



PROGRAM SBB'2016

of the 8th International Young Scientists School

«Systems iology and Bioinformatics»

22-25 August 2016, Novosibirsk, Akademgorodok



22 August, Monday (The Conference Hall, ICG SB RAS)

09:00-10:30	Registration
10:30-11:00	Opening ceremony N.A. Kolchanov, <i>Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia</i>
11:00-12:00	Data and Model management in SEEK & beyond , O. Krebs, <i>Heidelberg Institute for Theoretical Studies, Heidelberg, Germany</i>
12:00-13:00	Treasure hunt without a treasure map – de-novo motif discovery in the jungle of DNA sequences , I. Grosse, <i>Martin Luther University Halle-Wittenberg and German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Halle, Germany</i>
13:00-14:00	Lunch
14:00-15:00	Stoichiometric models of metabolic networks , M. Zakhartsev, <i>Hohenheim University, Stuttgart, Germany</i>
15:00-16:00	Predictions of origin based on genotyping data , Tatyana Tatarinova, <i>University of Southern California, LA, United States</i>
16:00-17:00	Text-mining methods in biology , Vladimir Ivanisenko, <i>Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia</i>
17:00-18:00	Coffee-break and Poster Session
18:00-18.30	Round table “Fulbright” Ludmila Gulyaeva, <i>Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia</i> Tatiana Karamysheva, <i>Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia</i>
18:30-20:00	Welcome party

23 August, Tuesday (The Conference Hall, ICG SB RAS)

09:00-10:00	Dynamic networks dealing with oxidative stress: From data and design principles to personalised therapies , Alexey Kolodkin, <i>University of Luxembourg, Luxembourg, Luxembourg</i>
10:00-11:00	Homology modeling of proteins , Anastasia Bakullina, <i>Novosibirsk State University, Russia, Novosibirsk</i>
11:00-11:20	Coffee-break
11:30-12:30	R language for bioinformatics research , Yuriy Bukin, <i>Limnological Institute, Russia, Irkutsk</i>
12:30-13:00	<i>Workshops annotation and distribution</i>
13:00-14:00	Lunch
14:00-16:00	Practical workshops
16:00-16.30	Coffee-break
16.30-18.00	Practical workshops

24 August, Wednesday

9:00-11:00	Seminar «Systems biology of programmed cell death»
11:00-11:30	Coffee-break
11:30-13:00	Participants presentations
13:00-14:00	Lunch
14:00-16:00	Practical workshops
16:00-16.30	Coffee-break
16.30-18.00	Practical workshops

25 August, Thursday

9:00-11:00	Participants presentations
11:00-11:30	Coffee-break
11:30-13:00	Participants presentations
13:00-14:00	Lunch
14:00-16:00	Participants presentations
16:00-16.30	Coffee-break
16.30-17.30	Participants presentations
17.30-18.00	Closing ceremony, awards for the best young scientists reports

Seminar «Systems biology of programmed cell death» (The Conference Hall, ICG SB RAS)

- 9:00-9:40 I.N. Lavrik, Otto von Guericke University Magdeburg Department of Translational Inflammation Research (Magdeburg), Germany
SYSTEMS BIOLOGY OF PROGRAMMED CELL DEATH
- 9:40-10:15 V.A. Ivanisenko, O.V. Saik, P.S. Demenkov, T.V. Ivanisenko, E.S. Tiys, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia
AUTOMATED KNOWLEDGE EXCTRACTION FROM LITERATURE IN THE FIELD OF CELL DEATH
- 10:15-10:30 J.H. Buchbinder, I.N. Lavrik, Translational Inflammation Research, Otto-von-Guericke University Magdeburg, Germany
TARGETING CD95/FAS SIGNALING WITH PEPTIDES DERIVED FROM V-FLIP/NEMO CRYSTAL STRUCTURE
- 10:30-10:45 N.V. Ivanisenko, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia
VIRTUAL SCREENING OF CHEMICAL COMPOUNDS REGULATING CELL DEATH
- 10:45-11:00 O.V. Petrovaskaya, E.D. Petrovaskiy, V.A. Ivanisenko, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia
MOSAIC GENE NETWORK MODELLING IDENTIFIED NEW REGULATORY MECHANISMS IN HCV INFECTION

Young Scientists' Presentations (The Conference Hall, ICG SB RAS)

24th August, Wednesday

- 11:30-11:45 M. Malkowska, J. Zubek, D. Plewczynski, L.S. Wyrwicz
PREDICTION OF FUNCTIONAL EFFECTS OF REGULATORY SEQUENCE VARIATIONS
- 11:45-12:00 U. Kairov, A. Molkenov, S. Rakhimova, A. Abilmazhinova, M. Zhalbinova, D. Yerezhepov, A. Akhmetova, Y. Zhukov, M. Omarov, M. Popova, A. Zinovyev, A. Akilzhanova, Zh. Zhumadilov
FUNCTIONAL ANALYSIS OF RNA-SEQ TRANSCRIPTOMES FROM OESOPHAGEAL CANCER SPECIMENS OF KAZAKHSTANI PATIENTS
- 12:00-12:15 A. Rodic, M. Djordjevic
MODELING RESTRICTION-MODIFICATION SYSTEMS: EXPRESSING TOXIC MOLECULES WITHIN A CELL
- 12:15-12:30 S. Aphimeteetamrong and C. Kittiwongwattana
RRNA GENE SEQUENCE ANALYSIS OF EPIPHYTIC BACTERIA ISOLATED FROM ORGANIC RICE (*ORYZA SATIVA*)
- 12:30-12:45 T. Stankovic, J. Guzina, M. Nikolic, M. Djordjevic
PREDICTING SMALL RNAs FROM BACTERIAL GENOME
- 12:45-13:00 O.M. Plotnikova, M.Y. Skoblov
ANALYSIS OF MIRNA-MRNA INTERACTOME IN HUMAN: GENERAL CHARACTERISTICS AND PREDICTIONS EVALUATIONS

25th August, Thursday

- 9:00-9:15 E.V. Kashina, D.Y. Oshchepkov, D.P. Furman, V.A. Mordvinov
DIOXIN-MEDIATED REGULATION OF KEY GENES INVOLVED IN THE FUNCTIONAL HARACTERISTICS OF MACROPHAGES
- 9:15-9:30 B. Blagojevic, M. Djordjevic, M. Djordjevic
HOW TO ACCOMPLISH A RAPID DEFENSE AGAINST FOREIGN DNA – RESTRICTION-MODIFICATION SYSTEMS AND IMPLICATIONS FOR SYNTHETIC GENE CIRCUITS
- 9:30-9:45 E.I. Bondar, M.G. Sadosky, Y.A. Putintseva, M. Yu. Senashova
COMPARATIVE STUDYING OF MULTICLUSTER STRUCTURE OF CHLOROPLAST GENOMES
- 9:45-10:00 D. N. Kamenskaya, M. V. Pankova, D. M. Atopkin, V. A. Brykov
DIVERGENCE OF PARALOGOUS GROWTH HORMONE GENES IN SALMONIDS
- 10:00-10:15 E.N. Grafkskaia, V.V. Babenko
IN SILICO SEARCHING STRATEGY OF NEW ANTIMICROBIAL PROTEINS AND PEPTIDES: THE CASE OF TRANSCRIPTOME STUDY OF THE MEDICINAL LEECH
- 10:15-10:30 A. Hadarovich, I. Anishchenko, A.V. Tuzikov, P.J. Kundrotas, I. A. Vakser
SCORING OF PROTEIN DOCKING BY GENE ONTOLOGY

- 10:30-10:45 J. Guzina, M. Djordjevic
TRANSCRIPTION BY ALTERNATIVE SIGMA FACTORS: REVISING THE RIGIDNESS PARADIGM
- 10:45-11:00 V.V. Kovriznykh, F.V. Kazantsev, N.A. Omelyanchuk, V.V. Mironova
MATHEMATICAL MODELING A RECIPROCAL INTERACTIONS BETWEEN AUXIN AND ITS PIN TRANSPORTERS IN THE ROOT TIP OF *A. THALINA* L.
- 11:00-11:30 *Coffee break*
- 11:30-11:45 A.D. Liaudanski, M.S. Rodzkin, V.S. Pankratov, D.E. Danilau, I.A. Karpov, O.G. Davydenko
GENOTYPE DISTRIBUTION IN PATIENTS WITH CHRONIC HEPATITIS C ANALYSIS USING MULTIFACTOR DIMENSIONALITY REDUCTION METHOD
- 11:45-12:00 N.B. Mandzyak, I.A. Kaygorodova,
MOLECULAR EVOLUTION AND SYSTEMATICS OF FLAT LEECHES (HIRUDINEA: GLOSSIPHONIIDAE)
- 12:00-12:15 M.A. Orlov, A.A. Ryasik, E.A. Temlyakova, A.A. Sorokin
CLUSTER ANALYSIS OF PHYSICAL CHARACTERISTICS IN *E. COLI* PROMOTERS
- 12:15-12:30 D.I. Ostromyshenski, A.S. Komissarov, I.S. Kuznetsova, O.I. Podgornaya
IN SILICO MOUSE CHROMOCENTERS CONTENT
- 12:30-12:45 A.I. Paramonov, Yu.P. Dzhioev, I.V. Kozlova
IDENTIFICATION OF RECOMBINATION SITES IN THE GENOMES OF THE EUROPEAN SUBTYPE OF TICK BORNE ENCEPHALITIS VIRUS
- 12:45-13:00 D. Penzar, M.S. Krivozubov, S.A. Spirin
PQ: A NEW PROGRAM FOR PHYLOGENETIC RECONSTRUCTION
- 13:00-14:00 *Lunch*
- 14:00-14:15 A. B. Martínez, Y. M. Á. Ginarte, M. S. Carrazana, E. M. Frías, C. R. Tanty
PREDICTION OF AMYLOID AGREGATION INHIBITORS AS A THERAPEUTIC ALTERNATIVE FOR TREATMENT OF ALZHEIMER'S DISEASE. A MOLECULAR DYNAMICS STUDY
- 14:15-14:30 A. Sowajassatakul, T. Prammananan, A. Chairprasert, S. Phunprucha
INVESTIGATION A ROLE OF DRUG EFFLUX PUMP IN AMINOGLYCOSIDE-RESISTANT MYCOBACTERIUM TUBERCULOSIS CLINICAL STRAIN
- 14:30-14:45 D.S. Volkava, S.I. Leanovich, A.A. Melnikava, E.A. Khramtsova
CHARACTERISTICS OF ACDS-GENE OF BACTERIA PSEUDOMONAS PUTIDA B-7 RESPONSIBLE FOR ACC-DEAMINASE SYNTHESIS
- 14:45-15:00 S.G. Davydova, E.A. Biberdorf
MODELING OF THE BLOOD FLOW IN THE NARROWED VESSELS
- 15:00-15:15 N. Panyushev, E. Lomert, D. Tentler, A. Predeus
SEARCH FOR FUNCTIONAL NF-KB BINDING SITES VIA META-ANALYSIS OF NGS EXPERIMENTS IN HUMAN CELL LINES
- 15:15-15:30 T.O. Shepelyuk, A.N. Sveshnikova,
COMPUTATIONAL MODELLING OF QUIESCENT PLATELET ENERGETIC METABOLISM
- 15:30-15:45 V.S. Fedotova, M.G. Sadvinsky, Yu.A. Putintseva,
PHYLOGENY DEVELOPED OVER THE TRIPLET COMPOSITION OF MITOCHONDRIAL GENOMES
- 15:45-16:00 D.A. Parshukova, L.P. Smirnova, V.N. Buneva, A.V. Semke, S.A. Ivanova
PROTEOLYTIC ACTIVITY OF IMMUNOGLOBULINS G OF PATIENTS WITH SCHIZOPHRENIA
- 16:00-16:30 *Coffee break*
- 16:30-16:45 E.M. Dmitrieva, L.P. Smirnova, A.A. Seregin, A.A. Letova, A.V. Semke, S.A. Ivanova, V.G. Zgoda
EVIDENS OF VIOLETIONS OF GLUTAMATERGIC NEUROTRANSMISSION IN PATIENTS WITH SCHIZOPHRENIA USING PROTEOMICS METHODS
- 16:45-17:00 A.I. Perfileva
SEARCH OF GENETIC SEQUENCES OF POTATOES IN DATABASES
- 17:00-17:15 K.V. Strygina, E.K. Khlestkina
MYC GENE FAMILY IN CEREALS: TRANSFORMATION IN THE COURSE OF THE TRITICUM AND AEGILOPS GENERA EVOLUTION
- 17:15-17:30 M.S. Savina, F.V. Kazantsev, V.V. Mironova
MATHEMATICAL MODELING OF ACTIVE SUBSTANCES AND FACTORS INFLUENCE ON FUNCTIONING OF PLANT ROOT MERISTEM

POSTER REPORTS

- V. A. Andryushchenko A HYDRODYNAMIC VIEW OF FOLDING OF AN ALPHA-HELICAL HAIRPIN
- E.G. Boyarko, O.Y. Fedorenko, A.V. Semke, S.A. Ivanova DRUG-INDUCED DYSKINESIA AND POLYMORPHISMS OF SGK GENE IN RUSSIAN SCHIZOPHRENIC PATIENTS
- I.V. Bykova, O.I. Golosova, A.Y. Bakulina, D.A. Afonnikov, D.Y. Kandrov, A.Y. Palyanov, G.A. Grekhov, Y.E. Danilova UGENE: A TOOLKIT FOR TEACHING STUDENTS
- A.V. Chechushkov, N.K. Zenkov, E.B. Menshchikova ANTIOXIDANT RESPONSE ELEMENT CONTROLS LYSOSOMAL BIOGENESIS MASTER-REGULATOR GENES
- A.D. Chekantsev, S.A. Lashin SOFTWARE MODULE FOR INTEGRATION OF SBML-WRITTEN MATHEMATICAL MODELS OF MOLECULAR GENETIC SYSTEMS FOR THE HAPLOID EVOLUTIONARY CONSTRUCTOR D SOFTWARE PACKAGE
- A.V. Cherkasov, K.V. Arshavsky, V.N. Sychev, M.A. Levinskikh, O.A. Gusev LONG-TERM SPACEFLIGHT MEDIATED CHANGES IN PROMOTER LANDSCAPE IN ZEBRAFISH TISSUES
- I.S. Dyachenko, S.A. Lashin, O.L. Posukh PROGRAM COMPLEX FOR DEAFNESS' SOCIAL ASPECTS SIMULATION
- T.S. Frolova, D.S. Baev, A.V. Petrova, E.F. Khusnutdinova, O. I. Sinityna MOLECULAR MODELING OF THE INTERACTION BETWEEN INDOLE LUPANE DERIVATIVES AND C-MYC/MAX HETERODIMER
- I.A. Garanina, G.U. Fisunov, D.V. Evsutina, V.M. Govorun RECONSTRUCTION OF TRANSCRIPTION CONTROL NETWORK IN GENOME-REDUCED BACTERIA BY HIGH-THROUGHPUT PROMOTERS IDENTIFICATION
- I.R. Gilyazova, M.A. Yankina, G.B. Kunsbaeva, A.A. Izmaylov, A.T. Mustafin, V.N. Pavlov, E.K. Khusnutdinova,
MUTATIONAL LANDSCAPE OF PROSTATE TUMORS BASED ON WHOLE EXOME SEQUENCING
- A. Glagoleva, O. Shoeva, E. Khlestkina DO MONOCOT AND DICOT PLANTS HAVE SIMILAR EVOLUTIONARY PATTERNS OF THE UNIVERSAL METABOLIC GENETIC NETWORKS?
- M. Grishenko, A. Yakimenko, M. Khairatdinov, K. Gunbin A COMPUTATION SYSTEM FOR RANDOMIZATION-BASED ENRICHMENT ANALYSIS USING GPU: PERFORMANCE INVESTIGATION
- E.V. Ignatieva RECONSTRUCTION AND ANALYSIS OF A NETWORK OF PROTEIN-PROTEIN INTERACTIONS FUNCTIONING IN MATURE MAMMALIAN ADIPOCYTE
- A. I. Klimenko, Yu.G. Matushkin, N.A. Kolchanov, S.A. Lashin PHAGE INFECTION SLOWS DOWN SPECIATION CAUSED BY GENE LOSS AND HORIZONTAL GENE TRANSFER OF METABOLIC GENES IN MODELS OF SPATIALLY DISTRIBUTED BACTERIAL COMMUNITIES
- E.V. Kulakova, A.M. Spitsina GENELO – PROGRAM FOR STATISTICAL ANALYSIS OF GENES LOCATION RELATIVE TO CHROMOSOME CONTACTS REVEALED BY CHIA-PET AND HI-C
- I.A. Mednova, L.P. Smirnova, L.E. Sinianskii, E.A. Ermakov, A.V. Semke, S.A. Ivanova LATER ANTIBODIES WITH OXIDOREDUCTASE ACTIVITY OF PATIENTS WITH SCHIZOPHRENIA AND MULTIPLE SCLEROSIS
- A.M. Mukhin SEARCH FOR THE CONTEXT FEATURES IN THE REGULATORY SEQUENCES OF ARABIDOPSIS THALIANA GENES ASSOCIATED WITH THE HOURGLASS PATTERN
- Z.S. Mustafin, D.A. Afonnikov, K.V. Gunbin, Yu.G. Matushkin, S.A. Lashin ORTHOSCAPE: A CYTOSCAPE PLUGIN FOR EVOLUTIONARY ANALYSIS OF GENE NETWORKS
- A.Yu. Nosova, O.I. Zaitseva, M.V. Bogdanova IDENTIFICATION OF STURGEON SPECIES WITH MTDNA AND MICROSATELLITE MARKERS IN BELARUS
- D.D. Novikova, N.A. Omelyanchuk, V.V. Mironova MEMBRANE-ASSOCIATED KINASE REGULATORS OF MAKR FAMILY GENES IN ARABIDOPSIS THALIANA L.
- D.I. Ostromyshenskii, O.I. Podgornaya THE GENOME WIDE ANALYSIS OF THE LARGE TANDEM REPEATS IN THE CLOSELY RELATED GENOMES
- I.V. Pinsky MIRNA BINDING SITES IN THE MRNA OF HUMAN TITIN IC ISOFO
- A.I. Semashko, E.G. Veremeenko, N.P. Maksimova PHYLOGENETIC ANALYS OF DAHPS II TYPE AMINOACID SEQUENCES
- I.A. Solovev, E.V. Dobrovolskaya, A.A. Moskalev GENETIC CONTROL OF CIRCADIAN RHYTHMS: AN IMPACT OF MOLECULAR CLOCK EXPRESSION PROFILE CHANGES IN LONGEVITY
- A. M. Spitsina EXPGENE – SOFTWARE FOR ANALYSIS AND PROCESSING OF GENE EXPRESSION DATA
- G.K. Suvorov IDENTIFICATION OF PATHWAYS ASSOCIATED WITH CELL DEATH IN THE CORTEX OF OXYS RATS AS THE SIGNS OF ALZHEIMER'S DISEASE DEVELOP
- L.A. Yarinich, M.O. Lebedev, A.V. Pindyurin OPTIMIZATION OF THE PIGGYBAC TRANSPOSON SYSTEM FOR CULTURED DROSOPHILA CELLS
- B.S. Zuraev, A.V. Kochetov, A.I. Klimenko, S.A. Lashin ALTORFEV: A NOVEL TOOL FOR PREDCITION OF ALTERNATIVE ORFS BASED ON THE LINEAR SCANNING MODEL