

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” <i>Chairpersons: Prof. Vladimir Golubyatnikov, Prof. Ralf Hofstaedt</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, 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 <u>Nikolai Podkolodnyi</u> ¹⁻³ , N.N. Tverdokhlebov ^{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 <u>Anastasiya Parfinenko</u> Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
16:00–16:15	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 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 <u>Dmitry Bratsun</u> 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 <u>Larisa Kononenko</u> Sobolev Institute of Mathematics, Novosibirsk, 630090, 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 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 <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, 630090, Russia
17:30–17:45	Genome tree theory <u>Igor Erokhin</u> 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 sibernetik environment <u>Andrey Palyanov</u> 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 <u>Igor Chernykh</u> , 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 <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, 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 <u>Agyn Bedelbayev</u> Al-Farabi Kazakh National University, Almaty, 050040, Kazakhstan
10:15–10:30	High-performance computations support for the software package «haplooid evolutionary constructor» <u>Roman Zudin</u> ^{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 <u>Oleg Vishnevsky</u> ^{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 <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, 630090, Russia ² PB-soft LLC, Novosibirsk, 630090, 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, 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 <u>Sergey Khayrulin</u> ^{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	Haplooid evolutionary constructor 3D: a framework for multilayer modeling of spatially distributed microbial communities <u>Sergey Lashin</u> ^{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 oligonucleotides set

	<u>Nikolay Russkikh</u>¹, D.V. Antonets^{2,3,4} ¹Novel Software Systems LLC, Novosibirsk, 630090, Russia ²AcademGene LLC, Novosibirsk, 630090, Russia ³A.P. Ershov Institute of informatics systems, Novosibirsk, 630090, Russia ⁴State 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 <u>Evgeniy Solenov</u>³, A.A. Konev¹, I.G. Palchikova¹, I.A. Iskakov², L.E. Katkova³, G.S. Baturina³ ¹Technological Design Institute of Scientific Instrument Engineering SB RAS, Novosibirsk, 630090, Russia ²Multidisciplinary Science and Technology Complex "Eye Microsurgery" named after S.N. Fyodorov Federal State Institution, Novosibirsk Branch, Novosibirsk, 630090, Russia ³Institute 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 <u>Jitong Xue</u>¹, Ming Chen¹, Y. Zhou¹, W Ni² ¹Department of Bioinformatics, College of Life Sciences, Zhejiang University, Hangzhou, 310058, China ²Molecular 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 <u>Mikhail Genaev</u>¹, D. A. Afonnikov^{1,2} ¹Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia ²Novosibirsk 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 <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} ¹Institute of Cytology and Genetics RAS, Novosibirsk, 630090, Russia ²PB-soft LLC, Novosibirsk, 630090, Russia ³Managing company "Lomonosov Capital" LLC, Novosibirsk, 630090, Russia ⁴Intelmed Ltd, Novosibirsk, 630090, Russia
14:45–15:00	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 ¹Novel Computing Systems in Biology LLC, Novosibirsk, 630090, Russia
15:00–15:15	Rule-based modeling in biouml <u>Nikita Mandrik</u>¹⁻³, E.O. Kutumova^{1,2}, F.A. Kolpakov^{1,2} ¹Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia ²Institute of Systems Biology, Novosibirsk, 630090, Russia ³Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia
15:15–15:30	Improved SBGN (ML) support IN BioUML <u>Ilya Kiselev</u>¹, S. D. Kinsht³, F.A. Kolpakov^{1,2} ¹Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia ²Institute of Systems Biology, Ltd, Novosibirsk, Russia ³Novosibirsk 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" <i>Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov</i>
9:00–9:30	On a method of approximation of solutions to delay differential equations <u>Gennadii Demidenko</u>^{1,2} ¹Sobolev Institute of Mathematics SBRAS, Novosibirsk, 630090, Russia ²Novosibirsk State University, Novosibirsk, 630090, Russia

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 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 <u>Inessa Matveeva</u> 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 <u>Boris Shumilov</u> 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 <u>Natalia Nikitina</u> , 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 <u>Nikolay Prytkov</u> 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 <u>Alexander Kozhanov</u> 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 <u>Maria Savina</u> 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 <u>Maria Skvortsova</u> 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 <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	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, 630090, 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
13:00–14:00	Lunch
14:00–16:30	Afternoon session “Data mining methods and text data analysis in natural sciences” <i>Chairpersons: Prof. S.S.Goncharov, Yu.L.Orlov, Prof. A.Yu. Rzhetsky</i>
14:00–14:30	Big Data in biology and medicine <u>Evgeniy Pavlovsky</u> 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 <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, 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 <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, 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 <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, 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 <u>Olga Kutnenko</u> , 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 <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, 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 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, 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 <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, 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” <i>Chairpersons: Prof. Sergey Kabanikhin, Prof. H.T. Banks, Dmitriy Voronov</i>
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
9:30–10:00	First passage random walk meshfree methods for biological reaction-diffusion fluctuation induced systems <u>Karl Sabelfeld</u> 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 <u>A.A. Cherevko</u> ^{1,2} , <u>Irina Ufimtseva</u> ¹ , A.P. Chupakhin ^{1,2} , A.L. Krivoschapkin 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 <u>Ivan Balashov</u> 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. Pripitnevich 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 <u>Ivan Kazantsev</u> 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 <u>Aleksey Penenko</u> ¹⁻³ , <u>S.V. Nikolaev</u> 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 <u>Elena Kutumova</u> ^{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 <u>Anastasia Grodz</u> 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 <u>Darya Ermolenko</u> 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 <u>Dmitry Voronov</u> ^{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 <u>Anatoly Belonog</u> 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 <u>Victoriya Kashtanova</u> 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

	<u>Varvara Latyshenko</u>¹, O.I. Krivorotko^{1,2}, S.I. Kabanikhin^{1,2} ¹Novosibirsk State University, Novosibirsk, 630090, Russia ²Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
15:00–15:15	Mathematical modeling and parameters estimation for PK experimental data <u>Elizaveta Vostrikova</u>¹, A.Yu. Belonog¹, D.A.Voronov^{1,2} ¹Novosibirsk State University, Novosibirsk, 630090, Russia ²Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia
15:15–18:00	Afternoon session “Hemodynamic and tomography” <i>Chairperson: Prof. Alexander Chupakhin, Maxim Shishlenin</i>
15:15–15:30	Modeling and optimization the process of embolization arteriovenous malformation on the basis of two-phase filtration model <u>Tatiana Gologush</u>², A.A. Cherevko^{1,2}, V.V. Ostapenko^{1,2}, I.A. Petrenko³, A.P. Chupakhin^{1,2} ¹Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk, 630090, Russia ²Novosibirsk State University, Novosibirsk, 630090, Russia ³Vladimir State University, Vladimir, 600000, Russia
15:30–15:45	Nyquist diagrams for the generalized van der pol– duffing equation describing local cerebral hemodynamic <u>Elizaveta Bord</u>², A.A. Cherevko^{1,2}, A.K. Khe^{1,2}, V.A. Panarin³, K.Yu. Orlov³, A.P. Chupakhin^{1,2} ¹Larentyev Institute of Hydrodynamics SB RAS, Novosibirsk, 630090, Russia ²Novosibirsk State University, Novosibirsk, 630090, Russia ³Academician 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 <u>Nikita Denisenko</u>^{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. Boiko³, A.L. Krivoschapkin⁴, K.Yu. Orlov⁴, M.P. Moshkin⁵, A.E. Akulov⁵ ¹Lavrentyev Institute of Hydrodynamics, Novosibirsk SB RAS, 630090, Russia ²International Tomography Center, Novosibirsk SB RAS, 630090, Russia ³Khrstianovich Institute of Theoretical and Applied Mechanics SB RAS, Novosibirsk, 630090, Russia ⁴Academician E.N. Meshalkin Research Institute of Circulation Pathology, Novosibirsk, 630090, Russia ⁵Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia ⁶Novosibirsk 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 <u>Daniil Parshin</u>, I.V. Ufimtseva², A.A. Cherevko^{1,2}, A.K. Khe^{1,2}, K.Yu. Orlov³, A.L. Krivoschapkin³, A.P. Chupakhin^{1,2} ¹Lavrentyev Institute of hydrodynamics SB RAS, Novosibirsk, 630090, Russia ²Novosibirsk State University, Novosibirsk, 630090, Russia ³Academician 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 <u>Galina Yankova</u>³, A.E. Akulov¹, 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}, ¹Institute of Cytology and Genetics SB RAS, Novosibirsk, 630090, Russia ²Sobolev Institute of mathematics SB RAS, Novosibirsk, 630090, Russia ³Novosibirsk State University, Novosibirsk, 630090, Russia ⁴Lavrentyev 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 <u>Anton Koshelev</u>^{1,2}, A.E. Bazhutina¹, K.S. Ushenin^{1,3} ¹Ural Federal University, Ekaterinburg, 620002, Russia ²Institute of Mathematics and Mechanics UB RAS, Ekaterinburg, 620990, Russia ³Institute of Immunology and Physiology UB RAS, Ekaterinburg, 620219, Russia
17:25–17:40	Validation of the human arterial tree model <u>Ilya Kiselev</u>^{1,2}, E.A. Biberdorf^{3,4}, V.I. Baranov⁵, T.G. Komlyagina⁵, I.Y. Suvorova⁵, V.N. Melnikov⁵, S.G. Krivoshchekov⁵, F.A. Kolpakov^{1,2} ¹Institute of Systems Biology Ltd. Russia, 630090, Novosibirsk ²Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, 630090, Russia ³Novosibirsk State University, Novosibirsk, 630090, Russia ⁴Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia ⁵State Scientific-Research Institute of Physiology & Basic Medicine, Novosibirsk, Russia
17:40–17:55	Inverse problems for nonlinear PDE: applications to biology and medicine <u>Maxim Shishlenin</u> 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 <u>Nikita Novikov</u>^{1,3}, I.M. Kulikov^{1,3}, M.A. Shishlenin^{1,2,3} ¹Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk, 630090, Russia ²Sobolev Institute of Mathematics SB RAS, Novosibirsk, 630090, Russia ³Novosibirsk State University, Novosibirsk, 630090, Russia
18:10–18:25	Localisation of centers of neuron-vessel interconnections for neurobiofeedback <u>Pavel Rudych</u>, 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