**10th anniversary International Multiconference**

**«Bioinformatics of Genome Regulation and Structure\ Systems Biology»**

Novosibirsk, Russia, 29 August – 2 September, 2016

BGRS\SB-2016 MM&HPC-BBB-2016 SBioMed-2016 CSGB 2016

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| **29 August, Monday** |
| 08:30-10:00 | Registration (*House of Scientists SB RAS, main entrance)*  |
| **10.20–16.00** | **Plenary session** *(House of Scientists SB RAS, Large hall)**Chairpersons: Prof. Nikolay Kolchanov, Prof. Ralf Hofestädt* |
| **10:20-11.00** | Opening Ceremony *(House of Scientists SB RAS, Large Hall)*  |
| 11.00–11.40 | **Aging and cancer: state-of-art and prospects for prevention**Vladimir Anisimov Department of Carcinogenesis and Oncogerontology, N.N. Petrov Research Institute of Oncology, Saint Petersburg, Russia |
| 11.40–12.20 | **Postgenome medicine as n-of-one science**Andrey Lisitsa, E.V. Kolker, H. Huan-Wen Chen, V.E. Frankevich Institute of Biomedical Chemistry, Moscow, Russia |
| 12.20–13.00 | **Active maintenance of phylotranscriptomic hourglass patterns in plant and animal embryogenesis**H.G. Drost1, A. Gabel1, I. Ivo Grosse1,2, M. Quint3,41Institute of Computer Science, Martin Luther University Halle-Wittenberg, Halle, Germany2German Centre for Integrative Biodiversity Research Halle-Jena-Leipzig, Leipzig, Germany3Department of Molecular Signal Processing, Leibniz Institute of Plant Biochemistry, Halle, Germany4Institute of Agricultural and Nutritional Sciences, Martin Luther University Halle-Wittenberg, Halle, Germany |
| 13.00–14.00 | Lunch |
| 14.00–14.40 | **Genetics of Aging and Dementia** Evgeny Rogaev University of Massachusetts, USA |
| 14.40–15.20 | **Regulation of RIPKs in cell survival and cell death by apoptosis and necroptosis, insights and therapeutic potential**Peter Vandenabeele VIB Inflammation Research Center, Zwijnaarde-Ghent, BelgiumDepartment of Biomedical Molecular Biology, Ghent University, Ghent, Belgium |
| 15.20–16.00 | **Macroevolutionary and experimental assays of fitness landscapes**Fyodor KondrashovCentre for Genomic Regulation, Barcelona, Spain |
| 16.00–16.40 | Coffee break with Thomson Reuters. **Coffee with Thomson Reuters. Integrity - essential knowledge to empower your drug discovery and development**Sergey Paramonov, Vladimir Poroikov Thomson Reuters, Moscow, Russia |

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| **Time** | **Small hall** | **Time** | **Library** | **Time** | **223** | **Time** | **Music Hall** | **Time** | **Exhibition Hall** |
|  | BGRS\SB |  | BGRS\SB |  | CSGB |  | SBioMED |  | MM-HPC-BBB |
|  |  |  |  |  |  |  |  | **15:00–17:45** | **Afternoon session “Mathematical modelling of gene networks: direct and inverse problems”** *Chairs: Prof Vladimir Golubyatnikov, Prof Ralf Hofestädt* |
|  |  |  |  |  |  |  |  | 15:00–15:30 | **Geometry of phase portrait of one gene network model with variable feedbacks**Vladimir Golubyatnikov1,2, M.V. Kazantsev3 , N.B. Ayupova1,21Sobolev Institute of Mathematics SB RAS, Novosibirsk, 2NSU, Novosibirsk, Russia 3Polzunov Altai State Technical University, Barnaul, Russia |
|  |  |  |  |  |  |  |  | 15:30–15:45 | **Computer analysis of biological networks of mammalian circadian oscillator** Nikolai Podkolodnyy1-3, O.A. Podkolodnaya1, N.N. Tverdokhleb1,31ICG SB RAS, 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, 3NSU, Novosibirsk, Russia |
| **16.40–19.10** | **Section “Systems Computational Biology”***Chairperson:* [Alexander](https://scholar.google.com/citations?user=6IYzJcsAAAAJ&hl=en) Ratushny, Celgene, and Institute for Systems Biology, Seattle, USA |  |  |  |  |  |  | 15:45–16:00 | **Functional graphs of discrete dynamical systems of almost circulant type** Anastasiya ParfinenkoSobolev Institute of Mathematics SB RAS, Novosibirsk, Russia |
| 16.40–17.10 | **Evolution of phenotypic control by new genes through integrating and rewiring of ancestral expression networks**Manyuan Long Department of Ecology and Evolution, The University of Chicago, Chicago, USA |  |  |  |  |  |  | 16:00–16:15 | **Two models of the drosophila gap gene network with variation of mathernal input** Konstantin Kozlov1, A.V. Svichkarev1, V.V. Gursky1,2, I.V. Kulakovskiy3, S.Y. Surkova1, M.G. Samsonova11Peter the Great St. Petersburg Polytechnic University, St. Petersburg, 195251, Russia  2Ioffe Institute, St. Petersburg, 194021, Russia3Engelhardt Institute of Molecular Biology, RAS, Moscow, 119991, Russia |
| 17.10–17.40 | **KATIS: integrative information system for complementary medicine**Ralf Hofestädt, V. Ogultarhan and A. Shoshi University Bielefeld, Bielefeld, Germany |  |  |  |  |  |  | 16:15–16:30 | **Stochastic pattern formation induced by cell-to- cell communications in elastic epithelial tissue**Dmitryi Bratsun1, I.V. Krasnyakov21Perm National Research Polytechnic University; 2Perm State Humanitarian Pedagogical University, Perm, Russia |
| 17.40–18.10 | **FAIRDOM: Data and Model Management for Systems Biology Projects** Olga Krebs1, R. Kuzyakiv5, M. Golebiewski1, S. Owen2, Q. Nguyen1, N. Stanford2, K. Wolstencroft4, J.L. Snoep2,3, B. Rinn5, W. Mueller1, C. Goble2   1Heidelberg Institute for Theoretical Studies, Germany; 2School of Computer Science, University of Manchester, UK;3Department of Biochemistry, University of Stellenbosch, South Africa; 4Leiden Institute of Advanced Computer Science, Leiden University, NL; 5ETH Zurich, Swiss |  |  |  |  |  |  | 16:30–16:45 | **An inverse problem for a system with a small parameter in kinetics models**Larisa KononenkoSobolev Institute of Mathematics, Novosibirsk, Russia |
| 16:45–17:00 | **Euclidean analogues of genetic distances between nucleotide sequences** Vadim Efimov1-4, K.V. Efimov5, V.Y. Kovaleva21ICG SB RAS, Novosibirsk, Russia2Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, Russia3NSU, Novosibirsk, Russia4Tomsk State University, Tomsk, 634050, Russia5Moscow Institute of Physics and Technology (State University), Moscow, 141701, Russia |
| 18.10–18.40 | **Two models of the drosophila gap gene network with variation of maternal input**Konstantin Kozlov1, A.V. Svichkarev1, V.V. Gursky1,2, I.V. Kulakovskiy3, S.Y. Surkova1, and M.G. Samsonova11Peter the Great St. Petersburg Polytechnic University, 2Ioffe Institute, St. Petersburg; 3Engelhardt Institute of Molecular Biology RAS, Moscow, Russia |  |  |  |  |  |  | 17:00–17:15 | **Symmetrical genetic code and genetic mutations**Boris Biletskyi, A.M. GupalV.M. Glushkov Institute of Cybernetics NAS of Ukraine, Kiev, Ukraine |
| 17:15–17:30 | **Cycles of discrete dynamical systems of a circulant type with a threshold function in the vertices of the network** Tsyndyma BatuevaSobolev Institute of Mathematics SB RAS, Novosibirsk, Russia |
| 18.40–19.10 | **Elemental metabolomics–linking environmental, food, nutrition and health sciences**P. Zhang1, I. Giannenas2, C.A. Georgiou3, Vladimir Brusic1,4 1Menzies Health Institute Queensland, Griffith University, Australia2Aristotle University of Thessaloniki, Thessaloníki, Greece3Department of Food Science and Nutrition, Agricultural University of Athens, Greece4School of Medicine and Bioinformatics Center, Nazarbayev University, Kazakhstan |  |  |  |  |  |  | 17:15–17:45 | **Genome tree theory**Igor ErokhinNational Biotechnological Company LLC, Moscow, Russia |
| 19.40–22.00 | **WELCOME PARTY**  |
| **30 August,** Tuesday |
| ***Time*** | ***Small hall*** | ***Time*** | ***Library*** | ***Time*** | ***223*** | ***Time*** | ***Music Hall*** | ***Time*** | ***Exhibition Hall*** |
|  | BGRS\SB |  | BGRS\SB |  | CSGB |  | SBioMED |  | MM-HPC-BBB |
| **9.00–13.10** | **Section “Genomics, Transcriptomics and Bioinformatics”***Chairpersons: Ivo Grosse, Halle-Wittenberg University, Halle, Germany; Vsevolod Makeev, VIGG RAS, MIPT, Moscow, Russia* |  |  | 9.00 – 13.00 | Symposium «Cognitive Sciences, Genomics and Bioinformatics” (CSGB- 2016)  | 09:00−09:10 | **Opening remarks**Vladimir KonenkovSICEL, Novosibirsk, Russia | **9:00–13:00** | **Morning session “High-performance computing in natural sciences”** *Chairpersons: Igor Kulikov, Igor Chernykh* |
| 9.00–9.30 | **Transcription by alternative sigma factors: revising the rigidness paradigm**Jelena Guzina, M. DjordjevicUniversity of Belgrade, Belgrade, Serbia |  |  | 9.00–9:30 | **National Technology Initiative (NTI): NeuroNet and CoBrain strategies and prospects** Lubomir Aftanas11 Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia | 09:10−10:50 | **Cell Technology and Regenerative Medicine** Chairs: Vladimir Konenkov, Elena Chernych | 9:00–9:30 | **Realistic 3D simulation of C. elegans swimming and crawling with sibernetic environment**Andrey Palyanov1-3, S.S. Khayrulin1-31Institute of Informatics Systems SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia; 3OpenWorm Project |
| 09:10−09:30 | **Migration of bone marrow cells: research technology**Alexander Poveshchenko, L.A. Shundrin, P.A. Avrorov, A.O. Solovieva, T.V. Miller, K.E. Zubareva, O.V. Poveshchenko, V.I. KonenkovSICEL, Novosibirsk, Russia |
| 9.30–10.00 | **Reconstruction of transcription control network in genome-reduced bacteria by high-throughput promoters identification**Irina Garanina, G.U. Fisunov., D.V. Evsutina, V.M. GovorunScientific Research Institute of Physical-Chemical Medicine SRI PCM, Moscow, Russia |  |  | 9.30–10:00 | **Approaches to the study of oscillatory resting-state networks** Gennady Knyazev11Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia | 09:30−09:45 | **Study of motility of osteogenic cells in tissue engineering protocols**N. Astakhova, S.V. Nikolaev, K.E. Orishchenko3, A.V. Korel¹, U.S. Zubairova3, I.A. Kirilova 1Institute ofTraumatology and Orthopedics Y.L. Tsivyan; 2Innovative Medical Technology, Novosibirsk, Russia; 3Institute of Cytology and Genetics of SB RAS, Novosibirsk, Russia | 9:30–9:45 | **Siberian supercomputer center as a service for bioinformatics research** Igor Chernykh, B. Glinskiy, N. KuchinInstitute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
|  |  |  |  |  |  | 09:45−10:05 | **Approaches to personalized cell therapy for ischemic diseases**Olga PoveshchenkoSICEL, Novosibirsk, Russia | 9:45–10:00 | **HLA typing pipeline for amplicon sequencing**Olga Altukhova, P.I. Borovikov1, Т. Jankevi2, I.S. Balashov11Academician V.I. Kulakov Research Center of Obstetrics, Gynecology and Perinatology, Moscow, Russia; 2NRC Institute of Immunology FMBA of Russia, Moscow, Russia |
| 10.00–10.30 | **Single cell expression profiling of neural crest-derived cells**Tatiana Subkhankulova1, G. Aquino2, A. Rocco2, H. Schwetlick1, R.N. Kelsh11Department of Biology and Biochemistry, University of Bath, Bath, UK; 2Department of Microbial and Cellular Sciences, University of Surrey, Guildford, UK |  |  | 10:00–10:30 | **Engineering and neurocognitive aspects in the development of non-invasive brain-computer interfaces** SergeiShishkin11 National Research Centre "Kurchatov Institute", Moscow, Russia | 10:05−10:20 | **Clinical efficacy of biomedical cellular products in experimental bowel inflammation disease** Alexander Lykov, N.A. Bondarenko, M.A. Surovtseva, I.I. Kim, N.P. Bgatova, O.V. PoveshchenkoSICEL, Novosibirsk, Russia | 10:00–10:15 | **High-performance intelligent analysis of biomechanical processes control and management of blood pressure in human kidney**Agyn BedelbayevAl-Farabi Kazakh National University, Almaty, Kazakhstan |
| 10:20−10:35 | **Strategies for maturation and antigen loading of dendritic cells for anti-cancer immunotherapy**Zhanna Nazarkina1,2, A. Zajakina 3, P.P. Laktionov 1,2 1ICBFMSB RAS, Novosibirsk, Russia; 2Scientific Research Institute for Circulatory Pathology named after Academician E.N. Meshalkin, Novosibirsk, Russia; 3Latvian Biomedical Research and Study Centre, Riga, Latvia | 10:15–10:30 | **High-performance computations support for the software package «haplooid evolutionary constructor»**Roman Zudin1,2, S.A. Lashin1,21ICG SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 10.30–10.45 | http://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/02/DIA-M-Logo-Squares-.jpg**Using Dolomite Microfluidics for sequencing the transcriptome of individual cells**Dmitry BrittalLLC "Dia M", Moscow, Russia |  |  | 10:30–10:50 | **Abductive reasoning in psychotherapy** Vladimir Zavyalov11Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia | 10:35−10:50 | **Discussion** | 10:30–10:45 | **Argo-CUDA: a full-exhaustive GPU based approach for a motif discovery in the large DNA datasets**Oleg Vishnevsky1,2, A.V. Bocharnikov2, N.A. Kolchanov1,21ICG SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| *Coffee break: 10.55–11.10* |
| 11.10–11.25 | **Genome of black garden ant: defense against virus invasion?**E.A. Konorov, Victoria Scobeyeva, M.A. Nikitin, S.N. Lysenkov, S. NuzhdinMoscow State University, Moscow, Russia | **11.00-16.00** | **Section “Bioinformatics and Systems Biology of Cell Death”***Chairpersons: Inna Lavrik, Otto von Guericke University, Magdeburg, Germany* | 11:10–11:30 | **Connection of genetic and endophenotypic indexes with personality properties of the healthy participants and the patients with affective pathologies** Alexander Savostyanov11 Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia | 11:10−13:00 | **Translational Medicine: from Animal Models to Clinic** Chairs: Michael Moshkin, Andrei Akulov | **11:10–15:50** | **Afternoon session “Application of Bioinformatics and Systems Biology”** *Chairperson:* [Alexander](https://scholar.google.com/citations?user=6IYzJcsAAAAJ&hl=en) Marchuk, Vladimir Ivanisenko, Alexander Kel  |
| 11.25-11.40 | **Target enrichment technologies for applied** **research**Dmitry KwonAgilent Technologies Russia, Moscow, Russiahttp://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/07/2c_CorporateSig-noHL.jpg | 11.00–11.40 | **The p53 family in cancer biology** I. Amelio1, F. Bernassola2, T.W. Mak2, Gerry Melino1,31MRC Toxicology Unit, LeicesterLE1 9HN, United Kingdom; 2The Campbell Family Cancer Research Institute, Toronto, Ontario M5G 2M9, Canada3University of Rome Tor Vergata, Rome, Italy | 11:30–11:50 | **Artificial neural network for diagnosis of cognitive impairment in children with different clinical forms of perinatal lesions of the central nervous system** Alexey Pijanzin1,2,3, Ashkinadze A.V.2, Shaidurov A.A.1, Ivchenko E.V.31 Altai State University, Barnaul, Russia; 2 Altai State Medical University, Barnaul, Russia; 3 Altai Region Clinical Children’s Hospital, Barnaul, Russia | 11:10−11:30 | **Genetic diversity of laboratory animals in translational research**Eugenii ZavjalovInstitute of Cytology and Genetics of SB RAS, Novosibirsk, Russia  | 11:10–11:40 | **ANDSYSTEM: an internet-accessible tool for automated literature mining in the area of biology**Vladimir Ivanisenko1,2, O.V. Saik1,2, E.S. Tiys1, T.V. Ivanisenko1,2, P.S. Demenkov1,21Institute of Cytology and Genetics RAS, Novosibirsk, Russia2PB-soft LLC, Novosibirsk, Russia |
| 11.40–12.10 | **HOCOMOCO COmprehensive MOdel COllection as a practical gateway to regulatory motif-ome of human and mouse transcription factors**I.E. Vorontsov, Y.A. Medvedeva, V.J. Makeev, Ivan KulakovskiyVavilov Institute of General Genetics, Moscow, Russia; Engelhardt Institute of Molecular Biology, Moscow, Russia | 11.40–12.10 | **Chemoresistance of lung adenocarcinoma is regulated by Tudor staphylococcal nuclease** Boris Zhivotovsky1,21Lomonosov Moscow State University, Moscow, Russia2Karolinska Institutet, Stockholm, Sweden | 11:50–12:10 | **Prospects of development of neuroimaging technologies in modern medicine** Andrey Letyagin1,2 1Institute of Clinical and Experimental Lymphology, Novosibirsk, Russia2Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia | 11:30–11:45 | **Effects of the complex of melatonin, aluminium oxide and polymethylsiloxane on the liver structure in type 2 diabetic mice** Svetlana Michurina1, I.Yu. Isсhenko1, V.V. Klimontov1, S.A. Archipov1, M.A. Cherepanova1, L.N. Rachkovskaya1, N.E. Myakina1, E.L. Zavjalov2, V.I. Konenkov1, Yu.I. Borodin1, M.A. Korolev1 1SICEL, Novosibirsk, Russia; 2ICG SB RAS, Novosibirsk, Russia | 11:40–11:55 | **UGENE: a toolkit for teaching students**Irina Bykova1, O.I. Golosova1, A.Y. Bakulina2,3, D.A. Afonnikov2,4, D.Y. Kandrov1, A.Y. Palyanov2,5, G.A. Grekhov1, Y.E. Danilova11Unipro Center of Information Technologies, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia; 3State Research Center of Virology and Biotechnology VECTOR, Koltsovo, Novosibirsk region, Russia; 4ICG SB RAS, Novosibirsk, Russia 5Institute of Informatics Systems SB RAS, Novosibirsk, Russia |
| 12.10–12.40 | **Regulatory role of single CpG methylation**A. Khamis1, A.V. Artemov2, A.V. Lioznova2, V.B. Bajic1, Yulija Medvedeva21King Abdullah University of Science and Technology2Research Center of Biotechnology RAS | 12.10–12.40 | **The role of kinetochore-driven microtubule formation in *Drosophila* spindle assembly** G. Pavlova1,2,\*, J. Popova1,3,\*, A. Munzarova1,4,\*, J. Galimova1,\*, A. Razuvaeva1,4, F. Renda5, P. Somma5, A. Pindyurin1,4, Maurizio Gatti51Institute of Molecular and Cellular Biology, Novosibirsk, Russia; 2Kazan Federal University, Kazan, Russia; 3Institute of Cytology and Genetics, Novosibirsk, Russia4NSU, Novosibirsk, Russia; 5Department of Biology and Biotechnology, Sapienza, University of Rome, Rome, Italy | 12:10–12:30 | **Molecular mechanisms underlying the cognitive functions of the neuron** Alexander Ratushnyak1, Zapara T.A. 1, Proskura A.L. 1, Sorokoumov E.D. 11Institute of Computational Technologies of SB RAS, Novosibirsk, Russia | 11:45−12:05 | **Brain metabolites under deficiency of the available energy**Andrei Akulov1, D.A. Tur2, R.G. Gulevich1, E.D. Petrovskiy1,3, M.P.Moshkin1 1ICG SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia; 3International Tomography Center SB RAS, Novosibirsk, Russia | 11:55–12:10 | **A software tool for visualization and control of biological neural networks activity based on the neuron simulation environment**Sergey Khayrulin1,2, N.A. Serdtseva2, A.Yu. Palyanov1,21Institute of Informatics Systems SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 12:05−12:20 | **Biological effects of lithium nanoparticles**Nataliya Bgatova SICEL, Novosibirsk, Russia | 12:10–12:25 | **Haploid evolutionary constructor 3D: a framework for multilayer modeling of spatially distributed microbial communities**Sergey Lashin1,2, A.I. Klimenko1,2, Yu.G. Matushkin1,2, Z.S. Mustafin1,2, A.D. Chekantsev1,2, R.K. Zudin1,21Institute of Cytology and Genetics RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia |
| 12.40–12.55 | **Ampliseq ™: amplification and sequencing**Ilya VolkovDepartment of scientific and methodological support of "Khimexpert Agency", Moscow, RussialogoHim | 12.40–13.00 | **Involvement of various cell death modalities in cytotoxic activity of lactaptin analog**Olga Koval1,2, G.V. Kochneva1,3, A.V. Tkachenko1, O.S. Troitskaya1,2, G.F. Sivolobova1,3, E.V. Kuligina1, A.Y. Yunusova1, V.A. Richter11ICBFM SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia; 3State Research Center of Virology and Biotechnology “Vector”, Koltsovo, Russia | 12:30–13:00 | **Application neuroelectrostimulation of a peripheral nervous system for correction of cognitive characteristics in a problem of learning ability**Anna Petrenko1, Kublanov V.S.11 Research Medical and Biological Engineering Center of High Technologies Ural Federal University, Yekaterinburg, Russia | 12:20−12:35 | **Theranostic nanoplatforms for simultaneous cancer imaging and therapy: Multifunctional nanoassemblies of human serum albumin and therapeutic nucleotides** Tatyana Godovikova1,4, A.E. Akulov2, V.A. Lisitskiy1, A.S. Chubarov1, N.M. Antonova1, O.D. Zakharova1, I.V. Koptyug3, T.V. Popova, V.I. Kaledin2, I.A. Razumov2, E.L. Zavjalov2, M.P. Moshkin2, V.N. Silnikov1 1ICBFM SB RAS, Novosibirsk, Russia; 2ICG SB RAS, Novosibirsk, Russia; 3International Tomography Center SB RAS, Novosibirsk, Russia; 4NSU, Novosibirsk, Russia | 12:25–12:40 | **New image analysis and base calling algorithm for SeqLL sequencing machine achieved better sensitivity on synthetic olygonucleotides set**Nikolay Russkikh1, D.V. Antonets2,3,4 1Novel Software Systems LLC, Novosibirsk, Russia2AcademGene LLC, Novosibirsk, Russia; 3A.P. Ershov Institute of informatics systems, Novosibirsk, Russia; 4State Research Center of Virology and Biotechnology ‘Vector’, Koltsovo, Novosibirsk region, Russia |
|  |  |  |  |  |  | 12:35−12:50 | 1. **Evaluation of Demyelination in the Cuprizone Model of Multiple Sclerosis: MRI and Histology Correlation**

Marina Khodanovich1, I.V. Sorokina2, V.Yu. Glazacheva1, N.M. Nemirovich-Danchenko1, E.S. Pan1, E.V. Krutenkova1, Al.V. Romashchenko3, A.E. Akulov1,3, T.G. Tolstikova2, V.L. Yarnykh1,41Tomsk State University, Tomsk, Russia; 2Institute of Organic Chemistry SB RAS, Novosibirsk, Russian;3ICG SB RAS, Novosibirsk, Russia; 4University of Washington, Seattle, USA | 12:40–12:55 | **IT analysis of cornea endothelium transport ability in corneal transplants after hypothermic conservation**Evgeniy Solenov3, A.A. Konev1, I.G. Palchikova1, I.A. Iskakov2, L.E. Katkova3, G.S. Baturina31Technological Design Institute of Scientific Instrument Engineering SB RAS, Novosibirsk, Russia2Multidisciplinary Science and Technology Complex “Eye Microsurgery” named after S.N. Fyodorov Federal State Institution, Novosibirsk Branch, Novosibirsk, Russia; 3 ICG SB RAS, Novosibirsk, Russia |
| 12:50−13:00 | **Discussion** |  |  |
| *Lunch: 13.00–14.00* |
| **14.00–19.40** | **Section “Systems Computational Biology”** *Chairperson:* [Alexander](https://scholar.google.com/citations?user=6IYzJcsAAAAJ&hl=en) Ratushny, Celgene, Seattle, USA and Institute for Systems Biology, Seattle, USA | 14.00–14.40 | **Towards understanding the dynamics of death receptor networks**Inna LavrikICG SB RAS, Novosibirsk, RussiaOtto-von Guericke-University, Magdeburg, Germany | 14:00 – 14:40 | **Genomics of behavioral diseases**Evgeny Rogaev1ICG SB RAS, Novosibirsk, Russia; 2Vavilov Institute of General Genetics RAS, Moscow, Russia; 3Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, Massachusetts | 14:00−15:50 | **Systems Biology in Human Health and Disease** Chairs: Vyacheslav Mordvinov, Valeriy Loktev | 14:00–14:15 | **Web-based application for flow cytometry data analysis**Jitong Xue1, Ming Chen1, Y. Zhou1, W Ni21Zhejiang University, Hangzhou, China; 2Zhejiang Provincial People’s Hospital, Hangzhou, China |
| 14.00–14.30 | **Virtual biology — the foundation**Fyodor KolpakovInstitute of Systems Biology Ltd., Novosibirsk, RussiaDesign Technological Institute of Digital Techniques SB RAS Novosibirsk, Russia | 14.40–15.10 | **Delineating single cell life/death decisions in the CD95/FAS network**Jörn Buchbinder1, D. Pischel2, K. Sundmacher2, R.J. Flassig2, I.N. Lavrik1 1Department of Translational Inflammation Research, Otto-von-Guericke University Magdeburg, Germany; 2Max-Planck-Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany | 14:40 – 15:10 | **Regulation of TREM2 expression by an inducible, NF-kB-sensitive miRNA-34a;  relevance to amyloidogenesis and cognition**Zhao Y1, Bhattacharjee S1, Jones BM1, Dua P2, Hill JM 1,3, Andreeva T 4,5, Grigorenko A 4,5, Kuznetsova I 4,5, Rogaev EI 4-7, Walter J. Lukiw 1,8 1Louisiana State University Health Sciences Center, LA, USA; 2Louisiana State Technical University, LA, USA; 3Louisiana State University Health Sciences Center, LA, USA 4Vavilov Institute of General Genetics RAS, Moscow, Russia; 5ICG SB RAS, Novosibirsk, Russia; 6Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Massachusetts, USA; 7Lomonosov Moscow State University, Moscow, Russia; 8Louisiana State University Health Sciences Center, New Orleans LA, USA | 14:00−14:20 | **Viruses circulating in wild bird populations of Central and North-Eastern Eurasia: evaluation of the potential hazard to human**Аlexander ShestopalovScientific Institute of Clinical and Experimental Medicine, Novosibirsk, Russia  | 12.55-13.10 | **Identification of master-regulators for programming of spermatogonal stem cells pluripotency by the use of the geneXplain/BioUml platform**Kel A.E.1,2,\*, Stelmashenko D.E.21Institute of Chemical Biology and Fundamental Medicine, SB RAS, Novosibirsk, Russia 2BIOSOFT.RU, Ltd, Novosibirsk, Russia |
| 14.30–14.45 | **Solutions for analysis of NGS-datafrom the company Illumina**Dania GazizovaООО “Альбиоген” / ALBIOGENhttp://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/08/logo_ALBG.jpg |
| 14.45–15.00 | **Altered catecholaminergic, serotonergic, gabaergics, and glutamatergic genes expression in the ventral tegmental area of male mice under chronic social defeat stress: RNA-*SEQ* data**Anna Galyamina, I.L. Kovalenko, D.A. Smagin, N.N. KudryavtsevaICG SB RAS, Novosibirsk, Russia | 15.10-15.25 | **Advanced capabilities of visualization and analysis of cultural models**E.R. Muslikhov, L.A. Strukova Qvadros-Bio, LLC, Moscow, Russiahttp://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/07/QvadroS-Bio-logo.png | 15:10 – 15:40 | **The role of B cells in pathogenetisis of Alzheimer’s disease** Kim K1, Bodogai M1, Aliseychik M2, Baljinnyam T1,2, Rogaev E2,3,4 and Arya Biragyn1\*.  1LMBI, National Institute on Aging, Baltimore, MD, USA.*;*2Institute of General Genetics, Russian Academy of Sciences, Moscow, Russia, 3Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, MA, USA; 4Institute of Cytology and Genetics, SB RAS, Novosibirsk Russia*.* | 14:20−14:40 | **New and emerging viral infections. Flaviviruses and Zika virus**Valery LoktevVector, Novosibirsk, Russia | 14:30–14:45 | **SyGraph – web system for visualization of synteny alignments and comparison of assembly contigs**Mikhail Genaev1, D. A. Afonnikov1,21Institute of Cytology and Genetics RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 15.00–15.15 | **Differential expression in *Helix lucorum* statocysts under microgravity conditions**Alexander Osypov1,2, P. Kolosov1, N. Aceyev1, E. Chesnokova1, M. Roshchin1, N. Bal1, P. Balaban11Institute of Higher Nervous Activity and Neurophysiology of RAS, Moscow, Russia; 2Institute of Cell Biophysics of RAS, Pushchino, Russia | 15.25–15.45 | **Novel approach for computational design of small molecule inhibitors of protein/protein interactions in CD95/FAS pathway**Nikita Ivanisenko1,2, A.S. Ishchenko1,2 , I.N. Lavrik1,3 , V.A. Ivanisenko1 1ICG SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia3Otto-von Guericke-University, Magdeburg, Germany | 15:40 – 16:00 | **Analysis of γδT-cell repertoire in Alzheimer’sdisease patients and individuals with no memory impairment** Maria Aliseychik1, Zolotoreva O.1, Gusev F.1, Grigorenko A.1,2, Byragin A.3, Andreeva T.1, Rogaev E.1,21Vavilov Institute of General Genetics RAS, Moscow, Russia; 2Department of Psychiatry, Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, Massachusetts, 3Immunoregulation section, LMBI, National Institute on Aging, Baltimore, MD, USA. | 14:40−15:00 | **Molecular mechanisms of opisthorchiasis pathogenesis: the relationships of Opisthorchis felineus with host’s DNA**Mariya Pakharukova1, G.A. Maksimova1, J.M. Correia da Costa2, N. Vale2, V.A. Mordvinov1,31ICG SB RAS, Novosibirsk, Russia; 2Center for the Study Animal Science, ICETA, University of Porto, Porto, Portugal3Institute of Molecular Biology and Biophysics, Novosibirsk, Russia | 14:45–15:00 | **AIMedica - intelligent system for disease diagnostics based on text-mining analysis of scientific publications and different medical data sources**Olga Saik1,2, P.S. Demenkov1,2, A.V. Starkov3,4, T.V. Ivanisenko1,2, E.V, Gaisler3,4, V.A. Ivanisenko1,21ICG SB RAS, Novosibirsk, Russia; 2PB-soft LLC, Novosibirsk, Russia; 3Managing company "Lomonosov Capital" LLC, Novosibirsk, Russia; 4Intelmed Ltd, Novosibirsk, Russia |
| 15.15–15.30 | **Generalising better: applying deep-learning to integrate deleteriousness prediction scores for whole-exome SNV studies**Ilia Korvigo, A.A. AfanasyevMoscow Institute of Physics and Technology |  |  |  |  | 15:00−15:20 | **Experimental model of opisthorchiasis as a tool for biomedical researches** Damira AvgustinovichICG SB RAS, Novosibirsk, Russia | 15:00–15:15 | **Algorithms and tools developed by novel computing systems in biology LLC**Evgeny Cheryomushkin, S. Nikitin, T. Valeev, T. Konovalova, A. Ryabova, K. Golosov, I. Mikerova, N. Gorokhov, D. Babiy1Novel Computing Systems in Biology LLC, Novosibirsk, Russia |
| 15.30–15.45 | **Does thyroid divergence serve as a driver of speciation in cyprinid fishes of the genus *Ballerus* (teleostei)?**Boris Levin1\*, A.A. Bolotovskiy1, M.A. Levina1, A.V. Nedoluzhko2, K.G. Skryabin2,3,4, S.M.Rastorguev2, E.B. Prokhortchouk3,41Institute of Biology of Inland Waters RAS, Borok, Russia; 2National Research Center Kurchatov Institute, Moscow, Russia; 3Institute of Bioengineering, Federal Research Center “Fundamentals of Biotechnology” RAS, Moscow, Russia; 4Lomonosov Moscow State University, Faculty of Biology, Moscow, Russia | 15.45–16.05 | **Associative networks of glaucoma and apoptosis** Olga Saik1, P.S. Demenkov1, O.S. Konovalova2, M.N. Ponomareva2, N.A. Konovalova2, N.A. Kolchanov1, I.N. Lavrik3, V.A. Ivanisenko1.1ICG SB RAS, Novosibirsk, Russia2Tyumen State Medical Academy, Ministry of Health of the Russian Federation, Tyumen, Russia; 3Otto von Guericke University Magdeburg, Magdeburg, Germany |  |  | 15:20−15:40 | **Founder effect in Siberian indigenous populations through the prism of hereditary deafness** Olga Posukh1,2, M.S. Bady-Khoo3, M.V. Zytsar1,2, V.Y. Mikhalskaia1,2, N.A.Barashkov 4,5, I.V. Morozov2,6, A.A. Bondar61ICG SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia; 3Perinatal Center of the Tuva Republic, Kyzyl, Russia; 4Yakut Scientific Centre of Complex Medical Problems, Yakutsk, Russia; 5M.K. Ammosov North-Eastern Federal University, Yakutsk, Russia; 6ICBFM SB RAS, Novosibirsk, Russia | 15:15–15:30 | **Rule-based modeling in biouml**Nikita Mandrik1-3, E.O. Kutumova1,2, F.A. Kolpakov1,21Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, Russia; 2Institute of Systems Biology, Novosibirsk, Russia3Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia |
| 15.45–16.00 | **Parameter fitting infrastructure for rule-based modelling**O.S. Sorokina1, Anatoly Sorokin2,31Edinburgh University, Edinburgh, UK; 2Institute of Cell Biophysics RAS, Pushchino, Russia; 3Moscow Institute of Physics and Technology, Dolgoprudny, Russia | 15:40−15:50 | **Discussion** | 15:30–15:45 | **Improved SBGN (ML) support IN BioUML**Ilya Kiselev1, S. D. Kinsht3, F.A. Kolpakov1,21Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, Russia2Institute of Systems Biology, Ltd, Novosibirsk, Russia 3NSU, Novosibirsk, Russia |
| *Coffee break: 16.00–16.15* |
| 16.15–16.30 | **Optimization of the piggyBac transposon system for cultured *Drosophila* cells**Lyubov Yarinich1,2\*, M.O. Lebedev1,2, A.V. Pindyurin1,21Institute of Molecular and Cellular Biology SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |  |  | 16:20 – 16:50  | **Experimental models for neurodegenerative pathologies studies and neuron-computer interface establishment**SergeyKiselevVavilov Institute of General Genetics RAS, Moscow | 16:10−18:00 | **Personalized Medicine: New Biomarkers and Molecular Targets**Chairs: Vyacheslav Lyakhovich, Sergey Sennikov | 16:10–18:20 | **Poster Session** |
| 16.30–16.45 | **Using the techniques of stochastic modelling and inhomogeneous sequential pattern recognition procedure for the prediction of the development of polygenic diseases**V.F. Prokof'ev, A.V. Shevchenko, Maksim Korolev, V.I. Konenkov Scientific Institute of clinical and experimental lymрhology SB RAS, Novosibirsk, Russia |  |  | 16:50 – 17:10 | **Epigenome landscape analysis of brain cells identifies putative novel genes active in cortical neuron** Fedor Gusev1-3, Reshetov D2,3, Mitchell A4, Andreeva T2,3, Dincer A4, Solovyev V5, Grigorenko A1-3, Akbarian S 1,4 and Rogaev E1-3.1Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, MA, USA 2 Vavilov Institute of General Genetics RAS, Moscow, Russia 3ICG SB RAS, Novosibirsk, Russia 4Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA; 5Softberry Inc., Mount Kisco, NY, USA | 16:10-16:25 | **From pharmacogenetics to modern pharmacotherapy**Valentin Vavilin, Vyacheslav LyakhovichInstitute of Molecular Biology and Biophysics, Novosibirsk, Russia |  |  |
| 16.45–17.00 | **The bioinfornational comparison of CRISPR/Cas system structure of *Yyersinia pseudotuberculosis* strains isolated from different regions**Nadezhda Peretolchina1, Y.P. Dzhioev1,2, A.Y. Borisenko1, E.A. Voskresenskaya3, A.I. Paramonov2, L.A. Stepanenko1, V.I. Zlobin11Irkutsk State Medical University, Irkutsk, Russia2Scientific Center of family health problems and human reproduction, Irkutsk, Russia3Institut Pasteur, Saint Petersburg, Russia |  |  | 17:10 – 17:30 | **Aging and longevity from genomic perspectives** Andreeva T.V., Gusev F.E., Reshetov D.A., Shagam L.I., Kunizheva S.S., Yigit S., Geyko A.V., Andrey Manachov ., Kuznetsova I., Aliseychik M., Lisenkova A., Lukyanov E., Protasova M., Buzina A.N., Lukiw W.J.d, Byragin A., Grigorenko A. and Rogaev E.I.1Institute of General Genetics RAS, Moscow, Russia; 2ICG SB RAS, Novosibirsk, Russia; 3Gaziosmanpasa University Medical School, Tokat, Turkiye; 4Louisiana State University Health Sciences Center, New Orleans LA USA; Departments of Neurology and Ophthalmology, Louisiana State University Health Sciences Center, New Orleans LA 70112 USA; eLMBI, National Institute on Aging, Baltimore, MD, USA; fBrudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, MA, USA | 16:25−16:40 | **Modern biomarkers of coronary atherosclerosis and its complications**Juliya Ragino, E.V. Kashtanova, Ya.V. Polonskaya Institute of Internal and Preventive Medicine, Novosibirsk, Russia |  |  |
| 17.00–17.15 | **Theoretical model of mitotic spindle microtubule growth for FRAP curve interpretation**Leonid Omelyanchuk1,2, A.F. Munzarova1,2, T.Y. Mikhailova21Institute of Molecular and Cellular Biology, Novosibirsk, Russia2NSU, Novosibirsk, Russia | 16:40−16:55 | **Inverse changes in serum concentrations of inflammatory and angiogenic growth factors in patients with type 2 diabetes**Vadim Klimontov, D.M. Bulumbaeva, N.V. Tyan, N.B. Orlov, A.P. Lykov, V.I. Konenkov SICEL, Novosibirsk, Russia |
| 17.15–17.30 | **Assessment of translation efficency from ribosome profiling and mRNA-seq data**I.S. Yevshin1,2, R.N. Sharipov1,2, Oksana Volkova31Design Technological Institute of Digital Techniques, SB RAS, Novosibirsk, Russia; 2Institute of Systems Biology, Ltd, Novosibirsk, Russia; 3 The Federal Research Center ICG SB RAS, Novosibirsk, Russia |  |  | 17:30 – 17: 50 | **Reconstruction of molecular-genetic networks common forAlzheimer's disease**Olga Saik1, Rogaev EI 1-3 1 ICG SB RAS, 630090 Novosibirsk, Russia; 2Vavilov Institute of General Genetics RAS, Moscow, Russia; 3Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Massachusetts, USA | 16:55−17:10 | **Serological markers in rheumatoid arthritis: circulating DNA and autoreactive antibodies**Elena Rykova1,2, A. Sizikov3, D. Roggenbuck4,O. Antonenko5, L. Bryzgalov6, E. Morozkin1,7, V. Vlasov1, P. Laktionov1,7, V. Kozlov31ICBFM SB RAS, Novosibirsk, Russia; 2Novosibirsk State Technical University, Novosibirsk, Russia3Research Institute of Fundamental and Clinical Immunology, Novosibirsk, Russia 4Brandenburg Technical University, Berlin, Germany; 5Institute of Molecular and Cellular Biology SB RAS; 6ICG SB RAS; 7Academician E.N. Meshalkin Novosibirsk Research Institute of Circulation Pathology, Novosibirsk, Russia |  |  |
| 17.30–17.45 | **Principal organization of physiological regulator**Vyacheslav FedorovInstitute of Laser Physics SB RAS, Novosibirsk, Russia | 17:50 – 18:20 | Discussion |
| 17.45–18.00 | **Phage infection slows down speciation caused by gene loss and horizontal gene transfer of metabolic genes in models of spatially distributed bacterial communities**Aleksandra Klimenko, Yu.G. Matushkin, N.A. Kolchanov, S.A. LashinICG SB RAS, Novosibirsk, Russia |  |  |  |  | 17:10−17:25 | **Natural bispecific antibodies: new biochemical markers of autoimmune diseases** Sergey Sedykh, V.V. Printz, V.N. Buneva, G.A. NevinskyICBFM SB RAS, NSU, Novosibirsk, Russia |  |  |
| 18.00–18.15 | **Crossing valleys and reaching peak on the fitness landscapes in microbial communities under various ecological conditions: a simulation study**Zakhar Mustafin1, D.A. Afonnikov1,2, Yu.G. Matushkin1,2, S.A. Lashin1,21ICG SB RAS; 2NSU, Novosibirsk, Russia |  |  |  |  | 17:25−17:40 | **Molecular basis for targeted therapy of autoimmune diseases**Мaksim KorolevSICEL, Novosibirsk, Russia |  |  |
| 18.15–18.30 | **Role of membrane potential in nitrite utilization by *Escherichia Coli* cells under low substrate concentrations: the mathematical model**Natalya Ree, Likhoshvai V.A., Khlebodarova T.M.ICG SB RAS, Novosibirsk, Russia  |  |  |  |  | 17:40−17:55 | **Leukocyte telomere length as a marker of aging and a risk factor for the development of socially significant diseases in Siberia**Vladimir MaksimovInstitute of Internal and Preventive Medicine, Novosibirsk, Russia |  |  |
| 18.30–18.45 | **Modeling restriction-modification systems: expressing toxic molecules within a cell**Andjela Rodic, M. DjordjevicUniversity of Belgrade, Belgrade, Serbia |  |  |  |  | 17:55−18:00 | **Discussion** |  |  |
| **31 August,** Wednesday (09:00-13:00) |
| ***Time*** |  | ***Time*** |  | ***Time*** |  | ***Time*** |  | ***Time*** |  |
| 9.00–13.10 | **Section “Evolutionary Bioinformatics”***Chairpersons:* Fyodor Kondrashov, Evolutionary Genomics laboratory and ICREA, Barcelona, Spain  | **9.00–12.50** | **Section “Animal Genetics”** *(House of Scientists SB RAS, Library)**Chairperson:* Mikhail Moshkin, ICG SB RAS, Novosibirsk, RussiaBGRS\SB | **9.00 – 13.00** | **Symposium «Cognitive Sciences, Genomics and Bioinformatics**” CSGB |  | **Section «Personalized Medicine: from Basic Science to Clinic»**SBioMED | **09:00–13:00** | **Morning session “Analysis of dynamical systems. Identifiability”** *Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov* MM-HPC-BBB-2016 |
| 9.00–9.35 | **Patterns and mechanisms of chromosomal evolution inferred from physically mapped genome assemblies**Igor Sharakhov1,3,4, G.N.Artemov4, A. Peery1, X. Jiang3, A.B. Hall3, Z.Tu2,3, A.N. Naumenko1, V.N. Stegniy4, M.V. Sharakhova31Virginia Polytechnic Institute and State University, Blacksburg, USA; 2 Virginia Polytechnic Institute and State University, Blacksburg, USA; 3The PhD Program in Genomics Bioinformatics and Computational Biology, Virginia Polytechnic Institute and State University, Blacksburg, USA; 4Tomsk State University, Tomsk, Russia. | 9.00–9.35 | **The role of functional domains of *Drosophila* septin Pnut**K.A.Akhmetova1,2,3, N.V.Dorogova1, M.L.Balasov3, Svetlana Fedorova1,2, I.N.Chesnokov31ICG SB RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia; 3University of Alabama at Birmingham, Birmingham, USA | 9.00–9:30 | **Identity of the «natural» classification structure of the external world and the consciousness as integrated information by G.Tononi** Evgenii Vityaev1 1Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia | 09:00−10:50 | **Genomic Technology for Personalized Medicine**Chairs: Valeriy Puzyrev**,** Yurii Aulchenko | 9:00–9:30 | **On a method of approximation of solutions to delay differential equations**Gennadii Demidenko1,21Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia |
| 09:00−09:40 | **Genome-wide association studies of complex human traits: history and perspectives** Yurii AulchenkoICG SB RAS, Novosibirsk, Russia; NSU, Novosibirsk, Russia |
| 9.35–10.00 | **Can long antiparallel open reading frames be encoding essential genes in prokaryotic genomes?**Denis Moshenskij, A.V. AlexeevskiA.N. Belozersky Institute of Physico-Chemical Biology MSU, Moscow, Russia | 9.35–10.00 | **Virome analysis for identification of viruses in bat species from Moscow region**Anna Speranskaya1, Pimkina E.V.1, [Artyushin I.V.](http://istina.msu.ru/workers/3804911/)2, Safonova M.V.1, Deviatkin A.A.1, Kuleshov K.V.1, Dedkov V.G.1, Shipulin G.A.11Central Research Institute for Epidemiology, Russian Inspectorate for Protection of Consumer Right and Human Welfare, Moscow, Russia; 2Biological Faculty, Moscow State University, Moscow, Russia | 9:30–9:50 | **Studying human social environment and state with social network data** Anton Kolonin1 1 ICG SB RAS, Aigents Group, Novosibirsk, Russia | 09:40−09:55 | **Candidate SNP markers of aggressiveness-related complications and comorbidities of hereditary diseases predicted by a significant alteration in the affinity of TATA-binding protein for human gene promoters**M.P. Ponomarenko1,2, D.A. Rasskazov1, E.B. Sharypova1, Irina Chadaeva1, P.M. Ponomarenko3, L.K. Savinkova1, N.A. Kolchanov1,21ICG SB RAS; 2NSU, Novosibirsk, Russia; 3University of Southern California, USA; | 9:30–9:45 | **Numerical model of drosophila sensory organ precursor cell determination**Vladimir Golubyatnikov1,2, T.A.Bukharina2, D.P.Furman2,3, M.V.Kazantsev 41NSU, Novosibirsk, Russia2Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia3ICG SB RAS, Novosibirsk, Russia4Polzunov Altai State Technical University, 656038, Barnaul, Russia |
| 10.00–10.25 | **RNA-Seq data analysis of rats with aggressive behavior in three brain areas**Anatoly Bragin, Markel A.L., Babenko V.N., Chadaeva I.V., Tiys E.S., Orlov Y.L. ICG SB RAS, Novosibirsk, Russia | 10.00–10.25 | **Identification of breed-specific SNP-markers for *Sus scrofa domesticus* using SRA-data of NGS projects**Iosif Tsybovsky, V.N. Kipen, S.A. KotovaScientific and Practical Centre of the State Committee of Forensic Expertises, Minsk, Belarus | 9:50-10:10 | **The opposing effects of short- and long-term social stress on prefrontal cortex transcriptome** Natalia Bondar1, Bryzgalov L.O.1, Ershov N.E.1,2, Gusev F.E.2,4, Reshetnikov V.V.1, Avgustinovich D.F.2, Tenditnik M.V.3, Rogaev E.I.2,4, Merkulova T.I.11,2ICG SB RAS; 3 Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia; 4University of Massachusetts Medical School, USA |  | **Preimplanation genetic screening using NGS** Irina Mukosey, E.S. Shubina, A.N. Ekimov, T.O. Kochetkova, N.V. Aleksandrova, T.A. Kodyleva, N.P. Makarova, E.V. Kulakova, L.A. Levkov, D.Yu. Trofimov, G.T. SukhikhResearch Center for Obstetrics, Gynecology and Perinatology, Moscow | 9:45–10:00 | **On properties of solutions to some nonlinear systems with parameters**Inessa MatveevaSobolev Institute of Mathematics SBRAS, Novosibirsk, Russia |
| 10.25–10.50 | **Long-term spaceflight mediated changes in promoter landscape in Zebrafish tissues**Alexander Cherkasov1, K.V. Arshavsky1, V.N. Sychev2, M.A. Levinskikh2, O.A. Gusev1,3,41Institute of Fundamental Biology and Medicine, Kazan Federal University, Kazan, Russia;2Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia; 3Division of Genomic Technologies, CLST, RIKEN, Yokohama, Japan; 4Preventive Medicine & Diagnosis Innovation Program, CLST, RIKEN, Yokohama, Japan | 10.25–10.50 | **Identification of the taxa of the order *Artiodactyla* for criminal investigation cases of illegal hunting**Iosif Tsybovsky, S.A. Kotova, V.I. Rybakova, A.A. Rabcava, E.A. SpivakScientific and Practical Centre of the State Committee of Forensic Expertises, Minsk, Belarus | 10:10–10:30 | **Genotype 5-HTTLPR of serotonin transporter gene in regulation of cognitive functions: interaction with gender, age, and intellectual activity** Nina Volf 1,2, Bazovkina D.V.31 Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia2 NSU, Novosibirsk, Russia3 ICG SB RAS, Novosibirsk, Russia  | 10:10−10:25 | **GENEQUERY: globally connected networks of GEO transcriptional profiles show hypothesis generation potential and reveal that tocopherols rescue TREM2-associated microglial dysfunction**Alexander Predeus1,2, T. Ulland1, Y. Wang1, V. Lampropoulou1, W. Song1, I. Arbuzov3, F. Towfic4, S. Gilfilan1, E. Loginicheva1, B.T. Edelson1, B. Zeskind4, M. Colonna1, M.N. Artyomov11Department of Pathology & Immunology, Washington University School of Medicine, USA2Bioinformatics institute; 3ITMO University, Saint Petersburg, Russia; 4Immuneering Corporation, Cambridge, USA | 10:00–10:15 | **Development of a method of basic trajectories of G. I. Marchuk for parametrical identification of the nonlinear differential equations**Boris ShumilovTomsk State University of Architecture and Building, Tomsk, Russia |
| 10:15–10:30 | **A congestion game model for virtual drug screening in a desktop grid**Natalia Nikitina, E.E. IvashkoInstitute of Applied Mathematical Research, Karelian Research Center, RAS, Petrozavodsk, 185910, Russia |
| 10:30–10:50 | **Towards a neurobiologically reasonable c. elegans nervous system simulation: neuron, muscle and signal propagation modelling**Andrey Palyanov1, Samoilova Kh.V.1 A.P. Ershov Institute of Informatics Systems, NSU, Novosibirsk, Russia | 10:25−10:40 | **KATIS: integrative information system for complimentary medicine** R. Hofestädt, V. Ogultarhan, A. ShoshiUniversity Bielefeld, AG Bioinformatics and Medical Informatics, Bielefeld, Germany | 10:30–10:45 | **Threshold functions recovery algorithms in discrete dynamic systems**Nikolay Prytkov1, A.L. Perezhogin21NSU, Novosibirsk, Russia2Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia |
| 10:40−10:50 | **Discussion** |
| *Coffee break: 10.50–11.10* |
| 11.10–11.35 | **Darwinian genetic drift**Dmitri Parkhomchuk, A.C.McHardyHelmholtz Center for Infection Research, Braunschweig, Germany | 11.10–11.35 | **The density of *Wolbachia* strain *w*MelPop in *Drosophila melanogaster*** **brain is inversely related to the level of *hsp67bc* gene expression**Dina Malkeyeva1, 2, E.V. Kiseleva11ICG SB RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia | 11:10–11:30 | **Application of genetic models for experimental study of cognitive functions and neuroprotection** Maria Tikhonova1, Amstislavskaya T.G.1,21Scientific Research Institute of Physiology and Basic Medicine; 2ICG SB RAS, Novosibirsk, Russia | 11:10−13:00 | **Genotyping Precision Medicine**Chairs: Michael Voevoda, Anatoliy Tulpakov | 11:10–11:40 | **Inverse problems of population dynamics**Alexander Kozhanov1, Yu.A.Kosheleva21Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia2Sakhalin State University, Yuzhno-Sakhalinsk, Russia |
| 11:10−11:40 | **Monogenic forms of diabetes**AnatoliyTulpakovEndocrine Research Center, Moscow, Russia |
| 11.35–12.00 | **Sex chromosome evolution in Pamphagidae grasshoppers**Ilyas Jetybayev1,2, A.G. Bugrov 2,3, O.G. Buleu ,2,3, A.G. Bogomolov1, N.B. Rubtsov1,31ICG SB RAS, Novosibirsk, Russia 2Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, Russia 3NSU, Novosibirsk, Russia | 11.35-12.00 | **Targeted spatial genome modification in topologically associating domains structure in mouse embryonic stem cells**Varvara Lukyanchikova, N.R. Battulin, O.L. SerovICG SB RAS, Novosibirsk, Russia | 11:30–11:50 | **DISC1 interactome and mental disorders: input of animal models** Tatiana Lipina1,2 1 Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia2 NSU, Novosibirsk, Russia | 11:40−11:55 | **Genetic characteristics of different subtypes of maturity-onset diabetes of the young (MODY) in Novosibirsk** Oksana Rymar, A.K. Ovsyannikova, E.V. Shakhtshneider, E.N. Voropaeva, M.I. Voevoda Institute of Internal and Preventive Medicine, Novosibirsk, Russia | 11:40–11:55 | **Mathematical modeling of active substances and factors influence on functioning of plant root meristem**Maria Savina1, F.V. Kazantsev1,2, V.V. Mironova1,21Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 12.00–12.25 | **Genetic diversity in native Siberian populations: correlation with climatic and geographical parameter**Vladimir Kharkov1,2, A.V. Markov1,2, I.Yu. Khitrinskaya1, V.A. Stepanov1,21Research Institute for Medical Genetics, Tomsk, Russia; 2Tomsk State University, Tomsk, Russia | 12.00–12.25 | **The spatial map of avian genome**Veniamin Fishman1,2, N. Battulin1,2, A. Maslova3, O. Serov1,2, A. Krasikova31ICG SB RAS, Russia; 2NSU, Novosibirsk, Russia; 3Saint-Petersburg State University, St. Petersburg, Russia |  |  | 11:55−12:10 | **Hereditary spastic paraplegias in Sudan: relative frequencies according to the mutated gene and identification of the second SPG57 mutation affecting TFG oligomerization** Ahmed Khalid Mohamed Albashir Ahmed1, I.N. Mohammed1, A.A. Ahmed Hamed1, M.A. Elseed1, A. Johnson4, M. Mairey2,3, H.S.A.Mohamed5,6, M.N. Idris1,6, M.A.M. Salih7, S.M. El-sadig1,8, M.E. Koko1, A.Y.O. Mohamed9, Laure Raymond2,3,15, M. Coutelier2,3, F. Darios3, R.A. Siddig10, L.E.O Elsayed1,2,3, A.M.A. Babai1, H.M.O. Malik1, Z.M.B. Mohammed1, E.O.E. Mohamed1, H.B. Eltahir11, N.A. Magboul12, E.E. Bushara1, A. Elnour13, S.M. Abdel Rahim12, A. Alattaya14, M.I. Elbashir1, M.E. Ibrahim15, A. Durr3,16, A. Audhya4, A. Brice3,16, A.E. Ahmed1,16, G. Stevanin2,3,16 | 11:55–12:10 | **Estimates of solutions to a system describing the spread of avian influenza**Maria SkvortsovaSobolev Institute of Mathematics SBRAS, Novosibirsk, RussiaNSU, Novosibirsk, Russia |
| 12.25–12. 50 | **Elucidation of molecular signal of transcription response to desiccation stress in chironomid *P. vanderplanki***Elena Shagimardanova1, R.M. Deviatiyarov1, T Kikawada2, O.A. Gusev1,3 Kazan Federal University, Kazan, RussiaNational Institute of Agrobiological Sciences, Tsukuba, JapanRIKEN, Yokohama, Japan | 12.25–12.50 | **Ageing of multicellular organisms as a stage of ontogenesis**Igor ErokhinNational Biotechnological Company LLC, Moscow, Russia |  |  | 12:10–12:25 | **Predictive models of early-onset preeclampsia based on the blood plasma microRNA expression level**Ivan Balashov1, O.S. Altukhova1, А.V. Timofeeva1, V.А. Gusar1, K.N. Prozorovskaya1, N.E. Kan1, P.I. Borovikov1, M.Y. Bobrov11Research Center for Obstetrics, Gynecology and Perinatology, Moscow, 117997, Russia |
| 12:10−12:25 | **Association of RS505151 in PCSK9 gene with lipid profile in Russian population** Kseniya Astrakova, E.V. Shakhtshneider, D.E. Ivanoshchuk, Yu.I. Ragino, M.I. Voevoda Institute of Internal and Preventive Medicine, Novosibirsk, Russia | 12:25–12:40 | **A new algorithm to the reconstruction of a set of points from the multiset of n 2 pairwise distances in n^2 steps for the de novo sequencing problem**Eduard FominInstitute of Cytology and Genetics SBRAS, Novosibirsk, Russia |
| 12:25−12:40 | **Commonability of the combinations of polymorphic regulatory sites in the cytokine genes in pathogenetically diverse diseases in women**Alla Shevchenko, V.F. Prokof`ev , V.I. KonenkovScientific Institute of Clinical and Experimental Lymрhology, Novosibirsk, Russia | 12:40–12:55 | **Estimating the survival rates of northern fur seals (callorhinus ursinus, tyuleniy herd) and modeling the population number dynamics**Oksana Zhdanova1, A.E. Kuzin2 , E.Ya. Frisman31Institute of Automation and Control Processes FEB RAS, Vladivostok, 690041, Russia2Pacific Research Fisheries Center (PRF-Center), Vladivostok, 690091,Russia3Institute of Complex Analysis of Regional Systems FEB RAS, Birobidzhan, 679000, Russia |
| 12:40−12:55 | **Techniques of stochastic modeling and inhomogeneous sequential pattern recognition procedure in prediction of polygenic disease**Viktor Prokof'ev, A.V. Shevchenko, M.A. Korolev, V.I. KonenkovSICEL, Novosibirsk, Russia |
|  |  |  |  |  |  | 12:55−13:00 | **Discussion** |  |  |

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| **31 August,** Wednesday (14:00-18:10)*13:00−14:00 Lunch* |
| ***Time*** | ***Small hall*** | ***Time*** | ***Library*** | ***Time*** | ***223*** | ***Time*** | ***Music Hall*** | ***Time*** | ***Exhibition Hall*** |

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| **14.00–18.10** | **Section “Computational Pharmacology”** *(House of Scientists SB RAS, Small Hall)**Chairpersons:* Vladimir Poroikov, Institute of Biomedical Chemistry, Moscow, Russia; Elena Schwartz, Elena Schwartz Ami-Go-Science LLC, Rockville, MD United StatesBGRS\SB | **14.00–18.10** | **Section “Systems Biology of Aging”** *(House of Scientists SB RAS, Library)**Chairpersons:* Vladimir Anisimov, N.N. Petrov Research Institute of Oncology, Saint-Petersburg, Russia; Alexey Moskalev, Institute of Biology, Komi Science Centre; Natalya Kolosova ICG SB RAS, Novosibirsk, RussiaBGRS\SB | **14.00–18.45** | **Section ”Bioinformatics and Molecular Biology of DNA Damage Response”** *(House of Scientists SB RAS, Room 223)**Chairpersons:*Grigory Dianov, University of Oxford, United Kindom & Institute of Cytology & Genetics, Novosibirsk, RussiaBGRS\SB | 14:00−15:50 | **Section «Clinical Genomics and Epigenetics»** Chairs: Tatjana Merculova, Marina ZenkovaSBioMED | **14:00–16:30** | **Afternoon session “Data mining methods and text data analysis in natural sciences”***Chairpersons: Prof. S.S.Goncharov, Yu.L.Orlov, Prof. A.Yu. Rzhetsky*MM-HPC-BBB |
| 14.00–14.35 | **Infant nasopharyngeal microbiome in respiratory syncytial virus cohort–a case study in developing and applying "Do It Yourself analysis tools" for the bench scientists**Andrey TovchigrechkoResearch Bioinformatics, Medimmune LLC, Gaithersburg, MD United States | 14:00-14:25 | **Systemic role of allelic variants in a 2q22 region in major age-related** **diseases and lifespan**Alexander Kulminski, L. He, I. Culminskaya, Y. Loika, Y. Kernogitski, K.G. Arbeev, E. Loiko, L. Arbeeva, O. Bagley, M. Duan, A. Yashkin, F. Fang, M. Kovtun, S.V. Ukraintseva, D. Wu, A.I. Yashin; Duke University, Durham, USA | 14:00-14:15 | **Base excison repair mechanisms. Introduction**.Grigory DianovUniversity of Oxford, United Kindom; Institute of Cytology and Genetics, Novosibirsk, Russia | 14:00−14:15 | **Functional analysis of mutations revealed by NGS diagnostics**M. Skoblov1,2,7, N.V. Zernov1, A.V. Marakhonov1,2, Y. Shimomura4, F.A. Konovalov1,3, A.V. Abrukova5, A.Yu. Filatova1, T.A. Vasilyeva1, R.A. Zinchenko1,6,71Research Centre for Medical Genetics, Moscow; 2The Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region; 3Regenerative and Genetic Medical Center of the Human Stem Cells Institute, Moscow, Russia; 4Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan; 5Ministry of Health and Social Development of Chuvash Republic, Cheboksary; 6Pirogov Russian National Research Medical University, Moscow; 7Moscow State University of Medicine and Dentistry, Moscow, Russia | 14:00–14:30 | **Big Data in biology and medicine**Evgeniy PavlovskyNSU, Novosibirsk, Russia |
| 14:30–14:45 | **The application of optimal partitioning based approaches for estimation of the adverse outcome risk in patients discharged after acute coronary syndrome**Rustam Guliev1, O.V. Senko2, D.A. Zateyshchikov3, V.V. Nosikov1, A.V. Kuznetsova1, M.A. Evdokimova3, V.A. Brazhnik3, I.N. Kurochkin1,41Emanuel Institute of Biochemical Physics RAS, Moscow, Russia; 2Computer Center of Russian Academy of Science, Moscow, Russia3Central State Medical Academy of Department of Presidential Affairs, Moscow, Russia; 4Lomonosov Moscow State University, Moscow, 119991, Russia |
| 14.35–15.00 | **Disease models for cancer to select candidate biomarkers and drug target**Elena Schwartz1, Anton Yuryev2, Che Ross3, Irene Riz4 and Alexandra McPherron1. 1Ami-Go-Science, 5917 Barbados Place, Rockville MD, USA2Elsevier, Rockville, MD, USA; 3Johns Hopkins University, Baltimore, MD, USA4George Washington University, Washington DC, USA | 14:25-14:50 | **Neuronal transcriptional regulation of *Drosophila* life span**O. Y. Rybina1,2, A. V. Symonenko1, N. V. Roshina1, A. V. Krementsova1,3, E. R. Veselkina1, M.I. Schelkunov4, S. V. Sarantseva5, Elena Pasyukova11 Institute of Molecular Genetics of RAS, Moscow, Russia; 2 Moscow State Pedagogical University, Institute of Biology and Chemistry, Russia; 3 N. M. Emmanuel Institute of Biochemical Physics of RAS, Moscow, Russia; 4 Moscow State University, Russia; 5 B. P. Konstantinov Petersburg Nuclear Physics Institute, Russia | 14:15-14:45 | **Regulation of base excision repair-canonical and non-canonical processing of genomic uracil** Hans Krokan, H.S. Pettersen, R. Mjelle, S.A. Hegre, P. Sætrom, F. Drabløs, A. Sarno, A. Galashevskaya, P.A. Aas, N.B. Liabakk, B. Doseth, G. Slupphaug, B. KavliNorwegian University of Science and Technology, Trondheim, Norway | 14:15−14:30 | **Mutations spectra of mayor oncogenes in patients with multiple primary neoplasia**Gennadiy Vasiliev1, A.V. Savkova2, A.V. Gerasimov31ICG SB RAS, Novosibirsk, Russia; 2Centre for Postgraduate Medical Education, NSU, Novosibirsk, Russia; 3Novosibirsk Regional Clinical Oncology Hospital, Novosibirsk, Russia | 14:45–15:00 | **Mutational landscape of prostate tumors based on whole exome sequencing**Irina Gilyazova1,2, M.A. Yankina1, G.B. Kunsbaeva2, A.A. Izmaylov3, A.T.Mustafin3, V.N. Pavlov3, E.K. Khusnutdinova1,21Institute of Biochemistry and Genetics, Ufa Scientific Centre, RAS, Ufa, Russia2Bashkir State University, Ufa3Bashkir State Medical University, Ufa |
| 15.00–15.25 | ***In silico* screening for sulfonate-based inhibitors against promising anticancer targets**Dmitry Nilov1\*, I.V. Gushchina2, V.K. Švedas1,2 1Belozersky Institute of Physicochemical Biology, Moscow State University; 2Faculty of Bioengineering and Bioinformatics, Moscow State University, Moscow, Russia  | 14:50–15.15 | **Comparative expression landscapes in replicative and stress induced premature senescence**K.C. Kural1, N. Tandon2, O.V. Kel-Margoulis2, Anna Baranova1,3,41School of Systems Biology, George Mason University, Fairfax, USA; 2geneXplain, Wolfenbüttel Germany; 3Research Centre for Medical Genetics, Moscow, Russia 4ATLAS Biomed Group, Moscow, Russia | 14:45-15:15 | **Poly(ADP-ribose) polymerase 1 and regulation of DNA repair**Olga LavrikICBFM SB RAS, Novosibirsk, RussiaNSU, Novosibirsk, Russia | 14:30−14:45 | **Circulating DNA as a source of novel type of cancer biomarkers** V. Mileyko1,2, M. Ivanov1, E. Morozkin2, Ancha Baranova1,3,41ATLAS Biomed Group, Moscow, Russia2ICBFM, Novosibirsk, Russia3Federal State Budgetary Institution "Research Centre for Medical Genetics", Moscow, Russia4School of Systems Biology, George Mason University, Fairfax, VA USA | 15:00–15:15 | **Computational tools for data processing of medical imaging**Mikhail Kurako1, An.G. Marchuk 2, F.P.Kapsargin3, L. Cadena1, Simonov K.V.41Siberian Federal University, Krasnoyarsk, 660041,Russia2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia 3Krasnoyarsk State Medical University, Krasnoyarsk, Russia; 4Institute of Computational Modelling SB RAS, Krasnoyarsk, Russia |
| 15.25–15. 50 | **Identification of proteins associated with drug-induced liver injury using in silico prediction of drug-target interactions**Sergey Ivanov1,2\*, M.I. Semin1,2, A.A. Lagunin1,2, D.A. Filimonov1, V.V. Poroikov1,21Institute of Biomedical Chemistry, Moscow, Russia2Pirogov Russian National Research Medical University, Medico-Biological Faculty, Moscow, Russia | 15.15–15.35 | **Changes in the brain transcriptome of OXYS rats as the signs of Alzheimer’s disease develop and effects of SkQ1**Natalia Stefanova, N.I. Ershov, N.A. Muraleva, N.G. KolosovaICG SB RAS, Novosibirsk, Russia | 15:15-15:45 | **Speed reading at the molecular scale: how enzymes find typos in a DNA text**Dmitrij ZharkovICBFM SB RAS, Novosibirsk, Russia | 14:45−15:00 | **Circulating microRNA dynamics in lung cancer patients during therapy** Аnastasia Ponomaryova1,3, E. Rykova2,4, N. Cherdyntseva1,5, E. Morozkin2,6, I. Zaporozhchenko2, T. Skvortsova2, А. Dobrodeev1, A. Zav’yalov1, S. Tuzikov1, Vlasov2, P. Laktionov2,6 1Tomsk Cancer Research Institute, Tomsk; 2ICBFM SB RAS, Novosibirsk; 3 Tomsk Polytechnic University, Tomsk; 4NSTU, Novosibirsk; 5 TSU, Tomsk; 6Meshalkin Research Institute, Novosibirsk, Russia | 15:15–15:30 | **Censoring of noisy objects and attributes with function of rival similarity in medical and biological tasks**Olga Kutnenko, I.A. BorisovaSobolev Institute of Mathematics SBRAS, Novosibirsk, Russia |
|  |  | 15.35–15:50 | **The mitochondria-targeted plastoquinone SkQ1 affects *Drosophila melanogaster* lifespan in various environment**Anna Krementsova1, N. V. Roshina2, E. A. Tsybulko2, O. Y. Rybina2, A. V. Symonenko2, E. G. Pasyukova21Emmanuel Institute of Biochemical Physics of RAS, Moscow, Russia2Institute of Molecular Genetics of RAS, Moscow, Russia |  |  | 15:00−15:15  | **Somatic DNA methylation landscape of coronary artery disease patients** Maria Nazarenko1, A.V.Markov1, A.A. Sleptsov1, O.L. Barbarash2, V.P. Puzyrev1 1Research Institute of Medical Genetics, Tomsk, Russia;2Research Institute for Complex Issues of Cardiovascular Diseases, Kemerovo, Russia | 15:30–15:45 | **VlincRNA database: tool for very long intergenic non-coding RNA functional annotation**Denis Antonets1,2,4, Y. Vyatkin2,3, D. Luppov2,3, P. Kapranov3,5, M. Ri2,3, O. Saik2,3,6, D. Shtokalo1,2,31A.P.Ershov Institute of Informatics Systems SBRAS, Novosibirsk, Russia; 2AcademGene LLC, Novosibirsk, Russia’ 3St. Laurent Institute, Woburn, USA; 4State Research Center of Virology and Biotechnology ‘Vector’, Novosibirsk, Russia5Institute of Genomics, School of Biomedical Sciences, Huaqiao University, Xiamen, China; 6Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia |
|  |  |  |  | 15:15−15:30 | **Features of miRNA interaction with mRNA genes in coronary artery disease**A. Ivashchenko, R.E. Niyazova, S.A. Atambayeva, A.Y. PyrkovaAl-Farabi Kazakh National University, Almaty, Kazakhstan |
|  |  |  |  |  |  | 15:30−15:45 | **Epigenomic changes in postmortem brains of human alcoholics**Igor Ponomarev Waggoner Center for Alcohol and Addiction Research, The University of Texas, Texas, USA |
|  |  |  |  |  |  | 15:45−15:50 | **Discussion** |  |  |
| *Coffee break: 15.50–16.10* |
| 16.10–16.35 | **Computer-aided drug repurposing: new uses for old drugs or filling gaps in biomedical knowledge?**Vladimir Poroikov, D.A. Filimonov, A.A. Lagunin, T.A. Gloriozova Institute of Biomedical Chemistry, Moscow, Russia | 16:10–16.35 | **Geroprotector and criteria for its evaluation**Alexey Moskalev, M. Shaposhnikov, E.Proshkina, V.Tsvetkov, A.Fedintsev, E. Chernyagina, A.Zhavironkov1Institute of Biology of Komi Science Center of UB RAS; Syktyvkar, Russia | 16:10-16:30 | **Ku antigen displays the apurinic/ apyrimidinic (AP) lyase activity on a certain types of duplex DNA**Anastasiya Kosova, S.N. Khodyreva, O.I. LavrikICBFM SB RAS, Novosibirsk, Russia | 16:10−17:00 | **Discussion and closing remarks** | 16:05–16:15 | **A fenomenon of multistability in a simple ecological evolutionary population model**Oksana Zhdanova1, E.Ya. Frisman21Institute of Automation and Control Processes FEB RAS, Vladivostok; 2Institute of Complex Analysis of Regional Systems FEB RAS, Birobidzhan, Russia |
| 16.35–17.00 | ***In silico* design of aptamers containing g-quadruplexes**Arthur Zalevsky1,2, A.O. Demkiv2, A.V. Golovin1,21Apto-Pharm LLC, Moscow, Russia2Moscow State University, Moscow, Russia | 16.35–17.00 | **Perspectives for the prevention of accelerated aging**Vladimir AnisimovDepartment of Carcinogenesis and Oncogerontology, N.N. Petrov Research Institute of Oncology, St-Petersburg, Russia | 16:30-17:00 | **Structural bioinformatics of Fpg glycosylase: search for substrate specificity in the sequence space**Anna YudkinaICBFM SB RAS, Novosibirsk, Russia |  |  | 16:15–16:30 | **How new science emerges: a case study of microrna research**Igor Titov1,2, A.B. Firsov2, S.I. Demurin2, M.V. Pankova21Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia |
| 17.00–17.25 | **Molecular modeling of influenza virus H1N1 hemagglutinin inhibition by camphor imines**Dmitry Baev, A.S. Sokolova, O.I. Yarovaya, T.G. Tolstikova, V.V. Zarubaev N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS, Novosibirsk, Russia | 17.00–17.25 | **Systems biology, control theory and origin of aging**Alexander Khalyavkin, V.N. Krut’koInstitute of Biochemical Physics of RAS and FRC CSC RAS, Moscow, Russia | 17:00-17:30 | **DNA repair and death signalling targeted by alkylating anticancer drugs**Bernd KainaDepartment of Toxicology, University Medical Center, Mainz, Germany |  |  | 16:30–18:00 | **Poster Session** |
| 17.25–17.50 | **Small molecule agonists of relaxin receptor**Alexander Agoulnik1, I.U. Agoulnik1, X. Hu2, C. Myhr 1, Z. Huang1, B.A. Ho1, E. Barnaeva2, J. Xiao2, M. Ferrer2, N.T. Southall2, J.J. Marugan21Herbert Wertheim College of Medicine, Florida International University, Miami, FL, USA; 2NIH Chemical Genomics Center, National Center for Advancing Translational Sciences, National Institutes of Health, Rockville, MD, USA | 17.25–17.50 | **The role of the mechanisms of resistance to ionizing radiation in *Drosophila melanogaster* aging and longevity**Mikhail Shaposhnikov1,2, E.N. Proshkina1,2, L.A. Shilova1, D.O. Peregudova1, S.O. Zhikrivetskaya3, A.A. Moskalev1-41Institute of Biology of Komi Science Center UB RAS; 2Syktyvkar State University, Syktyvkar; 3Engelhardt Institute of Molecular Biology RAS; 4Moscow Institute of Physics and Technology, Dolgoprudny, Russia | 17:30-18:00 | **Modulation of cognitive function by oxidative DNA base lesion repair**K. Scheffler2, V. Rolseth1, M.D. Bjørge1, G. Hildrestrand1, W. Wang2, R. Suganthan2, A. Kusnierczyk2, Ch. Neurauter1, H. Korvald1, C. Vågbø2, L. Luna1, G. Slupphaug2, L. Eide2, Magnar Bjørås1,2 1Department of Microbiology, University of Oslo, Oslo, Norway; 2Department of Cancer Research and Molecular Medicine, Norwegian University of Technology and Natural Sciences, Trondheim, Norway. |  |  |  |  |
| 17.50–18.10 | **The impact of human genetic variability on ligand-protein interactions and individual drug response**Peter Vlasov, O. Pich i Rosello, A.V. Vlasova, F.A. Kondrashov Centre for Genomic Regulation; Universitat Pompeu Fabra; Institució Catalana de Recerca i Estudis Avançats, Barcelona, Spain |  |  | 18:00-18:20 | **DNA damage initiating demethylation: a repair-epigenetic connection**Inga Grin1,2, A.A. Ishchenko31ICBFM SB RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia3CNRS UMR 8200, Gustave Roussy Cancer Campus, Villejuif, France  |  |  |  |  |
|  |  |  |  | 18:20-18:30 | **Systemic response to genetic and chemical modulation of DDR regulating wild type p53 induced phosphatase in skin, intestine and hematopoietic system**A.R. Goloudina2, B.B. Grigorash1, E.Y. Kochetkova1, E. Appella3, V.A. Pospelov1, OlegDemidov1,21Institute of Cytology RAS, St. Petersburg, Russia; 2University of Burgundy, France; 3NCI, NIH, Bethesda, USA |  |  |  |  |
|  |  |  |  | 18:30-18:45 | The functional interactions of pleiotropic protein yb-1 with key base excision repair factorsaElizaveta Alemasova1, N.A. Moor1, K.N. Naumenko1,2, P.E. Pestryakov1, O.I. Lavrik1,21ICBFM SB RAS, Russia2NSU, Novosibirsk, Russia |  |  |  |  |
| 19:30 – 22:00 | The program dedicated to the 10th Anniversary of the BGRS Conference (including banquet) Technopark of Novosibirsk Akademgorodok, Novosibirsk, Nikolaeva street, 11, floor 13 |

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| **1 September,** Thursday |
|  | **Small hall** |  | **Library** |  | **Exhibition Hall** |
|  | BGRS\SB |  | BGRS\SB |  | MM-HPC-BBB |
| **9.00–13.10** | **Section “Bioinformatics and Systems Biology of Plants”***Chairpersons:* Elena Salina, Institute of Cytology and Genetics of SB RAS; Ivan Paponov, Norwegian Research Institute for Agriculture and the Environment, Norway | **9:00–11.00** | **Section “Evolutionary Bioinformatics”** *Chairpersons:* Fyodor Kondrashov, Evolutionary Genomics laboratory and ICREA, Barcelona, Spain  | **9:00–13:00** | **Morning session “Analysis of dynamical systems. Identifiability”** *Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov*  |
| 9.00–9.20 | **Dynamic metabolic regulation by a chromosome segment from a wild species during fruit development in a tomato introgression line**Yoshinori KanayamaSchool of Agricultural Science, Tohoku University, Sendai, Japan | 9.00–9.25 | **Evolution of restriction-modification systems in large scale**Olga Bezsudnova1, I.S. Rusinov,1,2 A.S. Ershova,2,3,4 A.S. Karyagina,2,3,4 S.A. Spirin,1,2,5 A.V. Alexeevski1,2,51Faculty of Bioengineering and Bioinformatics, Moscow State University, Russia; 2Belozersky Institute of Physico-Chemical Biology, Moscow State University, Russia; 3Gamaleya Center of Epidemiology and Microbiology, Moscow, Russia; 4Institute of Agricultural Biotechnology RAS, Moscow, Russia; 5Scientific Research Institute for System Studies, RAS, Moscow, Russia | 9:00–9:30 | **Regularization methods in determination of biological molecule force fields**Gulnara Kuramshina, A.Ya. Korneichuk, S.A. SharapovaFaculty of Chemistry, Department of Physical Chemistry, Moscow State University, Moscow, 119991, Russia |
| 9.20–9.40 | **New insights into the regulation of reactive oxygen species by auxin through gene expression analysis**Ivan Paponov1,2\*, V. Budnyk1, T. Khodus1, M. Paponov1, K. Palme11Institute of Biology II/Molecular Plant Physiology, Faculty of Biology, Albert-Ludwigs-University of Freiburg, Germany2NIBIO, Norwegian Institute of Bioeconomy Research, Postvegen, Norway | 9.25–9.50 | **Intron evolution: sliding and variability of length**Irina Poverennaya1, D.D. Gorev2, T.V. Astakhova3, M.A. Roytberg2,3. 1 Faculty of Bioengineering and Bioinformatics, Lomonosov Moscow State University, Moscow, Russia; 2 Moscow Institute of Physics and Technology, Moscow, Russia; 3 Institute of Mathematical Problems of Biology RAS, Pushchino, Russia | 9:30–10:00 | **First passage random walk meshfree methods for biological reaction-diffusion fluctuation induced systems**Karl SabelfeldInstitute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| 9.40–10.00 | **Genetics and physiology of wheat inflorescence development**Oxana Dobrovolskaya1,5, P. Martinek2, Yu.L. Orlov1, A.A. Krasnikov3, E.D. Badaeva4, K.I. Popova5, Salse J.6, Watanabe.N.71ICG SB RAS, Novosibirsk, Russia; 2Agrotest Fyto, Ltd, Kroměříž, Czech Republic; 3Central Siberian Botanical Garden SB RAS, Novosibirsk, Russia**4Vavilov Institute of General Genetics** RAS, Moscow, Russia; 5Novosibirsk State Agrarian University, Novosibirsk, Russia; 6INRA-UBP UMR-1095, Clermont –Ferrand, France; 7College of Agriculture, Ibaraki University, Ibaraki, Japan | 9.50–10.15 | **Phylogenetic analysis of DAHPS II type amino acid sequences**Anastasia Semashko, E.G. Veremeenko, N.P. MaksimovaBelarusian State University, Minsk, Belarus | 10:00–10:30 | **Van der pol – duffing’s equation as a relaxation oscillation model of hemodynamic parameters in different cerebral vessels**A.A. Cherevko1,2, Irina Ufimtseva1, A.P. Chupakhin1,2, A.L. Krivoshapkin3, K.Yu. Orlov31NSU, Novosibirsk, Russia; 2Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia; 3Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia |
| 10.00–10.20 | ***Nicotiana* genomics: from plants to genomes**N. Sierro, J.N.D. Battey, S. Ouadi, N. Bakaher, L. Bovet, A. Willig, S. Goepfert, M.C. Peitsch, Nikolai IvanovPhilip Morris International R&D, Philip Morris Products S.A., Switzerland | 10.15–10.40 | **The evolution of language-readiness in the hominin lineage: an analysis of open chromatin regions implicated in gene regulation**Konstantin Gunbin1, A. Benítez-Burraco2, F. Gusev1, E. Rogaev1,31ICG SB RAS, Novosibirsk, Russia; 2Department of Philology, University of Huelva, Huelva, Spain; 3 University of Massachusetts Medical School, Worcester, USA | 10:30–10:50 | **An algorithm for selecting of antibiotic resistance gene-predictors for Klebsiella pneumoniae hospital strains**Ivan Balashov1, V.A. Naumov1, O.S. Altukhova1, P.I. Borovikov1, I.S. Mukosey1, T.O. Kochetkova1, A.B. Gordeev1, D.V. Dubodelov1, E.S. Shubina1, L.A. Lyubasovskaya1, T.V. Priputnevich11Academician V.I. Kulakov Research Center of Obstetrics, Gynecology and Perinatology, Ministry of Health, Moscow, Russia |
| 10.20–10.35 | **A spatial model of plant interactome and long non-coding RNA**Hongjun Chen, Jitong Xue, Ming ChenZhejiang University, Hangzhou, China |  |  |  |  |
| 10.35–10.50 | **Computer simulation of trichome patterning on growing wheat leaf taking into account the biomechanics of cells** Ulyana Zubairova1, S.V. Nikolaev1, A.V. Penenko2, N.L. Podkolodnyy1, S.K. Golushko3, D.A. Afonnikov1, and N.A. Kolchanov11ICG SB RAS, Novosibirsk; 2ICMMG SB RAS, Russia; 3Design and Technology Institute of Digital Techniques SB RAS, Novosibirsk, Russia |  |  |  |  |
| *10.50–11.10 Coffee break* |
| 11.10–11.30 | **Nucleotide diversity analysis highlights functionally important genomic regions**Tatiana Tatarinova1,2, E. Chekalin3, Y. Nikolsky3,4,5, S. Bruskin3, D. Chebotarov6, K.L. McNally6, N. Alexandrov61Center for Personalized Medicine and Spatial Sciences Institute, University of Southern California, Los Angeles, CA, USA; 2Kharkevich Institute for Information Transmission Problems, Russian Academy of Sciences, Moscow, Russian Federation; 3Vavilov Institute of General Genetics, Moscow, Russia; 4F1 Genomics, San Diego, CA, USA; 5School of Systems Biology, George Mason University, VA, USA; 6International Rice Research Institute, Los Baños, Philippines |  |  | 11:10–11:40 | **Image processing in biology and medicine**Ivan Kazantsev1Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 11.30–11.50 | **Sleep of reason in the analysis of the results of research on materials «Proteomic information ofspring wheat varieties differing in resistance to infection after *Puccinia recondita* inoculation»**Kanat Sarsenbayev, A. SarsenbayevaL.N. Gumilyov Eurasian National University, Astana, Kazakhstan |  |  | 11:40–12:10 | **Inverse modeling of diffusion processes in biological tissues**Aleksey Penenko1-3, S.V. Nikolaev2,S.I. Baiborodin2, A.V. Romaschenko21Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; 2ICG SB RAS, Novosibirsk, Russia; 3NSU, Novosibirsk, Russia |
| 11.50–12.10 | **Study of *Armillaria borealis* pathogenicity by the comparative whole genome sequencing**Yuliya Putintseva1,2, I.N. Pavlov1,2, N.V. Oreshkova1,2, V.V. Sharov1, D.A. Kuzmin1, S.V. Makolov1, K.V. Krutovsky1,3,4,51Siberian Federal University, Krasnoyarsk, Russia; 2V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk, Russia; 3Georg-August University of Göttingen, Göttingen, Germany; 4N.I. Vavilov Institute of General Genetics, RAS, Moscow, Russia; 5Texas A&M University, College Station, USA |  |  | 12:10–12:25 | **Population-based mathematical modeling of human immunoglobulin G N-glycosylation**Elena Kutumova1,2, I. Yevshin1,2, E. Basmanova1,2,3, N. Mandrik1,2,4, R. Sharipov1,2,3, F. Kolpakov1,21Institute of Systems Biology Ltd., Novosibirsk, Russia; 2Design Technological Institute of Digital Techniques, Novosibirsk, Russia 3NSU, Novosibirsk, Russia; 4Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia |
| 12.10–12.30 | **Transcriptomic analysis of wheat root in response to essential nutrient deficiency: a gemome-wide comparative study**Saurabh Gupta1, B.S. Yadav2, S. Freilich3, V.P. Kumar11Department of Bioinformatics, Indian Institute of Information Technology-Allahabad, India; 2Deparment of Molecular Biology and Ecology of Plants, Tel Aviv University, Israel; 3 Systems Biology and Ecology ARO- Volcani Center- Bet-Dagan, Israel |  |  | 12:25–12:40 | **Identifiability of mathematical models of physiology**Anastasia Grodz1, S.I. Kabanikhin1,2, D.A. Voronov1,2, O.I. Krivorotko1,21NSU, Novosibirsk, Russia; 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| 12.30–12.50 | ***Monotropa hypopitys* whole genome and transcriptome sequencing data**Elena Kochieva, E.V. Gruzdev, A.V. Beletsky, A.M. Mazur, A.V. Shchennikova, O.V. Shulga, M.A. Filyushin, V.V. Kadnikov, A.V. Mardanov, N.V. Ravin, K.G. SkryabinInstitute of Bioengineering, Research Center of Biotechnology RAS, Moscow, Russia |  |  | 12:40–12:55 | **A variation approach for solving of a parameter identification problem for the mathematical model of HIV dynamics**Darya Ermolenko1, S.I. Kabanikhin1,2, O.I. Krivorotko1,21NSU, Novosibirsk, Russia2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia  |
| 12.50–13.10 | **3D map of proliferation activity in *Arabidopsis thaliana* root tips: transition domain boundaries and its bilateral symmetry**Viktoriya Lavrekha1,2,, T. Pasternak 3, N.A. Omelyanchuk1,2, V.B. Ivanov4, V.V. Mironova1,2 1ICG SB RAS, Novosibirsk, Russia; 2LCTEB, NSU, Novosibirsk, Russia3Institute of Biology II/Molecular Plant Physiology, Centre for BioSystems Analysis, BIOSS Centre for Biological Signalling Studies University of Freiburg, Germany; 4Timiryazev Institute of Plant Physiology, Russian Academy of Sciences Moscow, Russia |  |  |  |  |
|  |  |  | *Lunch: 13:00–14:00* |  |  |
|  | **Small hall** |  | **Library** |  | **Exhibition Hall** |
|  | BGRS\SB |  | BGRS\SB |  | MM-HPC-BBB |
| **14.00–18.35** | **Section “Proteomics”** *(House of Scientists SB RAS, Small hall)**Chairpersons:* Andrey Lisitsa, IBMC, Moscow, Russia; Sergey Peltek, ICG SB RAS, Novosibirsk, Russia |  | 2nd IC&G SB RAS – Tohoku University Open Joint Seminar on Education and Research in High-Tech for Plant Production**Opening** Alexey Kochetov, Yoshinori Kanayama  | 14:00–14:15 | **IPE Pack for modeling PK processes**Dmitry Voronov1,2, A.Yu. Belonog2, S.I. Kabanikhin1,21Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; 2NSU, Novosibirsk, Russia |
| 14.00–14.35 | Nonthermal impact terahertz radiation on the living systemsI.A. Mescheryakova1, E.V. Demidova1, T.N. Goryachkovskaya1, E.A. Demidov1, A.V. Bryanskaya1, S.V. Sergeeva1, S.L. Kiselev3, M.A. Lagarkova3, G.N. Kulipanov2, A.I. Semenov2, N.A. Vinokurov2, N.A. Kolchanov1, V.M. Popik2, Sergey Peltek11ICG SB RAS; 2Budker Institute of Nuclear Physics the SB RAS; 3Vavilov Institute of General Genetics, RAS, Moscow |  | **Technological progress in Japanese horticultural production and Its academic aspects**Yoshinori Kanayama | 14:15–14:30 | **Algorithms comparison of inverse problem solution for pharmacokinetic models**Anatoly Belonog1, D.A.Voronov1,21NSU, Novosibirsk, Russia; 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| 14.35–15.00 | **Impact of 105-day isolation conditions on proteins expressed in endothelial cells, in the framework of the «Mars-500» project**L.H. Pastushkova1, D.N. Kashirina1, A.S. Kononikhin1,3, Alexander Brzhozovsky1 A.G., 1Dobrokhotov I.V., 2Tiys E.S., 2Ivanisenko V.A., 3Nikolaev E.N., 1Larina I.M.1State scientific center of Russian Federation – Institute for biomedical problems RAS, Moscow; 2ICG SB RAS, Russia3Emanuel Institute of Biochemical Physics RAS, Moscow, Russia |  | **Transgenic plants as genetic models**Alexey Kochetov | 14:30–14:45 | **A numerical algorithm of parameter identification in mathematical model of tuberculosis transmission with control programs**Victoriya Kashtanova1, S.I. Kabanikhin1,2, O.I. Krivorotko1,2, D.A. Voronov1,21NSU, Novosibirsk, Russia; 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| 14:45–15:00 | **Stochastic and gradient approaches for solving of the inverse problem for basic mathematical model of infectious disease with delay**Varvara Latyshenko1, O.I. Krivorotko1,2, S.I. Kabanikhin1,21NSU, Novosibirsk, Russia; 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| 15.00–15.25 | **Kynurenic acid-sensitized photolysis of lens proteins under anaerobic conditions**Ekaterina Sormacheva1, P.S. Sherin1,2, E.A. Zelentsova1,2, T.G. Duzhak1,2, Yu.P. Tsentalovich1,2, R.Z. Sagdeev1,21International Tomography Center SB RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia |  | **Roles of pathogenesis related-10 proteins in biotic and abiotic stresses in comparison with heterologous ribonucleases**Ekaterina Trifonova | 15:00–15:15 | **Mathematical modeling and parameters estimation for PK experimental data**Elizaveta Vostrikova1, A.Yu. Belonog1, D.A.Voronov1,21NSU, Novosibirsk, Russia; 2Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia |
| **15:15–18:00** | **Afternoon session “Hemodynamic and tomography”** *Chairperson: Prof. Alexander Chupakhin, Maxim Shishlenin* |
| 15.25–15.50 | **Looking for proteomic markers of breast cancer in blood exosomes**Oleg Tutanov1, S.N. Tamkovich1, Y.S. Bakakina2, L.V. Dubovskaya2, Y.P. Tsentalovich3, I.D. Volotovskiy2, P.P. Laktionov11ICBFM SB RAS, Novosibirsk, Russia2Institute of biophysics and cellular engineers NASB, Minsk, Byelorussia3Institute “International Tomografic Center” SB RAS, Novosibirsk, Russia |  | **Towards the reference sequence of chromosome 5B of common wheat** Elena Salina | 15:15–15:30 | **Modeling and optimization the process of embolization arteriovenous malformation on the bazis of two-phase filtration model**Tatiana Gologush2, A.A. Cherevko1,2, , V.V. Ostapenko1,2, I.A. Petrenko3, A.P  Chupakhin1,21Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia 2NSU, Novosibirsk, Russia; 3Vladimir State University, Vladimir, Russia |
| **Inflorescence architecture in wheat** Oxana Dobrovolskaya | 15:30–15:45 | **Nyquist diagrams for the generalized van der pol– duffing equation describing local cerebral hemodynamic**Elizaveta Bord2, A.A. Cherevko1,2, A.K. Khe1,2, V.A. Panarin3, K.Yu. Orlov3, A.P. Chupakhin1,21Larentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia2NSU, Novosibirsk, Russia; 3Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia |
| *15.50–16.10 Coffee break* |
| 16.10–16.35 | **Microbial community of the oil site of the Uzon Caldera (Kamchatka)**S.E. Peltek1, Alla Bryanskaya1, Y.E. Uvarova1, A.S. Rozanov1, T.V. Ivanisenko1, T.K. Malup1, V.A. Ivanisenko1, E.V. Lazareva2, O.V. Saik1, S.M. Zhmodik2, O.P. Taran3, N.M. Slynko1, S.V. Shekhovtsov1, V.N. Parmon3, N.L. Dobretsov2, N.A. Kolchanov1 1ICG SB RAS, Novosibirsk, Russia; 2V S Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia; 3Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia |  | **Synthesis and accumulation of a novel functional food component in tomato**Ayaka Ito | 16:10–16:25 | **Experimental research of the viscous fluid flow in the elastic modelwith the application in hemodynamics**Nikita Denisenko1,6, A.P. Chupakhin1,6, A.K. Khe1,6, A.A. Cherevko1,6, A.A. Yanchenko1,6, A.A. Tulupov2,6, A.V. Boiko3, A.L. Krivoshapkin4,K.Yu. Orlov4, M.P. Moshkin5, A.E. Akulov51Lavrentyev Institute of Hydrodynamics SB RAS; 2International Tomography Center SB RAS; 3Khristianovich Institute of Theoretical and Applied Mechanics SB RAS; 4Meshalkin Research Institute of Circulation Pathology; 5ICG SB RAS; 6NSU, Novosibirsk, Russia |
| 16.35–17.00 | **Proteomic screening for amyloid-forming proteins in bacteria *Escherichia coli***Anton Nizhnikov1,2,3\*, K.S. Antonets1,2, K.V. Volkov 1, A.L. Maltseva 1, A.P. Galkin1,21St. Petersburg State University; 2Vavilov Institute of General Genetics (St. Petersburg Branch); 3All-Russian Research Institute for Agricultural Microbiology, St. Petersburg, Russia |  | **Physiological and transcriptional changes in a blossom-end rot resistant tomato introgression line IL8-3 fruit****Tomoki Shibuya** | 16:25–16:40 | **Mathematical modelling of artificial heart valve performance**D.A. Dolgov, Y.N. ZakharovKemerovo State University, Kemerovo, Russia |
| 17.00–17.15 | **Actual approaches for qualification and quantification of proteome changes**http://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/07/BIO-RAD-vectored-LOGO-p347_%D0%BB%D0%BE%D0%B3%D0%BE.jpgEugeny VrzheschchBio-Rad, Moscow, Russia  |  | **Study on the regulation of cell division during early fruit development in tomato**Hideki Nariyama | 16:40–16:55 | **Mathematical model of cerebral haemodynamics in presence of aneurysm** Daniil Parshin, I.V. Ufimtseva2, A.A. Cherevko1,2, A.K. Khe1,2, K.Yu. Orlov3, A.L. Krivoshapkin3, A.P. Chupakhin1,21Lavrentyev Institute of hydrodynamics SB RAS; 2NSU; 3Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia |
| 17.15–17.40 |  **Prediction of structural properties of uncharacterized proteins from their post-cleavage mass spectra by a multivariate statistical model**Oleg Markelov1, A.R. Kayumov2, M.I. Bogachev11St. Petersburg Electrotechnical University, St. Petersburg, Russia2Kazan (Volga region) Federal University, Kazan, Russia |  | **VIGS-mediated resistance to crown gall disease** Pavel Nikulin  | 16:55–17:10 | **Investigation of the influence of genotype on the structure of the circulatory system laboratory mice**Galina Yankova3, A.E. Akulov1, S.V. Maltseva2,3, M.P. Moshkin1,3, A.K. Khe3,4, A.A. Cherevko3,4, A.P. Chupakhin3,4, 1ICG SB RAS; 2Sobolev Institute of mathematics SB RAS, Russia; 3NSU; 4Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia |
| 17.40–18.05 | **Coupled molecular dynamic and continuum electrostatic method to compute ionization of proteins as a function of pH**Yury Vorobjev ICBFM SB RAS, Novosibirsk, Russia |  | **Membrane-associated kinase regulators of MAKR family genes in *Arabidopsis thaliana* L.**Daria Novikova  | 17:10–17:25 | **Personalized simulation based on the modified analytical model of the left ventricle of the human heart**Anton Koshelev1,2, A.E. Bazhutina1, K.S. Ushenin1,31Ural Federal University; 2Institute of Mathematics and Mechanics UB RAS; 3Institute of Immunology and Physiology UB RAS, Ekaterinburg, Russia |
|  |  |  | **Plant delta-OAT gene expression in ontogenesis and stress response.**Anastasiya Egorova | 17:25–17:40 | **Validation of the human arterial tree model**Ilya Kiselev1,2, E.A. Biberdorf3,4, V.I. Baranov5, T.G. Komlyagina5, I.Y.Suvorova5, V.N.Melnikov5, S.G.Krivoshchekov5, F.A.Kolpakov1,21Institute of Systems Biology Ltd, Novosibirsk; 2Design Technological Institute of Digital Techniques SB RAS; 3NSU, Novosibirsk, Russia; 4Sobolev Institute of Mathematics SB RAS; 5State Scientific-Research Institute of Physiology & Basic Medicine, Novosibirsk, Russia |
|  |  |  | **Functional and structural characterisation of PPD-B1 photoperiod insensitive allele**Antonina Kiseleva | 17:40–17:55 | **Inverse problems for nonlinear PDE: applications to biology and medicine**Maxim ShishleninSobolev Institute of Mathematics SB RAS; ICM&MG SB RAS; NSU, Novosibirsk, Russia |
|  |  |  | **Phage-producing plants as models for expression of heterologous replicons**Anna Nazarenko | 17:55–18:10 | **Inverse and ill-posed problems in tomography, based on the propagation of the acoustic waves** Nikita Novikov1,3, I.M. Kulikov1,3, M.A. Shishlenin1,2,31Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; 2Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia; 3NSU, Novosibirsk, Russia |
|  |  |  |  | 18:10–18:25 | **Localisation of centers of neuron-vessel interconnections for neurobiofeedback**Pavel Rudych, V.S. Rudnev, L.I. Kozlova, A.A. SavelovNSU, Novosibirsk, RussiaInstitute of Molecular Biology and Biophysics, Novosibirsk, Russia International Tomography Center, Novosibirsk, Russia |

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|  | **2 September,** Friday |
|  | Small Hall BGRS\SB |
| **9:00–16.30** | **Section “Genomics, Transcriptomics and Bioinformatics”** *(House of Scientists SB RAS, Small hall)**Chairpersons:* Ivo Grosse, Halle-Wittenberg University, Halle, Germany; Vsevolod Makeev, VIGG RAS, MIPT, Moscow, Russia |
| 9:00–9.15 | http://conf.bionet.nsc.ru/bgrssb2016/wp-content/uploads/sites/2/2016/06/Logo-Roche-1.jpg**Sequencing from Roche: what the future will bring for you?**Irina KarpovaLCC “Roche Diagnostics Rus”, Moscow, Russia |
| 9.15–9.30 | **Whole genome of the wooly mammoth: evolution through millenia**Artem Nedoluzhko1,\*, A.S. Sokolov2, F.S. Sharko2, E.S. Boulygina1, S.V. Tsygankova1, A.N. Tikhonov3, K.G. Skryabin1,2,4, E.B. Prokhortchouk2,41National Research Center “Kurchatov Institute”, Moscow, Russia; 2Institute of Bioengineering, Research Center RAS, Moscow, Russia; 3Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia; 4Lomonosov Moscow State University, Moscow, Russia |
| 9.30–9.45 | **Opisthorchiidae triad: comparative genomics of the carcinogenic liver flukes using a draft genome of *Opisthorchis felineus***N. Ershov1\*, G. Fan2,3, E. Prokhortchouk4, V. Solovyev5, Dmitry Afonnikov1,6, H. Yang2, V. Mordvinov1, X. Liu**2**, K. Skryabin4,7 and The Opisthorchis Genome Consortium1ICG SB RAS, Novosibirsk, Russia; 2BGI-Shenzhen, Shenzhen, China; 3State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macao, China; 4Russian Federal Research Center for Biotechnology, Moscow, Russia; 5Softberry Inc., Mount Kisco, NY, US; 6NSU, Novosibirsk, Russia; 7National Research Centre, Kurchatov Institute, Moscow, Russia |
| 9.45–10:00 | **In silico mouse chromocenters content**Dmitrii Ostromyshenskii, A.S. Komissarov, I.S. Kuznetsova, O.I. PodgornayaInstitute of Cytology RAS, St. Petersburg, Russia |
| 10:00–10:15 | **Transcriptome wide prediction of lncRNA-RNA interactions by a thermodynamics algorithm**Ivan Antonov, M.A. Zamkova, A.V. Marakhonov, M.Y. Skoblov, Y.A. MedvedevaResearch Center of Biotechnology RAS, Moscow, Russia |
| 10:15–10:30 | **Energy metabolic dysfunction in tumor cells, molecular mechanisms and clinical significance**Anna Kudryavtseva1,2, A.A. Dmitriev1, O.L. Kardymon1, A.S. Zasedatelev1, G.S. Krasnov1, A.V. Snezhkina11Engelhardt Institute of Molecular Biology, Russian Academy of Sciences, Moscow, Russia.2Herzen Moscow Cancer Research Institute, Ministry of Health of the Russian Federation, Moscow, Russia. |
| 10:30–11:00 | **GeneQuery: globally connected networks of GEO transcriptional profiles show hypothesis generation potential and reveal that tocopherols rescue TREM2-associated microglial dysfunction**Aleksandr Predeus1,2\*, T. Ulland1, Y. Wang1, V. Lampropoulou1, W. Song1, I. Arbuzov3, F. Towfic4, S. Gilfilan1, E. Loginicheva1, B.T. Edelson1, B. Zeskind4, M. Colonna1, M.N. Artyomov11Washington University School of Medicine, St. Louis, MO, USA; 2Bioinformatics institute, Saint Petersburg, Russia; 3ITMO University, Saint Petersburg, Russia.4Immuneering Corporation, Cambridge, MA, USA |
| 11.00–11.20 | *Coffee break* |
| 11.20–11.50 |  **miRNA binding sites in the mRNA of human titin gene**Ilya Pinsky1, A.T. Ivashchenko1, S.B. Labeit2**1Al-Farabi Kazakh National University, Almaty, Kazakhstan****2Institute of Integrative Pathophysiplogy, Mannheim, Germany** |
| 11.50–12.05 | **Genome-wide transcriptomics as a platform for understanding the unusual resistance to muscle atrophy in hibernating dormice**Guzel Gazizova1\*, O.V. Tyapkina2, O.S. Kozlova1, M.D. Logacheva1,3, L.F. Nurullin2, I.M. Vikhlyantsev4, O.A. Gusev1,51Kazan Federal University, Kazan, Russia;2Kazan Institute of Biochemistry and Biophysics KSC RAS, Kazan, Russia;3Lomonosov Moscow State University, Moscow, Russia;4Institute of Theoretical and Experimental Biophysics RAS, Puschino, Russia;5RIKEN, Yokohama, Japan |
| 12.05–12.35 | **The first edition of mutagenesis by CRISPR/Cas in the extreme desiccation tolerant cultured cell.**Takahiro Kikawada1,2, Y. Miyata1,3, Y. Sogame1,4, T. Furusawa1, S. Kikuta5, R. Cornette1, O. Gusev6,71Institute of Agrobiological Sciences, NARO, Japan2Department of Integrated Biosciences, Graduate School of Frontier Sciences, The University of Tokyo, Japan3Center for Biological Resources and Informatics, Tokyo Institute of Technology, 4. JSPS Research Fellow, 5. Graduate School of Bio-Applications and Systems Engineering, Tokyo University of Agriculture and Technology, Tokyo, Japan, 6. Institute of Fundamental Medicine and Biology, Kazan Federal University , Russia, 7. Preventive Medicine & Diagnosis Innovation Program (PMI), RIKEN, Japan |
| 12.35 -14:00 | *Lunch* |
| 14:00-16:00 | **Expert-analytical evaluation of promising research directions in bioinformatics and systems biology** |
| 16:00-16:30 | **Closing** |