



## 2<sup>nd</sup> RIKEN-KFU WORKSHOP

*Physics, Chemistry and Biology of  
Complex Systems –  
On the way to transdisciplinary  
research*



### PROGRAM

19 November, Monday		
10.00-10.10	<b>Opening Ceremony</b>	
10.10-13.10	Morning Session, Chair Person:	
10.10-10.50	<u>K. Kono</u> (RIKEN) <i>Spatiotemporal ordering of electrons on liquid helium under strong non-equilibrium conditions</i>	
10.50-11.30	<u>D. Tayurskii</u> , Yu. Lysogorskiy, O. Nedopekin, and A. Petrova (KFU) <i>Computer design of new materials - from atomic scale to macroscopic devices</i>	
11.30-11.50	Coffee-break	
11.50-12.30	<u>B. Malkin</u> and V. Klekovkina (KFU) <i>Microscopic models in the theory of magnetic and magnetoelastic properties of frustrated rare-earth compounds</i>	
12.30-13.10	R. Kato (RIKEN) <i>Molecular quantum spin liquid and related materials</i>	
13.10-14.30	Lunch	
14.30-18.10	Afternoon Session, Chair Person:	
14.30-15.10	<u>Y. Taguchi</u> (RIKEN) <i>Cross-correlation phenomena in strongly correlated electron systems</i>	
15.10-15.50	<u>I. Mukhamedshin</u> , A. Dooglav, T. Platova, S. Krivenko, Yu. Lysogorskiy, D. Tayurskii (KFU), and H. Alloul (Université Paris-Sud, France) <i>Cross-correlation of cobalt charge/spin state and sodium order in the sodium cobaltates <math>\text{Na}_x\text{CoO}_2</math></i>	
15.50-16.30	<u>M. Tagriov</u> , E. Alakshin, D. Blokhin, A. Sabitova, A. Klochkov, V. Klochkov, S. Korableva (KFU), and K. Kono (RIKEN) <i>Experimentally obtained evidence of water clusters existing in fullerene-like <math>\text{PrF}_3</math> nano particles</i>	
16.30-16.50	Coffee-break	
16.50-17.30	<u>R. Yusupov</u> (KFU) <i>Ultrafast laser spectroscopy - the tool for studies of the strongly correlated electron systems</i>	
17.30-18.10	<u>V. Gorbatchuk</u> and M. Ziganshin (KFU) <i>Molecular recognition by solid supramolecular receptors using elements of logic</i>	
18.30-20.30	Welcome Party	

20 November, Tuesday		
10.00-13.00	Morning Session, Chair Person:	
10.00-10.40	<u>M. Hara</u> (RIKEN) <i>New Information Processing from Biological Complex Systems</i>	
10.40-11.20	<u>K. Ilyasov</u> (KFU) <i>Diffusion weighted MRI in investigation of brain structure and organization</i>	
11.20-11.40	Coffee-break	
11.40-12.20	<u>R. Fakhrullin</u> (KFU) <i>"Make-up" for cells - biomimetic nanoengineering of live cells surface</i>	
12.20-13.00	<u>Y. Ito</u> (RIKEN) <i>Molecular evolutionary engineering for design of biomaterials</i>	
13.00-14.30	Lunch	
14.30-18.00	Afternoon Session, Chair Person:	
14.30-15.10	<u>R. Amirov</u> and <u>M. Kutyreva</u> (KFU) <i>Self-organized systems: chemistry and biomedical aspects</i>	
15.10-15.50	<u>K. Tanaka</u> (RIKEN) <i>Synthetic chemist's challenges to complex biomolecular systems</i>	
15.50-16.30	<u>I. Antipin</u> and <u>I. Stoikov</u> (KFU) <i>Supramolecular systems based on calixarene platform: design and nanotechnological applications</i>	
16.30-16.50	Coffee-break	
16.50-17.30	<u>T. Abdullin</u> (KFU) <i>Development of novel amphiphilic polymer-based materials for advanced drug delivery</i>	
17.30-18.10	<u>K. Usachev</u> , <u>D. Blokhin</u> , <u>S. Efimov</u> , <u>L. Galiullina</u> , <u>I. Rakhmatullin</u> , <u>A. Yulmetov</u> , <u>A. Aganov</u> , and <u>V. Klochkov</u> (KFU) <i>Spatial structure of biological active oligopeptides in solution and in a complex with a biological membrane model by NMR spectroscopy</i>	
18.30-20.30	Poster session	

21 November, Wednesday		
09.20-13.00	Morning Session, Chair Person:	
09.20-10.00	<u>A. Filippov</u> (KFU) Peptide interaction with lipid membranes as studied by 1H NMR diffusometry	
10.00-10.40	<u>A. Kiyasov</u> (KFU) <i>Stem cells therapy in regenerative medicine</i>	
10.40-11.20	<u>N. Imamoto</u> (RIKEN) <i>How do cells recover from environmental stress damages? - new aspects from nuclear transport system</i>	
11.20-11.40	Coffee-break	
11.40-12.20	<u>A. Skorinkin</u> , <u>A. Abdullin</u> , and <u>R. Giniatullin</u> (KFU) <i>CGRP and HCN-channels: A novel mechanism of headache?</i>	
12.20-13.00	<u>A. Rizvanov</u> (KFU) <i>Current trends in gene therapy applications</i>	
13.00-14.30	Lunch	
14.30-18.00	Afternoon Session, Chair Person:	
14.30-15.10	<u>H. Yamazaki</u> , <u>N. Shannon</u> , and <u>H. Takagi</u> (RIKEN) <i>How do Cooper pairs feel in complex systems? - Superconducting proximity effects in artificial heterostructures</i>	
15.10-15.50	<u>L. Tagirov</u> , <u>R. Deminov</u> , <u>O. Nedopekin</u> (KFU), <u>Ya. Fominov</u> (Landau Institute, Russia), <u>M. Kupriyanov</u> , <u>T. Karminskaya</u> (Moscow State University, Russia), <u>A. Golubov</u> (University of Twente, Netherlands), <u>A. Sidorenko</u> , <u>V. Zdravkov</u> , <u>R. Morari</u> (Academy of Science, Moldova), <u>J.-V. Kehrlé</u> , <u>D. Lenk</u> , <u>G. Obermeier</u> , <u>C. Mueller</u> , <u>R. Tideks</u> , and <u>S. Horn</u> (University of Augsburg, Germany) <i>Getting functionality in superconductor-ferromagnet proximity heterostructures – theory versus experiment</i>	
15.50-16.30	<u>S. Fujiyama</u> (RIKEN) <i>Magnetic correlation of spin-orbit Mott insulator Sr<sub>2</sub>IrO<sub>4</sub></i>	
16.30-16.50	Coffee-break	
16.50-17.30	<u>K. Ono</u> (RIKEN) <i>Orbital, spin and nuclear spin manipulation in semiconductor quantum dots</i>	
17.30-18.10	<u>S. Kharintsev</u> (KFU) <i>Optical antennas towards single-molecule near-field measurements</i>	
18.30-20.30	Dinner	

22 November, Thursday		
10.00-12.30	Lab Tour to the Institute of Physics and to the Institute of Chemistry	
13.00-14.30	Lunch	
14.30-16.30	Visit to the University Museums	
16.30-17.30	Closing Discussion	
18.30-20.30	Dinner	