

9-10

NOVEMBER 2021

SAINT-PETERSBURG

HYBRID FORMAT

The 2-nd THEMATIC INTERNATIONAL SCIENTIFIC AUTUMN SCHOOL ON LASER MICRO- & NANOTECHNOLOGIES: 2021 - BIOMEDICAL TECHNOLOGIES

9 Nov



ITMO University, Coworking space on
Lomonosova St. 9

10 Nov



BOILING POINT

LLC "Laser Center" – "Boiling Point
Hi-Tech" on Tukhachevsky St. 22

PROGRAM

TUESDAY, 9th NOVEMBER 2021

Place: ITMO University, Coworking space on Lomonosova St. 9

Language: English



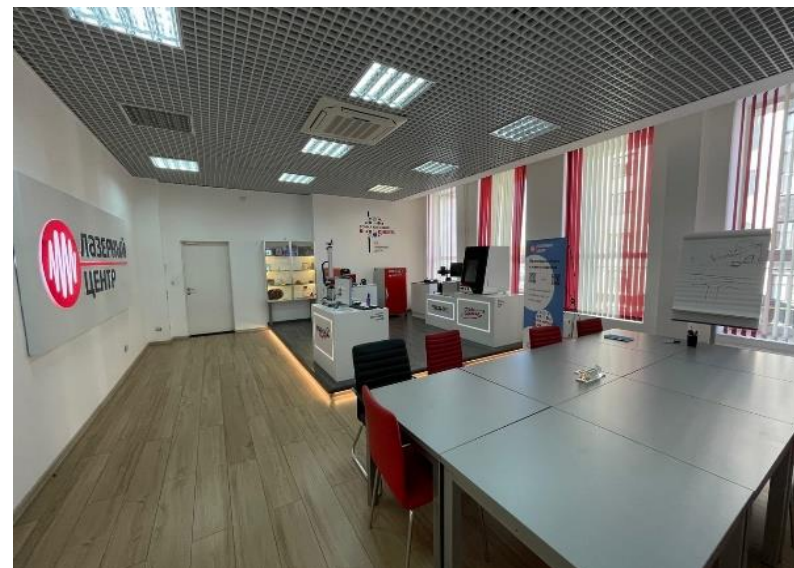
Moscow, Russia	Hannover, Germany Saint Etienne, France	Melbourne, Australia	
10.00 – 10.20	09.00 – 09.20	18.00 – 18.20	Opening
10.20 – 10.30	09.20 – 09.30	18.20 – 18.30	RSF GRANT №20-62-46045: project overview. Vadim Veiko and Galina Odintsova , ITMO University, Saint-Petersburg, Russia
10.30 – 11.10	09.30 – 10.10	18.30 – 19.10	INVITED LECTURES
10.30 – 11.10	09.30 – 10.10	18.30 – 19.10	Antimicrobial, antiadhesive, and antifouling surfaces Boris Chichkov , Leibniz University in Hannover, Hannover, Germany
11.10 – 11.50	10.10 – 10.50	19.10 – 19.50	INVITED PRESENTATIONS
11.10 – 11.30	10.10 – 10.30	19.10 – 19.30	Optothermal fiber converters and their applications for soft tissue treatment Andrey Belikov , Yulia Fedorova, Do Thanh Tung, ITMO University, Saint-Petersburg, Russia
11.30 – 11.50	10.30 – 10.50	19.30 – 19.50	Effect of pulsed laser irradiation on the structural-phase state of the near-surface layers of medical titanium alloys and titanium nickelide Yuriy Kolobov , Anastasia Tokmacheva-Kolobova, Sergey Manokhin, Institute of Problems of Chemical Physics of RAS, Chernogolovka, Russia

11.50 – 12.20	10.50 – 11.20	19.50 – 20.20	COFFEE BREAK
12.20 – 12.50	11.20 – 11.50	20.20 – 20.50	ORAL PRESENTATIONS
12.20 – 12.35	11.20 – 11.35	20.20 – 20.35	Cavitation processes in a liquid accompanying laser cataract extraction with bursts of 1.54-um microsecond laser pulses Sergey Smirnov , A.V. Belikov, E.A.Bekryasheva, Yu N. Batov, A.B. Gubin, Yu.D. Pirozhkov, E.V. Boiko, M.N. Nemsitsveridze, ITMO University, Saint-Petersburg, Russia
12.35 – 12.50	11.35 – 11.50	20.35 – 20.50	Single frequency Ti:Sapphire master oscillator for tattoo-removal application Andrey Sergeev , Sergey Gagarsky, Shireen Hilal, ITMO University, Saint-Petersburg, Russia
12.50 – 13.40	11.50 – 12.40	20.50 – 21.40	FLASH TALKS
12.50 – 13.00	11.50 – 12.00	20.50 – 21.00	Modeling of accumulative heating of silicon surface during femtosecond laser modification for biomedical applications Alexandra Shamova , G.D. Shandybina, A.V. Belikov, D.S. Polyakov, ITMO University, Saint-Petersburg, Russia
13.00 – 13.10	12.00 – 12.10	21.00 – 21.10	Research of the processes of microporation of the nail plate and delivery of chlorine-containing drugs by laser radiation with a wavelength of 450 nm A.D. Kozlova , A.V. Belikov, S.N. Smirnov, E.A.Bekryasheva, ITMO University, Saint-Petersburg, Russia
13.10 – 13.20	12.10 – 12.20	21.10 – 21.20	Chemical-free laser writing of buried channels in porous silicate matrix Shishkina Alena , ITMO University, Saint-Petersburg, Russia
13.20 – 13.30	12.20 – 12.30	21.20 – 21.30	Optical waveguides in porous matrix for small molecules detection Yakimuk Veronika , ITMO University, Saint-Petersburg, Russia
13.30 – 13.40	12.30 – 12.40	21.30 – 21.40	Laser integration of nanoporous cells on a single glass chip Yandybaeva Yulia , ITMO University, Saint-Petersburg, Russia

WEDNESDAY, 10th NOVEMBER 2021

Place: LLC “Laser Center” – “Boiling Point Hi-Tech” on Tukhachevsky St. 22

Languages: English and Russian



Moscow, Russia	Hannover, Germany Saint Etienne, France	Melbourne, Australia	
10.30 – 11.40	09.30 – 10.40	18.30 – 19.40	INVITED LECTURES
10.30 – 11.10	09.30 – 10.10	18.30 – 19.10	Innovative bactericidal nano-structured surfaces Elena Ivanova , Royal Melbourne Institute of Technology, Melbourne, Australia
11.10 – 11.40	10.10 – 10.40	19.10 – 19.40	Model of laser induced plasma relevant to structuring and oxide coating of titanium implants Igor Gornushkin , Federal Institute for Materials Research and Testing Berlin, Berlin, Germany
11.40 – 11.50	10.10 – 10.50	19.10 – 19.50	INVITED PRESENTATIONS
11.10 – 11.30	10.10 – 10.30	19.10 – 19.30	Laser-induced formation of nanoparticles and nanostructures of metals and semiconductors for medicine and photovoltaics Lev Logunov , ITMO University, Saint-Petersburg, Russia
11.30 – 11.50	10.30 – 10.50	19.30 – 19.50	Tuning microbe-material interaction towards antibacterial properties Katharina Doll , Hannover Medical School, Hannover, Germany

11.50 – 12.10	10.50 – 11.10	19.50 – 20.10	COFFEE BREAK
12.10 – 13.10	11.10 – 12.10	20.10 – 21.10	INVITED PRESENTATIONS
12.10 – 12.30	11.10 – 11.30	20.10 – 20.30	Chiral Metamaterials for Biomolecular Sensing Vittorianna Tasco , CNR NANOTEC-Institute of Nanotechnology, Lecce, Italy
12.30 – 12.50	11.30 – 11.50	20.30 – 20.50	Innovative approaches to the production of titanium implants with a laser-induced surface (in Russian) Larisa Volova , Samara State Medical University, Samara, Russia
12.50 – 13.10	11.50 – 12.10	20.50 – 21.10	Direct laser ablation method Maxim Zakharov , LLC “MedProphy”, Samara, Russia
13.10 – 13.40	12.10 – 12.40	21.10 – 21.40	ORAL PRESENTATIONS
13.10 – 13.25	12.10 – 12.25	21.10 – 21.25	Introduction of the technology of laser microstructuring of dental implants in serial production (in Russian) Yaroslav Fomin , Pulse-Line, Saint-Petersburg, Russia
13.25 – 13.40	12.25 – 12.40	21.25 – 21.40	Two-tier hierarchical laser-induced topographies: mechanisms and bioapplications Yulia Karlagina , Vadim Veiko, Dmitry Polyakov, Andrey Samokhvalov, ITMO University, Saint-Petersburg, Russia
13.40 – 13.50	12.40 – 13.00	21.50 – 22.00	FLASH TALKS
13.40 – 13.50	12.40 – 12.50	21.40 – 21.50	Modification of the implant relief to impart antibacterial properties Maksim Radaev , Ksenia Mikhailova, Elizaveta Lovushkina, Andrey Byzikin, ITMO University, Saint-Petersburg, Russia
13.50 – 14.00	12.50 – 13.00	21.50 – 22.00	Medical designing with AI assistance Kirill Rogachev , Ekaterina Zernickaya, ITMO University, Saint-Petersburg, Russia
14.00 – 15.00			LLC “LASER CENTER” TOUR (exclusive for offline participants)