International Workshop

Structure and Functions of Biomembranes

Moscow Institute of Physics and Technology, Dolgoprudny

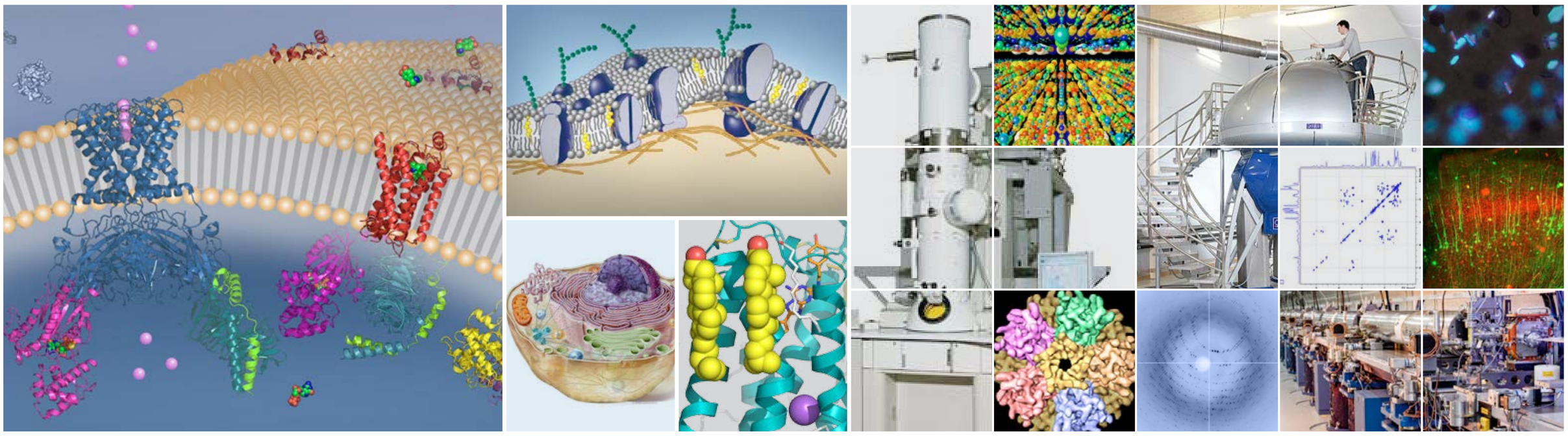
Registration
10th August

Abstract Submission
1st September

http://biomembranes2014.ru

biomembranes2014@mipt.ru

29 September – 3 October, 2014



Membranes...

Research on biological membranes occupies a central position in cellular and molecular biology. Biomembranes form very complex, dynamic and heterogeneous structures, in both space and time, critical for cellular function. Membrane proteins are involved in transport of ions and nutrients, signal transduction and energy conversion, and their malfunctions often result in numerous serious diseases, such as Alzheimer's, Parkinson's, diabetes, cancers, heart failure and others. While membrane proteins represent roughly one-third of the proteins encoded in the human genome, about 60-70% of modern drugs target these proteins, emphasizing their crucial value for pharmacology and medicine. Biological membranes are also a focus of intense investigations in soft matter and theoretical physics.

And Methods for their studies…

X-ray and neutron scattering, NMR, electron microscopy, mass-spectrometry and single molecule fluorescence spectroscopy are key methods to study structural aspects and functional mechanisms of membrane proteins at time resolutions from femtoseconds to minutes, and spatial scales from atoms to whole organisms. The last few years have brought multiple breakthroughs in instrumentation and technologies, enabling the pursuit of new directions and paradigms in a variety of fields including studies of biological membranes.

A major goal of this Workshop is to provide up-to-date information about key advances in the diverse research fields related to biomembranes including XFEL. World-leading scientists in structural biology, biophysics and soft matter from different countries will share their knowledge and expertise on several of the hottest topics in modern science.

A special emphasis will be given to publicity of the scientific activities at MIPT and its partners within the 5TOP100 program. The Workshop is intended to promote efficient scientific co-operations between MIPT and world-leading laboratories, and to attract students and young scientists to participate in this program.

Keynote Speakers:

- **Ernst Bamberg**
  Max Planck Institute of Biophysics, Germany
- **Ray Stevens**
  The Scripps Research Institute, USA;
  iHuman Institute, China

Invited Speakers:

- **Georg Büldt (Russia)**
- **Vadim Cherezov (USA)**
- **Igor Chizhov (Germany)**
- **Norbert Dencher (Germany)**
- **Rouslan Efremov (Belgium)**
- **Martin Enhelhard (Germany)**
- **Thomas Gensch (Germany)**
- **Sergei Grudinin (France)**
- **Gerhard Gompper (Germany)**
- **Valentin Gordeliy (France)**
- **Karl-Erich Jaeger (Germany)**
- **Vsevolod Katritch (USA)**
- **Leonid Sazanov (UK)**
- **Vasily Studitsky (USA)**
- **Dieter Willbold (Germany)**
- **Marat Yusupov (France)**

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