# RUSSIAN ACADEMY OF SCIENCES SIBERIAN BRANCH

# INSTITUTE OF CHEMICAL BIOLOGY AND FUNDAMENTAL MEDICINE SB RAS

# PROGRAM OF THE INTERNATIONAL CONFERENCE ON POSTGENOMIC TECHNOLOGY FOR BIOMEDICINE

PTB'12 Novosibirsk, Russia June 25–29, 2012

Novosibirsk 2012

Date	Great Hall House of Scientists SB RAS	Small Hall House of Scientists SB RAS	Music Salon (room 220) of the House of Scientists SB RAS	Conference hall Inst Cytol@Genet SB RAS	Exhibition Centre SB RAS
June, 25 9-00- 13-00	Registration				
14-00- 19-00	Opening of the Conferences Plenary talks				
June, 26 9-00- 19-00	MICROSYMPOSIUM Computational and experimental genomics	SECTION Therapeutic proteins and nucleic acids 13:00-14:00 Sponsor session (free lunch)			MICROSYMPOSIUM Skolkovo: biology and innovations
June, 27	Poster session	Poster session			GT GTT 63.4
9-00- 13-00					SECTION Synthetic biology
14-00- 19-00	MICROSYMPOSIUM Computational and experimental proteomics	Section Bioinformatics and systems biology of gene expression regulation	13:00-14:00 Sponsor session (free lunch)		Section Computational inference of networks from high-throughput experimental data
	Poster session	Continu			
June, 28 9-00- 13-00		Section Gene function discovery and search for new pharmaceutical targets		MICROSYMPOSIUM Genetic diversity of	SECTION Bionanotechnology
14-00-	MICROSYMPOSIUM	Continu	Open seminar of German/Russian Virtual	laboratory animals in addressing fundamental	for diagnosis and therapy
19-00	Human genetics and personalized medicine: theoretical and	Section Evolutionary bioinformatics	Notwork of Riginformatics and appli	and applied problems in postgenomic biology	Poster session
June, 29 9-00- 13-00	experimental aspects	Section Mathematical Biology and System Modeling			Section Supercomputer applications in bioinformatics
14-00 19-00		MICROSYMPOSIUM Human genetics and personalized medicine: theoretical and experimental aspects Poster session		Section Computer biology of development	Section Integrative Bioinformatics and Intelligent Knowledge Discovery/Management

# **PLENARY SESSION**

June 25, Monday House of Scientists, Large Conference Hall

13:20-19:00

Co-chairpersons:

**Valentin Vlassov**, Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.

**Nikolay Kolchanov**, Institute of Cytology and Genetics SB RAS, Novosibirsk. **Ralf Hofestaedt**, Bielefeld University, AG Bioinformatics, Bielefeld, Germany

No.	Author(s) and Title of Talk	Timeline
1.	THE FANTOM5 PROJECT – A PROMOTER LEVEL EXPRESSION	
	ATLAS USING SINGLE MOLECULE SEQUENCING	13:20-
	Alistair Forrest	14:00
	Unit Leader at RIKEN, Yokohama, Japan.	
2.	EPIGENETICS- NEW CHALLENGES	14:00-
	Egor Prokhorchouk	14:40
	"Bioengineering" Center RAS, Moscow.	14.40
3.	MECHANISMS OF ANTIGENS DEGRADATION	14:40-
	Alexander Gabibov	15:20
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	
4.	TRANSLATIONAL NEUROBIOLOGY OF NEURODEGENERATIVE	
	AND NEUROPSYCHIATRIC DISORDERS: TRANSGENIC RAT AND	15:20-
	MOUSE MODELS FOR AD, PD, SCA17, AND HD	16:00
	Stephan von Hörsten	10.00
	Friedrich-Alexander-Universität Erlangen-Nürnberg.	
	Coffee/tea break 16:00-16:20	
5.	REVERSE GENETICS IN BIOLOGICAL AND IMMUNOLOGICAL	
	STUDIES	
	Sergei Nedospasov	16:20-
	Engelhardt Institute of Molecular Biology RAS.	17:00
	Lomonosov Moscow State University.	
	German Rheumatism Research Center, a Leibniz Institute, Berlin, Germany.	
6.	ADVANCES OF SYSTEMS BIOLOGY IN TRANSLATIONAL	
	RESEARCH AND PERSONALIZED MEDICINE	17:00-
	Tatiana Nikolskaya	17:00- 17:40
	CEO, Founder, RosGenDiagnostics, Moscow.	17.40
	CureMeDx, LLC, San Diego, USA.	
7.	COMPUTATIONAL ANALYSIS OF COMPLEX PHENOTYPES	17:40-
	Andrey Rzhetsky	17.40-
	University of Chicago, USA.	18:20
8.	PERSPECTIVES OF NUCLEIC ACID BIOSENSORS FOR MEDICAL	
	APPLICATIONS. ELECTRICALLY READABLE BIOCHIPS FOR RAPID	10.20
	RNA ANALYSIS	18:20-
	Mathias Sprinzl	19:00
	University of Bayreuth, Germany.	

#### ORAL PRESENTATIONS

Dear speakers, please, plan your presentation time including 5 minutes for questions.

Only PowerPoint presentations made in Microsoft Office 2003, XP or earlier versions can be accepted. Use embedded pictures and animations only; picture and animation links to the Internet or to other files will not be accessible.

Slide projectors or overhead projectors are NOT available during the PTB'12 Conference.

Please, take into account that it will not be possible for you to load your presentation during the session by yourselves. Presentations are loaded on the main computer by the technician of the Organizing Committee only.

To ensure that the presentations are well prepared and compatible with the main presentation computer, we strongly advice you to bring your materials as PowerPoint files on USB device or CD disk to the Room no. 200 at the House of Scientists and check the presentation with the technician of the Organizing Committee **not later than 30 min** before the start time of the session where you are presenting. This will prevent any confusion when loading the presentations on the main computer.

You may also bring your laptop for copying your presentation to the main presentation computer. Use of your own laptop during your presentation is not recommended.

If you have any questions, please do not hesitate to contact the Organizing Committee in Room No. 200 at the House of Scientists.

#### POSTER SESSION

Poster Size: The maximum size allowed for each poster is 0.7m wide  $\times 1.2m$  high. Please note that this is a portrait (vertical) poster.

Authors must bring their posters printed and ready, as no facilities to produce posters at the Conference are available. Organizers will provide boards and push pins to display your posters. Posters should be readable from a distance of about two to three feet—for easy reading by several people at one time.

The poster session and computer demonstration will be held during the whole conference since 26 till 29 June. The poster reports are subdivided into the groups according to the scientific sessions' schedule. The posters being presented during the subject scientific session shall be posted starting from 9:00 to 20:00 in the Small (or Large) Conference Hall Foyer.

From 18:30 to 20:00 presenters are expected to remain at their individual displays to be available for questions and informal discussion of the poster content.

Material should be removed soon after the ending of the poster session. In the case the author(s) does not take away the poster, it will be removed by the PTB'12 Organizing Committee.

If you have any questions, please do not hesitate to contact the Organizing Committee in Room No. 200 at the House of Scientists.

# MICROSYMPOSIUM "COMPUTATIONAL AND EXPERIMENTAL GENOMICS"

# June 26, Tuesday

House of Scientists, Large Conference Hall

Co-chairpersons:

Victor Solovyev, University of London, UK.

Egor Prokhorchouk, "Bioengineering" Center RAS, Moscow.

No.	Author(s) and Title of Talk	Timeline
1.	COMPUTATIONAL TOOLS FOR ANALYSIS NEXT GENERATION	
	SEQUENCING DATA	9:30-
	Victor Solovyev	10:00
	University of London, UK.	10.00
	KEYNOTE TALK	
2.	SYSTEMATIC ERRORS AND BIASES IN ILLUMINA SEQUENCING	
	Irina Abnizova	10:00-
	Wellcome Trust Sanger Institute, Hinxton, UK.	10:30
	KEYNOTE TALK	
3.	POPULATION GENETIC ANALYSIS OF CASPIAN STURGEONS	
	(ACIPENCER GUELDENSTAEDTII, ACIPENCER PERSICUS) USING	
	NEXT GENERATION SEQUENCING AND CUSTOMIZED ILLUMINA	10:30-
	GOLDENGATE GENOTYPING ASSAY	10:50
	Sergey Rastorguev	
	National Research Centre "Kurchatov Institute", Moscow.	
	Coffee/tea break 10:50-11:10	
4.	SEARCHING FOR DISTANT HOMOLOGS OF SMALL, NON-CODING	
	RNAS	11:10-
	Robert Giegerich	11:35
	Center of Biotechnology and Faculty of Technology, Bielefeld University.	
5.	NOVEL APPROACHES TO RNA SEQUENCING	11.05
	Alexander Mazur	11:35-
	ZAO "Genoanalytica", Moscow.	12:00
6.	DEEP SEQUENCING CHRYSANTHEMUM microRNA ON DIFFERENT	
	STAGES OF PLANT DEVELOPMENT	1.00
	Artem Nedoluzhko	12:00-
	National Research Centre "Kurchatov Institute" (NRC "Kurchatov Institute"),	12:25
	Moscow.	
7.	COMPUTATIONAL NEW SPLICE VARIANTS DISCOVERY USING	
	SINGLE MOLECULE SEQUENCING TECHNOLOGY	12:25-
	Yuri Vyatkin	12:50
	AcademGene LLC, Novosibirsk.	
	12:50-14:00 Lunch break	
9.	HIGH-THROUGHPUT SEQUENCING OF MYCOBACTERIUM STRAINS	
9.	USED FOR STEROID COMPOUNDS BIOSYNTHESIS	
9.	USED FOR STEROID COMPOUNDS BIOSYNTHESIS  Eugeniy Bragin	14:00-
9.	USED FOR STEROID COMPOUNDS BIOSYNTHESIS	14:00- 14:30

10.	MASSIVE PARALLEL EXON SEQUENCING AS FUNDAMENTAL APPROACH IN STUDYING SNPS THAT CAN LEAD TO ALZHEIMER DISEASES  Eugenia Boulygina National Research Center "Kurchatov Institute", Moscow.  KEYNOTE TALK	14:30- 15:00
11.	LARGE-SCALE AMPLICON RE-SEQUENCING REVEALS NOVEL VARIANTS IN ALZHEIMER'S DISEASE GENES  Olga Mikhaylichenko  Vavilov Institute of General Genetics, Moscow.	15:00- 15:20
	Coffee/tea break 15:20-15:50	
12.	DE NOVO SEQUENCING, ASSEMBLY AND CHARACTERIZATION OF TRANSCRIPTOME IN TETRAPLOID PLANT CAPSELLA BURSA-PASTORIS  Artem Kasianov  Engelhardt Institute of Molecular Biology RAS, Moscow.  Vavilov Institute of General Genetics RAS Moscow.	15:50- 16:15
13.	COMPARATIVE GENOME ANNOTATION OF TRYPANOSOMATIDS  Sergey Pintus  Virginia Commonwealth University, Center for the Study of Biological Complexity and the Department of Microbiology and Immunology, Richmond, USA.	16:15- 16:40
14.	A DRAFT GENOME SEQUENCE OF TARTARY BUCKWHEAT, FAGOPYRUM TATARICUM  Maria Logacheva Belozersky Institute of Physico-Chemical Biology, Faculty of Bioengineering and Bioinformatics, M.V. Lomonosov Moscow State University. Kharkevich Institute for Information Transmission Problems RAS, Moscow.	16:40- 17:05
15.	SEMICONDUCTOR SEQUENCING FOR LIFE.  Matthew Dyer Ion Torrent, part of Life Technologies, San Francisco, USA.	17:05- 17:25
	POSTER SESSION	17:30- 19:00

#### POSTER PRESENTATIONS

V.S. Amstislavskiy, M. Sultan, K. Kim, S. Schrinner, H. Lehrach, M.-L. Yaspo COVERAGE DEPTH ANALYSIS IN NEXT GENERATION SEQUENCING DATA

#### AA. Arakelyan

PATHWAY SIGNAL FLOW ANALYSIS FOR HIGH-THROUGHPUT GENE EXPRESSION DATA

#### E.E. Astafieva, T.V. Karpushkina, K.A. Kulikova, T.T. Glazko

EVALUATION OF GENOMIC INSTABILITY IN SEVERAL SPECIES OF MAMMALS USING THE MICRONUCLEI TEST

D. N. Baryakin, D. V. Semenov, E. V. Brenner, A. M. Kurilshikov, V. V. Kozlov, Y. E. Narov, G. V. Vasiliev, L. A. Bryzgalov, E. D. Chikova, J. A. Filippova E. V. Kuligina, V. A. Richter SMALL NON-CODING RNAs OF HUMAN BLOOD PLASMA OF HEALTHY DONORS AND PATIENTS WITH NON-SMALL CELL LUNG CANCER.

#### E.A. Borzov, A.V. Marakhonov, A.V. Baranova, M.Yu. Skoblov

RANDTRAN: RANDOM TRANSCRIPTOME SEQUENCE GENERATOR

#### Eu.Yu.Bushmelev

POPULATION STUDY OF THE VARIATION IN TRIPLET DISTRIBUTIONS OBSERVED ALONGSIDE A CHROMOSOME, FOR YEAST SPECIES

# V.N. Danilenko, E.U.Poluektova, K.M. Klimina, D.H. Kjasova, J.V.Chervinetz, D.B. Malko, V.J.Makeev, F. Gusev, T.V.Tyajelova, D.A. Reshetov, E.I.Rogaev

SEQUENCE AND ANNOTATION OF THE CHROMOSOME OF PROBIOTIC STRAIN LACTOBACILLUS RHAMNOSUS  $24\,$ 

#### A.P. Dovgerd, D.O. Zharkov

APPLICATION OF REPAIR ENZYMES TO IMPROVE THE QUALITY OF THE DNA TEMPLATE IN PCR AMPLIFICATION OF DEGRADED DNA.

#### Elkina M.A., Astafjeva E.E., Glazko T.T.

IRAP-PCR MARKERS AND MICRONUCLEI TEST IN THE CHARACTERIZATION OF GENETIC STRUCTURE OF THE KALMYK SHEEP AND TYPES OF THE EDILBAY SHEEP

#### A. Goodman, A. Montana, E. Neal, J. VanderKelen, M. Black, C. Kitts, A. Dekhtyar

DEVELOPMENT OF A NOVEL PYROSEQUENCING-BASED METHOD FOR STUDYING E. COLI DIVERSITY AND MICROBIAL SOURCE TRACKING.

#### E.V. Ignatieva, V.G. Levitsky, N.S. Yudin

ANALYSIS OF SNP DISTRIBUTION AND INTER-SNP DISTANCE IN THE HUMAN GENOME

#### A. Grigorenko, Y. Moliaka, I. Alexandrov, E. Rogaev.

SEARCH FOR FUNCTIONAL PATHWAYS FOR INTRAMEMBRANE ASPARTIC PROTEASE IMPASI/SPP.

#### K.V. Krutovsky, E.A. Vaganov, I.V. Chubugina, N.V. Oreshkova, I. N. Tretyakova, T.V. Tyazhelova

COMPLEX GENOME SEQUENCING: PRELIMINARY DATA OF SIBERIAN LARCH COMPLETE GENOME SEQUENCING

#### V.G. Levitsky, A.V. Vershinin

THE ROLES OF THE MONOMER LENGTH AND NUCLEOTIDE CONTEXT OF PLANT TANDEM REPEATS IN NUCLEOSOME POSITIONING

#### M.L. Markelov, M.A. Gordukova, K.V. Kuleshov, V.G. Dedkov, M.V. A. Figueroa

DEVELOPMENT OF THE OPTIMAL ALGORITHM OF BACTERIAL WHOLE GENOME SEQUENCING ON MISEQ AND GS JUNIOR 454 SEQUENCERS/

#### Yu.G. Matushkin, V.G.Levitsky, Yu.L.Orlov, V.A.Likhoshvai

CORRELATION BETWEEN TRANSCRIPTION EFFICIENCY INITIATION AND TRANSLATION EFFICIENCY FOR SACCHAROMYCES CEREVISIAE AND SCHIZOSACCHAROMYCES POMBE

#### I. A. Novikov, M. Y. Fursov, I. E. Efremov

UGENE ASSEMBLY BROWSER: A TOOL FOR NGS DATA VISUALIZATION

#### A.A. Ponomaryova, E. Y. Rykova, N.V. Cherdyntseva, T.E. Skvortsova,

#### A.Y. Dobrodeev, A.A. Zav'yalov, S.A. Tuzikov, V.V. Vlassov, P.P. Laktionov

EPIGENETIC STATUS AND QUATITATIVE CHARACTERISTICS OF CIRCULATING DNA IN LUNG CANCER

#### F. Pošćić, N. Khlopova

NEW ALGORITHM FOR IDENTIFICATION OF INDIVIDUAL DIFFERENCES IN GENE EXPRESSION

#### Yu. A. Putintseva

COMPARATIVE ANALYSIS OF TRIPLETS FREQUENCY IN MITOCHONDRIAL GENOMES

D.A. Reshetov, L.I. Shagam, T.V. Tyazhelova, A.P.Grigorenko, T.A. Andreeva, O.A. Mikhaylichenko, M.S. Protasova, A.Y. Goltsov, A.A. Zenin, F.E. Gusev, E.I. Rogaev

GENOME SEQUENCES OF CENTENARIANS PRODUCE A BASIS FOR GENOME SCALE LONGEVITY STUDIES

#### M.G.Sadovsky, E.M.Mirkes

INTRIGUING STRUCTURES IN TRIPLET DISTRIBUTION ALONGSIDE A GENOME

A. Samoshkin, S. Dulev, D. Loukinov, J.A. Rosenfeld, A. V. Strunnikov A MAP OF ANAPHASE CHROMOSOMAL BREAKS INDUCED BY CONDENSIN LOSS

E.M. Sergeeva, D.A. Afonnikov, L.L. Bildanova, M.K. Koltunova, E.M. Timonova, E.A. Salina TOWARDS AN ANALYSIS OF THE STRUCTURE OF THE SHORT ARM OF 5B CHROMOSOME OF THE BREAD WHEAT TRITICUM AESTIVUM L.

A. Sharma, L. Alomair, K. Doyle, M. Sikaroodi, A. Cherepanova, P. Laktionov, A. Birerdinc,

#### P. Gillevet, A. Baranova

NEXTGEN SEQUENCING REVEALS EXTENSIVE RNA EDITING IN PLASMACYTOID DENDRITIC AND OTHER PRIMARY CELLS

#### P. Shelyakin, A. Kaznadzey

DIVERSION OF GENOME LOCI AND CO-LOCALIZATION PATTERNS STUDY OF THE PROTEIN FAMILIES FROM DIFFERENT FUNCTIONAL CLASSES OF THE BACTERIAL CARBOHYDRATE METABOLISM

N.N. Vtyurina, S.L. Grokhovsky, A.B. Vasiliev, I.I. Titov, P.M. Ponomarenko, M.P. Ponomarenko, S.E. Peltek, Yu.D. Nechipurenko, N.A. Kolchanov

CONTEXTUAL DNA FEATURES SIGNIFICANT FOR THE DNA DAMAGE BY THE 193 NM ULTRAVIOLET LASER BEAM

L.P. Zakharenko, T.P. Bak, O.M. Ignatenko

HOW LONG SEQUENCED GENOME CAN REMAIN STABLE

# MICROSYMPOSIUM "COMPUTATIONAL AND EXPERIMENTAL GENOMICS"

# June 27, Wednesday House of Scientists, Large Conference Hall

# Co-chairpersons:

Egor Prokhorchouk, "Bioengineering" Center RAS, Moscow.

Victor Solovyev, University of London, UK.

No.	Author(s) and Title of Talk	Timeline
1.	ADVANCES IN GENOMIC AND METAGENOMIC STUDIES OF	
	EXTREMOPHILIC MICROORGANISMS	9:00-
	Nikolai Ravin	9:40
	Centre "Bioengineering" RAS, Moscow.	7. <del>4</del> 0
	KEYNOTE TALK	
2.	PROFILE OF THE CIRCULATING RNA IN APPARENTLY HEALTHY	
	INDIVIDUALS AND NON-SMALL CELL LUNG CANCER PATIENTS	
	OBTAINED WITH MASSIVELY PARALLEL SEQUENCING OF TOTAL	9:40-
	BLOOD PLASMA RNA	10:00
	Dmitry Semenov	10.00
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
3.	CIRCULATING DNA AN CANCER PATIENTS BLOOD: GENERAL	
	CHARACTERISTICS AND WHOLE-GENOME ANALYSIS	10:00-
	Elena Rykova	10:20
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
4.	GENOME-WIDE ASSOCIATION STUDY OF CARDIOVASCULAR	
	DISEASE RISK FACTORS IN THE MOSCOW STUDY OF THE	10:20-
	WESTERN DISTRICT	10:40
	Alex Meshkov	
	National Research Center for Preventive Medicine, Moscow.	
	Coffee/tea break 10:40-11:00	
5.	A NEW APPROACH TO IDENTIFY THE RSNPS IN THE HUMAN	
	GENOME BASED ON CHIP-SEQ DATA	11:00-
	Leonid Bryzgalov	11:20
	Institute of Cytology and Genetics SB RAS, Novosibirsk.	
6.	BIOMARKER CHALLENGE: A CLOUD INSTEAD OF A SET OF THE	
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0.	VANTAGE POINTS	11.20
<b>.</b>		11:20-
J.	VANTAGE POINTS	11:20- 11:40
J.	VANTAGE POINTS Ancha Baranova	
7.	VANTAGE POINTS Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow	
	VANTAGE POINTS Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA.	
	VANTAGE POINTS  Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA.  CURRENT APPLICATIONS AND FUTURE PERSPECTIVES OF 454	11:40
	VANTAGE POINTS Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA. CURRENT APPLICATIONS AND FUTURE PERSPECTIVES OF 454 SEQUENCING	11:40
	VANTAGE POINTS Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA. CURRENT APPLICATIONS AND FUTURE PERSPECTIVES OF 454 SEQUENCING Nadezhda Koroban	11:40
7.	VANTAGE POINTS  Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA.  CURRENT APPLICATIONS AND FUTURE PERSPECTIVES OF 454 SEQUENCING Nadezhda Koroban Roche Diagnostics Rus LLC, Moscow.	11:40
7.	VANTAGE POINTS Ancha Baranova Russian Center of Medical Genetics RAMS, Moscow School of Systems Biology, George Mason University, Fairfax, USA. CURRENT APPLICATIONS AND FUTURE PERSPECTIVES OF 454 SEQUENCING Nadezhda Koroban Roche Diagnostics Rus LLC, Moscow. TRANSFORMING QPCR: ENABLING EXPERIMENTS NOT	11:40 11:40- 12:00

9.	ILLUMINA - REACHING NEW HORIZONS IN NEXT GENERATION	
	SEQUENCING	12:20-
	Nikolay Egorov	12:35
	InterLabService, Moscow.	
10.	REVIEW OF MODERN METHODS OF HIGH-PERFORMANCE	
	SEQUENCING	12:35-
	Vadim Zhernovkov	12:50
	Helicon, Moscow.	

#### MICROSYMPOSIUM "COMPUTATIONAL AND EXPERIMENTAL PROTEOMICS"

# June 27, Wednesday House of Scientists, Large Conference Hall

Chairperson: **Vadim Govorun,** Research Institute of Physico-Chemical Medicine, Moscow.

No.	Author(s) and Title of Talk	Timeline
1.	INTEGRATION OF -OMICS	14:00 –
	Vadim Govorun	14:30
	Research Institute of Physico-Chemical Medicine, Moscow.	
2.	MASS-SPECTROMETRIC MEASUREMENT OF LEVELS AND	1.1.20
	ENZYMATIC ACTIVITY OF CYTOCHROMES P450	14:30 – 14:50
	Victor Zgoda  Institute of Riemedical Chemistry PAMS im V.N. Orcheviche, Massay	14.50
3.	Institute of Biomedical Chemistry RAMS im.V.N.Orehovicha, Moscow.  SYSTEM BIOLOGY ANALYSIS OF HELICOBACTER PYLORI	
٥.	VIRULENCE AND ADAPTATION BASED ON PROTEOGENOMIC,	
	TRANSCIPTOMIC AND METABOLOMIC ANALYSIS	14:50-
	Dmitrii Alexeev	15:10
	Research Institute for Physico-Chemical Medicine, Moscow.	
4.	PROTEOMIC OF MYCOPLASMAS: NANOFORMING Mycoplasma	
	gallisepticum	15:10 -
	Irina Demina	15:30
	Research Institute for Physical_Chemical Medicine, Moscow.	
5.	DEEP METAGENOMICS AND METAPROTEOMICS OF HUMAN	
	GUT: DRAMAS AND DELIGHTS	15:30- 15:50
	Anna Popenko	13.30
	Research Institute of Physico-Chemical Medicine, Moscow.	
	Coffee/tea break 15:50-16:20	
6.	STRUCTURAL AND FUNCTIONAL PROTEOMICS OF THE HUMAN	
	PROTEIN SYNTHESIZING SYSTEM	16:20-
	Dmitrii Graifer	16:40
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
7.	SYSTEM ANALYSIS OF HUMAN CELL LINE: TRANSCRIPTOME,	
	PROTEOME	16:40-
	Sergei Moshkovskii  Oralibovich Institute of Diomedical Chamistry, Dussian Academy of Medical	17:00
	Orekhovich Institute of Biomedical Chemistry, Russian Academy of Medical Sciences, Moscow.	
8.	MASS-SPECTROMETRY-BASED IDENTIFICATION OF ENDOGENOUS	
	PEPTIDES IN BLOOD SERUM	17:00-
	Rustam Ziganshin	17:20
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	
9.	CHANGES IN PROTEIN COMPOSITION OF HUMAN URINE AFTER	
	PROLONGED ORBITAL FLIGHTS	17.20
	Irina Larina	17:20- 17:40
	Institute of Medicobiologic Problems Russian Federation State Scientific	17.10
	Research Center RAS, Moscow.	
10.	PROTEOMICS AND METABOLOMICS OF THE RAT LENS: ANALYSIS	
	OF AGE AND CATARACT–SPECIFIC cataract-specific CHANGES	17:40-
	Olga Snytnikova	18:00
	International Tomography Center SB RAS, Novosibirsk.	

11	MOSS PROTEOMICS AND PEPTIDOMICS. NEW INSIGHT IN THE OLD STORY. PEPTIDES IN THE STRESS ADAPTATION PROCESS <b>Igor Fesenko</b> Shemyakin-Ovchinnikov Institute of bioorganic chemistry RAS, Moscow.	18:00 – 18:20
	POSTER SESSION	18:20- 19:30

#### POSTER PRESENTIONS

#### D.V. Antonets, T.S. Nepomnyashchikh, S.N. Shchelkunov

THEORETICAL STUDY OF STRUCTURAL FEATURES OF VARIOLA VIRUS CRMB PROTEIN

A.Bakulina, M.Merkulova, H. Hosokawa, P. Vinh Dip, G.Grüber, V. Marshansky MOLECULAR MODELING OF CYTOSOLIC PART OF a2-SUBUNIT OF MOUSE V-ATPase

E.Barnaeva, R.B. Free, X.Hu, N.Southall, M. Bryant-Genevier, S. Titus, M.Ferrer, J.Marugan, D.R.Sibley HIGH-THROUGHPUT SCREENING FOR THE DEVELOPMENT OF NOVEL SELECTIVE LIGANDS OF D2 DOPAMINE RECEPTORS

#### A.O. Bragin, P.S. Demenkov, V.A. Ivanisenko

APPLICATION OF CONFORMATIONAL PEPTIDES FOR ANALYSIS OF ALLERGENIC PROTEINS

#### A.L. Chernobrovkin, V.G. Zgoda, A.V. Lisitsa and A.I. Archakov

COMPREHENSIVE ANALYSIS OF UNIDENTIFIED LC-MS FEATURES FOR INVESTIGATING PROTEINS DIVERSITY IN HIGH-THROUGHPUT PROTEOMICS EXPERIMENTS

#### O.M. Demchuk, P.A. Karpov, Ya.B. Blume

MODELING OF PLANT KINESIN-8 MOTOR DOMAIN AND RECONSTRUCTION OF ITS L2 AND L11 LOOPS

#### D.M. Esyunina, N.A. Miropolskaya, L.S. Minakhin, A.V. Kulbachinskiy

GP39, A NOVEL PHAGE-ENCODED INHIBITOR OF BACTERIAL RNA POLYMERASE

# P.A. Karpov, A.V. Raevsky, Ya.A. Sheremet, Ya.B. Blume THE ROLE OF CASEIN KINASES 1 IN PLANT CYTOSKELETON REGULATION

M.S. Kondratyev, A.V. Kabanov, V.I. Novoselov, A.A. Samchenko, V.M. Komarov, N.N. Khechinashvili ALTERNATIVE HYDROGEN BONDING IN MOLECULAR DESIGN OF THERMOSTABLE ANTIOXIDANT PROTEIN

#### I.B. Kovalenko

DIRECT COMPUTER SIMULATION OF PROTEIN-PROTEIN INTERACTION

#### H. M.Mahadeva Swamy, R.Asokan, Riaz Mahmood

IN SILICO STRUCTURAL 3D MODELLING OF NOVEL CRY11 AND CRY3A GENES FROM LOCAL ISOLATES OF BACILLUS THURINGIENSIS

#### A.A. Malygin, A.V. Ivanov, E.S. Babaylova, G.G.Karpova

TOWARDS AN UNDERSTANDING OF THE ROLE OF HUMAN RIBOSOMAL PROTEINS IN VARIOUS CELLULAR PROCESSES RELATED TO HEALTH AND DISEASES

#### Mavropulo-Stolyarenko G.R.

STATISTICAL ANALYSIS OF DATABASE DERIVED INTER-RESIDUE CONTACT POTENTIALS

#### K.E. Medvedev, D.A. Afonnikov, Y.N. Vorobjev

MOLECULAR DYNAMICS SIMULATION OF NIP7 PROTEINS FROM HYPERTHERMOPHILIC ARCHAEA AT HIGH TEMPERATURE AND PRESSURE

#### L.Ph. Nizolenko, A.G. Bachinsky

PROF\_PAT, THE DATABASE OF PROTEIN FAMILY PATTERNS – AN EFFECTIVE TOOL FOR SEQUENCES ANNOTATION

#### S.S. Pintus, M.S. Bady-Khoo, O.L. Posukh

COMPUTATIONAL EVALUATION OF IMPACT OF AMINO ACID SUBSTITUTION p.W172C ON STRUCTURE AND FUNCTION OF GAP-JUNCTION PROTEIN CONNEXIN 26 AND ITS ASSOCIATION WITH HEARING IMPAIRMENT

#### A.V. Popov, D.O. Zharkov, Yu.N. Vorobyov

INTEGRATED APPROACH TO MOLECULAR DYNAMICS STUDY OF PROTEINS AND PROTEIN-DNA COMPLEXES

U.V. Potapova, V.V. Potapov, I.G. Kondratov, D.V. Mukha, S.I. Feranchuk, G.N. Leonova, S.I. Belikov NS2B/NS3 PROTEASE: ANALYSE OF ALLOSTERIC EFFECTS OF MUTATIONS ASSOCIATED WITH THE PATHOGENICITY OF TICK-BORNE ENCEPHALITIS VIRUS

#### Yu.A. Purtov, M.S. Kondratyev, O.N. Ozoline, V.M. Komarov

STUDY OF CONFORMATIONAL FLEXIBILITY OF E.coli RNA POLYMERASE ALPHA SUBUNIT INTERDOMAIN LINKER

#### G. Ramos-Echazábal, G. Chinea, R. García-Fernández, T. Pons

IN SILICO STUDIES OF POTENTIAL PHOSPHORESIDUES IN THE HUMAN NUCLEOPHOSMIN/B23: ITS KINASES AND RELATED BIOLOGICAL PROCESSES

#### M.Skoblov, A.Marakhonov, A. Baranova

FAMILY OF KCTD PROTEINS: STRUCTURAL AND FUNCTIONAL PECULIARITIES

#### L.P. Smirnova, V.V. Koval, L.V. Loginova, O.S. Fedorova, S.A. Ivanova

SEARCH OF PLASMA PROTEIN BIOMARKERS FOR SCHIZOPHRENIA

#### B. Sobolev, N. Oparina, A. Veselovsky, D. Filimonov, V. Poroikov

LOOKING FOR MEANINGFUL SIGNS: THE EXPERIENCE WITH COMPARATIVE ANALYSIS OF NON-ALIGNED PROTEIN SEQUENCES

#### B. Sommer, Yan Zhou

THE VESICLE BUILDER - A PLUGIN FOR THE CELLMICROCOSMOS 2 MEMBRANEEDITOR

#### S.N. Tamkovich, T.G. Duzhak, A.V. Starikov, V.V. Vlassov, P.P. Laktionov

NOVEL APPROACH FOR IDENTIFICATION OF DNA-BINDING PROTEINS OF BLOOD CELL SURFACE

#### MICROSYMPOSIUM "COMPUTATIONAL AND EXPERIMENTAL PROTEOMICS"

# June 28, Thursday House of Scientists, Large Conference Hall

### Co-chairpersons:

Vladimir Sobolev Weizmann Institute of Science, Rehovot, Israel.

Roman Efremov Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS,
Moscow.

No.	Author(s) and Title of Talk	Timeline
1.	RESIDUES FORMING FUNCTIONAL SITES IN PROTEINS ARE	
	DISPROPORTIONALLY ASSOCIATED WITH HUMAN DISEASE-	
	RELATED SNPS: A CASE STUDY OF METAL BINDING SITES"	9:00-
	Vladimir Sobolev	9:35
	Weizmann Institute of Science, Rehovot, Israel.	
	KEYNOTE TALK	
2.	MOLECULAR MODELING OF NMDA RECEPTOR	9: 35-
	Vladimir Palyulin	9:55
	M.V. Lomonosov Moscow State University, Moscow	<i></i>
3.	ARCHIP: DETECTOR OF ARCHITECTURES IN 3D PROTEIN	
	STRUCTURES	9:55-
	Evgeniy Aksianov	10:15-
	M.V. Lomonosov Moscow State University, Moscow.	
4.	PUTRACER: A NOVEL METHOD FOR IDENTIFICATION OF	
	CONTINUOUS-DOMAINS IN MULTI-DOMAIN PROTEINS	10:15 –
	Mohammad bagher Parsa	10.15 –
	Institute for Research in Fundamental Sciences IPM / Tarbiat Modares	10.55
	University, Tehran, Iran.	
5.	NEWEST BRUKER DALTONICS DEVELOPMENTS IN MASS-	
	SPECTROMETRY	10:35-
	Lyudmila Kopylova	10:50
	Bruker Daltonics, Novosibirsk.	
	Coffee/tea break 10:50-11:10	
6.	PROTEIN-PROTEIN AND PROTEIN-MEMBRANE RECOGNITION: A	
	COMPUTATIONAL VIEW	11:10-
	Roman Efremov	11:45
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	11.43
	KEYNOTE TALK	
7.	COMPUTER SIMULATIONS OF PROTEIN AGGREGATION	11:45-
	Phuong Nguyen	12:05
	Institute de Biologie Physico-Chimique, Paris, France.	12.03
8.	GOLDEN TRIANGLE" FOR FOLDING RATES OF GLOBULAR	
	PROTEINS?	12:05-
	Sergiy Garbuzynskiy	12:25
	Institute of Protein Research RAS, Pushino.	
9.	PROTEIN FOLDING TURBULENCE	12:25 –
	Sergei Chekmarev	
	Kutateladze Institute of Thermophysics SB RAS, Novosibirsk.	12:45
10.	MULTISTATE CONFIGURATION OF TRANSMEMBRANE PEPTIDE	
	HELICAL DIMERS CONTROLLED BY THE HOST MEMBRANE	12:45 –
	Anton Polyansky	13:05
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	
		13:05-
	LUNCH BREAK	14:00

# MICROSYMPOSIUM "HUMAN GENETICS AND PERSONALIZED MEDICINE: THEORETICAL AND EXPERIMENTAL ASPECTS"

# June 28, Thursday House of Scientists, Large Conference Hall

Co-chairpersons:

Alexander Kel, GeneXplain Inc., Germany.

Yury Aulchenko, Institute of Cytology and Genetics, Novosibirsk.

No.	Author(s) and Title of Talk	Timeline
1.	FAST SOLUTIONS FOR STATISTICAL GENOMICS THROUGH A	
	DOMAIN-SPECIFIC COMPILER	14:00 –
	Diego Fabregat-Traver	14:30
	RWTH Aachen.	
	KEYNOTE TALK	
2.	APPLICATIONS OF MACHINE LEARNING TO PERSONALIZED	
	MEDICINE	14:30 –
	Felix Agakov	15:00
	University of Edinburgh, UK.	
3.	KEYNOTE TALK	
3.	"GENETIC AND ENVIRONMENTAL FACTORS OF HEALTH OF	
	HEALTHY PEOPLE: HOW TO FIND THEIR BY MEANS OF	15.00
	COMPUTATIONAL BIOLOGY METHODS?"	15:00- 15:30
	Nikolay Yankovsky	13.30
	Vavilov Institute of General Genetics, Moscow.	
	KEYNOTE TALK  Coffee/tea break 15:50-16:10	
4.	CLOUD PERSONALIZED DRUG DISCOVERY	
	Alexander Kel	16:10-
	GeneXplain Inc., Germany.	16:30
5.	COMPUTER METHODS FOR SEARCH OF DRUGS FOR	
	PERSONALIZED THERAPY OF MULTIFACTORIAL DISEASES	16:30-
	Vladimir Poroikov	16:50
	Biomedical Chemistry Institute RAMS.	10.00
6.	Software. A SIMPLE PERSONAL GENOME VIEWER	
0.	Anastasia Bakulina	16:50-
	State Research Center of Virology and Biotechnology "Vector", Koltsovo.	17:00
7.	Software. DEVELOPMENT OF THE SOFTWARE COMPLEX	
	"GENETICS" FOR SUPPORT INVESTIGATIONS IN MEDIC GENETICS	17:00-
	Fedor Kolpakov	17:10
	Institute of Systems Biology, Ltd, Novosibirsk.	
8.	PREVENTING COMMON HEREDITARY DISORDERS THROUGH	
٠.	TIME- SEPARATED TWINNING	17:10-
	Alexander Tchourbanov	17:10-
	Beijing Institute of Genomics, Beijing, China.	
	Deignig manuac of Ocholines, Deignig, Clinia.	

# MICROSYMPOSIUM "HUMAN GENETICS AND PERSONALIZED MEDICINE: THEORETICAL AND EXPERIMENTAL ASPECTS"

# June 29, Friday House of Scientists, Large Conference Hall

Co-chairpersons:

Mikhail Voevoda, Institute of Cytology and Genetics, Novosibirsk.

Maxim Filipenko, Institute of Chemical Biology and Fundamental Medicine, Novosibirsk.

Valery Puzyrev, Research Institute of Medical Genetics SB RAMS, Tomsk.

No.	Author(s) and Title of Talk	Timeline
1.	COMBINED GENOMICS AND GLYCOMICS APPROACH TO	
	BIOMARKER DISCOVERY	
	Lina Zgaga	9:30-10:00
	University of Zagreb, Zagreb, Croatia.	
	KEYNOTE TALK	_
2.	GENETIC SUSCEPTIBILITY PROFILE FOR COMORBIDITY	10.00
	VARIANTS OF MULTIFACTORIAL DISEASES	10:00-
	Valery Puzyrev	10:20
	Research Institute of Medical Genetics SB RAMS, Tomsk.	
3.	PERSONALIZED GENOMIC MEDICINE AND MODERN	
	INFORMATION TECHNOLOGIES	10:20-10:40
	Mikhail Voevoda	
	Institute of Cytology and Genetics, Novosibirsk.	
4.	MY EXOME	10:40 –
	Maxim Filipenko	11:00
	Institute of Chemical Biology and Fundamental Medicine, Novosibirsk.	
5.	DROPLET DIGITAL PCR FOR PERSONALIZED MEDICINE	11:00
	Andrey Verner	_ <del>-</del>
	BioRad, Moscow.	11:15
	Coffee/tea break 11:15-11:40	
6.	PERSONALIZED MEDICINE IN MONOGENIC PATHOLOGY	
	Alexander Polyakov	11:40-12:10
	Research Center for Medical Genetic, Moscow.	
7.	CIRCULATING microRNAS AS POTENTIAL BIOMARKERS OF LUNG	
	CANCER	
	Vasily Aushev	12:10-12:30
	Institute of Carcinogenesis of N.N. Blokhin Russian Oncological Science	
	Center RAMS, Moscow.	
8.	SELF-DESCRIPTIVENESS OF GWAS-IDENTIFIED GENETIC	
	MARKERS OF COMMON DISEASES IN RUSSIAN POPULATION	12:30-12:50
	Vladimir Maksimov	12.30-12.30
	Institute of therapy, Novosibirsk.	
9.	USING OF ACGH TECHNOLOGY IN PERSONALIZED MEDICINE	12:50 –
	Ludmila Filatova	12.30 – 13:05
	BioChimMak, Moscow.	15.05
_	Lunch break	13:05-14:10

# MICROSYMPOSIUM "HUMAN GENETICS AND PERSONALIZED MEDICINE: THEORETICAL AND EXPERIMENTAL ASPECTS"

# June 29, Friday House of Scientists, Small Conference Hall

# Co-chairpersons:

Felix Agakov, University of Edinburgh, UK.

Evgeny Rogaev, Vavilov Institute of General Genetics, Moscow.

No.	Author(s) and Title of Talk	Timeline
1.	NEUROGENOMICS FOR BRAIN DEVELOPMENT AND DISORDERS	
	Evgeny Rogaev	14:10-
	Vavilov Institute of General Genetics, Moscow.	14:40
	KEYNOTE TALK	
2.	PREDICTING COMPLEX TRAITS USING GENOME-WIDE SNP DATA	1.4.40
	Felix Agakov	14:40- 15:10
	University of Edinburgh, UK.	15:10
3.	KEYNOTE TALK	
3.	GENETIC BARCODE AS A PERSONAL IDENTIFIER OF EACH	15.10
	INDIVIDUAL B. A. C. A. C	15:10- 15:30
	Renat Garafutdinov	15.50
4.	Institute of Biochemistry and Genetics Ufa Science Centre RAS, Ufa.	
4.	MOLECULAR-GENETIC AND METABOLOMICS APPROACHES FOR	
	ANTI-COAGULANT THERAPY	15:30-
	Alexander Chernonosov	15:50
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
3	PERSONALIZED MEDICINE: EXPECTATIONS, DISAPPOINTMENTS	15.50
	AND HOPES	15:50- 16:10
	Vladislav Baranov	10.10
6	St. Petersburg State University, St. Petersburg.	
U	THE REVIEW OF EXISTING SERVICES IN THE FIELD OF	16.10
	PERSONALIZED GENETICS	16:10- 16:30
	Sergey Anashkin	10.30
	"Genoanalytica" JSC, Moscow.	
	Coffee/tea break 16:30-16:50	
		16:50-
	Round Table "FUTURE OF PERSONALIZED GENETICS"	17:30
		17:30-
	POSTER SESSION	19:00

#### POSTER PRESENTIONS

E.V. Antontseva, L.O. Bryzgalov, M.Yu. Matveeva, A.A. Ponomaryova, A.A. Ivanova, E.Y. Rykova, N.V. Cherdyntseva, T.I. Merkulova

MUTATIONS IN K-RAS AND EGFR GENES AND THE SEARCH FOR SNPS, ASSOCIATED WITH THEIR OCCURRENCE

#### N.S. Babayan, A.L. Gevorkyan, R.M. Aroutiounian, G.G. Hovhannisyan

THE COMET-FISH TECHNIQUE FOR MONITORING CANCER TREATMENT RESPONSE AT THE GENOMIC LEVEL

L.A. Belozertseva, E.N. Voronina, N.V. Koh, G.A. Cvetovskaya, G.I. Lifshic, M.L. Filipenko Study of interindividual variability of warfarin dosage among population of the Western Siberian Region of Russia

A. A. Chernonosov, V. V. Koval, N. V. Kokh, G.A. Tsvetovskaya, G. I. Lifshits, O.S. Fedorova CONTRIBUTION OF GENOTYPE VARIATION TO WARFARIN PHARMACOKINETICS

#### A.V. Endutkin, A.G. Derevyanko, D.O. Zharkov

BASE EXCISION REPAIR OF TRIPLET REPEAT SEQUENCES ASSOCIATED WITH NEURODEGENERATIVE DISORDERS

#### M.B. Freidin, A.V. Polonikov

VALIDATION OF THE PPP1R12B AS A CANDIDATE GENE FOR CHILDHOOD ASTHMA SUSCEPTIBILITY

#### A.F. Garaeva, A.A. Rudko, E.Yu. Bragina, N.P. Babushkina, M.B. Freidin.

IDENTIFICATION OF RARE VARIANTS AND POLYMORPHISMS OF THE *IL12RB1* GENE AND ANALYSIS OF THEIR ASSOCIATIONS WITH TUBERCULOSIS

#### D.S. Korobko, N.A. Malkova, E.A. Kudryavtseva, M.L. Filipenko

GENETICS AND DISEASE PROGRESSION OF FAMILIAL MULTIPLE SCLEROSIS IN NOVOSIBIRSK REGION OF RUSSIA

#### N.Yu. Knauer, E.V. Voronina, G.I. Lifshits

EXPERIENCE OF THE PERSONALIZED ANTIPLATELET THERAPY: THE EFFECTS OF CYP2C19 GENE

E.A. Kudryavtseva, A.S. Rozhdestvenskii, A.V. Kakulya, E.V. Khanokh, N.A. Malkova, D.S. Korobko, F.A Platonov, E.G. Aref'eva, N.N. Zagorskaya, V.M. Alifirova, M.A. Titova, I.V. Smagina, S.A. El'chaninova, A.G. Zolovkina, V.P. Puzyrev, E.Y. Tsareva, O.O. Favorova, A.N. Boiko, M.L. Filipenko IS THE ASSOCIATION BETWEEN -308G->A TNFA AND MULTIPLE SCLEROSIS INDEPENDENT OF HLADRB1\*15?

E. V. Kulish, O. A. Makeeva, M. V. Golubenko, M. V. Zykov, V. V. Kashtalap.

ASSOCIATION OF *ITGB3* AND *GNB3* VARIANTS WITH THE DEVELOPMENT OF VASCULAR COMPLICATIONS IN PATIENTS WITH ACUTE CORONARY SYNDROME

E.V. Rudikov, V.A. Gavrilova, O.Y. Fedorenko, E.G. Boyarko, A.V. Semke, V.A. Sorokina, N.V. Govorin, S.A. Ivanova.

TARDIVE DISKINESIA AND POLYMORPHISM OF PHOSPHATIDYLINOSITOL- 4-PHOSPHATE 5-KINASE IIA GENE IN RUSSIAN SCHIZOPHRENIC PATIENTS

#### O.S. Shkoda, E.D.Chikova, N.V. Fomenko, P.P. Laktionov, E.Y.Rykova

CYTOKINE PROFILE AND CIRCULATING DNA IN THE BLOOD OF PATIENTS WITH TICK-BORNE BORRELIOSIS

#### Y.A. Tsepilov, J. Read, K. Strauch, T.I. Axenovich, Y.S. Aulchenko

DEVELOPMENT AND APPLICATION OF THE GENOMIC CONTROL METHODS FOR GENOME-WIDE ASSOCIATION ANALYSIS USING NON-ADDITIVE MODELS

#### R. V. Zakharyan, A.S. Boyajyan

NEW CANDIDATE GENES FOR SCHIZOPHRENIA DISORDER

# **SECTION:** Therapeutic proteins and nucleic acids

# June 26, Tuesday

House of Scientists, Small Conference Hall

Co-chairpersons:

Alexander Gabibov, Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.

Vladimir Richter, Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.

	NAS, NOVOSIDIISK.	
No.	Author(s) and Title of Talk	Timeline
1	HYBRID CONSTRUCTIONS FOR DIAGNOSTICS AND THERAPY	9:00 -
	Sergey Deev	9:25
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	
2	ZYBODIES: MULTI-SPECIFIC, ANTIBODY-BASED THERAPEUTICS	9:25 -
	Victor Roschke	9:50
3	Zyngenia, Inc., Gaithersburg, USA. PEPTIDE PHAGE LIBRARY FOR DIAGNOSTICS AND THERAPY	
3	Alexander Il'ichev	9:50 -
	State Research Center of Virology and Biotechnology "Vector" Novosibirsk.	10:15
4	BIENZYME NANOCONJUGATE FOR VASCULAR PROTECTION	
7	Alexander Maksimenko	10:15 -
	Institute of Experimental Cardiology, Russian Cardiology Research-and	10:40
	Production Complex, Moscow.	100
	, , , , , , , , , , , , , , , , , , ,	
	Coffee/tea break 10:40-11:10	
5	CANCER CELLS TARGETING TOXICITY OF CROTAMINE, MILD	
	TOXIN FROM BRAZILIAN RATTLESNAKE	11:10 -
	Irina Kerkis	11:35
	Laboratory of Genetics, Butantan Institute, San Paulo, Brazil.	
6	MONOCLONAL ANTIBODIES AGAINST THE EXTRACELLULAR	
	FRAGMENT OF CONNEXIN-43: A POTENTIAL ANTITUMOR ACTIVITY	11:35 -
	IN HIGH-GRADE GLIOMAS	12:00
	Gaukhar Yusubalieva The Dyssier National Descends Medical University Messey	
7	The Russian National Research Medical University, Moscow.  PROSPECTS OF ANTICANCED THERAPY BY LACTA PEIN	
7	PROSPECTS OF ANTICANCER THERAPY BY LACTAPTIN	12:00 -
	Vladimir Richter Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.	12:25
8	CHIMERIC ANTIBODIES AGAINST TICK-BORNE ENCEPHALITIS	
0	VIRUS	12:25 -
	Artem Tikunov	12:50
	Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.	12.50
	Sponsor session	
	SAMPLE PREPARATION INSTRUMENTS FOR SEQUENCING AND	
	GENETIC RESEARCH	13:00 -
	Denis Dmitrienko	13:30
	Dia-m, Moscow.	
	TOPIC WILL BE LATER	12.20
	Author	13:30 -
	Khimexpert company, Moscow.	14:00
9	NEW CONCEPT OF ANTI-CYTOKINE THERAPY	14.00
	Sergey Nedospasov	14:00 -
	English and Institute of Malassalan Dialassa DAC Managar	14:25

Engelhardt Institute of Molecular Biology RAS, Moscow.

10	ARTIFICIAL POLY-CTL-EPITOPES DNA VACCINES  Larisa Karpenko State Research Center of Virology and Biotechnology Vector, Koltsovo.	14:25 - 14:50
11	THE RESULTS OF THE GENE PRODUCT FOR THERAPEUTIC ANGIOGENESIS "NEOVASCULGEN" IN THE COMBINED THERAPY IN PATIENTS WITH CHRONIC ISCHEMIA OF LOWER EXTREMITIES Roman Deev Human Stem Cells Institute, Moscow.	14:50 - 15:15
12	MicroRNA IN METASTASES DEVELOPMENT	15.15
	Nadezhda Mironova	15:15 - 15:40
	Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.	13.40
	Coffee/tea break 15:40-16:10	
13	SMALL INTERFERING RNAS: PROSPECTS OF APPLICATIONS	16:10 -
	Elena Chernolovskaya	16:10 - 16:35
	Institute of chemical biology and fundamental medicine SB RAS, Novosibirsk.	10.33
14	TARGETING OF FUNCTIONALLY IMPORTANT SITES OF BACTERIAL	1 . 0 .
	RNA POLYMERASE BY SINGLE-STRANDED DNA APTAMERS	16:35 -
	Andrey Kulbachinskiy Institute of Molecular Constitute Presion Academy of Sciences Massey	17:00
15	Institute of Molecular Genetics, Russian Academy of Sciences, Moscow.  INNOVATIONS IN CELL TECHNOLOGY. CULTIVATION AND	
13	VISUALISATION OF IN-CELL EVENTS	17:00 -
	Tamara Malygina	17:10
	Optec, Novosibirsk.	
16	V3 WORKFLOW: FROM LOADING A GEL TO A READY BLOT	
	MEMBRANE IN JUST 30 MINUTES	17:10 -
	Feodor Tereshchenko	17:20
	Bio-Rad, Moscow.	
		17:20 -
	POSTER SESSION	18:30

#### POSTER PRESENTIONS

Fomin A.S., Koval O.A., Semenov D.V., Kuligina E.V., Richter V.A.

HUMAN CANCER CELLS APOPTOSIS PATHWAY INDUCED BY RECOMBINANT ANALOG OF LACTAPTIN RL2

M.O. Potapenko, A.V. Saveleva, A.S. Fomin, D.V. Semenov, O.A. Koval, E.V. Kuligina, V.A. Richter CHARACTERIZATION OF CYTOTOXIC FACTOR OF HUMAN MILK, LACTAPTINE, AND DESIGN OF ITS RECOMBINANT ANALOGUES

#### D. Pupov, D. Esyunina, A. Kulbachinskiy,

APTAMER-BASED METHODS FOR SCREENING AND CHARACTERIZATION OF NOVEL INHIBITORS OF BACTERIAL RNA POLYMERASE

A.V. Savelyeva, D.V. Semenov, O.A. Koval, I.V. Rabinov, E.V. Kuligina, V.A. Richter TRANSFECTION OF HUMAN CELLS BY ARTIFICIAL RNA-NUCLEOPHOSMIN 1 COMPLEXES

G.A. Stepanov, D.V. Semenov, O.A. Koval, E.V. Kuligina, I.V. Rabinov, V.A. Richter ARTIFICIAL BOX C/D RNAS AS GENE EXPRESSION MODULATORS

#### M.A. Tamarkin, G.S. Kachalova, A.V. Lipkin, V.O. Popov

"EXPRESSION AND ISOLATION OF THE PARKIN PROTEIN CONSTRUCT TV7 THAT DEFINES THE VIOLATION OF E3 LIGASE ACTIVITY IN HEREDITARY PARKINSON DISEASE"

#### A.A. Yarushkin, Y.A. Kazakova, V.O. Pustylnyak

CONSTITUTIVE ANDROSTANE RECEPTOR (CAR): XENOSENSOR AND TARGET FOR THERAPY

#### MICROSYMPOSIUM: SKOLKOVO: BIOLOGY AND INNOVATIONS

June 26, Tuesday Exhibition Centre, Conference Hall

Chairperson:

Igor Goryanin, Innovation Center "SKOLKOVO"

### The full program will be announced later.

No.	Author(s) and Title of Talk	Timeline
1.	KEYNOTE TALK	9:30-
		10:00
2.		10:00-
		10:25
3.		10:25-
		10:50
	Coffee/tea break 10:50-11:10	
4.	INTEGRATION OF GENOMICS RESEARCH AND NEXT GENERATION	
	SEQUENCING TECHNOLOGIES IN UNDERGRADUATE CLASSROOMS	11:10-
	Anya Goodman	11:35
	California Polytechnic State University, San Luis Obispo, USA.	
5.	REFORM OF BIOTECHNOLOGY EDUCATION IN RUSSIA: A EU	
	TEMPUS PROJECT INVOLVING RAS, RUSSIAN AND EUROPEAN	
	UNIVERSITIES	11:35-
	Dmitry Zharkov	12:00
	Institute of Chemical Biology and Fundamental Medicine, SB RAS,	
	Novosibirsk.	
6.		12:00-
		12:25
7.		12:25-
		12:50

#### 12:30-14:00 Lunch break

**June 26, Tuesday** Exhibition Centre, Conference Hall

Evening Session 14:00-18:00

MICROSYMPOSIUM: SKOLKOVO: BIOLOGY AND INNOVATIONS

Chairperson:

Igor Goryanin, Innovation Center "SKOLKOVO".

# **SECTION: Synthetic Biology**

# June 27, Wednesday

# **Exhibition Centre SB RAS**

# Co-chairpersons:

Alex Borovkov, Synbuild, LLC, Tempe, USA.

**Alexander Sinyakov**, Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.

No.	Author(s) and Title of Talk	Timeline
1.	MELANOGENESIS HELPS HUMAN ADIPOSE TO WITHSTAND LOW-	
	GRADE SYSTEMIC INFLAMMATION	9:00-
	Ancha Baranova	09:25
	George Mason University, Fairfax, USA.	
2.	STRUCTURE-FUNCTION STUDIES OF MODULAR, ACTIN-	
	REGULATING PROTEINS BY HETERONUCLEAR ( <sup>1</sup> H/ <sup>15</sup> N/ <sup>13</sup> C) NMR	9:25-
	Serge Smirnov	9:50
	Western Washington University, Bellingham, WA, USA.	
3.	SYSTEM PROFILING (GENOMIC, TRANSCRIPTOMIC, METABOLOMIC)	
	OF MYCOPLASMAS. NEW INSIGHTS ON MINIMAL STYLE OF LIFE	9:50-
	Dmitry Alexeev	10:15
	Research Institute of Physico Chemical Medicine, Moscow.	
	Coffee/tea break 10:15-10:45	
4	MULTINI EN AGGEMBLY OF HIGH EIDELETY DNA MOLECULEG EDOM	
4.	MULTIPLEX ASSEMBLY OF HIGH-FIDELITY DNA MOLECULES FROM	10.45
	COMPLEX MIXTURES OF SYNTHETIC OLIGONUCLEOTIDES	10:45-
	Alex Borovkov	11:10
_	Synbuild, LLC, Tempe, USA.	
5.	MULTIPLEXED REGULATORY ELEMENT SYNTHESIS AND	11.10
	CHARACTERIZATION	11:10- 11:35
	Sriram Kosuri	11.55
6	Wyss Institute For Biologically Inspired Engineering, Harvard University, USA.	
6.	DNA-MICROARRAY SYNTHESIZER	11:35-
	Alexander Sinyakov  Institute of Chemical Dielegy and Fundamental Medicine SD DAS. Nevesibinsk	12:00
	Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.	

# **SECTION:** Bionanotechnology for diagnosis and therapy

# June 28, Thursday

### **Exhibition Centre SB RAS**

### Co-Chairpersons:

**Dmitrii Pyshnyi**, Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk.

Dmitrii Stetsenko, Department of Chemistry, University of Reading, UK.

No.	Author(s) and Title of Talk	Timeline
1.	NEW ASPECTS OF OPTICAL METHODS FOR THE STUDY OF BLOOD	
	IN DIAGNOSIS OF COLORECTAL CANCER	09:30-
	Margarita Kruchinina	09:55
	Institute of Internal Medicine SB RAMS, Novosibirsk.	
2.	BASE EXCISION REPAIR ENZYMES AS INSTRUMENTS FOR	
	POSTGENOMIC BIOTECHNOLOGY	09.55-
	Dmitry Zharkov	10:20
	SB RAS Institute of Chemical Biology and Fundamental Medicine SB RAS,	10.20
	Novosibirsk.	
3.	GOLD AND COMPOSITE NANOPARTICLES FOR BIOMEDICAL	
	APPLICATIONS	10:20-
	Boris Khlebtsov	10:45
	Institute of Biochemistry and Physiology of Plants and Microorganisms RAS,	
	Saratov.	
	Coffee/tea break 10:45-11:15	
4.	INORGANIC NANOPARTICLES AS DELIVERY VEHICLE FOR	
	NUCLEIC ACIDS-BASED REAGENTS	11:15-
	Valentina Zarytova	11:45
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
5.	ANTIVIRAL ACTIVITY OF NANOBIOCOMPOSITES BASED ON	
	PEPTIDE NUCLEIC ACIDS AND TITANIUM DIOXIDE	
	NANOPARTICLES	11:45-
	Nariman Amirkhanov	12:10
	Institute of chemical biology and fundamental medicine SB RAS, Novosibirsk.	
	Novosibirsk State University.	
6.	PATHWAYS OF GOLD NANOPARTICLES INTERNALIZATION BY	
0.	DIFFERENT TYPES OF EUCARYOTIC CELLS	
	Elena Ryabchikova	12:10-
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	12:30
	Novosibirsk.	
7.	BIOMOLECULE SPECIFIC MIPS ON THE BASIS OF SIMPLE NYLON-6	
	Elena Dmitrienko	12:30-
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	12:55
	Novosibirsk.	

#### 13:00-14:00 Lunch break

8.	NANOWIRES AS BIO - CHEMICAL SENSORS	14:00 –
	Olga Naumova	14:30
	Institute of Semiconductor Physics SB RAS, Novosibirsk.	17.50
9.	RUPTURE EVENT SCANNING FOR BIOLOGY AND MEDICINE	14:30 –
	Fedor Dultsev	14.50 – 14:55
	Institute of Semiconductor Physics SB RAS, Novosibirsk.	14.33
10.	FLUORESCENT PEG-MODIFIED SINGLE-WALLED CARBON	
	NANOTUBES AS PLATFORM FOR THE CONSTRUCTION OF	
	THERANOSTIC TOOLS	14:55 -
	Evgeny Apartsin	15:20
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	
	Novosibirsk.	
	Coffee/tea break 15:20-15:40	
11.	FLUORESCENT DNA PROBES: RECENT ADVANCES	16:10-
	Vladimir Korshun	16:10- 16:30
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow.	10:30
12.	DESIGN OF MULTICOMPONENT CONCATAMER-LIKE DNA	
	NANOSTRUCTURES	16.20
	Dmitrii Pyshnyi	16:30-
	Institute of Chemical Biology and Fundamental Medicine SB RAS,	16:50
	Novosibirsk.	
13.	DNA ARCHITECTONICS: VISION OF THE FUTURE	1 < 50
	Dmitry Stetsenko	16:50-
	Department of Chemistry, University of Reading, UK.	17:10
	1	15.10
	POSTER SESSION	17:10-
		18:00

#### POSTER PRESENTIONS

#### O.A. Krasheninina, D.S. Novopashina, A.G. Venyaminova

NEW PYRENE EXIMER OLIGO(2'-O-METHYLRIBONUCLEOTIDE) PROBES FOR RNA DETECTION

#### R.N. Amirkhanov', N.V. Amirkhanov, V.F. Zarytova

IMMOBILIZATION OF PEPTIDE NUCLEIC ACIDS IN THE FORM OF HYBRID DNA/PNA DUPLEXES ON  ${
m TiO_2}$  NANOPARTICLES COVERED WITH POLYCATIONS CONTAINING QUATERNARY AMINO GROUPS

# N.S. Filippov , M.A. Paraschenko, N.V. Vandysheva, T.S. Vashutina, S.I. Romanov

ELECTROOSMOTIC PUMP BASED ON SILICON MICROCHANNEL MEMBRANE FOR BIOANALYTICAL PLATFORMS

#### M.S. Kupryushkin, D. V. Pyshnyi

PRACTICAL APPROACH FOR SYTHESIS OF NON-NUCLEOTIDE PHOSPHORAMIDITE SYNTHONS WITH DESIRED FUNCTIONSAL GROUPS CONNECTED BY ACHIRAL BACKBONE.

**D.S.** Naberezhnov, S.A. Sekerina, M.V. Monakhova, E.A Romanova, E.A. Kubareva, T.S. Oretskaya SYNTHESIS AND PROPERTIES OF MODIFIED OLIGODEOXYRIBONUCLEOTIDES CONTAINING NUCLEOTIDE RESIDUE WITH B-DIKETOGROUP AT C2' ATOM

M.N. Repkova, A.S. Levina, Z.R. Ismagilov, N.V. Shikina, N.A. Mazurkova, V.F. Zarytova HIGH BIOLOGICAL ACTIVITY OF DNA FRAGMENTS DELIVERED INTO CELLS WITH NANOMATERIALS.

II. ANTIVIRAL PROPERTIES OF NANOCOMPOSITES CONSISTING OF POLYLYSINE-TiO2 CONJUGATES AND DNA FRAGMENTS

A.S. Levina, M.N. Repkova, Z.R.. Ismagilov, N.V. Shikina, N.A. Mazurkova, V.F. Zarytova HIGH BIOLOGICAL ACTIVITY OF DNA FRAGMENTS DELIVERED INTO CELLS WITH NANOMATERIALS. I. ANTIVIRAL PROPERTIES OF NANOCOMPOSITES CONSISTING OF  ${\rm TiO_2}$  NANOPARTICLES AND POLYLYSINE-DNA CONJUGATES

N.V. Shatskaya , S.V. Vasilyeva, A.S. Levina, M.N. Repkova, S. I. Baiborodin, V.N. Silnikov, V.F. Zarytova NANOBIOCOMPOSITES SiO<sub>2</sub>~dNTP CONSISTING OF SIO<sub>2</sub> NANOPARTICLES AND IMMOBILIZED dNTP

G. J. Shevelev, O. A. Vinogradova, M. S. Kuprushkin, A. A. Lomzov, D. V. Sheglov, A. V. Latyshev, D. V. Pyshnyi
VISUALISATION OF DNA NANOSTRUCTURES USING ATOMIC FORCE MICROSCOPY

Yu.E. Spitcyna , I.A. Pyschnaya, A.A. Lomzov, E.I. Ryabchikova STUDY OF THE MECHANISMS OF GOLD NANOPARTICLES INTERACTION WITH HELA CELLS

# **SPONSOR SECTION**

# June 26, Tuesday

House of Scientists, Small Conference Hall

No.	Author(s) and Title of Talk	Timeline
1.	SAMPLE PREPARATION INSTRUMENTS FOR SEQUENCING AND	
	GENETIC RESEARCH	13:00-
	Denis Dmitrienko	13:30
	Dia-m, Moscow.	
2.	EVOLUTION OF NEXT-GENERATION SEQUENCING AT LIFE	_
	TECHNOLOGIES	13:30-
	Pavel Natalin	14:00
	Life Technology, Moscow.	

# Free lunch

# June 27, Wednesday

House of Scientists, Music Salon (room 220)

No.	Author(s) and Title of Talk	Timeline
1.	SNP GENOTYPING AND OTHER APPLICATIONS OF AUTOMATED	_
	MASS SPECTROMETRY OF NUCLEIC ACIDS	13:00-
	Andrey Glubokov	13:30
	BioGen-Analytika, Moscow.	
2.	ROCHE APPLIED SCIENCE COMPLEX APPROACH FOR MODERN	_
	MOLECULAR GENETICS LABORATORY: FROM ROUTINE	13:30-
	DIAGNOSTICS TO SCIENTIFIC DISCOVERY	13:30- 14:00
	Viktoria Likhareva	14.00
	Roche Diagnostics Rus LLC, Moscow.	

# Free lunch

# THE EIGHTH INTERNATIONAL CONFERENCE ON BIOINFORMATICS OF GENOME REGULATION AND STRUCTURE\SYSTEMS BIOLOGY

June 27, Wednesday House of Scientists, Small Conference Hall

# SECTION "BIOINFORMATICS AND SYSTEMS BIOLOGY OF GENE EXPRESSION REGULATION"

### Co-chairpersons:

Dr. Edgar Wingender, University Medical Center Göttingen, Göttingen, Germany

Dr. Vsevolod Makeev, Vavilov Institute of General Genetics RAS, Moscow, Russia

No.	Author(s) and Title of Talk	Timeline
1.	Remi Houlgatte	
	Centre Hospitalier Universitaire d'Angers, Angers, France	9:00-
	META-ANALYSIS OF EXPRESSION PROFILING	9:40
	KEYNOTE TALK	
2.	H. Binder	
	Interdisciplinary Centre for Bioinformatics, University Leipzig, Germany	9:40-
	DISCOVERING THE EPIGENOME: GLOBAL MAPPING OF HISTONE	10:00
	MARKS AND MODELING TRANSCRIPTIONAL MEMORY	
3.	A. Klebanov <sup>1,2,</sup>	
	Functional Genomics Group, EMBL-EBI, Cambridge, UK	
	<sup>2</sup> Research Centre for Technologies of Programming and Artificial Intelligence,	
	National Research University of Information Technologies, Mechanics and	10:00-
	Optics, St Petersburg, Russia	10:20
	DISTRIBUTED ATLAS: A RULE-BASED SYSTEM FOR QUERY	
	FEDERATION OVER SEMANTICALLY ALIGNED GENE EXPRESSION	
	DATA SOURCES	
4.	A.V. Klepikova	
	M.V. Lomonosov Moscow State University, Moscow	10:20-
	THE LARGE-SCALE ANALYSIS OF ARABIDOPSIS THALIANA	10:40
	MUTANT LEL USING RNA-SEQ	
5.	U.Ye. Kairov	
	Kazakh National University after Al-Farabi, Almaty, Kazakhstan	
	National Center for Biotechnology of the Republic of Kazakhstan, Astana,	10:40-
	Kazakhstan	11:00
	NETWORK INTERPRETATION AND META-ANALYSIS OF	11.00
	INDEPENDENT COMPONENTS EXTRACTED FROM BREAST CANCER	
	TRANSCRIPTOMES	
	Coffee/tea break 11:00-11:20	
6.	I. Ernberg	
	Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet,	11:20-
	Stockholm, Sweden	11:40
	INTER-CELLULAR NOISE AND TRANCRIPTIONAL CONTROL OF	111.10
	EPSTEIN-BARR VIRUS LATENCY PROGRAM SWITCHES IN HUMAN	
	B CELL LINES	
7.	P. Michalak	11:40-
	Virginia Bioinformatics Institute, Virginia Tech, Blacksburg, Virginia, USA	12:00
	EPIGENOMICS OF NUCLEOLAR DOMINANCE	

8.	O.N. Ozoline Institute of Cell Biophysics RAS Pushchino State Institute of Natural Sciences "PROMOTER ISLANDS" AS GENOMIC REGIONS WITH QUENCHED TRANSCRIPTION	12:00- 12:20
9	D.N. Shtokalo A.P.Ershov Institute of Informatics Systems SB RAS, Novosibirsk, Russia St.Laurent Institute, Providence, RI, USA PATTERNS OF MIRNA BINDING SITES LOCATION IN 3`UTRs OF HUMAN TRANSCRIPTS	12:20- 12:40
10.	S.B. Orazova al-Farabi Kazakh National University, Almaty, Kazakhstan PROPERTIES OF miR156a AND miR171a BINDING SITES IN PROTEIN- CODING SEQUENCE OF PLANT GENES	12:50- 13:00
11.	N.V. Demidenko  Department of Genetics, Biological faculty, M.V. Lomonosov Moscow State University, Moscow, Russia Evolutionary Genomics Laboratory, Faculty of Bioengineering and Bioinformatics, M.V. Lomonosov Moscow State University, Moscow, Russia RNA-SEQ IDENTIFICATION AND ANALYSIS OF GENES CONTROLLING ABIOTIC STRESS RESPONSE IN BUCKWHEAT	13:00- 13:10
12.	V.A. Lyubetsky Institute for Information Transmission Problems RAS, Moscow, Russia MODELING RNA POLYMERASE INTERACTION IN PLASTIDS OF PLANTS, ALGAE AND MITOCHONDRIA OF CHORDATES: HUMAN BEARING THE MELAS MUTATION AND RAT WITH HYPOSECRETION OF THYROID HORMONE	13:10- 13:20

#### 13:20-14:00 Lunch break

# Co-chairpersons:

**Dr. Edgar Wingender**, University Medical Center Göttingen, Göttingen, Germany **Dr. Vsevolod Makeev**, Vavilov Institute of General Genetics RAS, Moscow, Russia

No.	Author(s) and Title of Talk	Timeline
1.	I.V. Kulakovskiy	
	Vavilov Institute of General Genetics RAS, Moscow, Russia	
	Engelhardt Institute of Molecular Biology RAS, Moscow, Russia	14:00 -
	COMPREHENSIVE COLLECTION OF HUMAN TRANSCRIPTION	14:40
	FACTOR BINDING SITE MODELS	
	KEYNOTE TALK	
2.	I. Grosse	
	Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben,	
	Germany	
	Institute of Computer Science, Martin Luther University Halle–Wittenberg,	
	Halle, Germany	14:40 -
	Institute of Biology II, Albert-Ludwigs-University Freiburg, Freiburg,	15:20
	Germany	
	DE-NOVO DISCOVERY OF DIFFERENTIALLY ABUNDANT DNA	
	BINDING SITES INCLUDING THEIR POSITIONAL PREFERENCE	
	KEYNOTE TALK	

3.	V.G. Levitsky	15.20
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	15:20- 15:40
	IN SILICO VERIFICATION OF CHIP-SEQ DATA	13.40
4.	D.V. Antonets	
	State Research Center of Virology and Biotechnology "Vector", Koltsovo,	15.40
	Russia	15:40- 15:50
	COMPARING HOEFFDING'S D MEASURE AND MAXIMAL	13.30
	INFORMATION COEFFICIENT FOR ASSOCIATION ANALYSIS	
	E.A. Oshchepkova	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	
	PROMOTERS OF THE GENES ENCODING THE KEY TRANSCRIPTION	15:50-
	FACTORS IN THE INFLAMMATORY RESPONSE CONTAIN BINDING	16:00
	SITES FOR ARYL HYDROCARBON RECEPTOR	
	I. Yevshin	
	Institute of Systems Biology, Ltd, Novosibirsk, Russia	
	Novosibirsk State University, Novosibirsk, Russia	16:10-
	GTRD: ANNOTATING HUMAN GENOME WITH REGULATORY	16:20
	ELEMENTS USING CHIP-SEQ DATA	
5.	A.A. Osypov	
	Institute of Cell Biophysics of RAS, Pushchino, Russia	16:20-
	ELECTROSTATIC AND OTHER PHYSICAL PROPERTIES OF	16:30
	TRANSCRIPTION FACTORS BINDING SITES	
	Coffee/tea break 16:30-16:50	
6.	E. Wingender	
	Department of Bioinformatics, University Medical Center Göttingen,	
	Göttingen, Germany	16:50-
	A NEW COMPREHENSIVE CLASSIFICATION OF MAMMALIAN TRANSCRIPTION	17:20
	FACTORS USED FOR NETWORK CONSTRUCTION	
7	KEYNOTE TALK	
7.	E.V. Ignatieva	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	17:20-
	TrDB: A DATABASE OF THE HUMAN, MOUSE, AND RAT	17:40
	TRANSCRIPTIONAL REGULATORS AND ITS POTENTIAL	
0	APPLICATIONS IN SYSTEMS BIOLOGY	
8.	A.L. Chernobrovkin, V.G. Zgoda, A.V. Lisitsa and A.I. Archakov	
	Institute of Biomedical Chemistry RAMS, Moscow, Russia	17:40-
	COMPREHENSIVE ANALYSIS OF UNIDENTIFIED LC-MS FEATURES	17:50
	FOR INVESTIGATING PROTEINS DIVERSITY IN HIGH-THROUGHPUT	
	PROTEOMICS EXPERIMENTS	
9.	R. te Boekhorst	
	School of Computer Science, University of Hertfordshire, Hatfield, UK	17:50-
	THE LOCATION OF T1 DIABETES ASSOCIATED SNPs IN	18:10
1.0	REGULATORY REGIONS	
10	N.S. Khlopova	
	<sup>1</sup> Russian State Agrarian University – MTAA named after K.A.Timiryazev,	
	Moscow, Russia	18:10-
	ASSOCIATIONS BETWEEN PROMOTER POLYMORPHISMS IN KEY	18:20
	GENES OF LIPID METABOLISM AND MIOGENESIS AND	

# June 27, Wednesday Exhibition Centre SB RAS, Conference Hall

#### COMPUTATIONAL INFERENCE OF NETWORKS FROM HIGH-THROUGHPUT EXPERIMENTAL DATA

Co-chairpersons:

**Prof. Dr. Lars Kaderali,** Dresden University of Technology, Medical Faculty Carl Gustav Carus, Institute for Medical Informatics and Biometry, Dresden, Germany

**Dr. Bettina Knapp**, Heidelberg University, BioQuant BQ26, Heidelberg, Germany; Dresden University of Technology, Institute for Medical Informatics and Biometry, Dresden, Germany

No.	Author(s) and Title of Talk	Timeline
1.	T. Beissbarth	
	University of Goettingen, Goettingen, Germany	
	MODELLING DRUĞ RESISTANCE IN BREAST CANCER THROUGH	14:00 –
	NETWORK RECONSTRUCTION BASED ON LONGITUDINAL PROTEIN	14:40
	ARRAY DATA	
	KEYNOTE TALK	
2.	B. Knapp	
	Heidelberg University, ViroQuant Research Group Modeling, BioQuant	
	BQ26, Heidelberg, Germany.	14:40 -
	<sup>2</sup> Dresden University of Technology, Medical Faculty Carl Gustav Carus,	14:55
	Institute for Medical Informatics and Biometry, Dresden, Germany.	
	INFERENCE OF SIGNALING NETWORKS USING A LINEAR MODEL	
3.	C. Gilliam	14:55-
	The University of Chicago, IL, USA	15:20
	SYSTEMS BIOLOGY ANALYSIS OF COMPLEX DISORDERS	13.20
	Coffee/tea break 15:20-15:40	
5.	Y.L. Orlov	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	15:40-
	3D CHROMOSOME CONTACTS AND CHROMATIN INTERACTIONS	16:05
	REVEALED BY SEQUENCING	
5.	A.A. Ermakov	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	16.05-
	ANALYSIS OF TRANSCRIPTIONAL AND POSTTRANSCRIPTIONAL	16.30
	REGULATION OF AUXIN CARRIER AtPIN1	
6.	I.L. Stepanenko, O.G. Smirnova	
	Institute of Cytology & Genetics SB RAS, Novosibirsk, Russia	16:30-
	DYNAMICAL AND STRUCTURAL ANALYSIS OF AN APOPTOSIS	16:50
	NETWORK IN HEPATITIS C	
7.	M. Pyatnitskiy	
	Ariadne Diagnostics LLC, Rockville, USA	16:50-
	Institute of Biomedical Chemistry, RAMS, Moscow, Russia	17:15
	CLUSTER ANALYSIS OF SIGNIFICANT REGULATORS AS NEW	17.13
	APPROACH TO PATIENTS SUBTYPING	
8.	A.L. Proskura	
	Design Technological Institute of Digital Techniques SB RAS, Novosibirsk,	17:15-
	Russia	17:13-
	MECHANISMS OF AMPA RECEPTOR TRAFFICKING AS A BASE OF	17.55
	CHANGING THE SYNAPTIC EFFICIENCY	
	I.N. Lavrik	
	German Cancer Research Center (DKFZ), Heidelberg, Germany	
	<sup>2</sup> Bioquant, Heidelberg, Germany	17:35-
	<sup>3</sup> Institute of Experimental Internal Medicine, Otto von Guericke University,	17:55- 17:55
	Magdeburg, Germany	17.33
	TOWARDS UNDERSTANDING OF APOPTOSIS REGULATION BY	
	SYSTEMS BIOLOGY	

# June 28, Thursday House of Scientists, Small Conference Hall

Morning Session 9:00-12:30

# SECTION "GENE FUNCTION DISCOVERY AND SEARCH FOR NEW PHARMACEUTICAL TARGETS"

### Co-chairpersons:

**Dr.Elena I. Schwartz**, Ariadne Diagnostics LLC, Rockville, USA **Dr. Frank Eisenhaber**, Bioinformatics Institute Agency for Science, Technology and Research, Singapore

No.	Author(s) and Title of Talk	Timeline
1.	N. Belousova	
	Department of Experimental Diagnostic Imaging MD Anderson Cancer	
	Center University of Texas, USA	9:00-
	DEVELOPMENT OF ADENOVIRUS- BASED TARGETED GENE	9:30
	DELIVERY TECHNOLOGY	
2.	KEYNOTE TALK	
۷.	M.Y. Pakharukova  Institute of Cytology and Canatics S.P. P.A.S. Novosikirsk Pyssis	0.20
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia ORGANIZATION OF XENOBIOTIC-METABOLIZING SYSTEM PHASE 1	9:30- 9:50
		9.30
3.	IN OPISTHORCHIS FELINEUS (TREMATODA, PLATYHELMINTHES).	
3.	E. Berezikov	
	Hubrecht Institute and University Medical Center Utrecht, Utrecht, The	9:50-
	Netherlands IDENTIFICATION OF STEM CELL GENES AND DRUGS THAT AFFECT	10:10
4.	REGENERATION IN THE FLATWORM MACROSTOMUM LIGNANO  M.G. Masucci	
4.		10:10 -
	Department of Cell and Molecular Biology, Karolinska Institutet, Stockholm, Sweden.	10.10 – 10:30
	CONTROL OF CULLIN-RING UBIQUITIN LIGASE ACTIVITY BY THE	10:30
	EPSTEIN-BARR VIRUS ENCODED DENEDDYLASE BPLF1	
5.	D.A. Afonnikov	
٥.	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	
	Novosibirsk State University, Novosibirsk, Russia,	10:30 –
	ANALYSIS OF SEQUENCE FEATURES SPECIFYING THE ADHESION	10:50
	ABILITY OF INFLUENZA A VIRUS NEURAMINIDASE AND	
	HEMAGGLUTININ	
	Coffee/tea break 10:50-11:10	
6.	P. Spitali	
0.	Department of Human Genetics, Leiden University Medical Center, Leiden,	
	The Netherlands;	
	Department of Parasitology, Leiden University Medical Center, Leiden, The	
	Netherlands	11:10-
	DISCOVERY AND VALIDATION OF SERUM BIOMARKERS FOR	11:30
	MONITORING OF DISEASE PROGRESSION AND THERAPEUTIC	
	RESPONSE IN DUCHENNE MUSCULAR DYSTROPHY.	
	KEYNOTE TALK	
7.	E.R. Zabarovsky	11.20
	· ·	11:30-
	Karolinska Institute and Linkoping University, Stockholm, Sweden	11:50

	MOLECULAR TARGETS FOR PHARMACEUTICAL INTERVENTION	
	AND DIAGNOSIS BASED ON NOTI MICROARRAYS	
8.	V.I. Konova, O.N. Koborova, D.A. Filimonov, V.V. Poroikov	_
	Orekhovich Institute of Biomedical Chemistry of RAMS, Moscow, Russia	
	COMBINATION OF PROTEIN-PROTEIN INTERACTION NETWORK	11:50-
	ANALYSIS AND DISCRETE MODELING FOR IDENTIFICATION OF	12:10-
	PROMISING PHARMACOLOGICAL TARGETS FOR ALZHEIMER'S	
	DISEASE	
9.	E. Schwartz	
	Ariadne Diagnostics LLC, Rockville, USA	12.10
	NOVEL APPROACH TO META-ANALYSIS OF MICROARRAY	12:10- 12:30
	DATASETS FOR IDENTIFICATION OF NEW BIOMARKERS AND	12.30
	POTENTIAL DRUG TARGETS	

12:30-14:00 Lunch break

# June 28, Thursday Institute of Cytology and Genetics, Conference Hall

Morning Session 10:00-13:20

# MICROSYMPOSIUM "GENETIC DIVERSITY OF LABORATORY ANIMALS IN ADDRESSING FUNDAMENTAL AND APPLIED PROBLEMS IN POSTGENOMIC BIOLOGY"

# Chairperson:

# **Dr. Mikhail P. Moshkin**, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia

No.	Author(s) and Title of Talk	Timeline
1.	Javier Guillen	10.00
	European Branch of AAALAC, Pamplona, Spain	10:00- 10:30
	CURRENT STANDARDS OF LABORATORY ANIMAL CARE AND USE	10.50
2.	J-B Prins	
	Leiden University Medical Center, Leiden, Holland	10:30-
	GENETIC AND PHENOTYPIC CHARACTERISATION A MUST IN	11:00
	TRANSGENIC COLONY MANAGEMENT	
3.	A.N. Murashov	
	Institute of Bioorganic Chemistry RAS, Puschino, Russia	11:00-
	AAALAC ACCREDITATION AND GLP PRECLINICAL TESTING	11:30
	(PRACTICAL ADVICES)	
	Coffee/tea break 11:30-11:50	
4.	S. von Hörsten	
	Friedrich-Alexander-Universität Erlangen-Nürnberg Franz-Penzoldt-Center -	
	Experimentelle Therapie, Erlangen, Germany	11:50-
	RODENT PHENOTYPING: "COMPREHENSIVE PHENOTYPING OF	12:20
	RODENTS: CLASSICAL AND AUTOMATED APPROACHES IN	
	TRANSLATIONAL RESEARCH"	
5.	M.P. Moshkin	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	12:20-
	SPF-VIVARIUM IC&G SB RAS AS FACILITY FOR PRE-CLINICAL	12:50
	STUDIES	
6.	E. I. Fateeva	
	Center for Preclinical Studies "MBC Generium, Ltd", Pokrov, Russia	12:50-
	IMPACT OF MICROBIOLOGICAL STATUS OF LABORATORY	13:20
	ANIMALS ON THE EXPERIMENTAL RESULTS: WHY WE NEED	13.20
	HEALTH CONTROL?	
	13:20-15:30 Lunch break	
	ROUND TABLE	15:30-
	DANOLIET (AND CAL DADTY)	17:30 19:00-
	BANQUET (ANIMAL PARTY)	19:00- 20:30
		20.30

Evening Session 14:00-17:35

# SECTION "EVOLUTIONARY BIOINFORMATICS"

### Co-chairpersons:

**Dr. Igor B. Rogozin**, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia/NCBI/NLM/NIH, Bethesda MD, USA

**Dr. Dmitri A. Afonnikov,** Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia

No.	Author(s) and Title of Talk	Timeline
1.	A. Tchourbanov	
	Beijing Institute of Genomics (BIG), Beijing, P.R.China	14.00
	HIGH THROUGHPUT SSR CHARACTERIZATION AND LOCUS	14:00 – 14:35
	DEVELOPMENT FROM NEXT GEN SEQUENCING DATA	11.55
	KEYNOTE TALK	
2.	N. A. Zaytseva	14:35 –
	Siberian Federal University, Krasnoyarsk, Russia	14.33 – 15:00
	EVOLUTION OF MITOCHONDRIAL TRNAS	15.00
3.	S. Yegorov, S.V. Good	
	University of Winnipeg, Winnipeg, Manitoba, Canada	15:00-
	USING PALEOGENOMICS TO STUDY THE ORIGIN AND MECHANISM	15:00- 15:25
	OF DIVERSIFICATION IN VERTEBRATES: THE CASE OF THE	13.23
	RELAXIN FAMILY PEPTIDES AND THEIR RECEPTORS	
4.	K.V. Gunbin	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	15:25 –
	IMPORTANT ROLE OF THE miRNA CHANGES IN THE HOMO	15:50
	NEANDERTHALENSIS AND HOMO DENISOVA EVOLUTION	
	Coffee/tea break 15:50-16:10	
5.	N. Oparina	
	Engelhardt Institute of Molecular Biology, Russian Academy of Sciences,	
	Moscow, Russia	16:10-
	CYTOCHROME P450 SUPERFAMILY IN VERTEBRATES:	16:45
	EVOLUTIONARY PATHS OF XENOBIOTIC CYP450 AND	
	ENVIRONMENTAL «LIFESTYLES»	
6.	D. G. Naumoff	
	Winogradsky Institute of Microbiology RAS, Moscow, Russia	16:45-
	EVOLUTION OF THE $\alpha$ -L-RHAMNOSIDASES: HISTORY OF THE	17:10
	LATERAL GENE TRANSFERS AND THE GENE DUPLICATIONS	
7.	E.V. Kiseleva	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	17:10-
	EVOLUTIONARY CONCERVATION OF NUCLEAR PORE	17:35
	ORGANIZATION AND COMPOSITION	

# June 28, Friday Music Salon (room No. 220), House of Scientists SB RAS

Evening Session 14:00-18:00

# Open seminar of German/Russian Virtual Network of Bioinformatics "COMPUTATIONAL SYSTEMS BIOLOGY"

#### Co-chairpersons:

**Dr. Ralf Hofestaedt**, Bielefeld University, AG Bioinformatics, Bielefeld, Germany **Dr. Alexey V. Kochetov,** Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia

# Dr. Vladimir A. Ivanisenko, Institute of Cytology and Genetics SB RAS,

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No.	Author(s) and Title of Talk	Timeline
1.	N.A. Kolchanov	14:00 -
	Institute of Cytology & Genetics, Novosibirsk, Russia	14:10
	WELCOME SPEECH	
2.	R. Hofestaedt	14:10 -
	Bielefeld University, Bielefeld, Germany	14:20
	INTEGRATION	
3.	V.A. Ivanisenko	14:20 -
	Institute of Cytology & Genetics, Novosibirsk, Russia	14:35
	JOINT PROJECTS	
4.	H. Goetz	
	tdb Software Service GmbH, Schwabach, Germany	14:35 –
	METAGENE - INFORMATION SYSTEM FOR RARE METABOLIC	14:55
	DISEASES	
5.	B. Sommer	
	Bielefeld University, Bielefeld, Germany	14:55-
	INTERGRATIVE CELL MODELING USING DATA INTEGRATION AND	15:15
	TEXT MINING APPROACHES	
6.	Yu. L. Orlov	
	Institute of Cytology & Genetics, Novosibirsk, Russia	15:15-
	TRANSCRIPTION FACTOR BINDING SITES ANALYSIS FROM CHIP-	15:30
	SEQ DATA: MOTIFS AND CO-MOTIFS	
7.	I. Grosse	
	Leibniz Institute of Plant Genetics and Crop Plant Research (IPK),	15:30-
	Gatersleben, Germany	15:50
	DE-NOVO MOTIF DISCOVERY FROM CHIP-SEQ AND RNA-SEQ	
	DATA.	
8.	Coffee/tea break 15:50-16:10	
0.	A.O. Bragin Institute of Cutalogy & Constine Navosibirely Bussia	16.10
	Institute of Cytology & Genetics, Novosibirsk, Russia APPLICATION OF CONFORMATIONAL PEPTIDES FOR ANALYSIS OF	16:10- 16:25
		10.23
9.	ALLERGENIC PROTEINS  D. Brown	
٦.	<b>D. Braun</b> Bielefeld University, Bielefeld, Germany	16:25-
	to be specified	16:40
	io oe specifica	

10.	I.V. Medvedeva	
	Institute of Cytology & Genetics, Novosibirsk, Russia	16:40-
	INFLUENCES OF PROTEIN FUNCTIONAL SITES ENCODING	16:55
	FEATURES ON PROTEIN EVOLUTION IN EUKARYOTA	
11.	T.V. Ivanisenko	
	Institute of Cytology & Genetics, Novosibirsk, Russia	1 < 55
	RECONSTRUCTION OF THE ASSOCIATIVE GENETIC NETWORKS	16:55- 17:10
	BASED ON INTEGRATION OF AUTOMATED TEXT-MINING	17.10
	METHODS AND PROTEIN-LIGAND INTERACTIONS PREDICTION	
12.	E.S. Tiys	
	Institute of Cytology & Genetics, Novosibirsk, Russia	17:10-
	STRUCTURE-FUNCTIONAL ORGANIZATION OF THE ASSOCIATIVE	17:25
	GENETIC NETWORKS	
13.	DISCUSSION	17:25-
		18:00

Morning Session 9:00-13:30

### SECTION "MATHEMATICAL BIOLOGY AND SYSTEM MODELING"

### Co-chairpersons:

**Dr. Vladimir P. Golubyatnikov**, Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia

Dr. Alexander V. Ratushny, Institute for Systems Biology, Seattle, WA, USA

No.	Author(s) and Title of Talk	Timeline
1.	S.I. Bartsev	
	Institute for Biophysics SB RAS, Krasnoyarsk, Russia	9:00-
	HEURISTIC NEURAL NETWORK MODELS IN THE INVESTIGATION	9:25
	OF COMPLEX BIOLOGICAL SYSTEMS	
2.	KEYNOTE TALK V.A. Likhoshvai	
2.	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	9:25-
	MATHEMATICAL BIOLOGY OF GENE	9:50
	KEYNOTE TALK	
3.	V.P.Golubyatnikov	0.50
	Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia	9:50- 10:10
	NON-UNIQUENESS OF CYCLES IN GENE NETWORKS MODELS	10:10
4.	A.L. Perezhogin	
	Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia	10:10 -
	Institute for System Dynamics and Control Theory SB RAS, Irkutsk, Russia	10:30
	MATHEMATICAL METHODS FOR ANALYZING THE DYNAMICS OF	
	THE FUNCTIONING OF DISCRETE MODELS OF GENE NETWORKS.	
5.	L.Milanesi	
	Institute for Biomedical Technologies CNR, Milano, Italy	10:30 -
	IDENTIFICATION OF THE KEY COMPONENTS TO CONTROL THE	10:50
	BEHAVIOUR OF A COMPLEX PATHWAY: A STUDY ON A MODEL OF	
	MITOCHONDRIAL BIOENERGETICS	
	Coffee/tea break 10:50-11:10	
6.	A.V. Ratushny	
	Institute for Systems Biology, Seattle, WA, USA	11:10-
	Seattle Biomedical Research Institute, Seattle, WA, USA	11:30
	ASYMMETRICALLY SELF-UPREGULATED (ASSURE)	
	BIOMOLECULAR SYSTEMS	
7.	O.A. Igoshin	11.20
	Department of Bioengineering, Rice University, Houston, Texas	11:30-
	INTERPLAY OF GENE EXPRESSION NOISE AND ULTRASENSITIVE	11:50
0	DYNAMICS AFFECTS BACTERIAL OPERON ORGANIZATION	
8.	M. Zakhartsev	11.50
	IPMB, University of Heidelberg, Germany;	11:50- 12:10
	DYNAMIC MODEL OF ANAEROBIC ENERGY METABOLISM OF	12:10
	YEAST SACCHAROMYCES CEREVISIAE	

9.	N.V. Tropigonko	
9.	N.V. Ivanisenko	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia,	12:10 –
	Novosibirsk State University, Novosibirsk, Russia	12:30
	SUPPRESSION OF SUBGENOMIC HCV RNA BY NS3 PROTEASE	12.30
	ANTIVIRALS IN CELLS: A BASIC STOCHASTIC MATHEMATICAL	
	MODEL	
10.	A. Zinovyev	
	Institute Curie, Paris, France	10.20
	INSERM, Paris, France	12:30 –
	Mines ParisTech, Fontainebleau, France	12:50
	SYNTHETIC LETHALITY WITHIN ONE PATHWAY AND CANCER	
	TREATMENT	
11.	S.A. Lashin	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	12:50 –
	Novosibirsk State University, Novosibirsk, Russia	
	WHEN GENE NETWORKS MAY NOT WORK: COMPUTER MODELING	13:10
	WITH THE HAPLOID EVOLUTIONARY CONSTRUCTOR	
12.	O.L. Zhdanova	
	Institute of Automation and Control Processes FEB RAS, Vladivostok, Russia	13:10 –
	EVOLUTION TRANSITION TO COMPLEX DYNAMIC MODES IN	13:30
	STRUCTURED BIOLOGICAL POPULATIONS	13.30
	STRUCTURED DIOLOGICAL FOFULATIONS	

# 13:30-14:00 Lunch break

# June 29, Friday Exhibition Centre SB RAS, Conference Hall

Morning Session 9:00-12:40

### SECTION "SUPERCOMPUTER APPLICATIONS IN BIOINFORMATICS"

#### Co-chairpersons:

Dr. Jaroslaw Zola, Iowa State University, Iowa, USA

Dr. Vyacheslav Ilyin, SINP MSU, Moscow, Russia

Dr. Yuriy Orlov, Institute of Cytology and Genetics, Novosibirsk, Russia

No.	Author(s) and Title of Talk	Timeline
1.	J. Zola	
	Department. of Electrical and Computer Engineering, Iowa State University,	9:00-
	Ames, Iowa, USA	9:35
	LARGE SCALE METAGENOMIC CLUSTERING KEYNOTE TALK	
2.	L. Milanesi	9:35-
	ITBA, Milan, Italy	10:00
	Perspective and challenge of Grid and HPC applications in Biomedical Science	10.00
3.	D. Braun	
	Bio-/Medical Informatics Department, Bielefeld, Germany	10:00-
	PARALLEL NETWORK ANALYSIS ON INTEGRATED LIFE SCIENCE	10:20
	DATA	
4.	S.I. Feranchuk	10:20-
	Belarussian State University, Minsk, Belarus	10:40
	BRI-SHUR.COM – A SITE FOR BIOINFORMATICS COMPUTATIONS	
5.	A. Yudin	10:40 –
	Hewlett-Packard, Novosibirsk, Russia	11:00
	HP view: modern trends in HPC	
	Coffee/tea break 11:00-11:20	
5.	F. Izquierdo-Carrasco	
	Heidelberg Institute for Theoretical Studies, Heidelberg, Germany	11:20-
	CHALLENGES ON LARGE-SCALE COMPUTATIONAL	11:40
	PHYLOGENETICS	
6.	A.O. Chugunov	
	Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow	11:40-
	A BACTERIAL MEMBRANE "ACHILLES HEEL": HIGH-PERFORMANCE	12:00
	COMPUTER SIMULATION OF PEPTIDOGLYCAN CARRIER LIPID-II IN	
	THE CHARGED LIPID BILAYER	
7.	K.N. Kozlov	1.00
	St. Petersburg State Polytechnical University, St. Petersburg, Russia	12:00-
	IMPROVED DIFFERENTIAL EVOLUTION ENTIRELY	12:20
-	PARALLEL METHOD	
8.	N. L. Podkolodnyy	
	Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	12:20 -
	Institute of Computational Mathematics and Mathematical Geophysics SB RAS,	12:40
	Novosibirsk, Russia	12.10
	HIGH PERFORMANCE COMPUTING IN BIOINFOMRANTICS: CASE	
	STUDIES	

Evening Session 14:00-17:50

# SECTION "COMPUTER BIOLOGY OF DEVELOPMENT"

### Co-chairpersons:

Dr. Eric Mjolsness, University of California, Irvine, USA

Dr. Maria G. Samsonova, St. Petersburg State Polytechnical University, Russia

	Timeline
E.Mjolsness	
University of California, Irvine, USA	14:00 –
MATHEMATICAL MODELING LANGUAGES FOR	14:30
MORPHODYNAMICS	150
KEYNOTE TALK	
V.V. Mironova	
Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia	14:30 – 14:50
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	16:00-
	16:30
ANEMONE NEMATOSTELLA VECTENSIS	
KEYNOTE TALK	
M.G. Samsonova	
St. Petersburg State Polytechnical University, Russia	16.30-
MODELING OF GAP GENE EXPRESSION IN DROSOPHILA KRUPPEL	16.50
MUTANTS	
T.A. Bukharina	
Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia	16:50-
THE CENTRAL REGULATORY CIRCUIT OF THE MACROCHAETE	17:10
MORPHOGENESIS GENE NETWORK: A MODEL OF FUNCTIONING	
V.A. Scobeyeva	
· · · · · · · · · · · · · · · · · · ·	17:10-
ON THE FACTOR ANALYSIS OF MASS CTLL MOVEMENTS IN	17:30
AMPHIBIAN GASTRULATION	
ON BIOMECHANICS OF ARABIDOPSIS EMBRYO AND	17:30-
INTERPRETATIONS FOR GEOMETRICAL FEATURES OF EMBRYO	17:50
	University of California, Irvine, USA MATHEMATICAL MODELING LANGUAGES FOR MORPHODYNAMICS KEYNOTE TALK V.V. Mironova Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia COMBINED IN SILICO/IN VIVO ANALYSIS OF AUXIN MEDIATED MECHANISMS OF ROOT APICAL MERISTEM DEVELOPMENT J. Szymanowska-Pułka Department of Biophysics and Plant Morphogenesis US, Katowice, Poland DESCRIPTION OF A LATERAL ROOT DEVELOPMENT IN TERMS OF THE GROWTH TENSOR A. Trubuil INRA, Paris, France ON 3D RECONSTRUCTION AND LINEAGE OF ARABIDOPSIS EMBRYOS FROM A COLLECTION OF OBSERVATIONS OF FIXED SAMPLES BASED ON CONFOCAL MICROSCOPY Coffeetea break 15:30-16:00  Jaap A. Kaandorp University of Amsterdam, Netherlands MODELLING GENE REGULATION OF MORFOGENESIS IN THE SEA ANEMONE NEMATOSTELLA VECTENSIS KEYNOTE TALK M.G. Samsonova St. Petersburg State Polytechnical University, Russia MODELING OF GAP GENE EXPRESSION IN DROSOPHILA KRUPPEL MUTANTS T.A. Bukharina Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia THE CENTRAL REGULATORY CIRCUIT OF THE MACROCHAETE MORPHOGENESIS GENE NETWORK: A MODEL OF FUNCTIONING V.A. Scobeyeva Lomonosov Moscow State University, Moscow, Russia

# June 29, Friday Exhibition Centre SB RAS, Conference Hall SECTION "INTEGRATIVE BIOINFORMATICS AND INTELLIGENT KNOWLEDGE DISCOVERY/MANAGEMENT"

# Co-chairpersons:

Dr. Andrey Rzhetsky, University of Chicago, USA

**Dr. Evgeni E. Vityaev,** Sobolev Institute of Mathematics, SB RAS, Novosibirsk, Russia

No.	Author(s) and Title of Talk	Timeline
1.	Ralf Hofestädt, Bielefeld University MODELING ASPECTS OF THE "VIRTUAL CELL"	14:00 – 14:30
2.	O. Krebs Heidelberg Institute for Theoretical Studies (HITS), Germany, SYSMO-DB: A COMMUNITY-BASED APPROACH TO DATA SHARING	14:30 – 14:50
3.	V.A.Ivanisenko Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia. PBSoft Llc, Novosibirsk, Russia. ASSOCIATIVE NETWORK DISCOVERY SYSTEM (ANDSYSTEM): AUTOMATED LITERATURE MINING TOOL FOR EXTRACTING RELATIONSHIPS BETWEEN DISEASES, PATHWAYS, PROTEINS, GENES, MICRORNAS AND METABOLITES	14:50- 15:10
4.	B.V. Semisalov  Design Technological Institute of Digital Techniques SB RAS, Novosibirsk Institute of Systems Biology, Ltd, Novosibirsk, Russia  COMPUTATIONAL AND ANALYTICAL ASPECTS OF A NEW  COMPLEX MODEL DESCRIBING HUMAN CARDIOVASCULAR  SYSTEM  Coffee/tea break 15:30-15:50	15.10- 15.30
5.	Lars Jensen University of Copenhagen - Copenhagen, Denmark (DK) NETWORK BIOLOGY: LARGE-SCALE BIOMEDICAL DATA AND TEXT MINING KEYNOTE TALK	15:50- 16:20
6.	D. Parkhomchuk Department of Medical and Human Genetics, Charite, Universitätsmedizin Berlin, Berlin, Germany GENETALK: AN EXPERT EXCHANGE PLATFORM FOR ASSESSING RARE SEQUENCE VARIANTS IN PERSONAL GENOMES	16.20- 16.40
7.	K.N. Kozlov St.Petersburg State Polytechnical University, St.Petersburg, Russia ProStack LLC, St.Petersburg, Russia PROCESSING OF BIOMEDICAL IMAGES IN TERAPRO	16:40- 17:00
8.	R. Henderson National Institutes of Health, Bethesda, Maryland USA MODELING EMERGENT PROPERTIES OF BIOLOGICAL SYSTEMS WITH AN AGENT-BASED SIMULATION SUITE	17:00 - 17:20
9.	Y.Y.Vaskin Novosibirsk State University, "UniPro" Company, Novosibirsk, Russia DATA MINING TOOL FOR ANALYSIS OF REGULATORY REGIONS OF GENES: INTEGRATION OF EXPERT DISCOVERY AND UGENE	17:20 - 17:40