass spectrometer**, K. Awazu, H. Hazama, H. Yoshimura, J. Aoki, H. Nagao, M. Toyoda, K. Masuda, K. Fujii, T. Tashima, Y. Naito  
(155) **Application of nonlinear laser fluorimetry for study of photophysical processes in photosynthetic organisms**, T.S. Gostev, F.I. Kouzminov, V.V. Fadeev  
(161) **Widefield TSCSPC-systems with large-area detectors: Application in simultaneous multi-channel FLIM**, Klaus Kemnitz  
(162) **Differentiation of natural and commercial humic substances using fluorescence spectroscopy**, S. Patsaeva, D. Shubina, D. Khundzhua, V. Yuzhakov, O.Yakimenko, A. Izosimov, E. Fedoseeva, V. Terekhova  
(163) **Wide-field fluorescence lifetime imaging microscopy (FLIM) of single cells of the cyanobacterium *Acaryochloris marina***, H.-J. Eckert, M. Vitali, Z. Petrasek, T. Friedrich, K. Kemnitz

- (164) **Multispectral fluorescent protein tomography**, N.C. Deliolanis, T. Wurdinger, B.A. Tannous, V. Ntziachristos
- (165) **Optimization of multispectral optoacoustic tomography (MSOT) for deep-tissue fluorescent protein imaging applications**, N.C. Deliolanis, J. Glatz, R. Schulz, D. Razansky, V. Ntziachristos
- (220) **Stochastic chronotomography of biological objects**, K.M. Karimov, M.G. Karimov, M.A. Magomedov

#### LALS08: Laser Microscopies

- (169) **Miniaturized laser scanning fluorescence imaging microscope**, H.-C. Yu, H.-C. Lyu, K.-C. Cheng, C.-J. Chou, C.-C. Huang, Y.-C. Lee, S.-F. Chen, T.-T. Huang, P.-J. Wu, J.-J. Ju, F.-J. Kao
- (203) **Molecular dissection of functional store-operated calcium channels by fluorescence lifetime-based FRET**, D.-M. Yang, P.-C. Huang, T.-Y. Chiu, L.-C. Wang, H.-C. Teng, F.-J. Kao
- (209) **Effect of pinhole size on collection efficiency of commercial multiphoton microscopy systems in scattering objects**, A.R. Katichev, E.A. Sergeeva

#### LALS09: Novel Optical Devices for Biomedicine

- (156) **RGB imaging of laser-excited skin autofluorescence bleaching rates**, D. Jakovels, J. Spigulis
- (180) **Imaging skin lesions with a polarization multispectral dermoscope**, D. Kapsokalyvas, N. Bruscolo, D. Alfieri, F.S. Pavone
- (181) **Subgingival calculus imaging based on optical coherence tomography**, Y.-S. Hsieh, Y.-C. Ho, S.-Y. Lee, C.-W. Lu, C.-C. Chuang, C.-Y. Wang, P.-L. Lee, C.W. Sun
- (186) **The spectral-fiber analysis of the biological tissue condition at an interstitial laser irradiation**, P.V. Grachev, A.V. Ryabova
- (189) **Cost-effective, non-invasive, MRI-compatible fibre-optic measurement device for medical research**, H. Sorvoja, T. Myllylä, R. Myllylä, A. Elseoud, J. Nikkinen, O. Tervonen, V. Kiviniemi
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