

Program of
The 5th International Symposium and
School for Young Scientists on
Physics, Engineering and Technologies for Biomedicine

Saturday, November 21		Sunday, November 22	
School, Sections 1-3		School, Sections 4-6	
10.00 10.15	Opening ceremony	10.00 10.15	General information
10.15	<i>Andrei Kabashin Aix-Marseille Univ., France PhysBio MEPHl, Russia Laser-Ablative Nanofabrication</i>	10.15	<i>Vladimir Olejnikov Inst. of Bioorganic Chemistry of RAS, PhysBio MEPHl, Russia The effect of plasmon silver and exciton semiconductor nanoparticles on the bacteriorhodopsin photocycle</i>
11.00	<i>Andrey Zviagin Macquarie University, Australia Biodegradable containers for drug delivery to tumours</i>	11.00	<i>Natalia Epstein PhysBio MEPHl, Russia Obninsk Inst. For nuclear power engineering How do the medicines are made?</i>
11.45	<i>Anton Fojtik Czech Technical University in Prague, Czech Republic PhysBio MEPHl, Russia Surface-modified nanoparticles and nanofibers for biotechnology/biomedical applications</i>	11.45	<i>Viktoria Shipunova Inst. of Bioorganic Chemistry of RAS, PhysBio MEPHl, Russia Small but smart: plasmonic nanostructures for oncotheranostics</i>
12.30 13.30	Lunch	12.30 13.30	Lunch
13.30	<i>Viktor Timoshenko MSU, PhysBio MEPHl Porous silicon nanoparticles: formation, functionalization, and biomedical applications</i>	13.30	<i>Vladimir Fomin Institute for Integrative Nanosciences, IFW Dresden, Germany PhysBio MEPHl, Russia Spin-Dependent Phenomena in Semiconductor Micro-and Nanoparticles – From Fundamentals to Applications</i>
14.15	<i>Rudolf Steiner Ulm University, Germany PhysBio MEPHl, Russia Some immunological aspects of Photodynamic Therapy and also in relation to covid-19</i>	14.15	<i>Savel'eva Tatiana GPI of RAS, PhysBio MEPHl, Russia Possibilities of optical-spectral analysis in the diagnosis and treatment of intracranial tumors</i>
15.00	<i>Moustafa Enas Mahmoud National centre for radiation research and Technology, Egypt Withania somnifera modulates radiation-induced generation lung Cancer Stem Cell via restraining the Hedgehog signaling factors</i>	15.00	<i>Igor Meglinskiy Aston Universtity, UK PhysBio MEPHl, Russia The advancement of blood cell research by optical tweezers</i>
15.45 16.15	Coffee break	15.45 16.15	Coffee break
16.15	<i>Anderson Gomes Federal University of Pernambuco, Brazil PhysBio MEPHl, Russia Optical Coherence Tomography: A Multipurpose 3D Real Time Imaging Technique</i>	16.15	<i>Ahmed Al-Kattan Aix Marseille University Novel nanoparticle-enhanced biomimetic platforms for medical and tissue engineering applications</i>
17.00	<i>Paras Prasad, University at Buffalo, USA, PhysBio MEPHl, Russia Nanomedicine : Impact on Global Healthcare</i>	17.00	<i>Mikhail Shestakov PhysBio MEPHl, Enikolopov Institute of Synthetic Polymeric Materials, Russia Organic semiconductor transistors as chemical and biological sensors</i>
17.45	<i>Denise Zzell IPEN - Center for Laser and Applications (CLA), Brazil Infrared thermography and thermographic analysis in Laser Dentistry and Orthopedics</i>	17.45	

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Monday, November 23		Tuesday, November 24	
Symposium, Sections 1-3		Symposium, Sections 4-5	
10.30 11.00	Opening ceremony	10.30 11.00	General information
11.00	Andrey Kaprin <i>National Medical Research Radiological Centre of the Ministry of Health of the Russian Federation, General director</i>	11.00	Viktor Timoshenko <i>MSU, PhysBio MEPHI</i> <i>Multifunctional Silicon Nanoparticles for Biomedicine</i>
11.30	Andrei Kabashin <i>Aix-Marseille Univ., France</i> <i>PhysBio MEPHI, Russia</i> <i>Research Agenda in PhysBio MEPHI</i>	11.30	Amitava Patra <i>Institute of Nano-Science and Technology, India</i> <i>An overview of recent Activities of Nanotherapeutics</i>
12.00	Indrajit Roy <i>University of Delhi, India</i> <i>Functional nanomaterials in externally activated biomedical applications</i>	12.00	Irina Zavestovskaya <i>PhysBio MEPHI, Lebedev Physics Inst., Russia</i> <i>Nuclear nanomedicine: today and tomorrow</i>
12.30	PLENARY LECTURER Alexander Makarov <i>Thermo Fischer Scientific, Germany</i> <i>Mass spectrometry in modern medicine: perspectives and applications</i>	12.30	Viktor Tsetlin <i>Inst. of Bioorganic Chemistry of RAS, PhysBio MEPHI, Russia</i> <i>Fluorescent proteins: from fundamental studies to medical applications</i>
13.30 14.30	Lunch	13.00 14.00	Lunch
14.30	Igor Nabiev <i>Université de Reims Champagne-Ardenne, France</i> <i>PhysBio MEPHI, Russia</i> <i>Polariton-assisted donor-acceptor role reversal in resonant energy transfer between organic dyes strongly coupled to electromagnetic modes of a tuneable microcavity</i>	14.00	Pavel Varaksa <i>N.N. Blokhin National Medical Research Center of Oncology, Russia, Russia</i> <i>Morphology of organs and tissues of mice after application of gold nanoparticles</i>
15.00	Subhasree Roy Choudhury <i>Institute of Nano-Science and Technology, India</i> <i>Nanotherapeutic intervention for epigenetic regulation of cancer</i>	14.30	Panda Jiban Jyoti <i>Institute of Nano Science and Technology, India</i> <i>Peptide/Amino Acid Nanotherapeutics for Combating Neural Disorders</i>
15.30	Anton Popov <i>PhysBio MEPHI, Russia</i> <i>Laser-generated titanium nitride nanoparticles for applications from solar energy harvesting to biomedicine</i>	15.00	Gavdush Arsenii Alekseevich <i>General Physics Institute of RAS, Russia</i> <i>THz dielectric spectroscopy of human brain gliomas of different WHO grades</i>
16.00	Anton Fojtik <i>Czech Technical University in Prague, Czech Republic</i> <i>PhysBio MEPHI, Russia</i> <i>Nanotechnology against Viruses</i>	15.30	Ivan Zelepukin <i>PhysBio MEPHI, Inst. of Bioorganic Chemistry of RAS, Russia</i> <i>Cytoblockade of mononuclear phagocyte system for boosting nanoparticle efficiency</i>
		16.00	Igor Meglinskiy <i>Aston Univestity, UK</i> <i>PhysBio MEPHI, Russia</i> <i>Scattering and birefringence in phase retardation revealed by locus of Stokes vector on Poincare sphere</i>
16.30 17.00	Coffee break	16.30 17.00	Coffee break
17.00	KEYNOTE SPEAKER Paras Prasad, <i>University at Buffalo, USA</i> <i>PhysBio MEPHI, Russia</i> <i>Biophotonics and Nanomedicine : Some Recent Developments</i>	17.00 18:30	Poster session
17.45	Anderson Gomes <i>Federal University of Pernambuco, Brazil</i> <i>PhysBio MEPHI, Russia</i> <i>Exploiting Photoacoustics for Nonlinear Absorption and Imaging in Laser-Synthesized Plasmonic Titanium Nitride Nanoparticles</i>		
18.15	Denise Zezell <i>IPEN · Center for Laser and Applications (CLA), Brazil</i> <i>FTIR hyperspectral imaging for label-free histopathology</i>		

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Wednesday, November 25	
Symposium, Sections 6-7	
10.30 11.00	General information
11.00	<p>Viktoriya Tischenko National Medical Research Radiological Centre, PhysBio MEPH, Russia Preliminary biological evaluation of of chromium nanoparticles labelled with Re-188</p>
11.30	<p>Alexey Lipengolts PhysBio MEPH, N.N. Blokhin National Medical Research Center of Oncology, Russia MRI and CT enhanced imaging with bimodal nanoparticle contrast agent</p>
12.00	<p>Vladimir Morozov Institute of Biochemical Physics, RAS The high-Z nanoradiosensitizers for superficial radiotherapy</p>
12.30	<p>Alexey Trukhin PhysBio MEPH, National Medical Research Center of Endocrinology of the Ministry of Health of Russia Technology of personalized radioiodine treatment of thyrotoxicosis</p>
13.00 14.00	Lunch
14.00	<p>Deepika Sharma Institute of nano science and Technology, India Evolution of Magnetic Hyperthermia for Cancer Therapy: Past, Present and Future Outlook</p>
14.30	<p>Ekaterina Barmina General Physics Institute of RAS, Russia Laser micro- and nanotechnologies, fundamental results and trends of their applications</p>
15.00	<p>Dminry Ivanov University of Kassel, Germany PhysBio MEPH Molecular Dynamics Modeling of NPs Generation Processes for Bio-medical Applications</p>
15.30	<p>Mikhail Povarnitsyn Joint Institute for High Temperatures, RAS, PhysBio MEPH, Russia Raman spectroscopy insight into surface modes of silicon nanoparticles: molecular dynamics simulation</p>
16.00	<p>Martin Garcia University of Kassel, Germany Simulating the manipulation and damage of biological systems via external fields: from small proteins up to SARS-CoV-2.</p>
16.30 17.00	Coffee break
17.00 18:30	Poster session
18.30	Discussions and Closing ceremony