

# The 3rd International Symposium "Physics, Engineering and Technologies for Bio-Medicine"

**October 15, Monday**

**The Intourist Kolomenskoe**  
Kashyrskoye shosse, 39b, Moscow

<b>09.00 – 10.00</b>	<b>Registration</b>	
10.00 – 10.30	<b>Opening ceremony, Greeting speeches</b>	
10.30 – 11.30	<b>Marco Durante</b> , GSI Helmholtz Center, Germany <i>Future ion beam radiobiology</i>	
<b>11.30 – 12.00</b>	<b>Coffee-break</b>	
	<b>Plenary Session I</b>	<i>Chair Prof. S. Deyev</i>
12.00 – 12.30	<b>Paras Prasad</b> , University at Buffalo, USA, MEPhI, Russia <i>Biophotonics and Nanomedicine for Theranostics: Translation to Patient Care</i>	
12.30 – 13.00	<b>Andrei Kabashin</b> , CNRS, Aix-Marseille University, France, MEPhI <i>PhysBio research agendas</i>	
13.00 – 13.30	<b>Alexander Golubev</b> , ITEP of NRC "Kurchatov Institute", Moscow, Russia <i>Proton therapy&amp;radiography</i>	
13.30 – 14.00	<b>Mickael Bourgeois</b> , Nantes Univ. Hospital and ARRONAX Cyclotron, France. <i>From phenotypic to theranostic approach in nuclear medicine – need for non conventional radionuclides</i>	
<b>14.00 – 15.00</b>	<b>Lunch</b>	
	<b>Plenary Session II</b>	<i>Chair Prof. A. Kabashin</i>
15.00 – 15.30	<b>Andrey Kaprin</b> , National Medical Research Center of Radiology <i>Biomedicine technologies for modern oncoradiology</i>	
15.30 – 16.00	<b>Sunil Krishnan</b> , Anderson Cancer Center, Univ. of Texas MD, USA <i>Nanoparticles in cancer medicine – a physician's perspective</i>	
16.00 – 16.30	<b>Valentin Smirnov</b> , Scientific Research Institute of technical physics and automation, SC Rosatom, Russia <i>Development of radiotherapy system based on 6 MeV C-band linac</i>	
16.30 – 17.00	<b>Sergey Deyev</b> , Institute of bioorganic chemistry RAS, MEPhI, Russia <i>Multifunctional nanomaterials for theranostics</i>	
<b>17.00 – 17.30</b>	<b>Coffee-break</b>	
	<b>Plenary Session III</b>	<i>Chair Dr. A. Fertman, Skolkovo</i>
17.30 – 19.00	<b>Round table discussion</b> «Development trends and models for the commercialization of new technologies of nuclear and nano-medicine and radiation therapy»	
<b>19:00 – 21.00</b>	<b>Welcome party</b>	

# The 3rd International Symposium

## "Physics, Engineering and Technologies for Bio-Medicine"

**October 16, Tuesday**

**The Intourist Kolomenskoe**

**Invited lectures**

Kashyrskoye shosse, 39b, Moscow

<b>09.30 – 10.00</b>	<b>Registration</b>	
	<b>Session I</b>	<i>Chair Prof. I. Nabiev</i>
10.00 – 10.30	<b>Victor Timoshenko</b> , MSU, MPhI, Russia . <i>Biodegradable silicon based nanoparticles for applications in cancer theranostics</i>	
10.30 – 11.00	<b>Junle Qu</b> , University of Shenzhen, China. <i>Fluorescence lifetime imaging: technology for microenvironment biosensing and anti-counterfeiting</i>	
11.00 – 11.30	<b>Gomes Anderson</b> , Federal University of Pernambuco, Brazil <i>State-of-the-Art in Nanodentistry: From Nanomaterials to Optical Imaging</i>	
<b>11.30 – 12.00</b>	<b>Coffee-break</b>	
	<b>Session II</b>	<i>Chair Prof. V. Timoshenko</i>
12.00 – 12.30	<b>Igor Meglinski</b> , University of Oulu, Finland; MPhI, Russia <i>Perspectives of complex structured light with orbital angular momentum in optical diagnostics</i>	
12.30 – 13.00	<b>Igor Nabiev</b> , University of Reims, France, MPhI, Russia <i>Nanoparticles physico-chemical engineering for diagnostics and drug delivery</i>	
13.00 – 13.30	<b>Yury Rakovich</b> , University of the Basque Country, Spain; MPhI, Russia <i>Whispering Gallery Photonic Structures for Biomedical Applications</i>	
<b>13.30 – 15.00</b>	<b>Lunch, Poster section overview</b>	
	<b>Session III</b>	<i>Chair Prof. V. Oleinikov</i>
15.00 – 15.30	<b>Aleksandr Tyukavin</b> , St. Petersburg State University of Chemical and Pharmaceutical Sciences, Russia. <i>Apoptosis bodies conjugation functions of resident cardiac and mesenchymal stem cells in myocardium</i>	
15.30 – 16.00	<b>Viktor Tsetlin</b> , Institute of bioorganic chemistry RAS; MPhI, Russia <i>Neurotoxin-Receptor Interactions: Materials, Bioimaging, Diagnostics</i>	
16.00 – 16.30	<b>Gennady Panin</b> , Nano-Information Technology Academy, QSRC, Dongguk University, South Korea, IMT RAS, Russia. <i>Biocompatible photomemristive information- sensory systems based on 2d crystals</i>	
<b>16.30 – 17.00</b>	<b>Coffee-break</b>	
	<b>Session IV</b>	<i>Chair Prof. I. Meglinski</i>
17.00 – 17.30	<b>Alexey Lipengolts</b> , N.N. Blokhin Russian Cancer Research Center <i>Contrast enhanced radiotherapy. Current status and prospects.</i>	
17.30 – 18.00	<b>Indrajit Roy</b> , University of Delhi, India . <i>Nanoscale metal-organic frameworks for targeted and controlled drug delivery</i>	
18.00 – 18.30	<b>Vladimir Oleinikov</b> , Institute of bioorganic chemistry RAS; MPhI, Russia <i>A palette of fluorescent nanoparticles to develop modern biomedical tools</i>	
<b>18.30 – 20.00</b>	<b>Poster Session</b>	

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**October 17, Wednesday**

**The Intourist Kolomenskoe**

**Invited lectures**

Kashyrskoye shosse, 39b, Moscow

<b>09.30 – 10.00</b>	<b>Registration</b>	
	<b>Session V</b>	<i>Chair Prof. A. Postnov</i>
10.00 – 10.30	<b>Sergey Suchkov</b> , Sechenov University; MEPhI, Russia <i>Translational medicine: myth or reality?</i>	
10.30 – 11.00	<b>Dmitry Telyshev</b> , National Research University of Electronic Technology; Sechenov University, Russia. <i>Bionic Heart: translation principles</i>	
11.00 – 11.30	<b>Katharina Seidensaal</b> , Heidelberg University Hospital, Germany <i>Implementation and Early Clinical Data from Particle Irradiation</i>	
<b>11.30 – 12.00</b>	<b>Coffee-break</b>	
	<b>Session VI</b>	<i>Chair Prof. A. Lipenholtz</i>
12.00 – 12.30	<b>Viktoria Tishchenko</b> , A.F. Tsyb Medical Radiological Research Center <i>Biodistribution ex vivo of <math>^{213}\text{Bi}</math>-khdnp – a promising bone-seeking agent for targeted alpha therapy</i>	
12.30 – 13.00	<b>Dmitry Chuvilin</b> , NRC "Kurchatov Institute" <i>Development of a radiopharmaceutical therapeutic drug of the directed action based on the radionuclide lutetium-177</i>	
13.00 – 13.30	<b>Andrey Postnov</b> , MEPhI, Research Institute of Neurosurgery; Russia <i>Methionine uptake by brain tumors of different types</i>	
<b>13.30 – 15.00</b>	<b>Lunch</b>	
	<b>Session VII</b>	<i>Chair Prof. D. Telyshev</i>
15.00 – 15.30	<b>Vladimir Mironov</b> , 3D Bioprinting Solution, MEPhI, Russia <i>3D bioprinting in space</i>	
15.30 – 16.00	<b>Tatiana Demina</b> , Enikolopov Institute of Synthetic Polymer Materials RAS; Sechenov University, Russia <i>DC discharge plasma: surface modification of biomaterials for tissue engineering</i>	
16.00 – 16.30	<b>Andrei Bashkov</b> , Federal Medical Biological Agency, Russia <i>3D modeling in the routine work of the radiologist. Experience of the Burnasyan Federal Medical Biophysical Center of the FMBA of Russia</i>	
16.30 – 17.00	<b>Elena Filonenko</b> , National Medical Research Center of Radiology, Russia <i>Photodynamic therapy of precancer and early cervical cancer</i>	
<b>17.00 – 17.30</b>	<b>Coffee-break</b>	
	<b>Session VIII</b>	<i>Chair Prof. S. Suchkov</i>
17.30 – 18.30	<b>Round table discussion</b> "New pharmaceutical and medical education"	
<b>18.30 – 19.00</b>	<i>Awarding the winners of the contest for the best report. Closing ceremony</i>	