BGRS/SB-2022

13th International Multiconference "Bioinformatics of Genome Regulation and Structure/Systems Biology"

04-08 July 2022, Novosibirsk, Russia, https://bgrssb.icgbio.ru/2022/

Conference plenary session (Monday, July 4, Novosibirsk State University, Room 3307)

Time	Speaker	Report's title
12:45 - 13:25	**Vadim Stepanov** Tomsk National Research Medical Center of the RAS, Tomsk, Russia	**Human genomics and evolutionary medicine**
13:25 - 14:05	**Matteo Barberis** University of Surrey, Guildford, United Kingdom	**A novel and robust molecular switch actuating the quantitative model of eukaryotic cdk control Interpreting non-coding genome variation with DNA sequence motifs**
14:05 - 14:45	**Ivan Kulakovskiy** Center for Precision Genome Editing and Genetic Technologies for Biomedicine, Engelhardt Institute of Molecular Biology of RAS, Moscow; Institute of Protein Research of RAS, Pushchino; Vavilov Institute of General Genetics of RAS, Moscow, Russia	**Interpreting non-coding genome variation with DNA sequence motifs**
15:05 - 15:45	**Vladimir Popov** Federal Research Centre "Fundamentals of Biotechnology" of the RAS, Moscow, Russia	**From 3D protein structure to biological function**
15:45 - 16:25	**Yan Zubavichus** Boreskov Institute of Catalysis of SB RAS, Novosibirsk; Synchrotron Radiation Facility SKIF, Koltsovo, Russia	**4th Generation Synchrotron Radiation Facility SKIF: New Prospects for High-Throughput Macromolecular Crystallography in Russia**
16:25 - 17:05	**Vadim Govorun** Shemyakin-Ovchinnikov Institute of bioorganic chemistry, Moscow, Russia	**Some questions of synthetic biology**
17:40 - 18:20	**Valery Danilenko** Vavilov Institute of General Genetics, RAS, Moscow, Russia	**Study of human and animal microbiome as genetic and pharmacological resources for the development of innovative biotechnologies for medicine, animal husbandry and agro-industrial complex**
18:20 - 19:00	**Eric Bishop von Wettberg** The University of Vermont, Vermont, USA	**The need to study biodiversity: the case of crop wild relatives**

Conference keynote reports

Room	Time	Speaker	Report's title	Symposium
	Tuesday, July 5			
3307	**10:00 - 10:40**	Ekaterina Khrameeva Skolkovo Institute of Science and Technology, Moscow, Russia	**Maps of chromatin conformation in the cerebral cortex**	Genomics, transcriptomics and bioinformatics
3312	**10:00 - 10:40**	Sergey Lashin Kurchatov Genomics Center of the Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**On organizing a software platform for seeking biotechnologically important features in bacteria**	Systems computational biology
3313	**10:00 - 10:40**	Maria Vedunova Institute of Biology and Biomedicine, National Research Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia	**Novel approaches for analysis of the functional activity of neural networks in vitro**	Animal genetics, bioinformatics and systems computational biology
3318	**10:00 - 10:40**	Alexander Sobolevsky Columbia University Irving Medical Center New York, United States	**Structural basis of TRP channel temperature sensitivity**	Structural biology and pharmacology: computational and experimental approaches
4310	**10:00 - 10:40**	Andrey Letyagin Russia, Novosibirsk, Novosibirsk State University; Instutute of Clinical and Experimental Lymphology - branch of ICG SB RAS	**Artificial intelligence (AI) of 3D MRI Images for neurooncology**	Biomedicine, bioinformatics and systems computational biology
3307	**10:40 - 11:20**	Dmitry Afonnikov Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Kurchatov Genomic Center of the Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia Novosibirsk State University, Novosibirsk, Russia	**Origin of the auxin biosynthesis pathway in land plants in the light of evolution of TAA and YUCCA genes**	Genomics, transcriptomics and bioinformatics
3312	**10:40 - 11:20**	Fedor Kolpakov Sirius University, Sochi, Russia FRC for Information and Computational Technologies, Novosibirsk, Russia BIOSOFT.RU, Ltd, Novosibirsk, Russia	**Evolutionary development of mathematical models of complex biological systems**	Systems computational biology
3318	**10:40 - 11:20**	Roman Efremov Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow, Russia Moscow Institute of Physics and Technology, Dolgoprudny, Russia National Research University Higher School of Economics, Moscow, Russia	**"Dynamic molecular portraits" of biomembranes: a computational insight**	Structural biology and pharmacology: computational and experimental approaches

4310	**10:40 - 11:20**	Mariya Vorobyeva Institute of Chemical Biology and Fundamental Medicine, SB RAS, Novosibirsk, Russia	**DNA Aptamers for Diagnosis and Treatment of Human Diseases**	Biomedicine, bioinformatics and systems computational biology
3307	**11:40 - 12:20**	Tatiana Gorshkova Kazan Institute of Biochemistry and Biophysics, FRC KazRC RAS, Kazan, Russia	**Transcriptomics as an effective tool to study plant cell wall formation and function**	Genomics, transcriptomics and bioinformatics
3312	**11:40 - 12:20**	Dmitrii Logofet A.M. Obukhov Institute of Atmospheric Physics, RAS, Moscow, Russia	**Alpine resort or battle for survival: A didactic story about short-lived perennials and their matrix models**	Systems computational biology
3318	**11:40 - 12:20**	Vladimir Poroikov Institute of Biomedical Chemistry, Moscow, Russia	**Drug repurposing for COVID-19 therapy: challenges and opportunities**	Structural biology and pharmacology: computational and experimental approaches
4310	**11:40 - 12:20**	Tamara Tyrinova Scientific Research Institute of Clinical immunology, Siberian Branch, Academy of Medical Sciences of Russia	**The problem of immunological tolerance in the pathogenesis of autoimmune diseases**	Biomedicine, bioinformatics and systems computational biology
3307	**12:20 - 13:00**	Yulia Medvedeva Federal Research Centre "Fundamentals of Biotechnology" of the RAS, Moscow, Russia	**Functional annotation of lncRNAs involved in epigenetic regulation in normal and pathological processes**	Genomics, transcriptomics and bioinformatics
3318	**12:20 - 13:00**	Irina Zavestovskaya P.N. Lebedev Physical Institute of RAS, Moscow, Russia; National Research Nuclear University MEPhI, Moscow, Russia	**Nanoteranostics based on multimodal nanoparticles and nanosystems**	Structural biology and pharmacology: computational and experimental approaches
4310	**12:20 - 13:00**	Veniamin Fishman Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	**Applications of next-generation sequencing for clinical diagnostics of monogenic diseases**	Biomedicine, bioinformatics and systems computational biology
3307	**14:20 - 14:55**	Alexey Sergushichev ITMO University, St. Petersburg, Russia	**GESECA: Gene Set Co-regulation Analysis**	Genomics, transcriptomics and bioinformatics
3313	**14:20 - 14:55**	Allan Kalueff Saint-Petersburg State University Institute of Translational Biomedicine, Saint-Petersburg, Russia	**Neurogenomics of zebrafish**	Animal genetics, bioinformatics and systems computational biology
3307	**14:55 - 15:30**	Victor Levitsky Institute of Cytology and Genetics, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**Web-MCOT server for motifs co-occurrence search in ChIP-seq data**	Genomics, transcriptomics and bioinformatics

3312	**15:00 - 15:30**	Ralf Hofestädt AG Bioinformatics and Medical Informatics, University Bielefeld, Bielefeld, Germany	**Petri net modeling and simulation of biological networks**	Systems computational biology
3313	**15:10 - 15:40**	Alla Salmina Research Center of Neurology, Moscow, Russia	**Modern models of brain diseases for translational studies**	Animal genetics, bioinformatics and systems computational biology
3312	**15:30 - 16:00**	Vladimir Ivanisenko Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Kurchatov Genomic Center of the Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**ANDSystem: cognitive computer system for automated gene networks reconstruction and analysis**	Systems computational biology
3307	**17:00 - 17:35**	Elena Shagimardanova Regulatory Genomics Research Center, Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia	**New insights on genome organization, RNA expression regulation and evolution of anhydrobiotic insect Polypedilum vanderplanki**	Genomics, transcriptomics and bioinformatics
	Wednesday, July 6			
3313	**10:00 - 10:40**	Nikolay Yudin Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**How does a harsh environment make wild and domestic animals evolve similarly?**	Animal genetics, bioinformatics and systems computational biology
3318	**10:00 - 10:40**	Valentin Borshchevskiy Research Center for Molecular Mechanisms of Aging and Age-related Diseases, Moscow Institute of Physics and Technology, Dolgoprudny 141701, Russia	**Structural studies of membrane proteins**	Structural biology and pharmacology: computational and experimental approaches
3313	**10:40 - 11:20**	Yuriy Herbeck Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**Social behavior and spatial memory in tame and aggressive mammals**	Animal genetics, bioinformatics and systems computational biology
3318	**11:40 - 12:20**	Elena Boldyreva Boreskov Institute of Catalysis of SB RAS; Novosibirsk State University, Novosibirsk, Russia	**Challenges on the way from drug substances to drugs. How can synchrotron radiation help?**	Structural biology and pharmacology: computational and experimental approaches
4310	**11:40 - 12:20**	Vladimir Nebrat Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**Human water model: interstitium and meridians of traditional Chinese medicine**	Biomedicine, bioinformatics and systems computational biology
3314	**14:20 - 14:50**	Olga Lavrik Institute of Chemical Biology and Fundamental Medicine, SB RAS; Novosibirsk State University, Novosibirsk, Russia	**Regulation of PARP1 activity by its protein partners**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3312	**14:20 - 15:00**	Vladimir Anisimov N.N. Petrov National Medical Research Center of Oncology., St. Petersburg, Russia	**Multi-stage model of aging and carcinogenesis**	Systems biology of aging: experimental and computational approaches

3313	**14:20 - 15:00**	Gennady Bocharov Marchuk Institute of Numerical Mathematics of the Russian Academy of Sciences, Moscow, Russia; Institute of Computer Science and Mathematical Modelling, Sechenov University, Moscow, Russia	**Mathematical modelling of antiviral immune responses to SARS-CoV-2 infection**	Mathematics, bioinformatics and systems computational biology of COVID-19
3314	**16:05 - 16:35**	Benu Brata Das Laboratory of Molecular Biology, School of Biological Sciences, Indian Association For The Cultivation Of Science 2A & B, Raja S. C. Mullick Road, Jadavpur, Kolkata, India-700032	**Top1-PARP1 association and beyond: from DNA topology to break repair**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3312	**17:00 - 17:40**	Alexey Moskalev Institute of Biology of Komi Science Centre of the Ural Branch of the RAS, Syktyvkar, Russia	**Genetics and epigenetics of aging**	Systems biology of aging: experimental and computational approaches
3314	**17:10 - 17:40**	Dmitry Zharkov SB RAS Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**Structure and function evolution in DNA repair**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
	Thursday, July 7			
3312	**10:00 - 10:35**	Laurent Gentzbittel Project Center for Agro Technologies, Skolkovo Institute of Science and Technology, Moscow, Russia	**Whole genome-based breeding in legumes**	Genetics, bioinformatics and systems biology of plants
3313	**10:00 - 10:40**	Sergey Netesov Novosibirsk State University, Novosibirsk, Russia	**Coronavirus SARS-CoV2: preliminary results of the pandemic**	Mathematics, bioinformatics and systems computational biology of COVID-19
3318	**10:00 - 10:40**	Nikolay Panikov Northeastern University, Boston, USA	**Genome-scale reconstructions of microbial biodynamics: great expectations, modest current success, and prospects for improvement**	Biotechnologies: computational and experimental approaches
4310	**10:00 - 10:40**	Nick Yankovsky Vavilov Institute of General Genetics of RAS, Moscow, Russia	**The Union State scientific program of "DNA-identification": genogeographic and genomic technologies for identifying in-dividual characteristics of a person based on the study of the regional gene pools of the Union State**	Evolutionary, population and medical genomics/genetics of human
3313	**10:40 - 11:20**	Olga Krivorotko Institute of Computational Mathematics and Mathematical Geophysics, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia;	**Mathematical modeling and identifiability aspects in epidemiology**	Mathematics, bioinformatics and systems computational biology of COVID-19

		Sobolev Institute of Mathematics, SB RAS, Novosibirsk, Russia		
3318	**10:40 - 11:20**	Maksim Zakhartsev Gazprom Neft – Industrial Innovations, St. Petersburg, Russia	**On the system-biological approach in modern C1-biotechnological research**	Biotechnologies: computational and experimental approaches
4310	**10:40 - 11:20**	Ekaterina Trifonova Tomsk National Research Medical Center, SB RAS, Tomsk, Russia; Siberian State Medical University, Tomsk, Russia	**Genomics and transcriptomics of preeclampsia**	Evolutionary, population and medical genomics/genetics of human
3318	**11:40 - 12:20**	Roman Yunes Vavilov Institute of General Genetics, RAS, Moscow, Russia	**PFNA operon of bifidobacteria: Role of bioinformatics in the discovery, structural and functional characterization, and pos-sible application in biotechnology**	Biotechnologies: computational and experimental approaches
4310	**11:40 - 12:20**	Stanislav Vasilyev Research Institute of Medical Genetics, Tomsk National Research Medical Center, Tomsk, Russia	**Epigenetic landscape in human aneuploid embryos**	Evolutionary, population and medical genomics/genetics of human
3318	**12:20 - 13:00**	Svetlana Dedysh Winogradsky Institute of Microbiology, Research Center of Biotechnology of the Russian Academy of Sciences, Moscow 119071, Russia	**Methanotroph diversity in natural and anthropogenic habitats as an inexhaustible source of novel biotechnologically relevant strains**	Biotechnologies: computational and experimental approaches
4310	**12:20 - 13:00**	Vladimir Kharkov Research Institute of Medical Genetics, Tomsk National Research Medical Center, Tomsk, Russia	**Detailed phylogeny of the Y-chromosome haplogroup N1a2 in the populations of Siberia and Eastern Europe**	Evolutionary, population and medical genomics/genetics of human
3314	**14:20 - 14:50**	Inna Lavrik Translational Inflammation Research, Medical Faculty, Otto von Guericke University Magdeburg, Magdeburg, 39106, Germany; Federal Research Center Institute of Cytology and Genetics, Novosibirsk, Russia	**Delineating molecular mechanisms of c-FLIP isoforms as control checkpoints of DED filament assembly and caspase-8 activation**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3312	**14:20 - 14:55**	Ludmila Kozlova Kazan Institute of Biochemistry and Biophysics FRC KazSC RAS, Kazan, Russia	**Methods to investigate the biomechanics of the plant cell wall**	Genetics, bioinformatics and systems biology of plants
3313	**14:20 - 15:00**	Vassili Kolokoltsov Higher School of Economics, Moscow, Russia; Sankt Petersburg State University, Faculty PMPU,	**Fighting ticks with functional-analytic guns**	Mathematics, bioinformatics and systems computational biology of COVID-19

		Russia; University of Warwick, UK		
3314	**14:50 - 15:20**	Dagmar Kulms Experimental Dermatology, Department of Dermatology, TU-Dresden, 01307 Dresden, Germany; National Center for Tumor Diseases Dresden, TU-Dresden, 01307 Dresden, Germany	**Focal adhesion kinase plays a dual role in TRAIL resistance and metastatic outgrowth of malignant melanoma**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3314	**15:20 - 15:50**	Kakoli Bose Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Centre, Sector 22, Navi Mumbai – 410210, India; Homi Bhabha National Institute, Anushaktinagar, Mumbai-400094, India	**Inter-subunit Crosstalk Synergistically Regulates Allosteric Activation of Proapoptotic Serine Protease HtrA2**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3314	**15:50 - 16:20**	Olga Koval Institute of Chemical Biology and Fundamental Medicine, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**Non-thermal atmospheric plasma in cancer therapy: cell death mechanisms and immunity**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3314	**17:00 - 17:30**	Nikita Ivanisenko Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**Computational design of molecular probes targeting CD95 signaling pathway**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
3314	**17:50 - 18:20**	Andrey Kulbachinskiy Institute of Molecular Genetics, National Research Center “Kurchatov Institute”, Moscow, Russia; Institute of Gene of Biology, Russian Academy of Sciences, Moscow, Russia	**Bacterial Argonaute proteins as sensors of DNA damage and repair**	Systems biology and bioinformatics of DNA repair processes and programmed cell death
	Friday, July 8			
3318	**08:40 - 09:00**	Sergey Peltek Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Kurchatov Genomic Center of the Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**Industrial enzymes production based on genetically engineered microorganisms strains of super-producers**	Biotechnologies: computational and experimental approaches
3312	**08:40 - 09:15**	Sergey Nuzhdin USC University of Southern California, USA	**Next generation biomass from brown algae**	Genetics, bioinformatics and systems biology of plants
4310	**08:40 - 09:15**	Mikhail Ponomarenko Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**Bioinformatics search for genetic markers of socially significant diseases in promoters of human genes**	Evolutionary, population and medical genomics/genetics of human

3307	**08:40 - 09:20**	Alexander Savostyanov Institute of Neurosciences and medicine, Novosibirsk, Russia; Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia	**Genetic markers and neurophysiological correlates of the psychological personality traits among people from different regions of Siberia**	Cognitive sciences, neurogenetics, neuroinformatics and systems computational biology
3307	**10:40 - 11:20**	Michelle Liou	**Approach-avoidance conflicts**	Cognitive sciences, neurogenetics, neuroinformatics and systems computational biology
3318	**11:40 - 12:00**	Sergey Peltek Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; Kurchatov Genomic Center of the Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	**The impact of terahertz radiation on living systems**	Biotechnologies: computational and experimental approaches
3307	**13:00 - 13:40**	Pedro Antonio Valdés-Sosa Cuban Neurosciences Center, Havana City, Cuba	**Probing developmental disorders with multivariate quantitative EEG analysis**	Cognitive sciences, neurogenetics, neuroinformatics and systems computational biology
3318	**13:20 - 14:00**	Nikolai Pimenov Winogradsky Institute of Microbiology FRS of Biotechnololgy RAS, Moscow, Russia	**Microbial anammox communities: structure, physiological and biochemical characteristics, and possibilities of directed modification**	Biotechnologies: computational and experimental approaches
3313	**15:00 - 15:40**	Andrey Palyanov A.P. Ershov Institute of Informatics Systems, SB RAS, Novosibirsk, Russia	**Towards artificial minds through computer simulation of natural ones, from simple to more complex**	Big genetic Data Analysis, deep learning, mathematical modeling and supercomputing
3307	**17:00 - 17:40**	Murat Özgören Department of Biophysics, Faculty of Medicine, Near East University, Nicosia, Northern Cyprus	**Brain functioning across regions and dimensions: lessons learned from dichotic listening and conscious states**	Cognitive sciences, neurogenetics, neuroinformatics and systems computational biology
3312	**17:00 - 17:40**	Elena Pasyukova Institute of Molecular Genetics of National Research Centre “Kurchatov Institute”, Moscow, Russia	**Natural variability in the regulatory regions of longevity genes and ecological adaptation**	Systems biology of aging: experimental and computational approaches
3314	**17:00 - 17:40**	Andrey Kozlov The Biomedical Center, Saint-Petersburg, Russia	**The carcino-evo-devo theory as a unified theory of biological development**	Genomics, transcriptomics and bioinformatics

Пленарная сессия симпозиума «Когнитивика, нейрогенетика, нейроинформатика и системная компьютерная биология» (вторник, 5 июля, Малый зал Дома Ученых СО РАН)

Время	Докладчик	Название доклада
13:00 – 13:40	**Константин Владимирович Анохин** Московский государственный университет имени М.В.Ломоносова, Москва, Россия	**Природа когнитивной информации**
13:40 – 14:20	**Татьяна Владимировна Черниговская** Санкт-Петербургский государственный университет, Санкт-Петербург, Россия	**Homo Semioticus: "другие логики" и нейронаука**
14:20 – 14:40	**Перерыв на кофе**	
14:40 – 15:20	**Максим Владимирович Киреев** Институт мозга человека РАН, Санкт-Петербург, Россия	**Мозговые механизмы обработки многозначной информации: роль процессов торможения**
15:20 - 16:00	**Евгений Евгеньевич Витяев** Институт математики им. С. Л. Соболева СО РАН, Новосибирск, Россия	**Сознание как логически непротиворечивая и предсказательная модель реальности**
16:00 – 16:40	**Дискуссия**	