

**RACIRI Summer School**  
 „Advanced Design of New Materials at X-Ray and Neutron Facilities”  
 “RACIRI 2013: Soft Matter and Nanocomposites”

Saturday, 17 August 2013	
10.00 – 19.00	<b>Arrival and Check in</b> (New Peterhof Hotel, Russia, 198510, St. Petersburg, Peterhof, St. Peterburgsky Prospect, 34, Tel. + 7 (812) 319-10-10)
19.00 – 23.00	<b>Welcome dinner with barbecue and beer</b>
Sunday, 18 August 2013	
12.00 – 13.00	<b>Lunch</b>
13.00 – 13.30	<b>Welcome:</b> <b>Helmut Dosch</b> , Chairman of the Board of Directors of DESY <b>Mikhail Kovalchuk</b> , Director of NRC Kurchatov Institute <b>Ulf Karlsson</b> , Coordinator of RAC, KTH Stockholm <b>Serguei Molodtsov</b> (European XFEL and chair of RACIRI scientific committee) <b>Mikhail Rychev</b> (European XFEL, NRC Kurchatov Institute)
13.30 – 14.20	<b>Introductory lecture:</b> <b>Mikhail Kovalchuk</b> , NRC Kurchatov Institute (RU) <i>"Convergence of sciences and technologies: from inanimate to living matter"</i>
14.20 – 14.40	<b>Coffee Break</b>

<b>Photon Sources: Facilities, technics and scientific basics</b>	
14.40 – 15.30	<b>L1: Massimo Altarelli</b> , European XFEL (DE) <i>"From 3rd to 4th Generation Sources: X-Ray Experiments with Free-Electron Lasers"</i>
15.30 – 16.20	<b>F1: Richard Neutze</b> , Gothenborg University (SE) <i>"Structural and dynamical studies of proteins at an X-ray free electron laser"</i>
16.20 – 16.40	<b>Coffee Break</b>
<b>Neutron Sources: Facilities, technics and scientific basics</b>	
16.40 – 17.30	<b>L2: Victor Aksenov</b> , PNPI Gatchina (RU) <i>"Reactor neutron sources"</i>
17.30 – 18.20	<b>F2: Ken Andersen</b> , ESS (SE) <i>"Pulsed neutron sources"</i>
19.00 – 20.30	<b>Dinner</b>
20.30 – 22.00	<b>Free time</b>
<b>Monday, 19 August 2013</b>	
<b>Theory 1 (real structure related)</b>	
08.00 – 09.30	<b>L3: Igor Erukhimovich</b> , Lomonosov U Moscow (RU) <i>"Polymer nanostructures in the bulk and under nanoconfinement: physics, scattering, applications"</i>
09.30 – 13.00	<b>Summer School Cultural Programme</b> <b>Peterhof Garden</b>

13.00 – 14.00	<b>Lunch</b>
14.00 – 15.30	<b>F3: Efim Kats</b> , Landau Institute and ILL (RU/F) <i>"Determination of structural and physical features of colloidal systems from small angle scattering data"</i>
15.30 – 16.00	<b>Coffee Break</b>
<b>Theory 2 (electronic structure related)</b>	
16.00 – 17.30	<b>L4: Alexander Lichtenstein</b> , U Hamburg (DE) <i>"Advanced methods in electronics structure calculations"</i>
17.30 – 18.00	<b>Coffee Break</b>
18.00 – 19.30	<b>F4: Hans Agren</b> , KTH Stockholm (SE) <i>"DFT calculations of X-ray spectra"</i>
19.30 – 20.30	<b>Dinner</b>
20.30 – 22.00	<b>Poster session</b>
<b>Tuesday, 20 August 2013</b>	
<b>Diffraction 1 (atomic: single crystals, powders)</b>	
08.30 – 10.00	<b>L5: Jens Als-Nielsen</b> , Riso National Laboratory (DK) <i>"X-rays and Neutron-Fundamentals in 90 minutes"</i>
10.00 – 10.30	<b>Coffee Break</b>
10.30 – 12.00	<b>F5: Christian Riekkel</b> , ESRF (F) <i>"Aspects of Functional Biomaterials"</i>

12.00 – 13.30	<b>Lunch</b>
<b>Diffraction 2 (molecular: single molecules, polymers, colloids, etc.)</b>	
13.30 – 15.00	<b>L6: Sunil Sinha</b> , U San Diego (USA) <i>“X-ray and Neutron scattering from surfaces of complex fluids”</i>
15.00 – 15.30	<b>Coffee Break</b>
15.30 – 17.00	<b>F6: Sergei Chvalun</b> , NRC Kurchatov Institute (RU) <i>“Nanostructured polymeric and hybrid materials synthesized by VDP-process: Electronic and optoelectronic application”</i>
19.00 – 20.30	<b>Dinner</b>
20.30 – 22.00	<b>“What is...?”</b>
<b>Wednesday, 21 August 2013</b>	
<b>FREE DAY</b>	
08.30 – 13.00	<b>Facility Tour to Gatchina</b>
13.00 – 14.00	<b>Lunch</b>
14.00 – 21.30	<b>Summer School Cultural Programme</b>
21.30 – 22.30	<b>Dinner</b>
<b>Thursday, 22 August 2013</b>	
<b>Imaging 1 (solid matter, domains and membranes)</b>	

08.30 – 10.00	<b>L7: Carolyn Larabell</b> , LBNL (USA) <i>“Imaging biological specimens with X-rays”</i>
10.00 – 10.30	<b>Coffee Break</b>
10.30 – 12.00	<b>F7: Chris Jacobsen</b> , APS/ANL/Northwestern U (USA) <i>“X-ray microscopy: combining imaging and spectroscopy”</i>
12.00 – 13.30	<b>Lunch</b>
<b>Imaging 2 (large molecules, clusters, gels and liquids)</b>	
13.30 – 15.00	<b>L8: Michael Avdeev</b> , JINR (RU) <i>“Structural nanodiagnosics of ferrocolloidal systems by neutron scattering”</i>
15.00 – 15.30	<b>Coffee Break</b>
15.30 – 17.00	<b>F8: Joachim Dzubiella</b> , HU Berlin, HZB (DE) <i>“Theory and modeling of structural aspects and dynamics of liquids”</i>
19.00 – 20.30	<b>Dinner</b>
20.30 – 22.00	<b>Key note lecture:</b> <b>Paul Chaikin</b> , New York University (USA) <i>“Artificial Life”</i>
<b>Friday, 23 August 2013</b>	
<b>Spectroscopy 1 (electronic structure related)</b>	
08.30 – 10.00	<b>L9: Joachim Stöhr</b> , SLAC (USA) <i>“Investigation of Nanoscale Dynamics in Materials with an X-Ray Laser”</i>

10.00 – 10.30	<b>Coffee Break</b>
10.30 – 12.00	<b>F9: Emad Flear Aziz Bekhit</b> , HZB (DE) <i>“Structure and dynamics of biochemical systems in solution using modern soft X-ray spectroscopy and table-top techniques“</i>
12.00 – 13.30	<b>Lunch</b>
<b>Spectroscopy 2 (real structure related)</b>	
13.30 – 15.00	<b>L10: Michael Monkenbusch</b> , FZJ (DE) <i>“Dynamics of Macromolecules”</i>
15.00 – 15.30	<b>Coffee Break</b>
15.30 – 17.00	<b>F10: Natalia Novikova</b> , Inst. of Crystallography RAS (RU) <i>“X-ray fluorescence methods for investigations of lipid/protein membrane models”</i>
19.00 – 20.30	<b>Dinner</b>
20.30 – 22.00	<b>Paper presentations</b>
<b>Saturday, 24 August 2013</b>	
<b>Materials Preparation 1 (crystal growth, epitaxial films, self-assembling, etc.)</b>	
08.30 – 10.00	<b>L11: Alexander Vul’</b> , Ioffe Institute (RU) <i>“Preparation and characterization of the new carbon nanostructures: nanodiamonds, carbon onions and graphenes”</i>
10.00 – 10.20	<b>Coffee Break</b>
10.20 – 11.50	<b>F11: Frank Schreiber</b> , Uni Tübingen (DE) <i>“Growth processes and their characterisation by X-rays and neutrons”</i>

11.50 – 13.00	<b>Lunch</b>
<b>Materials Preparation 2 (biosamples, wet chemistry, gels, etc.)</b>	
13.00 – 14.30	<b>L12: Michael Mertig</b> , Uni Dresden (DE) <i>“Biomimetic material synthesis”</i>
14.30 – 14.50	<b>Coffee Break</b>
14.50 – 16.20	<b>F12: Dmitrii Gorin</b> , Uni Saratov (RU) <i>“Core-shell nanocomposites”</i>
16.30 – 24.00	<b>Summer School Cultural Programme and School Dinner with Awards</b>
<b>Sunday, 25 August 2013</b>	
10.00 – 12.00	<b>Check out and Departure</b>