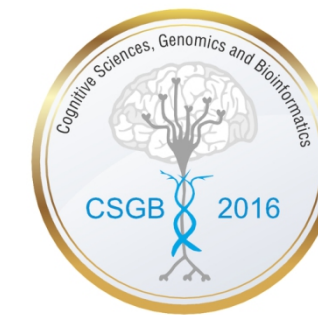




10th anniversary International Multiconference






«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

29 August, Monday	
08:30-10:00	Registration (<i>House of Scientists SB RAS, main entrance</i>)
10.20–16.00	Plenary session (<i>House of Scientists SB RAS, Large hall</i>) <i>Chairpersons: Prof. Nikolay Kolchanov, Prof. Ralf Hofestädt</i>
10:20-11.00	Opening Ceremony (<i>House of Scientists SB RAS, Large Hall</i>)
11.00–11.40	Aging and cancer: state-of-art and prospects for prevention <u>Vladimir Anisimov</u> 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 <u>Andrey Lisitsa</u> , 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. Drost ¹ , A. Gabel ¹ , I. Ivo Grosse ^{1,2} , M. Quint ^{3,4} ¹ Institute of Computer Science, Martin Luther University Halle-Wittenberg, Halle, Germany ² German Centre for Integrative Biodiversity Research Halle-Jena-Leipzig, Leipzig, Germany ³ Department of Molecular Signal Processing, Leibniz Institute of Plant Biochemistry, Halle, Germany ⁴ Institute 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 <u>Evgeny Rogaev</u> 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 <u>Peter Vandenabeele</u> VIB Inflammation Research Center, Zwijnaarde-Ghent, Belgium Department of Biomedical Molecular Biology, Ghent University, Ghent, Belgium
15.20–16.00	Macroevolutionary and experimental assays of fitness landscapes <u>Fyodor Kondrashov</u> Centre 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 <u>Sergey Paramonov, Vladimir Poroikov</u> Thomson Reuters, Moscow, Russia


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” <i>Chairs: Prof Vladimir Golubyatnikov, Prof Ralf Hofestädt</i>
								15:00–15:30	Geometry of phase portrait of one gene network model with variable feedbacks <u>Vladimir Golubyatnikov</u> ^{1,2} , M.V. Kazantsev ³ , N.B. Ayupova ^{1,2} ¹ Sobolev Institute of Mathematics SB RAS, Novosibirsk, ² NSU, Novosibirsk, Russia ³ Polzunov Altai State Technical University, Barnaul, Russia
								15:30–15:45	Computer analysis of biological networks of mammalian circadian oscillator <u>Nikolai Podkolodnyy</u> ¹⁻³ , O.A. Podkolodnaya ¹ , N.N. Tverdokhle ^{1,3} ¹ ICG SB RAS, ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, ³ NSU, Novosibirsk, Russia
16.40–19.10	Section “Systems Computational Biology” <i>Chairperson: Alexander Ratushny, Celgene, and Institute for Systems Biology, Seattle, USA</i>							15:45–16:00	Functional graphs of discrete dynamical systems of almost circulant type <u>Anastasiya Parfinenko</u> Sobolev 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 <u>Manyuan Long</u> 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 maternal input <u>Konstantin Kozlov</u> , A.V. Svichkarev, V.V. Gursky ^{1,2} , I.V. Kulakovskiy ³ , S.Y. Surkova ⁴ , M.G. Samsonova ¹ ¹ Peter the Great St. Petersburg Polytechnic University, St. Petersburg, 195251, Russia ² Ioffe Institute, St. Petersburg, 194021, Russia ³ Engelhardt Institute of Molecular Biology, RAS, Moscow, 119991, Russia
17.10–17.40	KATIS: integrative information system for complementary medicine <u>Ralf Hofestädt</u> , 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 <u>Dmitry Bratsun</u> ¹ , I.V. Krasnyakov ² ¹ Perm National Research Polytechnic University; ² Perm State Humanitarian Pedagogical University, Perm, Russia
17.40–18.10	FAIRDOM: Data and Model Management for Systems Biology Projects <u>Olga Krebs</u> ¹ , R. Kuzyakiv ⁵ , M. Golebiewski ¹ , S. Owen ² , Q. Nguyen ¹ , N. Stanford ² , K. Wolstencroft ⁴ , J.L. Snoep ^{2,3} , B. Rinn ⁵ , W. Mueller ¹ , C. Goble ² ¹ Heidelberg Institute for Theoretical Studies, Germany; ² School of Computer Science, University of Manchester, UK; ³ Department of Biochemistry, University of Stellenbosch, South Africa; ⁴ Leiden Institute of Advanced Computer Science, Leiden University, NL; ⁵ ETH Zurich, Swiss							16:30–16:45	An inverse problem for a system with a small parameter in kinetics models <u>Larisa Kononenko</u> Sobolev Institute of Mathematics, Novosibirsk, Russia
								16:45–17:00	Euclidean analogues of genetic distances between nucleotide sequences <u>Vadim Efimov</u> ¹⁻⁴ , K.V. Efimov ⁵ , V.Y. Kovaleva ² ¹ ICG SB RAS, Novosibirsk, Russia ² Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, Russia ³ NSU, Novosibirsk, Russia ⁴ Tomsk State University, Tomsk, 634050, Russia ⁵ Moscow 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 <u>Konstantin Kozlov</u> ¹ , A.V. Svichkarev ¹ , V.V. Gursky ^{1,2} , I.V. Kulakovskiy ³ , S.Y. Surkova ⁴ , and M.G. Samsonova ¹ ¹ Peter the Great St. Petersburg Polytechnic University, ² Ioffe Institute, St. Petersburg; ³ Engelhardt Institute of Molecular Biology RAS, Moscow, Russia							17:00–17:15	Symmetrical genetic code and genetic mutations <u>Boris Biletskyi</u> , A.M. Gupal V.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 <u>Tsyndyma Batueva</u> Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia

18.40–19.10	Elemental metabolomics—linking environmental, food, nutrition and health sciences P. Zhang ¹ , I. Giannenas ² , C.A. Georgiou ³ , <u>Vladimir Brusic</u> ^{1,4} ¹ Menzies Health Institute Queensland, Griffith University, Australia ² Aristotle University of Thessaloniki, Thessaloniki, Greece ³ Department of Food Science and Nutrition, Agricultural University of Athens, Greece ⁴ School of Medicine and Bioinformatics Center, Nazarbayev University, Kazakhstan							17:15–17:45	Genome tree theory <u>Igor Erokhin</u> National Biotechnological Company LLC, Moscow, Russia
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19.40–22.00	WELCOME PARTY								
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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” <i>Chairpersons: Ivo Grosse, Halle-Wittenberg University, Halle, Germany; Vsevolod Makeev, VIGG RAS, MIPT, Moscow, Russia</i>			9.00 – 13.00	Symposium «Cognitive Sciences, Genomics and Bioinformatics” (CSGB- 2016)	09:00–09:10	Opening remarks <u>Vladimir Kononkov</u> SICEL, Novosibirsk, Russia	9:00–13:00	Morning session “High-performance computing in natural sciences” <i>Chairpersons: Igor Kulikov, Igor Chernykh</i>
9.00–9.30	Transcription by alternative sigma factors: revising the rigidity paradigm <u>Jelena Guzina</u> , M. Djordjevic University of Belgrade, Belgrade, Serbia			9.00–9:30	National Technology Initiative (NTI): NeuroNet and CoBrain strategies and prospects <u>Lubomir Aftanas</u> ¹ ¹ Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia	09:10–10:50	Cell Technology and Regenerative Medicine Chairs: Vladimir Kononkov, Elena Chernykh	9:00–9:30	Realistic 3D simulation of C. elegans swimming and crawling with sibernet environment <u>Andrey Palyanov</u> ¹⁻³ , S.S. Khayrulin ¹⁻³ ¹ Institute of Informatics Systems SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia; ³ OpenWorm Project
9.30–10.00	Reconstruction of transcription control network in genome-reduced bacteria by high-throughput promoters identification <u>Irina Garanina</u> , G.U. Fisunov., D.V. Evsutina, V.M. Govorun Scientific Research Institute of Physical-Chemical Medicine SRI PCM, Moscow, Russia			9.30–10:00	Approaches to the study of oscillatory resting-state networks <u>Gennady Knyazev</u> ¹ ¹ Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia	09:30–09:45	Study of motility of osteogenic cells in tissue engineering protocols <u>N. Astakhova</u> , S.V. Nikolaev, K.E. Orishchenko ³ , A.V. Korel ¹ , U.S. Zubairova ³ , I.A. Kirilova ¹ Institute of Traumatology and Orthopedics Y.L. Tsivyan; ² Innovative Medical Technology, Novosibirsk, Russia; ³ Institute of Cytology and Genetics of SB RAS, Novosibirsk, Russia	9:30–9:45	Siberian supercomputer center as a service for bioinformatics research <u>Igor Chernykh</u> , B. Glinskiy, N. Kuchin Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
						09:45–10:05	Approaches to personalized cell therapy for ischemic diseases <u>Olga Poveshchenko</u> SICEL, Novosibirsk, Russia	9:45–10:00	HLA typing pipeline for amplicon sequencing <u>Olga Altukhova</u> , P.I. Borovikov ¹ , T. Jankevi ² , I.S. Balashov ¹ ¹ Academician V.I. Kulakov Research Center of Obstetrics, Gynecology and Perinatology, Moscow, Russia; ² NRC Institute of Immunology FMBA of Russia, Moscow, Russia
10.00–10.30	Single cell expression profiling of neural crest-derived cells <u>Tatiana Subkhankulova</u> ¹ , G. Aquino ² , A. Rocco ² , H. Schwetlick ¹ , R.N. Kelsh ¹ ¹ Department of Biology and Biochemistry, University of Bath, Bath, UK; ² Department 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 <u>Sergei Shishkin</u> ¹ ¹ National Research Centre "Kurchatov Institute", Moscow, Russia	10:05–10:20	Clinical efficacy of biomedical cellular products in experimental bowel inflammation disease <u>Alexander Lykov</u> , N.A. Bondarenko, M.A. Surovtseva, I.I. Kim, N.P. Bgatova, O.V. Poveshchenko SICEL, Novosibirsk, Russia	10:00–10:15	High-performance intelligent analysis of biomechanical processes control and management of blood pressure in human kidney <u>Agn Bedelbayev</u> Al-Farabi Kazakh National University, Almaty, Kazakhstan
						10:20–10:35	Strategies for maturation and antigen loading of dendritic cells for anti-cancer immunotherapy <u>Zhanna Nazarkina</u> ^{1,2} , A. Zajakina ³ , P.P. Laktionov ^{1,2} ¹ ICBFMSB RAS, Novosibirsk, Russia; ² Scientific Research Institute for Circulatory Pathology named after Academician E.N. Meshalkin, Novosibirsk, Russia; ³ Latvian Biomedical Research and Study Centre, Riga, Latvia	10:15–10:30	High-performance computations support for the software package «haploid evolutionary constructor» <u>Roman Zudin</u> ^{1,2} , S.A. Lashin ^{1,2} ¹ ICG SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia

10.30–10.45	Using Dolomite Microfluidics for sequencing the transcriptome of individual cells <u>Dmitry Brittal</u> LLC "Dia M", Moscow, Russia		10:30–10:50	Abductive reasoning in psychotherapy <u>Vladimir Zavyalov</u> ¹ ¹ Scientific 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 <u>Oleg Vishnevsky</u> ^{1,2} , A.V. Bocharnikov ² , N.A. Kolchanov ^{1,2} ¹ ICG SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia	
<i>Coffee break: 10.55–11.10</i>									
11.10–11.25	Genome of black garden ant: defense against virus invasion? E.A. Konorov, <u>Victoria Scobeyeva</u> , M.A. Nikitin, S.N. Lysenkov, S. Nuzhdin Moscow State University, Moscow, Russia	11.00–16.00	Section "Bioinformatics and Systems Biology of Cell Death" <i>Chairpersons: Inna Lavrik, Otto von Guericke University, Magdeburg, Germany</i>	11:10–11:30	Connection of genetic and endophenotypic indexes with personality properties of the healthy participants and the patients with affective pathologies <u>Alexander Savostyanov</u> ¹ ¹ 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" <i>Chairperson: Alexander Marchuk, Vladimir Ivanisenko, Alexander Kel</i>
11.25–11.40	Target enrichment technologies for applied research <u>Dmitry Kwon</u> Agilent Technologies Russia, Moscow, Russia	11.00–11.40	The p53 family in cancer biology I. Amelio ¹ , F. Bernassola ² , T.W. Mak ² , <u>Gerry Melino</u> ^{1,3} ¹ MRC Toxicology Unit, Leicester LE1 9HN, United Kingdom; ² The Campbell Family Cancer Research Institute, Toronto, Ontario M5G 2M9, Canada ³ University 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 <u>Alexey Pijanin</u> ^{1,2,3} , Ashkinadze A.V. ² , Shaidurov A.A. ¹ , Ivchenko E.V. ³ ¹ 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 <u>Eugenii Zavjalov</u> Institute 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 <u>Vladimir Ivanisenko</u> ^{1,2} , O.V. Saik ^{1,2} , E.S. Tiys ¹ , T.V. Ivanisenko ^{1,2} , P.S. Demenkov ^{1,2} ¹ Institute of Cytology and Genetics RAS, Novosibirsk, Russia ² PB-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, <u>Ivan Kulakovskiy</u> Vavilov 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 <u>Boris Zhivotovskiy</u> ^{1,2} ¹ Lomonosov Moscow State University, Moscow, Russia ² Karolinska Institutet, Stockholm, Sweden	11:50–12:10	Prospects of development of neuroimaging technologies in modern medicine <u>Andrey Letyagin</u> ^{1,2} ¹ Institute of Clinical and Experimental Lymphology, Novosibirsk, Russia ² Scientific 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 <u>Svetlana Michurina</u> ¹ , I.Yu. Ischenko ¹ , V.V. Klimontov ¹ , S.A. Archipov ¹ , M.A. Cherepanova ¹ , L.N. Rachkovskaya ¹ , N.E. Myakina ¹ , E.L. Zavjalov ² , V.I. Konenkov ¹ , Yu.I. Borodin ¹ , M.A. Korolev ¹ ¹ SICEL, Novosibirsk, Russia; ² ICG SB RAS, Novosibirsk, Russia	11:40–11:55	UGENE: a toolkit for teaching students <u>Irina Bykova</u> ¹ , O.I. Golosova ¹ , A.Y. Bakulina ^{2,3} , D.A. Afonnikov ^{2,4} , D.Y. Kandrov ¹ , A.Y. Palyanov ^{2,5} , G.A. Grekhov ¹ , Y.E. Danilova ¹ ¹ Unipro Center of Information Technologies, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia; ³ State Research Center of Virology and Biotechnology VECTOR, Koltsovo, Novosibirsk region, Russia; ⁴ ICG SB RAS, Novosibirsk, Russia ⁵ Institute of Informatics Systems SB RAS, Novosibirsk, Russia
12.10–12.40	Regulatory role of single CpG methylation A. Khamis ¹ , A.V. Artemov ² , A.V. Lioznova ² , V.B. Bajic ¹ , <u>Yulija Medvedeva</u> ² ¹ King Abdullah University of Science and Technology ² Research Center of Biotechnology RAS	12.10–12.40	The role of kinetochore-driven microtubule formation in <i>Drosophila</i> spindle assembly G. Pavlova ^{1,2,*} , J. Popova ^{1,3,*} , A. Munzarova ^{1,4,*} , J. Galimova ^{1,*} , A. Razuvaeva ^{1,4} , F. Renda ⁵ , P. Somma ⁵ , A. Pindyurin ^{1,4} , <u>Maurizio Gatti</u> ⁵ ¹ Institute of Molecular and Cellular Biology, Novosibirsk, Russia; ² Kazan Federal University, Kazan, Russia; ³ Institute of Cytology and Genetics, Novosibirsk, Russia ⁴ NSU, Novosibirsk, Russia; ⁵ Department of Biology and Biotechnology, Sapienza, University of Rome, Rome, Italy	12:10–12:30	Molecular mechanisms underlying the cognitive functions of the neuron <u>Alexander Ratushnyak</u> ¹ , Zapara T.A. ¹ , Proskura A.L. ¹ , Sorokoumov E.D. ¹ ¹ Institute of Computational Technologies of SB RAS, Novosibirsk, Russia	11:45–12:05	Brain metabolites under deficiency of the available energy <u>Andrei Akulov</u> ¹ , D.A. Tur ² , R.G. Gulevich ¹ , E.D. Petrovskiy ^{1,3} , M.P. Moshkin ¹ ¹ ICG SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia; ³ International 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 <u>Sergey Khayrulin</u> ^{1,2} , N.A. Serdtseva ² , A.Yu. Palyanov ^{1,2} ¹ Institute of Informatics Systems SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia
12.40–12.55	Ampliseq™: amplification and sequencing <u>Ilya Volkov</u> Department of scientific and methodological support of "Khimexpert Agency", Moscow, Russia	12.40–13.00	Involvement of various cell death modalities in cytotoxic activity of lactaptin analog <u>Olga Koval</u> ^{1,2} , G.V. Kochneva ^{1,3} , A.V. Tkachenko ¹ , O.S. Troitskaya ^{1,2} , G.F. Sivolobova ^{1,3} , E.V. Kuligina ¹ , A.Y. Yunusova ¹ , V.A. Richter ¹ ¹ ICBFM SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia; ³ State 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 <u>Anna Petrenko</u> ¹ , Kublanov V.S. ¹ ¹ Research Medical and Biological Engineering Center of High Technologies Ural Federal University, Yekaterinburg, Russia	12:20–12:35	Theranostic nanoplatfoms for simultaneous cancer imaging and therapy: Multifunctional nanoassemblies of human serum albumin and therapeutic nucleotides <u>Tatyana Godovikova</u> ^{1,4} , A.E. Akulov ² , V.A. Lisitskiy ¹ , A.S. Chubarov ¹ , N.M. Antonova ¹ , O.D. Zakharova ¹ , I.V. Koptuyug ³ , T.V. Popova, V.I. Kaledin ² , I.A. Razumov ² , E.L. Zavjalov ² , M.P. Moshkin ² , V.N. Silnikov ¹ ¹ ICBFM SB RAS, Novosibirsk, Russia; ² ICG SB RAS, Novosibirsk, Russia; ³ International Tomography Center SB RAS, Novosibirsk, Russia; ⁴ NSU, Novosibirsk, Russia	12:25–12:40	New image analysis and base calling algorithm for SeqLL sequencing machine achieved better sensitivity on synthetic oligonucleotides set <u>Nikolay Russkikh</u> ¹ , D.V. Antonets ^{2,3,4} ¹ Novel Software Systems LLC, Novosibirsk, Russia ² AcademGene LLC, Novosibirsk, Russia; ³ A.P. Ershov Institute of informatics systems, Novosibirsk, Russia; ⁴ State Research Center of Virology and Biotechnology "Vector", Koltsovo, Novosibirsk region, Russia

						12:35–12:50	Evaluation of Demyelination in the Cuprizone Model of Multiple Sclerosis: MRI and Histology Correlation <u>Marina Khodanovich</u> ¹ , I.V. Sorokina ² , V.Yu. Glazacheva ¹ , N.M. Nemirovich-Danchenko ¹ , E.S. Pan ¹ , E.V. Krutenkova ¹ , Al.V. Romashchenko ³ , A.E. Akulov ^{1,3} , T.G. Tolstikova ² , V.L. Yarnykh ^{1,4} ¹ Tomsk State University, Tomsk, Russia; ² Institute of Organic Chemistry SB RAS, Novosibirsk, Russian; ³ ICG SB RAS, Novosibirsk, Russia; ⁴ University of Washington, Seattle, USA	12:40–12:55	IT analysis of cornea endothelium transport ability in corneal transplants after hypothermic conservation <u>Evgeniy Solenov</u> ³ , A.A. Konev ¹ , I.G. Palchikova ¹ , I.A. Iskakov ² , L.E. Katkova ³ , G.S. Baturina ³ ¹ Technological Design Institute of Scientific Instrument Engineering SB RAS, Novosibirsk, Russia ² Multidisciplinary 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		
<i>Lunch: 13.00–14.00</i>									
14.00–19.40	Section "Systems Computational Biology" <i>Chairperson: Alexander Ratushny</i> , Celgene, Seattle, USA and Institute for Systems Biology, Seattle, USA	14.00–14.40	Towards understanding the dynamics of death receptor networks <u>Inna Lavrik</u> ICG SB RAS, Novosibirsk, Russia Otto-von Guericke-University, Magdeburg, Germany	14:00 – 14:40	Genomics of behavioral diseases <u>Evgeny Rogaev</u> ¹ ICG SB RAS, Novosibirsk, Russia; ² Vavilov Institute of General Genetics RAS, Moscow, Russia; ³ Brudnick 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 <u>Jitong Xue</u> ¹ , Ming Chen ¹ , Y. Zhou ¹ , W Ni ² ¹ Zhejiang University, Hangzhou, China; ² Zhejiang Provincial People's Hospital, Hangzhou, China
14.00–14.30	Virtual biology — the foundation <u>Fyodor Kolpakov</u> Institute of Systems Biology Ltd., Novosibirsk, Russia Design Technological Institute of Digital Techniques SB RAS Novosibirsk, Russia	14.40–15.10	Delineating single cell life/death decisions in the CD95/FAS network <u>Jörn Buchbinder</u> ¹ , D. Pischel ² , K. Sundmacher ² , R.J. Flassig ² , I.N. Lavrik ¹ ¹ Department of Translational Inflammation Research, Otto-von-Guericke University Magdeburg, Germany; ² Max-Planck-Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany	14:40 – 15:10	Regulation of TREM2 expression by an inducible, NF-κB-sensitive miRNA-34a; relevance to amyloidogenesis and cognition Zhao Y ¹ , Bhattacharjee S ¹ , Jones BM ¹ , Dua P ² , Hill JM ^{1,3} , Andreeva T ^{4,5} , Grigorenko A ^{4,5} , Kuznetsova I ^{4,5} , Rogaev EI ^{4,7} , <u>Walter J. Lukiw</u> ^{1,8} ¹ Louisiana State University Health Sciences Center, LA, USA; ² Louisiana State Technical University, LA, USA; ³ Louisiana State University Health Sciences Center, LA, USA ⁴ Vavilov Institute of General Genetics RAS, Moscow, Russia; ⁵ ICG SB RAS, Novosibirsk, Russia; ⁶ Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Massachusetts, USA; ⁷ Lomonosov Moscow State University, Moscow, Russia; ⁸ Louisiana 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 <u>Alexander Shestopalov</u> Scientific Institute of Clinical and Experimental Medicine, Novosibirsk, Russia	12.55–13.10	Identification of master-regulators for programming of spermatogonial stem cells pluripotency by the use of the geneXplain/BioUml platform Kel A.E. ^{1,2,*} , Stelmashenko D.E. ² ¹ Institute of Chemical Biology and Fundamental Medicine, SB RAS, Novosibirsk, Russia ² BIOOSOFT.RU, Ltd, Novosibirsk, Russia
14.30–14.45	Solutions for analysis of NGS-data from the company Illumina Dania Gazizova OOO "Альбиоген" / ALBIOGEN 								
14.45–15.00	Altered catecholaminergic, serotonergic, gabaergic, and glutamatergic genes expression in the ventral tegmental area of male mice under chronic social defeat stress: RNA-SEQ data <u>Anna Galyamina</u> , I.L. Kovalenko, D.A. Smagin, N.N. Kudryavtseva ICG SB RAS, Novosibirsk, Russia	15.10–15.25	Advanced capabilities of visualization and analysis of cultural models E.R. Muslikhov, L.A. Strukova Qvados-Bio, LLC, Moscow, Russia 	15:10 – 15:40	The role of B cells in pathogenesis of Alzheimer's disease Kim K ¹ , Bodogai M ¹ , Aliseychik M ² , Baljinnyam T ^{1,2} , Rogaev E ^{2,3,4} and <u>Arya Biragyn</u> ^{1*} ¹ LMBI, National Institute on Aging, Baltimore, MD, USA; ² Institute of General Genetics, Russian Academy of Sciences, Moscow, Russia; ³ Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, MA, USA; ⁴ Institute of Cytology and Genetics, SB RAS, Novosibirsk Russia.	14:20–14:40	New and emerging viral infections. Flaviviruses and Zika virus <u>Valery Loktev</u> Vector, Novosibirsk, Russia	14:30–14:45	SyGraph – web system for visualization of synteny alignments and comparison of assembly contigs <u>Mikhail Genaev</u> ¹ , D. A. Afonnikov ^{1,2} ¹ Institute of Cytology and Genetics RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia
15.00–15.15	Differential expression in <i>Helix lucorum</i> statocysts under microgravity conditions <u>Alexander Osypov</u> ^{1,2} , P. Kolosov ¹ , N. Aceyev ¹ , E. Chesnokova ¹ , M. Roshchin ¹ , N. Bal ¹ , P. Balaban ¹ ¹ Institute of Higher Nervous Activity and Neurophysiology of RAS, Moscow, Russia; ² Institute 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 <u>Nikita Ivanisenko</u> ^{1,2} , A.S. Ishchenko ^{1,2} , I.N. Lavrik ^{1,3} , V.A. Ivanisenko ¹ ¹ ICG SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia ³ Otto-von Guericke-University, Magdeburg, Germany	15:40 – 16:00	Analysis of γδT-cell repertoire in Alzheimer's disease patients and individuals with no memory impairment <u>Maria Aliseychik</u> ¹ , Zolotareva O. ¹ , Gusev F. ¹ , Grigorenko A. ^{1,2} , Byragin A. ³ , Andreeva T. ¹ , Rogaev E. ^{1,2} ¹ Vavilov Institute of General Genetics RAS, Moscow, Russia; ² Department of Psychiatry, Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, Massachusetts; ³ Immunoregulation	14:40–15:00	Molecular mechanisms of opisthorchiasis pathogenesis: the relationships of <i>Opisthorchis felinus</i> with host's DNA <u>Mariya Pakharukova</u> ¹ , G.A. Maksimova ¹ , J.M. Correia da Costa ² , N. Vale ² , V.A. Mordvinov ^{1,3} ¹ ICG SB RAS, Novosibirsk, Russia; ² Center for the Study Animal Science, ICETA, University of Porto, Porto, Portugal ³ Institute 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 <u>Olga Saik</u> ^{1,2} , P.S. Demenkov ^{1,2} , A.V. Starkov ^{3,4} , T.V. Ivanisenko ^{1,2} , E.V. Gaisler ^{3,4} , V.A. Ivanisenko ^{1,2} ¹ ICG SB RAS, Novosibirsk, Russia; ² PB-soft LLC, Novosibirsk, Russia; ³ Managing company "Lomonosov Capital" LLC, Novosibirsk, Russia; ⁴ Intelmed Ltd, Novosibirsk, Russia

				section, LMBS, National Institute on Aging, Baltimore, MD, USA.				
15.15–15.30	Generalising better: applying deep-learning to integrate deleteriousness prediction scores for whole-exome SNV studies <u>Ilija Korvigo</u> , A.A. Afanasyev Moscow Institute of Physics and Technology				15:00–15:20	Experimental model of opisthorchiasis as a tool for biomedical researches <u>Damira Avgustinovich</u> ICG SB RAS, Novosibirsk, Russia	15:00–15:15	Algorithms and tools developed by novel computing systems in biology LLC <u>Evgeny Cheryomushkin</u> , S. Nikitin, T. Valeev, T. Konovalova, A. Ryabova, K. Golosov, I. Mikerova, N. Gorokhov, D. Babiy ¹ Novel 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 <i>Ballerus</i> (teleostei)? <u>Boris Levin</u> ^{1*} , A.A. Bolotovskiy ¹ , M.A. Levina ¹ , A.V. Nedoluzhko ² , K.G. Skryabin ^{2,3,4} , S.M. Rastorguev ² , E.B. Prokhortchouk ^{3,4} ¹ Institute of Biology of Inland Waters RAS, Borok, Russia; ² National Research Center Kurchatov Institute, Moscow, Russia; ³ Institute of Bioengineering, Federal Research Center "Fundamentals of Biotechnology" RAS, Moscow, Russia; ⁴ Lomonosov Moscow State University, Faculty of Biology, Moscow, Russia	15.45–16.05	Associative networks of glaucoma and apoptosis <u>Olga Saik</u> ¹ , P.S. Demenkov ¹ , O.S. Konovalova ² , M.N. Ponomareva ² , N.A. Konovalova ² , N.A. Kolchanov ¹ , I.N. Lavrik ³ , V.A. Ivanisenko ¹ . ¹ ICG SB RAS, Novosibirsk, Russia ² Tyumen State Medical Academy, Ministry of Health of the Russian Federation, Tyumen, Russia; ³ Otto von Guericke University Magdeburg, Magdeburg, Germany		15:20–15:40	Founder effect in Siberian indigenous populations through the prism of hereditary deafness <u>Olga Posukh</u> ^{1,2} , M.S. Bady-Khoo ³ , M.V. Zytsar ^{1,2} , V. Y. Mikhalskaia ^{1,2} , N.A. Barashkov ^{4,5} , I.V. Morozov ^{2,6} , A.A. Bondar ⁶ ¹ ICG SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia; ³ Perinatal Center of the Tuva Republic, Kyzyl, Russia; ⁴ Yakut Scientific Centre of Complex Medical Problems, Yakutsk, Russia; ⁵ M.K. Ammosov North-Eastern Federal University, Yakutsk, Russia; ⁶ ICBFM SB RAS, Novosibirsk, Russia	15:15–15:30	Rule-based modeling in biouml <u>Nikita Mandrik</u> ¹⁻³ , E.O. Kutumova ^{1,2} , F.A. Kolpakov ^{1,2} ¹ Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, Russia; ² Institute of Systems Biology, Novosibirsk, Russia ³ Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia
15.45–16.00	Parameter fitting infrastructure for rule-based modelling <u>O.S. Sorokina</u> ¹ , <u>Anatoly Sorokin</u> ^{2,3} ¹ Edinburgh University, Edinburgh, UK; ² Institute of Cell Biophysics RAS, Pushchino, Russia; ³ Moscow Institute of Physics and Technology, Dolgoprudny, Russia				15:40–15:50	Discussion	15:30–15:45	Improved SBGN (ML) support IN BioUML <u>Ilya Kiselev</u> ¹ , S. D. Kinsht ³ , F.A. Kolpakov ^{1,2} ¹ Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, Russia ² Institute of Systems Biology, Ltd, Novosibirsk, Russia ³ NSU, Novosibirsk, Russia

Coffee break: 16.00–16.15

16.15–16.30	Optimization of the piggyBac transposon system for cultured <i>Drosophila</i> cells <u>Lyubov Yarinich</u> ^{1,2*} , M.O. Lebedev ^{1,2} , A.V. Pindyurin ^{1,2} ¹ Institute of Molecular and Cellular Biology SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia			16:20 – 16:50	Experimental models for neurodegenerative pathologies studies and neuron-computer interface establishment <u>Sergey Kiselev</u> Vavilov 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 <u>V.F. Prokofev</u> , A.V. Shevchenko, <u>Maksim Korolev</u> , V.I. Konenkov Scientific Institute of clinical and experimental lymphology SB RAS, Novosibirsk, Russia			16:50 – 17:10	Epigenome landscape analysis of brain cells identifies putative novel genes active in cortical neuron <u>Fedor Gusev</u> ¹⁻³ , Reshetov D ^{2,3} , Mitchell A ⁴ , Andreeva T ^{2,3} , Dincer A ⁴ , Solovyev V ⁵ , Grigorenko A ¹⁻³ , Akbarian S ^{1,4} and Rogaev E ¹⁻³ . ¹ Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Worcester, MA, USA ² Vavilov Institute of General Genetics RAS, Moscow, Russia ³ ICG SB RAS, Novosibirsk, Russia ⁴ Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA; ⁵ Softberry Inc., Mount Kisco, NY, USA	16:10–16:25	From pharmacogenetics to modern pharmacotherapy <u>Valentin Vavilin</u> , Vyacheslav Lyakhovich Institute of Molecular Biology and Biophysics, Novosibirsk, Russia		
16.45–17.00	The bioinformational comparison of CRISPR/Cas system structure of <i>Yersinia pseudotuberculosis</i> strains isolated from different regions <u>Nadezhda Peretolchina</u> ¹ , Y.P. Dzhioev ^{1,2} , A.Y. Borisenko ¹ , E.A. Voskresenskaya ³ , A.I. Paramonov ² , L.A. Stepanenko ¹ , V.I. Zlobin ¹ ¹ Irkutsk State Medical University, Irkutsk, Russia ² Scientific Center of family health problems and human reproduction, Irkutsk, Russia ³ Institut Pasteur, Saint Petersburg, Russia			17:10 – 17:30	Aging and longevity from genomic perspectives <u>Andreeva T.V.</u> , Gusev F.E., Reshetov D.A., Shagam L.I., Kunizheva S.S., Yigit S., Geyko A.V., <u>Andrey Manachov</u> ., 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. ¹ Institute of General Genetics RAS, Moscow,	16:25–16:40	Modern biomarkers of coronary atherosclerosis and its complications <u>Juliya Ragino</u> , 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 <u>Leonid Omelyanchuk</u> ^{1,2} , A.F. Munzarova ^{1,2} , T.Y. Mikhailova ² ¹ Institute of Molecular and Cellular Biology, Novosibirsk, Russia ² NSU, Novosibirsk, Russia				Russia; ² ICG SB RAS, Novosibirsk, Russia; ³ Gaziosmanpasa University Medical School, Tokat, Turkiye; ⁴ Louisiana 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; ⁵ LMBI, National Institute on Aging, Baltimore, MD, USA; ⁶ Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, MA, USA	16:40–16:55	Inverse changes in serum concentrations of inflammatory and angiogenic growth factors in patients with type 2 diabetes <u>Vadim Klimontov</u> , 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 efficiency from ribosome profiling and mRNA-seq data I.S. Yevshin ^{1,2} , R.N. Sharipov ^{1,2} , <u>Oksana Volkova</u> ³ ¹ Design Technological Institute of Digital Techniques, SB RAS, Novosibirsk, Russia; ² Institute 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 for Alzheimer's disease <u>Olga Saik</u> ¹ , Rogaev EI ¹⁻³ ¹ ICG SB RAS, 630090 Novosibirsk, Russia; ² Vavilov Institute of General Genetics RAS, Moscow, Russia; ³ Brudnick Neuropsychiatric Research Institute, University of Massachusetts Medical School, Massachusetts, USA		16:55–17:10	Serological markers in rheumatoid arthritis: circulating DNA and autoreactive antibodies <u>Elena Rykova</u> ^{1,2} , A. Sizikov ³ , D. Roggenbuck ⁴ , O. Antonenko ⁵ , L. Bryzgalov ⁶ , E. Morozkin ^{1,7} , V. Vlasov ¹ , P. Laktionov ^{1,7} , V. Kozlov ³ ¹ ICBFM SB RAS, Novosibirsk, Russia; ² Novosibirsk State Technical University, Novosibirsk, Russia ³ Research Institute of Fundamental and Clinical Immunology, Novosibirsk, Russia ⁴ Brandenburg Technical University, Berlin, Germany; ⁵ Institute of Molecular and Cellular Biology SB RAS; ⁶ ICG SB RAS; ⁷ Academician E.N. Meshalkin Novosibirsk Research Institute of Circulation Pathology, Novosibirsk, Russia		
17.30–17.45	Principal organization of physiological regulator <u>Vyacheslav Fedorov</u> Institute 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 <u>Aleksandra Klimenko</u> , Yu.G. Matushkin, N.A. Kolchanov, S.A. Lashin ICG SB RAS, Novosibirsk, Russia					17:10–17:25	Natural bispecific antibodies: new biochemical markers of autoimmune diseases <u>Sergey Sedykh</u> , V.V. Printz, V.N. Buneva, G.A. Nevinsky ICBFM 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 <u>Zakhar Mustafin</u> ¹ , D.A. Afonnikov ^{1,2} , Yu.G. Matushkin ^{1,2} , S.A. Lashin ^{1,2} ¹ ICG SB RAS; ² NSU, Novosibirsk, Russia					17:25–17:40	Molecular basis for targeted therapy of autoimmune diseases <u>Maksim Koroley</u> SICEL, Novosibirsk, Russia		
18.15–18.30	Role of membrane potential in nitrite utilization by <i>Escherichia Coli</i> cells under low substrate concentrations: the mathematical model <u>Natalya Ree</u> , 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 <u>Vladimir Maksimov</u> Institute of Internal and Preventive Medicine, Novosibirsk, Russia		
18.30–18.45	Modeling restriction-modification systems: expressing toxic molecules within a cell <u>Andjela Rodic</u> , M. Djordjevic University of Belgrade, Belgrade, Serbia					17:55–18:00	Discussion		

31 August, Wednesday (09:00-13:00)

Time		Time		Time		Time	
9.00–13.10	Section “Evolutionary Bioinformatics” <i>Chairpersons:</i> Fyodor Kondrashov, Evolutionary Genomics laboratory and ICREA, Barcelona, Spain	9.00–12.50	Section “Animal Genetics” <i>(House of Scientists SB RAS, Library)</i> <i>Chairperson:</i> Mikhail Moshkin, ICG SB RAS, Novosibirsk, Russia BGRS/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” <i>Chairpersons:</i> 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 <u>Igor Sharakhov</u> ^{1,3,4} , G.N.Artemov ⁴ , A. Peery ¹ , X. Jiang ³ , A.B. Hall ³ , Z.Tu ^{2,3} , A.N. Naumenko ¹ , V.N. Stegny ⁴ , M.V. Sharakhova ³ ¹ Virginia Polytechnic Institute and State University, Blacksburg, USA; ² Virginia Polytechnic Institute and State University, Blacksburg, USA; ³ The PhD Program in Genomics Bioinformatics and Computational Biology, Virginia Polytechnic Institute and State University, Blacksburg, USA; ⁴ Tomsk State University, Tomsk, Russia.	9.00–9.35	The role of functional domains of <i>Drosophila septin</i> Pnut K.A.Akhmetova ^{1,2,3} , N.V.Dorogova ¹ , M.L.Balaso ³ , <u>Svetlana Fedorova</u> ^{1,2} , I.N.Chesnokov ³ ¹ ICG SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia; ³ University 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 <u>Evgenii Vityaev</u> ¹ ¹ Sobolev 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 <u>Gennadii Demidenko</u> ^{1,2} ¹ Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia
9.35–10.00	Can long antiparallel open reading frames be encoding essential genes in prokaryotic genomes? <u>Denis Moshenskij</u> , A.V. Alexeevski A.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 <u>Anna Speranskaya</u> ¹ , Pimkina E.V. ¹ , <u>Artyushin I.V.</u> ² , Safonova M.V. ¹ , Deviatkin A.A. ¹ , Kuleshov K.V. ¹ , Dedkov V.G. ¹ , Shipulin G.A. ¹ ¹ Central Research Institute for Epidemiology, Russian Inspectorate for Protection of Consumer Right and Human Welfare, Moscow, Russia; ² Biological Faculty, Moscow State University, Moscow, Russia	9:30–9:50	Studying human social environment and state with social network data <u>Anton Kolonin</u> ¹ 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. Ponomarenko ^{1,2} , D.A. Rasskazov ¹ , E.B. Sharypova ¹ , <u>Irina Chadaeva</u> ¹ , P.M. Ponomarenko ³ , L.K. Savinkova ¹ , N.A. Kolchanov ^{1,2} ¹ ICG SB RAS; ² NSU, Novosibirsk, Russia; ³ University of Southern California, USA;	9:30–9:45	Numerical model of drosophila sensory organ precursor cell determination <u>Vladimir Golubyatnikov</u> ^{1,2} , T.A.Bukharina ² , D.P.Furman ^{2,3} , M.V.Kazantsev ⁴ ¹ NSU, Novosibirsk, Russia ² Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia ³ ICG SB RAS, Novosibirsk, Russia ⁴ Polzunov Altai State Technical University, 656038, Barnaul, Russia
10.00–10.25	RNA-Seq data analysis of rats with aggressive behavior in three brain areas <u>Anatoly Bragin</u> , 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 <i>Sus scrofa domestica</i> using SRA-data of NGS projects <u>Iosif Tsybovsky</u> , V.N. Kipen, S.A. Kotova Scientific 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 <u>Natalia Bondar</u> ¹ , 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. ¹ ^{1,2} ICG SB RAS; ³ Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia; ⁴ University of Massachusetts Medical School, USA		Preimplantation genetic screening using NGS <u>Irina Mukosey</u> , 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. Sukhikh Research Center for Obstetrics, Gynecology and Perinatology, Moscow	9:45–10:00	On properties of solutions to some nonlinear systems with parameters <u>Inessa Matveeva</u> Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia
10.25–10.50	Long-term spaceflight mediated changes in promoter landscape in Zebrafish tissues <u>Alexander Cherkasov</u> ¹ , K.V. Arshavsky ¹ , V.N. Sychev ² , M.A. Levinskikh ² , O.A. Gusev ^{1,3,4} ¹ Institute of Fundamental Biology and Medicine, Kazan Federal University, Kazan, Russia; ² Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russia; ³ Division of Genomic Technologies, CLST, RIKEN, Yokohama, Japan; ⁴ Preventive Medicine & Diagnosis Innovation Program, CLST, RIKEN, Yokohama, Japan	10.25–10.50	Identification of the taxa of the order <i>Artiodactyla</i> for criminal investigation cases of illegal hunting <u>Iosif Tsybovsky</u> , S.A. Kotova, V.I. Rybakova, A.A. Rabcava, E.A. Spivak Scientific 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 <u>Nina Wolf</u> ^{1,2} , Bazovkina D.V. ³ ¹ Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia ² NSU, Novosibirsk, Russia ³ 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 <u>Alexander Predeus</u> ^{1,2} , T. Ulland ¹ , Y. Wang ¹ , V. Lampropoulou ¹ , W. Song ¹ , I. Arbuzov ³ , F. Towfic ⁴ , S. Gilfilan ¹ , E. Loginicheva ¹ , B.T. Edelson ¹ , B. Zeskind ⁴ , M. Colonna ¹ , M.N. Artyomov ¹ ¹ Department of Pathology & Immunology, Washington University School of Medicine, USA ² Bioinformatics institute; ³ ITMO University, Saint Petersburg, Russia; ⁴ Immuneering 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 <u>Boris Shumilov</u> Tomsk State University of Architecture and Building, Tomsk, Russia
				10:30–10:50	Towards a neurobiologically reasonable c. elegans nervous system simulation: neuron, muscle and signal propagation modelling <u>Andrey Palyanov</u> ¹ , 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 <u>R. Hofestädt</u> , V. Ogultarhan, A. Shoshi University Bielefeld, AG Bioinformatics and Medical Informatics, Bielefeld, Germany	10:15–10:30	A congestion game model for virtual drug screening in a desktop grid <u>Natalia Nikitina</u> , E.E. Ivashko Institute of Applied Mathematical Research, Karelian Research Center, RAS, Petrozavodsk, 185910, Russia
						10:40–10:50	Discussion	10:30–10:45	Threshold functions recovery algorithms in discrete dynamic systems <u>Nikolay Prytkov</u> ¹ , A.L. Perezhugin ² ¹ NSU, Novosibirsk, Russia ² Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia
<i>Coffee break: 10.50–11.10</i>									
11.10–11.35	Darwinian genetic drift <u>Dmitri Parkhomchuk</u> , A.C.McHardy Helmholtz Center for Infection Research, Braunschweig, Germany	11.10–11.35	The density of <i>Wolbachia</i> strain wMelPop in <i>Drosophila melanogaster</i> brain is inversely related to the level	11:10–11:30	Application of genetic models for experimental study of cognitive functions and neuroprotection	11:10–13:00	Genotyping Precision Medicine Chairs: Michael Voevoda, Anatoliy Tulpakov	11:10–11:40	Inverse problems of population dynamics <u>Alexander Kozhanov</u> ¹ , Yu.A.Kosheleva ² ¹ Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia ² Sakhalin State University, Yuzhno-Sakhalinsk, Russia

			of hsp67bc gene expression <u>Dina Malkeyeva</u> ^{1,2} , E.V. Kiseleva ¹ ¹ ICG SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia		<u>Maria Tikhonova</u> ¹ , Amstislavskaya T.G. ^{1,2} ¹ Scientific Research Institute of Physiology and Basic Medicine; ² ICG SB RAS, Novosibirsk, Russia	11:10–11:40	Monogenic forms of diabetes <u>Anatoliy Tulpakov</u> Endocrine Research Center, Moscow, Russia		
11.35–12.00	Sex chromosome evolution in Pamphagidae grasshoppers <u>Ilyas Jetybayev</u> ^{1,2} , A.G. Bugrov ^{2,3} , O.G. Buleu ^{2,3} , A.G. Bogomolov ¹ , N.B. Rubtsov ^{1,3} ¹ ICG SB RAS, Novosibirsk, Russia ² Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, Russia ³ NSU, Novosibirsk, Russia	11.35–12.00	Targeted spatial genome modification in topologically associating domains structure in mouse embryonic stem cells <u>Varvara Lukyanchikova</u> , N.R. Battulin, O.L. Serov ICG SB RAS, Novosibirsk, Russia	11:30–11:50	DISC1 interactome and mental disorders: input of animal models <u>Tatiana Lipina</u> ^{1,2} ¹ Scientific Research Institute of Physiology and Basic Medicine, Novosibirsk, Russia ² NSU, Novosibirsk, Russia	11:40–11:55	Genetic characteristics of different subtypes of maturity-onset diabetes of the young (MODY) in Novosibirsk <u>Oksana Rymar</u> , 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 <u>Maria Savina</u> ¹ , F.V. Kazantsev ^{1,2} , V.V. Mironova ^{1,2} ¹ Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia
12.00–12.25	Genetic diversity in native Siberian populations: correlation with climatic and geographical parameter <u>Vladimir Kharkov</u> ^{1,2} , A.V. Markov ^{1,2} , I.Yu. Khitrinskaya ¹ , V.A. Stepanov ^{1,2} ¹ Research Institute for Medical Genetics, Tomsk, Russia; ² Tomsk State University, Tomsk, Russia	12.00–12.25	The spatial map of avian genome <u>Veniamin Fishman</u> ^{1,2} , N. Battulin ^{1,2} , A. Maslova ³ , O. Serov ^{1,2} , A. Krasikova ³ ¹ ICG SB RAS, Russia; ² NSU, Novosibirsk, Russia; ³ Saint-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 <u>Ahmed Khalid Mohamed Albashir Ahmed</u> ¹ , I.N. Mohammed ¹ , A.A. Ahmed Hamed ¹ , M.A. Elseed ¹ , A. Johnson ⁴ , M. Mairey ^{2,3} , H.S.A.Mohamed ^{5,6} , M.N. Idris ^{1,6} , M.A.M. Salihi ⁷ , S.M. El-sadig ^{1,8} , M.E. Koko ¹ , A.Y.O. Mohamed ⁹ , Laure Raymond ^{2,3,15} , M. Coutelier ^{2,3} , F. Darios ³ , R.A. Siddig ¹⁰ , L.E.O. Elsayed ^{1,2,3} , A.M.A. Babai ¹ , H.M.O. Malik ¹ , Z.M.B. Mohammed ¹ , E.O.E. Mohamed ¹ , H.B. Eltahir ¹¹ , N.A. Magboul ¹² , E.E. Bushara ¹ , A. Elnour ¹³ , S.M. Abdel Rahim ¹² , A. Alattaya ¹⁴ , M.I. Elbashir ¹ , M.E. Ibrahim ¹⁵ , A. Durr ^{3,16} , A. Audhya ⁴ , A. Brice ^{3,16} , A.E. Ahmed ^{1,16} , G. Stevanin ^{2,3,16}	11:55–12:10	Estimates of solutions to a system describing the spread of avian influenza <u>Maria Skvortsova</u> Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia NSU, Novosibirsk, Russia
12.25–12.50	Elucidation of molecular signal of transcription response to desiccation stress in chironomid <i>P. vanderplanki</i> <u>Elena Shagimardanova</u> ¹ , R.M. Deviatyrov ¹ , T. Kikawada ² , O.A. Gusev ^{1,3} Kazan Federal University, Kazan, Russia National Institute of Agrobiological Sciences, Tsukuba, Japan RIKEN, Yokohama, Japan	12.25–12.50	Ageing of multicellular organisms as a stage of ontogenesis <u>Igor Erokhin</u> National Biotechnological Company LLC, Moscow, Russia			12:10–12:25	Association of RS505151 in PCSK9 gene with lipid profile in Russian population <u>Kseniya Astrakova</u> , E.V. Shakhtshneider, D.E. Ivanoshchuk, Yu.I. Ragino, M.I. Voevoda Institute of Internal and Preventive Medicine, Novosibirsk, Russia	12:10–12:25	Predictive models of early-onset preeclampsia based on the blood plasma microRNA expression level <u>Ivan Balashov</u> ¹ , O.S. Altukhova ¹ , A.V. Timofeeva ¹ , V.A. Gusar ¹ , K.N. Prozorovskaya ¹ , N.E. Kan ¹ , P.I. Borovikov ¹ , M.Y. Bobrov ¹ ¹ Research Center for Obstetrics, Gynecology and Perinatology, Moscow, 117997, Russia
						12:25–12:40	Commonability of the combinations of polymorphic regulatory sites in the cytokine genes in pathogenetically diverse diseases in women <u>Alla Shevchenko</u> , V.F. Prokof'ev, V.I. Kononkov Scientific Institute of Clinical and Experimental Lymphology, 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 <u>Eduard Fomin</u> Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia
						12:40–12:55	Techniques of stochastic modeling and inhomogeneous sequential pattern recognition procedure in prediction of polygenic disease <u>Viktor Prokof'ev</u> , A.V. Shevchenko, M.A. Korolev, V.I. Kononkov SICEL, Novosibirsk, Russia	12:40–12:55	Estimating the survival rates of northern fur seals (<i>Callorhinus ursinus</i>, tyuleniy herd) and modeling the population number dynamics <u>Oksana Zhdanova</u> ¹ , A.E. Kuzin ² , E.Ya. Frisman ³ ¹ Institute of Automation and Control Processes FEB RAS, Vladivostok, 690041, Russia ² Pacific Research Fisheries Center (PRF-Center), Vladivostok, 690091, Russia ³ Institute of Complex Analysis of Regional Systems FEB RAS, Birobidzhan, 679000, Russia
						12:55–13:00	Discussion		

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
14.00–18.10	Section "Computational Pharmacology" (House of Scientists SB RAS, Small Hall) Chairpersons: Vladimir	14.00–18.10	Section "Systems Biology of Aging" (House of Scientists SB RAS, Library) Chairpersons: Vladimir Anisimov, N.N. Petrov	14.00–18.45	Section "Bioinformatics and Molecular Biology of DNA Damage Response" (House of Scientists SB RAS, Room 223) Chairpersons:	14:00–15:50	Section «Clinical Genomics and Epigenetics» Chairs: Tatjana Merculova, Marina Zenkova	14:00–16:30	Afternoon session "Data mining methods and text data analysis in natural sciences" Chairpersons: Prof. S.S.Goncharov,

	Poroikov, Institute of Biomedical Chemistry, Moscow, Russia; Elena Schwartz, Elena Schwartz Ami-Go-Science LLC, Rockville, MD United States BGRS\SB		Research Institute of Oncology, Saint-Petersburg, Russia; Alexey Moskalev, Institute of Biology, Komi Science Centre; Natalya Kolosova ICG SB RAS, Novosibirsk, Russia BGRS\SB		Grigory Dianov, University of Oxford, United Kingdom & Institute of Cytology & Genetics, Novosibirsk, Russia BGRS\SB		SBioMED		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 <u>Andrey Tovchigrechko</u> Research 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 <u>Alexander Kulminski</u> , 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 excision repair mechanisms. Introduction. <u>Grigory Dianov</u> University of Oxford, United Kingdom; Institute of Cytology and Genetics, Novosibirsk, Russia	14:00–14:15	Functional analysis of mutations revealed by NGS diagnostics <u>M. Skoblov</u> ^{1,2,7} , N.V. Zernov ¹ , A.V. Marakhonov ^{1,2} , Y. Shimomura ⁴ , F.A. Konovalov ^{1,3} , A.V. Abrukova ⁵ , A.Yu. Filatova ¹ , T.A. Vasilyeva ¹ , R.A. Zinchenko ^{1,6,7} ¹ Research Centre for Medical Genetics, Moscow; ² The Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region; ³ Regenerative and Genetic Medical Center of the Human Stem Cells Institute, Moscow, Russia; ⁴ Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan; ⁵ Ministry of Health and Social Development of Chuvash Republic, Cheboksary; ⁶ Pirogov Russian National Research Medical University, Moscow; ⁷ Moscow State University of Medicine and Dentistry, Moscow, Russia	14:00–14:30	Big Data in biology and medicine <u>Evgeniy Pavlovsky</u> NSU, 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 <u>Rustam Guliev</u> ¹ , O.V. Senko ² , D.A. Zateyshchikov ³ , V.V. Nosikov ¹ , A.V. Kuznetsova ¹ , M.A. Evdokimova ³ , V.A. Brazhnik ³ , I.N. Kurochkin ^{1,4} ¹ Emanuel Institute of Biochemical Physics RAS, Moscow, Russia; ² Computer Center of Russian Academy of Science, Moscow, Russia ³ Central State Medical Academy of Department of Presidential Affairs, Moscow, Russia; ⁴ Lomonosov Moscow State University, Moscow, 119991, Russia
14.35–15.00	Disease models for cancer to select candidate biomarkers and drug target <u>Elena Schwartz</u> ¹ , Anton Yuryev ² , Che Ross ³ , Irene Riz ⁴ and Alexandra McPherron ¹ . ¹ Ami-Go-Science, 5917 Barbados Place, Rockville MD, USA ² Elsevier, Rockville, MD, USA; ³ Johns Hopkins University, Baltimore, MD, USA ⁴ George Washington	14:25-14:50	Neuronal transcriptional regulation of <i>Drosophila</i> life span O. Y. Rybina ^{1,2} , A. V. Symonenko ¹ , N. V. Roshina ¹ , A. V. Kremntsova ^{1,3} , E. R. Veselkina ¹ , M.I. Schelkunov ⁴ , S. V. Sarantseva ⁵ , <u>Elena Pasyukova</u> ¹ ¹ Institute of Molecular Genetics of RAS, Moscow, Russia; ² Moscow State Pedagogical University, Institute of Biology and	14:15-14:45	Regulation of base excision repair-canonical and non-canonical processing of genomic uracil <u>Hans Krokan</u> , H.S. Pettersen, R. Mjelle, S.A. Hegre, P. Sætrum, F. Drabløs, A. Sarno, A. Galashevskaya, P.A. Aas, N.B. Liabakk, B. Doseeth, G. Slupphaug, B. Kavli Norwegian University of Science and Technology, Trondheim, Norway	14:15–14:30	Mutations spectra of mayor oncogenes in patients with multiple primary neoplasia <u>Gennadiy Vasiliev</u> ¹ , A.V. Savkova ² , A.V. Gerasimov ³ ¹ ICG SB RAS, Novosibirsk, Russia; ² Centre for Postgraduate Medical Education, NSU, Novosibirsk, Russia; ³ Novosibirsk Regional Clinical Oncology Hospital, Novosibirsk, Russia	14:45–15:00	Mutational landscape of prostate tumors based on whole exome sequencing <u>Irina Gilyazova</u> ^{1,2} , M.A. Yankina ¹ , G.B. Kunsbaeva ² , A.A. Izmaylov ³ , A.T. Mustafin ³ , V.N. Pavlov ³ , E.K. Khusnutdinova ^{1,2} ¹ Institute of Biochemistry and Genetics, Ufa Scientific Centre, RAS, Ufa, Russia ² Bashkir State University, Ufa ³ Bashkir State Medical University, Ufa


	University, Washington DC, USA		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						
15.00–15.25	<i>In silico</i> screening for sulfonate-based inhibitors against promising anticancer targets <u>Dmitry Nilov</u> ^{1*} , I.V. Gushchina ² , V.K. Švedas ^{1,2} ¹ Belozersky Institute of Physicochemical Biology, Moscow State University; ² Faculty 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. Kural ¹ , N. Tandon ² , O.V. Kel-Margoulis ² , <u>Anna Baranova</u> ^{1,3,4} ¹ School of Systems Biology, George Mason University, Fairfax, USA; ² geneXplain, Wolfenbüttel Germany; ³ Research Centre for Medical Genetics, Moscow, Russia ⁴ ATLAS Biomed Group, Moscow, Russia	14:45-15:15	Poly(ADP-ribose) polymerase 1 and regulation of DNA repair <u>Olga Lavrik</u> ICBFM SB RAS, Novosibirsk, Russia NSU, Novosibirsk, Russia	14:30–14:45	Circulating DNA as a source of novel type of cancer biomarkers V. Mileyko ^{1,2} , M. Ivanov ¹ , E. Morozkin ² , <u>Ancha Baranova</u> ^{1,3,4} ¹ ATLAS Biomed Group, Moscow, Russia ² ICBFM, Novosibirsk, Russia ³ Federal State Budgetary Institution "Research Centre for Medical Genetics", Moscow, Russia ⁴ School of Systems Biology, George Mason University, Fairfax, VA USA	15:00–15:15	Computational tools for data processing of medical imaging <u>Mikhail Kurako</u> ¹ , An.G. Marchuk ² , F.P.Kapsargin ³ , L. Cadena ¹ , Simonov K.V. ⁴ ¹ Siberian Federal University, Krasnoyarsk, 660041, Russia ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia ³ Krasnoyarsk State Medical University, Krasnoyarsk, Russia; ⁴ Institute 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 <u>Sergey Ivanov</u> ^{1,2*} , M.I. Semin ^{1,2} , A.A. Lagunin ^{1,2} , D.A. Filimonov ¹ , V.V. Poroiikov ^{1,2} ¹ Institute of Biomedical Chemistry, Moscow, Russia ² Pirogov 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 <u>Natalia Stefanova</u> , N.I. Ershov, N.A. Muraleva, N.G. Kolosova ICG SB RAS, Novosibirsk, Russia	15:15-15:45	Speed reading at the molecular scale: how enzymes find typos in a DNA text <u>Dmitrij Zharkov</u> ICBFM SB RAS, Novosibirsk, Russia	14:45–15:00	Circulating microRNA dynamics in lung cancer patients during therapy <u>Anastasia Ponomaryova</u> ^{1,3} , E. Rykova ^{2,4} , N. Cherdynitseva ^{1,5} , E. Morozkin ^{2,6} , I. Zaporozhchenko ² , T. Skvortsova ² , A. Dobrodeev ¹ , A. Zav'yalov ¹ , S. Tuzikov ¹ , Vlasov ² , P. Laktionov ^{2,6} ¹ Tomsk Cancer Research Institute, Tomsk; ² ICBFM SB RAS, Novosibirsk; ³ Tomsk Polytechnic University, Tomsk; ⁴ NSTU, Novosibirsk; ⁵ TSU, Tomsk; ⁶ Meshalkin Research Institute, Novosibirsk, Russia	15:15–15:30	Censoring of noisy objects and attributes with function of rival similarity in medical and biological tasks <u>Olga Kutnenko</u> , I.A. Borisova Sobolev Institute of Mathematics SBRAS, Novosibirsk, Russia
		15.35–15:50	The mitochondria-targeted plastoquinone SkQ1 affects <i>Drosophila melanogaster</i> lifespan in various environment <u>Anna Kremntsova</u> ¹ , N. V. Roshina ² , E. A. Tsybulko ² , O. Y. Rybina ² , A. V. Symonenko ² , E. G. Pasyukova ² ¹ Emmanuel Institute of Biochemical Physics of RAS, Moscow, Russia ² Institute of Molecular Genetics of RAS, Moscow, Russia			15:00–15:15	Somatic DNA methylation landscape of coronary artery disease patients <u>Maria Nazarenko</u> ¹ , A.V. Markov ¹ , A.A. Sleptsov ¹ , O.L. Barbarash ² , V.P. Puzyrev ¹ ¹ Research Institute of Medical Genetics, Tomsk, Russia; ² Research Institute for Complex Issues of Cardiovascular Diseases, Kemerovo, Russia	15:30–15:45	lincRNA database: tool for very long intergenic non-coding RNA functional annotation <u>Denis Antonets</u> ^{1,2,4} , Y. Vyatkin ^{2,3} , D. Luppov ^{2,3} , P. Kapranov ^{3,5} , M. Ri ^{2,3} , O. Saik ^{2,3,6} , D. Shtokalo ^{1,2,3} ¹ A.P.Ershov Institute of Informatics Systems SBRAS, Novosibirsk, Russia; ² AcademGene LLC, Novosibirsk, Russia ³ St. Laurent Institute, Woburn, USA; ⁴ State Research Center of Virology and Biotechnology

						15:15–15:30	Features of miRNA interaction with mRNA genes in coronary artery disease <u>A. Ivashchenko</u> , R.E. Niyazova, S.A. Atambayeva, A.Y. Pyrkova Al-Farabi Kazakh National University, Almaty, Kazakhstan		'Vector', Novosibirsk, Russia ⁵ Institute of Genomics, School of Biomedical Sciences, Huaqiao University, Xiamen, China; ⁶ Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia
						15:30–15:45	Epigenomic changes in postmortem brains of human alcoholics <u>Igor Ponomarev</u> Waggoner Center for Alcohol and Addiction Research, The University of Texas, Texas, USA		
						15:45–15:50	Discussion		
<i>Coffee break: 15.50–16.10</i>									
16.10–16.35	Computer-aided drug repurposing: new uses for old drugs or filling gaps in biomedical knowledge? <u>Vladimir Poroikov</u> , D.A. Filimonov, A.A. Lagunin, T.A. Glorizova Institute of Biomedical Chemistry, Moscow, Russia	16:10–16.35	Geroprotector and criteria for its evaluation <u>Alexey Moskalev</u> , M. Shaposhnikov, E.Proshkina, V.Tsvetkov, A.Fedintsev, E. Chernyagina, A.Zhavoronkov ¹ Institute 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 <u>Anastasiya Kosova</u> , S.N. Khodyreva, O.I. Lavrik ICBFM SB RAS, Novosibirsk, Russia	16:10–17:00	Discussion and closing remarks	16:05–16:15	A phenomenon of multistability in a simple ecological evolutionary population model <u>Oksana Zhdanova</u> ¹ , E.Ya. Frisman ² ¹ Institute of Automation and Control Processes FEB RAS, Vladivostok; ² Institute of Complex Analysis of Regional Systems FEB RAS, Birobidzhan, Russia
16.35–17.00	In silico design of aptamers containing g-quadruplexes <u>Arthur Zalevsky</u> ^{1,2} , A.O. Demkiv ² , A.V. Golovin ^{1,2} ¹ Apto-Pharm LLC, Moscow, Russia ² Moscow State University, Moscow, Russia	16.35–17.00	Perspectives for the prevention of accelerated aging <u>Vladimir Anisimov</u> Department 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 <u>Anna Yudkina</u> ICBFM SB RAS, Novosibirsk, Russia			16:15–16:30	How new science emerges: a case study of microrna research <u>Igor Titov</u> ^{1,2} , A.B. Firsov ² , S.I. Demurin ² , M.V. Pankova ² ¹ Institute of Cytology and Genetics SBRAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia
17.00–17.25	Molecular modeling of influenza virus H1N1 hemagglutinin inhibition by camphor imines <u>Dmitry Baev</u> , 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 <u>Alexander Khalyavkin</u> , V.N. Krut'ko Institute 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 Kaina Department of Toxicology, University Medical Center, Mainz, Germany			16:30–18:00	Poster Session
17.25–17.50	Small molecule agonists of relaxin receptor <u>Alexander Agoulnik</u> ¹ , I.U. Agoulnik ¹ , X. Hu ² , C. Myhr ¹ , Z. Huang ¹ , B.A. Ho ¹ , E. Barnaeva ² , J. Xiao ² , M. Ferrer ² , N.T. Southall ² , J.J. Marugan ² ¹ Herbert Wertheim College of Medicine, Florida International University, Miami, FL, USA; ² NIH Chemical Genomics Center, National Center for Advancing	17.25–17.50	The role of the mechanisms of resistance to ionizing radiation in <i>Drosophila melanogaster</i> aging and longevity Mikhail Shaposhnikov ^{1,2} , E.N. Proshkina ^{1,2} , L.A. Shilova ¹ , D.O. Peregudova ¹ , S.O. Zhikrivetskaya ³ , A.A. Moskalev ^{1,4} ¹ Institute of Biology of Komi Science Center UB RAS;	17:30-18:00	Modulation of cognitive function by oxidative DNA base lesion repair K. Scheffler ² , V. Rolseth ¹ , M.D. Bjørge ¹ , G. Hildrestrand ¹ , W. Wang ² , R. Suganthan ² , A. Kusnierczyk ² , Ch. Neurauter ¹ , H. Korvald ¹ , C. Vågbo ² , L. Luna ¹ , G. Slupphaug ² , L. Eide ² , <u>Magnar Bjørås</u> ^{1,2} ¹ Department of Microbiology, University of Oslo, Oslo,				

	Translational Sciences, National Institutes of Health, Rockville, MD, USA		² Syktvkar State University, Syktyvkar; ³ Engelhardt Institute of Molecular Biology RAS; ⁴ Moscow Institute of Physics and Technology, Dolgoprudny, Russia		Norway; ² Department 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 <u>Peter Vlasov</u> , 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 <u>Inga Grin</u> ^{1,2} , A.A. Ishchenko ³ ¹ ICBFM SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia ³ CNRS 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. Goloudina ² , B.B. Grigorash ¹ , E.Y. Kochetkova ¹ , E. Appella ³ , V.A. Pospelov ¹ , <u>Oleg Demidov</u> ^{1,2} ¹ Institute of Cytology RAS, St. Petersburg, Russia; ² University of Burgundy, France; ³ NCI, NIH, Bethesda, USA				
				18:30-18:45	The functional interactions of pleiotropic protein yb-1 with key base excision repair factors Elizaveta Alemasova ¹ , N.A. Moor ¹ , K.N. Naumenko ^{1,2} , P.E. Pestryakov ¹ , O.I. Lavrik ^{1,2} ¹ ICBFM SB RAS, Russia ² NSU, 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								

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” <i>Chairpersons:</i> 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” <i>Chairpersons:</i> Fyodor Kondrashov, Evolutionary Genomics laboratory and ICREA, Barcelona, Spain	9.00–13.00	Morning session “Analysis of dynamical systems. Identifiability” <i>Chairpersons:</i> 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 <u>Yoshinori Kanayama</u> School of Agricultural Science, Tohoku University, Sendai, Japan	9.00–9.25	Evolution of restriction-modification systems in large scale <u>Olga Bezsudnova</u> ¹ , 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. Alexeevski ^{1,2,5} ¹ Faculty of Bioengineering and Bioinformatics, Moscow State University, Russia;	9.00–9.30	Regularization methods in determination of biological molecule force fields <u>Gulnara Kuramshina</u> , A.Ya. Korneichuk, S.A. Sharapova Faculty of Chemistry, Department of Physical Chemistry, Moscow State University, Moscow, 119991, Russia

			² Belozersky Institute of Physico-Chemical Biology, Moscow State University, Russia; ³ Gamaleya Center of Epidemiology and Microbiology, Moscow, Russia; ⁴ Institute of Agricultural Biotechnology RAS, Moscow, Russia; ⁵ Scientific Research Institute for System Studies, RAS, Moscow, Russia		
9.20–9.40	New insights into the regulation of reactive oxygen species by auxin through gene expression analysis Ivan Paponov ^{1,2} , V. Budnyk ¹ , T. Khodus ¹ , M. Paponov ¹ , K. Palme ¹ ¹ Institute of Biology II/Molecular Plant Physiology, Faculty of Biology, Albert-Ludwigs-University of Freiburg, Germany ² NIBIO, Norwegian Institute of Bioeconomy Research, Postvegen, Norway	9.25–9.50	Intron evolution: sliding and variability of length Irina Poverennaya ¹ , D.D. Gorev ² , T.V. Astakhova ³ , M.A. Roytberg ^{2,3} . 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 Sabelfeld Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
9.40–10.00	Genetics and physiology of wheat inflorescence development Oxana Dobrovolskaya ^{1,5} , P. Martinek ² , Yu.L. Orlov ¹ , A.A. Krasnikov ³ , E.D. Badaeva ⁴ , K.I. Popova ⁵ , Salse J. ⁶ , Watanabe.N. ⁷ ¹ ICG SB RAS, Novosibirsk, Russia; ² Agrotest Fyto, Ltd, Kroměříž, Czech Republic; ³ Central Siberian Botanical Garden SB RAS, Novosibirsk, Russia ⁴ Vavilov Institute of General Genetics RAS, Moscow, Russia; ⁵ Novosibirsk State Agrarian University, Novosibirsk, Russia; ⁶ INRA-UBP UMR-1095, Clermont –Ferrand, France; ⁷ College 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. Maksimova Belarusian 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. Cherevko ^{1,2} , Irina Ufimtseva ¹ , A.P. Chupakhin ^{1,2} , A.L. Krivoschapkin ³ , K.Yu. Orlov ³ ¹ NSU, Novosibirsk, Russia; ² Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia; ³ Academician 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 Ivanov Philip 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 Gunbin ¹ , A. Benítez-Burraco ² , F. Gusev ¹ , E. Rogaeu ^{1,3} ¹ ICG SB RAS, Novosibirsk, Russia; ² Department 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 Balashov ¹ , V.A. Naumov ¹ , O.S. Altukhova ¹ , P.I. Borovikov ¹ , I.S. Mukosey ¹ , T.O. Kochetkova ¹ , A.B. Gordeev ¹ , D.V. Dubodelov ¹ , E.S. Shubina ¹ , L.A. Lyubasovskaya ¹ , T.V. Priputnevich ¹ ¹ Academician 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 Chen Zhejiang University, Hangzhou, China				
10.35–10.50	Computer simulation of trichome patterning on growing wheat leaf taking into account the biomechanics of cells Ulyana Zubairova ¹ , S.V. Nikolaev ¹ , A.V. Penenko ² , N.L. Podkolodnyy ¹ , S.K. Golushko ³ , D.A. Afonnikov ¹ , and N.A. Kolchanov ¹ ¹ ICG SB RAS, Novosibirsk; ² ICMMG SB RAS, Russia; ³ Design 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 Tatarinova ^{1,2} , E. Chekalin ³ , Y. Nikolsky ^{3,4,5} , S. Bruskin ³ , D. Chebotarov ⁶ , K.L. McNally ⁶ , N. Alexandrov ⁶ ¹ Center for Personalized Medicine and Spatial Sciences Institute, University of Southern California, Los Angeles, CA, USA; ² Kharkevich Institute for Information Transmission Problems, Russian Academy of Sciences, Moscow, Russian Federation; ³ Vavilov Institute of General Genetics, Moscow, Russia; ⁴ F1 Genomics, San Diego, CA, USA; ⁵ School of Systems Biology, George Mason University, VA, USA; ⁶ International Rice Research Institute, Los Baños, Philippines			11:10–11:40	Image processing in biology and medicine Ivan Kazantsev ¹ Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia
11.30–11.50	Sleep of reason in the analysis of the results of research on materials «Proteomic information offspring wheat varieties differing in resistance to infection after Puccinia recondita inoculation» Kanat Sarsenbayev, A. Sarsenbayeva L.N. Gumilyov Eurasian National University, Astana, Kazakhstan			11:40–12:10	Inverse modeling of diffusion processes in biological tissues Aleksey Penenko ^{1,3} , S.V. Nikolaev ² , S.I. Baiborodin ² , A.V. Romaschenko ² ¹ Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; ² ICG SB RAS, Novosibirsk, Russia; ³ NSU, Novosibirsk, Russia
11.50–12.10	Study of Armillaria borealis pathogenicity by the comparative whole genome sequencing Yuliya Putintseva ^{1,2} , I.N. Pavlov ^{1,2} , N.V. Oreshkova ^{1,2} , V.V. Sharov ¹ , D.A. Kuzmin ¹ , S.V. Makolov ¹ , K.V. Krutovsky ^{1,3,4,5} ¹ Siberian Federal University, Krasnoyarsk, Russia; ² V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk, Russia; ³ Georg-August University of Göttingen, Göttingen, Germany; ⁴ N.I. Vavilov Institute of General Genetics, RAS, Moscow, Russia; ⁵ Texas A&M University, College Station, USA			12:10–12:25	Population-based mathematical modeling of human immunoglobulin G N-glycosylation Elena Kutumova ^{1,2} , I. Yevshin ^{1,2} , E. Basmanova ^{1,2,3} , N. Mandrik ^{1,2,4} , R. Sharipov ^{1,2,3} , F. Kolpakov ^{1,2} ¹ Institute of Systems Biology Ltd., Novosibirsk, Russia; ² Design Technological Institute of Digital Techniques, Novosibirsk, Russia ³ NSU, Novosibirsk, Russia; ⁴ Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia
12.10–12.30	Transcriptomic analysis of wheat root in response to essential nutrient deficiency: a genome-wide comparative study Saurabh Gupta ¹ , B.S. Yadav ² , S. Freilich ³ , V.P. Kumar ¹ ¹ Department of Bioinformatics, Indian Institute of Information Technology-Allahabad, India; ² Department 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	Inverse problems for nonlinear PDE: applications to biology and medicine Maxim Shishlenin Sobolev Institute of Mathematics SB RAS; ICM&MG SB RAS; NSU, Novosibirsk, Russia
12.30–12.50	3D map of proliferation activity in Arabidopsis thaliana root tips: transition domain boundaries and its bilateral symmetry Viktoriya Lavrekha ^{1,2} , T. Pasternak ³ , N.A. Omelyanchuk ^{1,2} , V.B. Ivanov ⁴ , V.V. Mironova ^{1,2} ¹ ICG SB RAS, Novosibirsk, Russia; ² LCTEB, NSU, Novosibirsk, Russia			12:40–12:55	Inverse and ill-posed problems in tomography, based on the propagation of the acoustic waves Nikita Novikov ^{1,3} , I.M. Kulikov ^{1,3} , M.A. Shishlenin ^{1,2,3} ¹ Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; ² Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia; ³ NSU, Novosibirsk, Russia

	³ Institute of Biology II/Molecular Plant Physiology, Centre for BioSystems Analysis, BIOS Centre for Biological Signalling Studies University of Freiburg, Germany; ⁴ Timiryazev Institute of Plant Physiology, Russian Academy of Sciences Moscow, Russia				
					<i>Lunch: 13:00–14:00</i>
	Small hall BGRS\SB		Library BGRS\SB		Exhibition Hall MM-HPC-BBB
14.00–18.35	Section “Proteomics” (House of Scientists SB RAS, Small hall) <i>Chairpersons:</i> 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 Voronov ^{1,2} , A.Yu. Belonog ² , S.I. Kabanikhin ^{1,2} ¹ Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia; ² NSU, Novosibirsk, Russia
14.00–14.35	Nonthermal impact terahertz radiation on the living systems I.A. Mescheryakova ¹ , E.V. Demidova ¹ , T.N. Goryachkovskaya ¹ , E.A. Demidov ¹ , A.V. Bryanskaya ¹ , S.V. Sergeeva ¹ , S.L. Kiselev ³ , M.A. Lagarkova ³ , G.N. Kulipanov ² , A.I. Semenov ² , N.A. Vinokurov ² , N.A. Kolchanov ¹ , V.M. Popik ² , <u>Sergey Peltek</u> ¹ ¹ ICG SB RAS; ² Budker Institute of Nuclear Physics the SB RAS; ³ Vavilov Institute of General Genetics, RAS, Moscow		Technological progress in Japanese horticultural production and its academic aspects Yoshinori Kanayama	14:15–14:30	Identifiability of mathematical models of physiology Anastasia Grodz ¹ , S.I. Kabanikhin ^{1,2} , D.A. Voronov ^{1,2} , O.I. Krivorotko ^{1,2} ¹ NSU, Novosibirsk, Russia; ² Institute 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. Pastushkova ¹ , D.N. Kashirina ¹ , A.S. Kononikhin ^{1,3} , <u>Alexander Brzhozovsky</u> ¹ A.G., L.Dobrokhoto I.V., ² Tiys E.S., ² Ivanisenko V.A., ³ Nikolaev E.N., ¹ Larina I.M. ¹ State scientific center of Russian Federation – Institute for biomedical problems RAS, Moscow; ² ICG SB RAS, Russia ³ Emanuel Institute of Biochemical Physics RAS, Moscow, Russia		Transgenic plants as genetic models Alexey Kochetov	14:30–14:45	A variation approach for solving of a parameter identification problem for the mathematical model of HIV dynamics Darya Ermolenko ¹ , S.I. Kabanikhin ^{1,2} , O.I. Krivorotko ^{1,2} ¹ NSU, Novosibirsk, Russia ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
				14:45–15:00	Algorithms comparison of inverse problem solution for pharmacokinetic models Anatoly Belonog ¹ , D.A.Voronov ^{1,2} ¹ NSU, Novosibirsk, Russia; ² Institute 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 Sormacheva ¹ , P.S. Sherin ^{1,2} , E.A. Zelentsova ^{1,2} , T.G. Duzhak ^{1,2} , Yu.P. Tsentalovich ^{1,2} , R.Z. Sagdeev ^{1,2} ¹ International Tomography Center SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia		Roles of pathogenesis related-10 proteins in biotic and abiotic stresses in comparison with heterologous ribonucleases Ekaterina Trifonova	15:00–15:15	A numerical algorithm of parameter identification in mathematical model of tuberculosis transmission with control programs Victoriya Kashtanova ¹ , S.I. Kabanikhin ^{1,2} , O.I. Krivorotko ^{1,2} , D.A. Voronov ^{1,2} ¹ NSU, Novosibirsk, Russia; ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
15.25–15.50	Looking for proteomic markers of breast cancer in blood exosomes Oleg Tutanov ¹ , S.N. Tamkovich ¹ , Y.S. Bakakina ² , L.V. Dubovskaya ² , Y.P. Tsentalovich ³ , I.D. Volotovskiy ² , P.P. Laktionov ¹ ¹ ICBFM SB RAS, Novosibirsk, Russia ² Institute of biophysics and cellular engineers NASB, Minsk, Byelorussia ³ Institute “International Tomographic Center” SB RAS, Novosibirsk, Russia		Towards the reference sequence of chromosome 5B of common wheat Elena Salina	15:15–15:30	Stochastic and gradient approaches for solving of the inverse problem for basic mathematical model of infectious disease with delay Varvara Latyshenko ¹ , O.I. Krivorotko ^{1,2} , S.I. Kabanikhin ^{1,2} ¹ NSU, Novosibirsk, Russia; ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
			Inflorescence architecture in wheat Oxana Dobrovolskaya	15:30–15:45	Mathematical modeling and parameters estimation for PK experimental data Elizaveta Vostrikova ¹ , A.Yu. Belonog ¹ , D.A.Voronov ^{1,2} ¹ NSU, Novosibirsk, Russia; ² Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, Russia
<i>15.50–16.10 Coffee break</i>					
				16:10–18:00	Afternoon session “Hemodynamic and tomography” <i>Chairperson: Prof. Alexander Chupakhin, Maxim Shishlenin</i>
16.10–16.35	Microbial community of the oil site of the Uzon Caldera (Kamchatka) S.E. Peltek ¹ , <u>Alla Bryanskaya</u> ¹ , Y.E. Uvarova ¹ , A.S. Rozanov ¹ , T.V. Ivanisenko ¹ , T.K. Malup ¹ , V.A. Ivanisenko ¹ , E.V. Lazareva ² , O.V. Saik ¹ , S.M. Zhmodik ² , O.P. Taran ³ , N.M. Slyenko ¹ , S.V. Shekhovtsov ¹ , V.N. Parmon ³ , N.L. Dobretsov ² , N.A. Kolchanov ¹ ¹ ICG SB RAS, Novosibirsk, Russia; ² V S Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk, Russia; ³ Boreskov Institute of Catalysis SB RAS, Novosibirsk, Russia		Synthesis and accumulation of a novel functional food component in tomato Ayaka Ito	16:10–16:25	Modeling and optimization the process of embolization arteriovenous malformation on the basis of two-phase filtration model Tatiana Gologush ² , A.A. Cherevko ^{1,2} , V.V. Ostapenko ^{1,2} , I.A. Petrenko ³ , A.P. Chupakhin ^{1,2} ¹ Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia; ³ Vladimir State University, Vladimir, Russia
16.35–17.00	Proteomic screening for amyloid-forming proteins in bacteria <i>Escherichia coli</i> Anton Nizhnikov ^{1,2,3} , K.S. Antonets ^{1,2} , K.V. Volkov ¹ , A.L. Maltseva ¹ , A.P. Galkin ^{1,2} ¹ St. Petersburg State University; ² Vavilov Institute of General Genetics (St. Petersburg Branch); ³ All-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	Nyquist diagrams for the generalized van der pol– duffing equation describing local cerebral hemodynamic Elizaveta Bord ² , A.A. Cherevko ^{1,2} , A.K. Khe ^{1,2} , V.A. Panarin ³ , K.Yu. Orlov ³ , A.P. Chupakhin ^{1,2} ¹ Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia ² NSU, Novosibirsk, Russia; ³ Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia
17.00–17.15	Actual approaches for qualification and quantification of proteome changes Eugeny Vrzheschch Bio-Rad, Moscow, Russia 		Study on the regulation of cell division during early fruit development in tomato Hideki Nariyama	16:40–16:55	Experimental research of the viscous fluid flow in the elastic model with the application in hemodynamics Nikita Denisenko ^{1,6} , A.P. Chupakhin ^{1,6} , A.K. Khe ^{1,6} , A.A. Cherevko ^{1,6} , A.A. Yanchenko ^{1,6} , A.A. Tulupov ^{2,6} , A.V. Boiko ³ , A.L. Krivoshapkin ⁴ , K.Yu. Orlov ⁴ , M.P. Moshkin ⁵ , A.E. Akulov ⁵ ¹ Lavrentyev Institute of Hydrodynamics SB RAS;

					² International Tomography Center SB RAS; ³ Khristianovich Institute of Theoretical and Applied Mechanics SB RAS; ⁴ Meshalkin Research Institute of Circulation Pathology; ⁵ ICG SB RAS; ⁶ NSU, 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 Markelov ¹ , A.R. Kayumov ² , M.I. Bogachev ¹ ¹ St. Petersburg Electrotechnical University, St. Petersburg, Russia ² Kazan (Volga region) Federal University, Kazan, Russia	VIGS-mediated resistance to crown gall disease Pavel Nikulin	16:55–17:10	Mathematical modelling of artificial heart valve performance D.A. Dolgov, Y.N. Zakharov Kemerovo State University, Kemerovo, 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 <i>Arabidopsis thaliana</i> L. Daria Novikova	17:10–17:25	Mathematical model of cerebral haemodynamics in presence of aneurysm Daniil Parshin, I.V. Ufimtseva ² , A.A. Cherevko ^{1,2} , A.K. Khe ^{1,2} , K.Yu. Orlov ³ , A.L. Krivoshapkin ³ , A.P. Chupakhin ^{1,2} ¹ Lavrentyev Institute of hydrodynamics SB RAS; ² NSU; ³ Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia	
		Plant delta-OAT gene expression in ontogenesis and stress response. Anastasiya Egorova	17:25–17:40	Investigation of the influence of genotype on the structure of the circulatory system laboratory mice Galina Yankova ³ , A.E. Akulov ¹ , S.V. Maltseva ^{2,3} , M.P. Moshkin ^{1,3} , A.K. Khe ^{3,4} , A.A. Cherevko ^{3,4} , A.P. Chupakhin ^{3,4} , ¹ ICG SB RAS; ² Sobolev Institute of mathematics SB RAS, Russia; ³ NSU; ⁴ Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, Russia	
		Functional and structural characterisation of PPD-B1 photoperiod insensitive allele Antonina Kiseleva	17:40–17:55	Personalized simulation based on the modified analytical model of the left ventricle of the human heart Anton Koshelev ^{1,2} , A.E. Bazhutina ¹ , K.S. Ushenin ^{1,3} ¹ Ural Federal University; ² Institute of Mathematics and Mechanics UB RAS; ³ Institute of Immunology and Physiology UB RAS, Ekaterinburg, Russia	
		Phage-producing plants as models for expression of heterologous replicons Anna Nazarenko	17:55–18:10	Validation of the human arterial tree model Ilya Kiselev ^{1,2} , E.A. Biberdorf ^{3,4} , V.I. Baranov ⁵ , T.G. Komlyagina ⁵ , I.Y.Suvorova ⁵ , V.N.Melnikov ⁵ , S.G.Krivoshchekov ⁵ , F.A.Kolpakov ^{1,2} ¹ Institute of Systems Biology Ltd, Novosibirsk; ² Design Technological Institute of Digital Techniques SB RAS; ³ NSU, Novosibirsk, Russia; ⁴ Sobolev Institute of Mathematics SB RAS; ⁵ State Scientific-Research Institute of Physiology & Basic Medicine, Novosibirsk, Russia	

2 September, Friday	
Small Hall	BGRSISB
9:00–16:30	Section “Genomics, Transcriptomics and Bioinformatics” (<i>House of Scientists SB RAS, Small hall</i>) <i>Chairpersons:</i> Ivo Grosse, Halle-Wittenberg University, Halle, Germany; Vsevolod Makeev, VIGG RAS, MIPT, Moscow, Russia
9:00–9:15	Sequencing from Roche: what the future will bring for you? Irina Karpova LCC “Roche Diagnostics Rus”, Moscow, Russia
9:15–9:30	Whole genome of the woolly mammoth: evolution through millenia Artem Nedoluzhko ^{1*} , A.S. Sokolov ² , F.S. Sharko ² , E.S. Boulygina ¹ , S.V. Tsygankova ¹ , A.N. Tikhonov ³ , K.G. Skryabin ^{1,2,4} , E.B. Prokhortchouk ^{2,4} ¹ National Research Center “Kurchatov Institute”, Moscow, Russia; ² Institute of Bioengineering, Research Center RAS, Moscow, Russia; ³ Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia; ⁴ Lomonosov Moscow State University, Moscow, Russia
9:30–9:45	Opisthorchiidae triad: comparative genomics of the carcinogenic liver flukes using a draft genome of <i>Opisthorchis felineus</i> N. Ershov ^{1*} , G. Fan ^{2,3} , E. Prokhortchouk ⁴ , V. Solovyev ⁵ , Dmitry Afonnikov ^{1,6} , H. Yang ² , V. Mordvinov ¹ , X. Liu ² , K. Skryabin ^{4,7} and The Opisthorchis Genome Consortium ¹ ICG SB RAS, Novosibirsk, Russia; ² BGI-Shenzhen, Shenzhen, China; ³ State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macao, China; ⁴ Russian Federal Research Center for Biotechnology, Moscow, Russia; ⁵ Softberry Inc., Mount Kisco, NY, US; ⁶ NSU, Novosibirsk, Russia; ⁷ National 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. Podgornaya Institute 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. Medvedeva Research Center of Biotechnology RAS, Moscow, Russia
10:15–10:30	Energy metabolic dysfunction in tumor cells, molecular mechanisms and clinical significance Anna Kudryavtseva ^{1,2} , A.A. Dmitriev ¹ , O.L. Kardymon ¹ , A.S. Zasedatelev ¹ , G.S. Krasnov ¹ , A.V. Snezhkina ¹ ¹ Engelhardt Institute of Molecular Biology, Russian Academy of Sciences, Moscow, Russia. ² Herzen 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 Predeus ^{1,2*} , T. Ulland ¹ , Y. Wang ¹ , V. Lampropoulou ¹ , W. Song ¹ , I. Arbutov ³ , F. Towfic ⁴ , S. Gilfilan ¹ , E. Loginicheva ¹ , B.T. Edelson ¹ , B. Zeskind ⁴ , M. Colonna ¹ , M.N. Artyomov ¹ ¹ Washington University School of Medicine, St. Louis, MO, USA; ² Bioinformatics institute, Saint Petersburg, Russia; ³ ITMO University, Saint Petersburg, Russia. ⁴ Immuneering Corporation, Cambridge, MA, USA

11.00–11.20	<i>Coffee break</i>
11.20–11.50	<p>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 Pathophysiology, Mannheim, Germany</p>
11.50–12.05	<p>Genome-wide transcriptomics as a platform for understanding the unusual resistance to muscle atrophy in hibernating dormice Guzel Gazizova^{1*}, O.V. Tyapkina², O.S. Kozlova¹, M.D. Logacheva^{1,3}, L.F. Nurullin², I.M. Vikhlyantsev⁴, O.A. Gusev^{1,5} ¹Kazan 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</p>
12.05–12.35	<p>The first edition of mutagenesis by CRISPR/Cas in the extreme desiccation tolerant cultured cell. Takahiro Kikawada^{1,2}, Y. Miyata^{1,3}, Y. Sogame^{1,4}, T. Furusawa¹, S. Kikuta⁵, R. Cornette¹, O. Gusev^{6,7} ¹Institute of Agrobiological Sciences, NARO, Japan ²Department of Integrated Biosciences, Graduate School of Frontier Sciences, The University of Tokyo, Japan ³Center 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</p>
12.35 -14:00	<i>Lunch</i>
14:00-16:00	Expert-analytical evaluation of promising research directions in bioinformatics and systems biology
16:00-16:30	Closing