29 August, Monday	
8:00–10:00	**Registration**
10:00–10:20	**Opening**
15:00–17:45	**Afternoon session "Mathematical modelling of gene networks: direct and inverse problems"** *Chairpersons: Prof. Vladimir Golubyatnikov, Prof. Ralf Hofestaedt*
15:00–15:30	**Geometry of phase portrait of one gene network model with variable feedbacks** Vladimir Golubyatnikov[1,2], M.V. Kazantsev[3] , N.B. Ayupova[1,2] [1]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]Polzunov Altai State Technical University, Barnaul, 656049, Russia
15:30–15:45	**Computer analysis of biological networks of mammalian circadian oscillator** Nikolai Podkolodnyi[1-3], N.N. Tverdokhleb[1,3], E.O. Sambilova[3], S.A. Lobynya[3], Z.D.Yakubova[3], O.A. Podkolodnaya[1] [1]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia
15:45–16:00	**Functional graphs of discrete dynamical systems of almost circulant type** Anastasiya Parfinenko Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
16:00–16:15	**Two models of the drosophila gap gene network with variation of mathernal input** Konstantin Kozlov[1], A.V. Svichkarev[1], V.V. Gursky[1,2], I.V. Kulakovskiy[3], S.Y. Surkova[1], 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
16:15–16:30	**Stochastic pattern formation induced by cell-to- cell communications in elastic epithelial tissue** Dmitryi Bratsun[1], I.V. Krasnyakov[2] [1]Perm National Research Polytechnic University, Perm, 614990, Russia [2]Perm State Humanitarian Pedagogical University, Perm, 614990, Russia
16:30–16:45	**An inverse problem for a system with a small parameter in kinetics models** Larisa Kononenko Sobolev Institute of Mathematics, Novosibirsk, 630090, Russia
16:45–17:00	**Euclidean analogues of genetic distances between nucleotide sequences** Vadim Efimov[1-4], K.V. Efimov[5], V.Y. Kovaleva[2] [1]Institute of Cytology and Genetics, SB RAS, Novosibirsk, 630090, Russia [2]Institute of Systematics and Ecology of Animals, SB RAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia [4]Tomsk State University, Tomsk, 634050, Russia [5]Moscow Institute of Physics and Technology (State University), Moscow, 141701, Russia
17:00–17:15	**Symmetrical genetic code and genetic mutations** Boris Biletskyi, 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** Tsyndyma Batueva Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
17:30–17:45	**Genome tree theory** Igor Erokhin National Biotechnological Company LLC, Moscow, Russia

30 August, Tuesday	
9:00–13:00	**Morning session "High-performance computing in natural sciences"**

	Chairpersons: Igor Kulikov, Igor Chernykh
9:00–9:30	**Realistic 3D simulation of C. elegans swimming and crawling with sibernetic environment** Andrey Palyanov[1-3], S.S. Khayrulin[1-3] [1]Institute of Informatics Systems SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]OpenWorm Project
9:30–9:45	**Siberian supercomputer center as a service for bioinformatics research** Igor Chernykh, B. Glinskiy, N. Kuchin Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
9:45–10:00	**HLA typing pipeline for amplicon sequencing** Olga Altukhova, P.I. Borovikov[1], T. Jankevi[2], I.S. Balashov[1] [1]Academician V.I. Kulakov Research Center of Obstetrics, Gynecology and Perinatology, Ministry of Health, Moscow, 117997, Russia [2]NRC Institute of Immunology FMBA of Russia, Moscow, Russia
10:00–10:15	**High-performance intelligent analysis of biomechanical processes control and management of blood pressure in human kidney** Agyn Bedelbayev Al-Farabi Kazakh National University, Almaty, 050040, Kazakhstan
10:15–10:30	**High-performance computations support for the software package «haplooid evolutionary constructor»** Roman Zudin[1,2], S.A. Lashin[1,2] [1]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
10:30–10:45	**Argo-CUDA: a full-exhaustive GPU based approach for a motif discovery in the large DNA datasets** Oleg Vishnevsky[1,2], A.V. Bocharnikov[2], N.A. Kolchanov[1,2] [1]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
10:50–11:10	Coffee break
11:10–15:50	**Afternoon session "Application of Bioinformatics and Systems Biology"** *Chairperson:* Alexander Marchuk, Vladimir Ivanisenko, Alexander Kel
11:10–11:40	**ANDSYSTEM: an internet-accessible tool for automated literature mining in the area of biology** Vladimir Ivanisenko[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, 630090, Russia [2]PB-soft LLC, Novosibirsk, 630090, Russia
11:40–11:55	**UGENE: a toolkit for teaching students** Irina Bykova[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, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]State Research Center of Virology and Biotechnology VECTOR, Koltsovo, Novosibirsk region, 630059, Russia [4]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [5]Institute of Informatics Systems SB RAS, Novosibirsk, 630090, Russia
11:55–12:10	**A software tool for visualization and control of biological neural networks activity based on the neuron simulation environment** Sergey Khayrulin[1,2], N.A. Serdtseva[2], A.Yu. Palyanov[1,2] [1]Institute of Informatics Systems SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
12:10–12:25	**Haploid evolutionary constructor 3D: a framework for multilayer modeling of spatially distributed microbial communities** Sergey Lashin[1,2], A.I. Klimenko[1,2], Yu.G. Matushkin[1,2], Z.S. Mustafin[1,2], A.D. Chekantsev[1,2], R.K. Zudin[1,2] [1]Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
12:25–12:40	**New image analysis and base calling algorithm for SeqLL sequencing machine achieved better sensitivity on synthetic olygonucleotides set**

	Nikolay Russkikh[1], D.V. Antonets[2,3,4] [1]Novel Software Systems LLC, Novosibirsk, 630090, Russia [2]AcademGene LLC, Novosibirsk, 630090, Russia [3]A.P. Ershov Institute of informatics systems, Novosibirsk, 630090, Russia [4]State Research Center of Virology and Biotechnology 'Vector', Koltsovo, Novosibirsk region, 630059, Russia
12:40–12:55	**IT analysis of cornea endothelium transport ability in corneal transplants after hypothermic conservation** Evgeniy Solenov[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, 630090, Russia [2]Multidisciplinary Science and Technology Complex "Eye Microsurgery" named after S.N. Fyodorov Federal State Institution, Novosibirsk Branch, Novosibirsk, 630090, Russia [3]Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia
13:00–14:00	Lunch
14:00–14:15	**Web-based application for flow cytometry data analysis** Jitong Xue[1], Ming Chen[1], Y. Zhou[1], W Ni[2] [1]Department of Bioinformatics, College of Life Sciences, Zhejiang University, Hangzhou, 310058, China [2]Molecular Diagnosis Centre, Zhejiang Provincial People's Hospital, Hangzhou, 310016, China
14:15–14:30	**SyGraph – web system for visualization of synteny alignments and comparison of assembly contigs** Mikhail Genaev[1], D. A. Afonnikov[1,2] [1]Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
14:30–14:45	**AIMedica - intelligent system for disease diagnostics based on text-mining analysis of scientific publications and different medical data sources** Olga Saik[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]Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia [2]PB-soft LLC, Novosibirsk, 630090, Russia [3]Managing company "Lomonosov Capital" LLC, Novosibirsk, 630090, Russia [4]Intelmed Ltd, Novosibirsk, 630090, Russia
14:45–15:00	**Algorithms and tools developed by novel computing systems in biology LLC** Evgeny Cheryomushkin, S. Nikitin, T. Valeev, T. Konovalova, A. Ryabova, K. Golosov, I. Mikerova, N. Gorokhov, D. Babiy [1]Novel Computing Systems in Biology LLC, Novosibirsk, 630090, Russia
15:00–15:15	**Rule-based modeling in biouml** Nikita Mandrik[1-3], E.O. Kutumova[1,2], F.A. Kolpakov[1,2] [1]Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia [2]Institute of Systems Biology, Novosibirsk, 630090, Russia [3]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
15:15–15:30	**Improved SBGN (ML) support IN BioUML** Ilya Kiselev[1], S. D. Kinsht[3], F.A. Kolpakov[1,2] [1]Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia [2]Institute of Systems Biology, Ltd, Novosibirsk, Russia [3]Novosibirsk State University, Novosibirsk, Russia
15:30–15:50	Coffee break
15:50–18:20	**Poster Session**

31 August, Wednesday	
09:00–13:00	**Morning session "Analysis of dynamical systems. Identifiability"** *Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov*
9:00–9:30	**On a method of approximation of solutions to delay differential equations** Gennadii Demidenko[1,2] [1]Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia

9:30–9:45	**Numerical model of drosophila sensory organ precursor cell determination** Vladimir Golubyatnikov[1,2], T.A.Bukharina[2], D.P.Furman[2,3], M.V.Kazantsev [4] [1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia [3]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [4]Polzunov Altai State Technical University, 656038, Barnaul, Russia
9:45–10:00	**On properties of solutions to some nonlinear systems with parameters** Inessa Matveeva Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia
10:00–10:15	**Development of a method of basic trajectories of G. I. Marchuk for parametrical identification of the nonlinear differential equations** Boris Shumilov Tomsk State University of Architecture and Building, Tomsk, 634003, Russia
10:15–10:30	**A congestion game model for virtual drug screening in a desktop grid** Natalia Nikitina, E.E. Ivashko Institute of Applied Mathematical Research, Karelian Research Center, RAS, Petrozavodsk, 185910, Russia
10:30–10:45	**Threshold functions recovery algorithms in discrete dynamic systems** Nikolay Prytkov[1], A.L. Perezhogin[2] [1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
10:50–11:10	Coffee-break
11:10–11:40	**Inverse problems of population dynamics** Alexander Kozhanov[1], Yu.A.Kosheleva[2] [1]Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia [2]Sakhalin State University, Yuzhno-Sakhalinsk, 693008, Russia
11:40–11:55	**Mathematical modeling of active substances and factors influence on functioning of plant root meristem** Maria Savina[1], F.V. Kazantsev[1,2], V.V. Mironova[1,2] [1]Institute of Cytology and Genetics SBRAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
11:55–12:10	**Estimates of solutions to a system describing the spread of avian influenza** Maria Skvortsova Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia Novosibirsk State University, Novosibirsk, 630090, Russia
12:10–12:25	**Predictive models of early-onset preeclampsia based on the blood plasma microRNA expression level** Ivan Balashov[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	**A new algorithm to the reconstruction of a set of points from the multiset of n 2 pairwise distances in n^2 steps for the de novo sequencing problem** Eduard Fomin Institute of Cytology and Genetics SBRAS, Novosibirsk, 630090, Russia
12:40–12:55	**Estimating the survival rates of northern fur seals (callorhinus ursinus, tyuleniy herd) and modeling the population number dynamics** Oksana Zhdanova[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
13:00–14:00	Lunch
14:00–16:30	**Afternoon session "Data mining methods and text data analysis in natural sciences"** *Chairpersons: Prof. S.S.Goncharov, Yu.L.Orlov, Prof. A.Yu. Rzhetsky*
14:00–14:30	**Big Data in biology and medicine** Evgeniy Pavlovsky Novosibirsk State University, Novosibirsk, 630090, Russia
14:30–14:45	**The application of optimal partitioning based approaches for estimation of the adverse outcome risk in patients discharged after acute coronary syndrome** Rustam Guliev[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, 119334, Russia

	[2]Computer Center of Russian Academy of Science, Moscow, 119333, Russia [3]Central State Medical Academy of Department of Presidential Affairs, Moscow, 121359, Russia [4]Lomonosov Moscow State University, Moscow, 119991, Russia
14:45–15:00	**Mutational landscape of prostate tumors based on whole exome sequencing** Irina Gilyazova[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, 450054, Russia [2]Bashkir State University, Ufa, 450074 [3]Bashkir State Medical University, Ufa, 450000
15:00–15:15	**Computational tools for data processing of medical imaging** Mikhail Kurako[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, 630090, Russia [3]Krasnoyarsk State Medical University, Krasnoyarsk, 660022, Russia [4]Institute of Computational Modelling SB RAS, Krasnoyarsk, 660036, Russia
15:15–15:30	**Censoring of noisy objects and attributes with function of rival similarity in medical and biological tasks** Olga Kutnenko, I.A. Borisova Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia
15:30–15:45	**VlincRNA database: tool for very long intergenic non-coding RNA functional annotation** Denis Antonets[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, 630090, Russia [2]AcademGene LLC, Novosibirsk, 630090, Russia [3]St. Laurent Institute, Woburn, MA 01801, USA [4]State Research Center of Virology and Biotechnology 'Vector', Novosibirsk, Russia [5]Institute of Genomics, School of Biomedical Sciences, Huaqiao University, Xiamen 361021, China [6]Institute of Cytology and Genetics SBRAS, Novosibirsk, 630090, Russia
15:45–16:05	Coffee-break
16:05–16:15	**A fenomenon of multistability in a simple ecological evolutionary population model** Oksana Zhdanova[1], E.Ya. Frisman[2] [1]Institute of Automation and Control Processes FEB RAS, Vladivostok, 690041, Russia [2]Institute of Complex Analysis of Regional Systems FEB RAS, Birobidzhan, 679000, Russia
16:15–16:30	**How new science emerges: a case study of microrna research** Igor Titov[1,2], A.B. Firsov[2], S.I. Demurin[2], M.V. Pankova[2] [1]Institute of Cytology and Genetics SBRAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
16:30–18:00	**Poster Session**

1 September, Thursday	
9:00–13:00	**Morning session "Analysis of dynamical systems. Identifiability"** *Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov*
9:00–9:30	**Regularization methods in determination of biological molecule force fields** Gulnara Kuramshina, A.Ya. Korneichuk, S.A. Sharapova Faculty of Chemistry, Department of Physical Chemistry, Moscow State University, Moscow, 119991, 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, 630090, Russia
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. Krivoshapkin[3], K.Yu. Orlov[3]

	[1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Lavrentyev Institute of Hydrodynamics SB RAS, 630090, Novosibirsk, Russia [3]Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, 630055, Russia
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, 117997, Russia
10:50–11:10	Coffee break
11:10–11:40	**Image processing in biology and medicine** Ivan Kazantsev [1]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
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, 630090, Russia [2]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia
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, 630090, Russia [2]Design Technological Institute of Digital Techniques, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia [4]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
12:25–12:40	**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]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
12:40–12:55	**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]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
13:00–14:00	Lunch
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, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia
14:15–14:30	**Algorithms comparison of inverse problem solution for pharmacokinetic models** Anatoly Belonog[1], D.A.Voronov[1,2] [1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
14:30–14:45	**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]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
14:45–15:00	**Stochastic and gradient approaches for solving of the inverse problem for basic mathematical model of infectious disease with delay**

	Varvara Latyshenko[1], O.I. Krivorotko[1,2], S.I. Kabanikhin[1,2] [1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
15:00–15:15	**Mathematical modeling and parameters estimation for PK experimental data** Elizaveta Vostrikova[1], A.Yu. Belonog[1], D.A.Voronov[1,2] [1]Novosibirsk State University, Novosibirsk, 630090, Russia [2]Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
15:15–18:00	**Afternoon session "Hemodynamic and tomography"** *Chairperson: Prof. Alexander Chupakhin, Maxim Shishlenin*
15:15–15:30	**Modeling and optimization the process of embolization arteriovenous malformation on the bazis 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, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]Vladimir State University, Vladimir, 600000, Russia
15:30–15:45	**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]Larentyev Institute of Hydrodynamics SB RAS, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, 630055, Russia
15:50–16:10	Coffee break
16:10–16:25	**Experimental research of the viscous fluid flow in the elastic modelwith 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, Novosibirsk SB RAS, 630090, Russia [2]International Tomography Center, Novosibirsk SB RAS, 630090, Russia [3]Khristianovich Institute of Theoretical and Applied Mechanics SB RAS, Novosibirsk, 630090, Russia [4]Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, 630090, Russia [5]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [6]Novosibirsk State University, Novosibirsk, 630090, Russia
16:25–16:40	**Mathematical modelling of artificial heart valve performance** D.A. Dolgov, Y.N. Zakharov Kemerovo State University, Kemerovo, 650043, Russia
16:40–16:55	**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, Novosibirsk, 630090, Russia [2]Novosibirsk State University, Novosibirsk, 630090, Russia [3]Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, Russia
16:55–17:10	**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]Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia [2]Sobolev Institute of mathematics SB RAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia [4]Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, 630090, Russia

17:10–17:25	**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, Ekaterinburg, 620002, Russia [2]Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, 620990, Russia [3]Institute of Immunology and Physiology UB RAS, Ekaterinburg, 620219, Russia
17:25–17:40	**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. Russia, 630090, Novosibirsk [2]Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia [4]Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia [5]State Scientific-Research Institute of Physiology & Basic Medicine, Novosibirsk, Russia
17:40–17:55	**Inverse problems for nonlinear PDE: applications to biology and medicine** Maxim Shishlenin Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia Institute of Computational Mathematics and Mathematical Geophysics SB RAS, 630090, Novosibirsk, Russia Novosibirsk State University, Novosibirsk, 630090, Russia
17:55–18:10	**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, 630090, Russia [2]Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia [3]Novosibirsk State University, Novosibirsk, 630090, Russia
18:10–18:25	**Localisation of centers of neuron-vessel interconnections for neurobiofeedback** Pavel Rudych, V.S. Rudnev, L.I. Kozlova, A.A. Savelov Novosibirsk State University, Novosibirsk, 630090, Russia Institute of Molecular Biology and Biophysics, Novosibirsk, Russia International Tomography Center, 630090, Novosibirsk, Russia