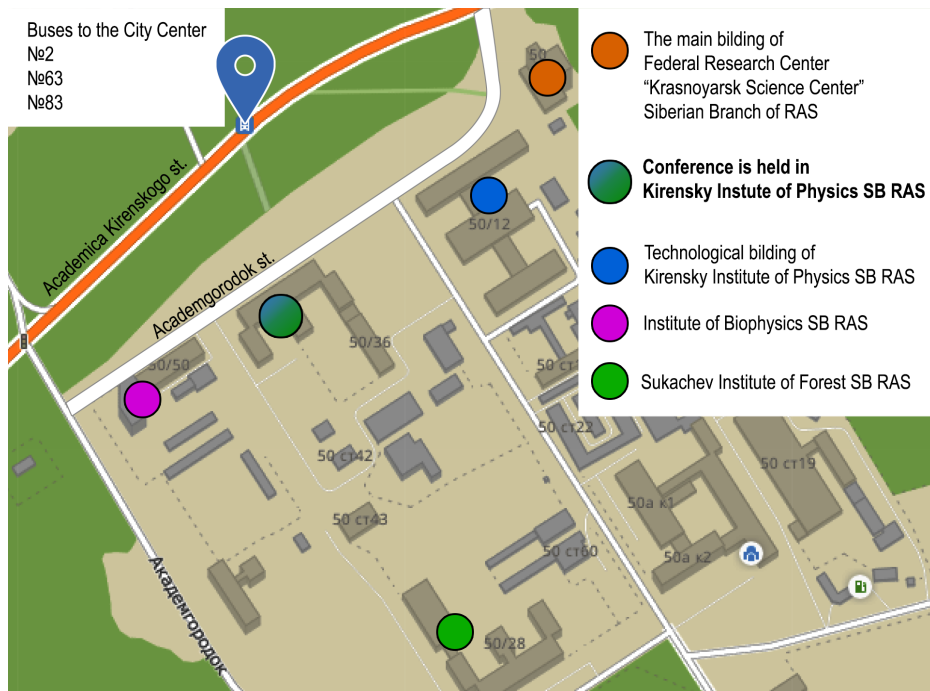


Local map of Federal Research Center «Krasnoyarsk Science Center» of the Siberian Branch of Russian Academy of Science



Kirensky Institute of Physics SB RAS



Aptamers in Physics **Aptamer Properties** **Structure Analyses and Selection Methods**

Chairman
Nikita Volkov

10.00

Steven Benner

Aptamers from Artificially Expanded Genetic Information Systems
[Foundation for Applied Molecular Evolution, Alachua, USA](#)

10.30

Weihong Tan

The foundation of molecular medicine: A chemical biology approach
[Molecular Sciences and Biomedicine Laboratory \(MBL\), College of Life Sciences and Aptamer Engineering Center of Hunan Province, Hunan University, Changsha, China](#)

11.00

Felix Tomilin

Molecular structure restoration of aptamers by Small Angle X-ray Scattering and Computer Simulation
[Kirensky Institute of Physics, Krasnoyarsk, Russia](#)

11.15

Sergey Lyaschenko

The new Fe-Si magnetic nanoparticles for biomedical applications
[Laboratory for Physics of Magnetic Phenomena, Kirensky Institute of Physics, Krasnoyarsk, Russia](#)

11.30

Anton Tarasov

Silicon nanowire based biosensor for detection of organic molecules
[Laboratory of Radiospectroscopy and Spintronics, Kirensky Institute of Physics, Krasnoyarsk, Russia](#)

11.45

Coffee break

Second floor of Kirensky Institute of Physics

12.15

Alexander Zhigachev

Nearly endless potential of magnetic nanoparticles activated by different magnetic field combinations for diverse theranostic applications

[G.R. Derzhavin Tambov State University, Tambov, Russia](#)

12.30

Roman Moryachkov

Small-Angle scattering applications to the analysis of aptamer structure and conformational changes

[Laboratory of Controlled Digital Drugs and Theranostics, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk, Russia](#)

12.45

Anastasia Shabalina

Nearly endless potential of magnetic nanoparticles activated by different magnetic field combinations for diverse theranostic applications

[Laboratory of Advanced Materials and Technologies, Siberian Physical-Technical Institute of Tomsk State University, Tomsk, Russia](#)

13.00

Dmitry Veprintsev

New algorithm for HTS SELEX data processing

[Laboratory of Controlled Digital Drugs and Theranostics, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk, Russia](#)

13.15

Anton Bukatin

Microdisk resonators for high-sensitive protein detection in microfluidic devices

[St. Petersburg Academic University, St. Petersburg, Russia](#)

13.30

Transfer to restauraunt

13.45

Lunch

Restoraunt of Siberian Federal University

15.00

City Bus Tour

Krasnoyarsk

18.00

Transfer to the City Center Hotels

Day 2. August 28

- 9.00 ● **Bus transfer from the city central hotels**
- 10.00 ● **Excursion to National Park “Stolby”**
Sverdlovskaya 273/2, Krasnoyarsk
- 12.00 ● **Lunch**
- 14.00 ● **Bus transfer to Admiral eco-park**
- 16.00 ● **Poster session**
Conference Hall
- 18.30 ● **Dinner**
Restoraunt “Admiral”
- 20.30 ● **Welcome party**
Bonfire zone

Local Map of Admiral eco-park



Aptamers in Physics

- PA-1** ● **Magnetic Field Parameters Determination for the Magneto-mechanical Activation of Ehrlich Ascites Carcinoma Cells Using Aptamers with Magnetic Nanoparticles**
K. Lukyanenko, G. Zamay, I. Denisov
- PA-2** ● **Various approaches for aptamer-protein docking: analysis and prospects**
I. Denisov
- PA-3** ● **Biocompatible nanostructures fabricated by Dip-Pen Nanolithography**
T. Smolyarova, A. Tarasov, A. Lukyanenko, L. Shanidze, I. Yakovlev, N. Volkov
- PA-4** ● **Development of electrochemical aptasensor for glioblastoma diagnostics**
A. Shabalina, D. Sharko, E. Gotovtseva, G. Zamay
- PA-5** ● **Electrochemical behavior of aptamers specific to lung cancer immobilized on golden electrodes**
D. Sharko, A. Shabalina, D. Ezhov
- PA-6** ● **Magnetic NPs for Potential Application in Aptamer-based Technologies**
V. Svetlichnyi, I. Lapin, A. Shabalina, A. Sokolov, A. Kichkailo
- PA-7** ● **Magnetic Properties of Iron Oxide Nanoparticles to Create Aptamer-Based Bionanoconjugates**
A. Sokolov, V. Zabluda, A. Sherepa, Y. Knyazev, M. Volochaev, A. Kurilina, D. Velikanov, D. Goncharova, A. Shabalina, V. Svetlichnyi

Aptamer Properties, Structure Analyses and Selection Methods

- PB-1** ● **Challenges in Aptamers Target Identification by Mass Spectrometry**
Y. Glazyrin, A. Kichkailo, Z. Minic, M. Berezovski
- PB-2** ● **In-silico Investigation of Binding of Tubulin Protein with Aptamer Using Docking Studies**
P. Artyushenko, R. Moryachkov, I. Shchugoreva, F. Tomilin
- PB-3** ● **Molecular design of aptamer structure by computer simulation**
I. Shchugoreva

Aptamers in Therapy

- PC-1** ● **Reducing cisplatin toxicity by combining it with arabinogalactan and aptamers for an effective targeted delivery of to the tumor**
T. Zamay, A. Starkov, G. Zamay, R. Zukov, A. Krat
- PC-2** ● **Aptamer conjugated superparamagnetic ferroarabinogalactans for cancer therapy**
O. Kolovskaya, G. Zamay, V. Babkin, A. Narodov, T. Zamay, E. Morozov, I. Lapin, A. Kichkailo
- PC-3** ● **Aptamers penetrating through the blood brain barrier for antiepileptic drugs delivery**
G. Zamay, V. Ushenko, T. Zamay, O. Kolovskaya, A. Kichkailo
- PC-4** ● **DNA Aptamers to Muscle Stress Marker - 3-Methyl-L-Histidine**
V. Sharoyko, T. Tennikova, A. Kovalenko A., A. Gubal, I. Gorbunov
- PC-5** ● **Investigation of the binding of ferro-arabinogalactan nanoparticles to ascitic Ehrlich carcinoma cells**
 S. Stolyar, O. Kolovskaya, L. Chekanova, R. Yaroslavtsev, M. Bairmani, R. Iskhakov

Aptamers in Diagnostics

Chairman

Vittorio de Franciscis

9.00

Xiaohong Fang

Aptamer Based Liquid Biopsy and Biomarker Discovery for Lung Cancer
[Key Laboratory of Molecular Nanostructures and Nanotechnology,](#)
[Institute of Chemistry, Chinese Academy of Sciences, Beijing, China](#)

9.30

Petr Denissenko

Magnetic sorting of tumor cells with attached magnetic nanoparticles in a microchannel
[University of Warwick, Coventry, UK](#)

9.50

Vera Spiridonova

Paradigm structure-function on the example of aptamer DNA-thrombin complexes
[A.N. Belozersky Institute of Physics-Chemical Biology, Moscow, Russia](#)

10.10

Ilya Frolov

Screening approaches to identify intermolecular interactions
[Helicon \(Sponsor\)](#)

10.30

Coffee break

Karaoke bar

11.00

Tatiana Kanyshkova

Optimization of research workflow in drug discovery
[Optec \(Sponsor\)](#)

Chairman

Maxim Berezovski

11.15

Andrey Verner

Droplet Digital PCR: Advantages and Applications

[Bio-Rad](#) (Sponsor)

11.25

Kseniya Korchagina

Innovative flow cytometry possibilities for investigation of new extracellular markers of diseases

[Beckman Coulter Life Sciences](#) (Sponsor)

11.35

Irina Safenkova

New opportunities of aptamers in assays of mycotoxins

[A.N. Bach Institute of Biochemistry, Research Centre of Biotechnology of the Russian Academy of Sciences, Moscow, Russia](#)

11.50

Anna Berlina

Application of aptamers for the determination of heavy metals

[A.N. Bach Institute of Biochemistry, Research Center of Biotechnology of the Russian Academy of Sciences, Moscow, Russia](#)

12.05

Chandan Narayan

Virus-based SELEX (viro-SELEX) allows development of aptamers targeting

[Pohang University of Science and Technology, Pohang, Rep. of Korea](#)

12.20

Maria Vorobyova

2'-F-RNA aptamers to blood protein biomarkers: development and bioanalytical applications

[Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk, Russia](#)

12.35

Alena Zyuzukina

Dependence of the number of circulating tumor cells on clinical and molecular parameters in breast cancer

[Krasnoyarsk State Medical University named after Prof. V.F. Voino-Yasenetskii, Krasnoyarsk, Russia](#)

12.50

Lunch

Restoraunt "Admiral"

📍 Conference Hall
eco-park Admiral
the 1st Floor

Aptamers in Therapy

Chairman
Anna Kichkailo

14.00

Larry Gold

SOMAmers and SOMAscan: Molecular Snuggling, Binding Specificity, and Proteomics

[SomaLogic, Inc. Boulder, Colorado, USA](#)

14.30

Vittorio de Franciscis

Aptamers for the selective targeting of therapeutic RNA to cancer cell

[Institute of Experimental Endocrinology and Oncology, Naples, Italy](#)

14.50

Alexey Berezchnoy

PD-L1-targeted 4-1BB co-stimulation converts tumor immune suppression into T-cell activation

[MacroGenics, INC. Rockville, USA](#)

15.10

Vasilisa Krasitskaya

The Ca²⁺-regulated photoprotein obelin as a tool for development of DNA and RNA aptamers

[Institute of Biophysics SB RAS, Federal Research Center](#)

[“Krasnoyarsk Science Center SB RAS”, Krasnoyarsk, Russia](#)

15.25

Coffee break

Karaoke bar

Chairman
Alexey Berezchnoy

16.00

Gerolama Condorelli

The Discovery of RNA-aptamers That Selectively Bind and Inhibit Glioblastoma Stem Cells

[Department of Molecular Medicine and Medical Biotechnology,](#)

[“Federico II” University of Naples, Naples, Italy](#)

16.20

Maxim Berezovski

Inhibition of complement dependent cytotoxicity by anti-CD20 aptamers

Department of Chemistry and Biomolecular Sciences, University of
Ottawa, Ottawa, Canada

16.40

Anna Kichkailo

Tumor Specific Aptamers for Glioblastoma Theranostics

Krasnoyarsk State Medical University, Krasnoyarsk, Russia
Federal Research Center "Krasnoyarsk Research Center" of the
Siberian Branch of Russian Academy of Science, Krasnoyarsk, Russia

17.00

Nicola Borbone

G-quadruplex-forming tetra-end-linked DNA aptamers: design, synthesis
and application as HIV-1 cell fusion inhibitors

Department of Pharmacy, University of Naples Federico II, Naples, Italy

17.15

Shumikha Bay Cruise

Krasnoyarsk Sea

19.00

Gala dinner

Restoraunt "Admiral"

22.15

Award ceremony

The best poster presentation

22.30

Closing ceremony "Aptamers in Russia 2019"

Looking forward to see you in Krasnoyarsk!

The 1st International Conference



Krasnoyarsk, Russian Federation, August 27-30