

## THE YOUNG SCIENTISTS SCHOOL PROGRAM

**The young scientists school sessions will be held in the Institute of Cytology and Genetics, conference hall**

*Chairs of the young scientists school: Dr. Dmitry A. Afonnikov  
Prof. Georges St. Laurent  
Acad. Nikolay A. Kolchanov*

### **June, 28**

8.30-9.15 registration

9.15-9.30 Welcome by academicians of the Russian Academy of Science, Nikolay Kolchanov Prof., St. Laurent University, USA, Georges St. Laurent Dr., Institute of Cytology and Genetics, Dmitry A. Afonnikov

#### Morning session (9.30-13.00)

9.30- 10.15 Prof. **Thomas Liehr** (Jena University Hospital, Institute of Human Genetics and Anthropology, Germany)

*Detailed characterization of small supernumerary marker chromosomes reveals breakpoint hot spots*

10.15-11.00 Dr. **Olga Krebs** (Heidelberg Institute for Theoretical Studies, Germany)

*Systems biology requirements for standardization and integration of wet and dry laboratory data*

11.00-11.30 – coffee break

11.30-12.15 Prof. **Henrik Jonsson** (Lund University, Sweden)

*Combining morphodynamics, hormone signaling, and cell differentiation in computational models*

12.15-13.00 Dr. **Pawel Krupinski** (Lund University, Sweden)

*Biomechanics of cells and their interactions - models for plants and animals*

#### Evening session (14.00-18.00)

14.00-14.45 Prof. **Georges St. Laurent III** (St. Laurent Institute, Providence, USA)  
*Computational mechanisms and information coding by the non-coding transcriptome*

14.45- 15.30 Prof. **Igor Rogozin** (National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, USA)  
*Evolutionary genomics of eukaryotes*

15.30-16.00 – coffee break

*Young scientists' reports*

16.00-16.15 – **Berillo O.A., Khailenko V.A.** (Kazakh National University named al-Farabi, Almaty, Kazakhstan)

*Peculiarities of interaction miRNA with mRNA of some oncogenes*

16.15-16.30 – **Galachyants Yu.P.** (Limnological Institute, Irkutsk, Russia)  
*Metagenomics analysis of the bacterial community associated with diatom alga *Synedra acus**

16.30-16.45 – **Khlopova N.** (RSAU-MTAA named after K.A.Timiryazev, Moscow, Russia)  
*Variable part of gene expression profiles in liver and kidney of pigs*

16.45-17.00 – **Gurianova V.** (Bogomoletz Institute of Physiology, Kiev, Ukraine)  
*Integral evaluation of profile of natriuretic peptides system's mRNA expression in cultured cardiomyocytes during anoxia-reoxygenation*

17.00-17.15 – Coffee break

17.15-17.30 – **Arakelyan A.** (Institute for Informatics and Automation Problems, Yerevan, Armenia)  
*Algorithmic analysis of functional pathways affected in post-traumatic stress disorder*

17.30-17.45 – **Sirotkina S.M.** (Tyumen State University, Tyumen, Russia)  
*Application of DNA sequencing and detection of levels expression epidermal growth factor receptor (EGFR) in cancer practice*

17.45-18.00 – **Shadrin A.A.** (Design Technological Institute of Digital Techniques SB RAS, Novosibirsk, Russia)  
*Microarray data analysis plugin for BioUML*

## June, 29

### Morning session (9.30-13.00)

9.30- 10.15 Prof. **Lavrentiev Mikhail** (Novosibirsk State University, Novosibirsk)  
*Modern hardware architectures and acceleration of solution to some problems in biology*

10.15-11.00 Prof. **Fazel Famili** (University of Ottawa, IIT/ITI - National Research Council Canada, Ottawa, Canada)  
*The real impact of knowledge discovery in bioinformatics*

11.00-11.30 – coffee break

11.30-12.15 Dr. **Daniil G. Naumoff** (State Institute for Genetics and Selection of Industrial Microorganisms, Moscow, Russia)  
*Bioinformatic analysis of protein families*

12.15-13.00 Prof. **Alexis Ivanov** (Institute of Biomedical Chemistry RAMS, Moscow, Russia)  
*Intermolecular interactions: 3D computer simulations and SPR biosensor analysis*

### Evening session (14.00-18.00)

#### *Young scientists' reports*

14.00-14.15 **Medvedeva I.V.** (Institute of Cytology and Genetics, Novosibirsk, Russia)  
*Computer system SitEx for analyzing protein functional sites in eukaryotic gene structure*

14.15- 14.30 **Genaev M.A.** (Institute of Cytology and Genetics, Novosibirsk, Russia)  
*BioinfoWF — web services and workflow management for bioinformatics analysis*

14.30-14.45 **Uroshlev L.A.** (Moscow State Forest University, Mytishi, Russia)  
*GPGPU-computing for prediction of small ligand binding sites in proteins*

14.45-15.00 **Novoseletsky V.N.** (Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Moscow, Russia)  
*Influence of hydrophobicity of beta-blockers on their binding affinity*

15.00-15.15 **Mikhailova E.V.** (Institute of Cytology, Saint-Petersburg, Russia)  
*Prion-associated proteins in yeast: comparative analysis of yeast strains, distinguished by their prion content*

15.15-15.30 **Chernobrovkin A.L.** (Institute of Biomedical Chemistry RAMS, Moscow, Russia; Cryptome Research Ltd, Moscow, Russia)  
*Knowledge-based refinement in mass-spectrometric identification of proteins*

15.30-16.00 – coffee break

16.00-16.15 - **Stepuschenko O.O.** (Kazan State University, Department of Genetics, Kazan, Russia)  
*Sequence analysis of COG3868 and COG2342 families*

16.15-16.30 - **Asheulov A.S.** (Al-Farabi Kazakh National University, Almaty, Kazakhstan)  
*Exon-Intron structure of first chromosome *Monodelphis domestica**

16.30-16.45 - **Orlenko A.** (Novosibirsk State University, Novosibirsk, Russia; Institute of Cytology and Genetics, Novosibirsk, Russia)  
*The correspondence between 5'-untranslated regions of yeast's genes with their expression efficiency.*

16.45-17.00 - **Bukin Yu.S.** (Limnological Institute SB RAS, Irkutsk, Russia)

*Model for simulation gene flow for species with one-dimensional area*

17.00-17.15 –**Kuznetsova E.** (*Siberian Institute of Plant Physiology and Biochemistry, Irkutsk, Russia*)

*Dwarf form of Malus baccata (L.) Borkh: initial stage of the parapatric speciation?*

17.15-17.30 - **Doroshkov A.** (Institute of Cytology and Genetics, Novosibirsk, Russia)

*Using the computer-based image processing technique in genetic analysis of leaf hairiness in wheat Triticum aestivum L.*

**18.00 - The close ceremony, award, summaries from chairpersons**

academician of the Russian academy of Science, Nikolay Kolchanov

Prof., St. Laurent University, USA, Georges St. Laurent

Dr., Institute of Cytology and Genetics, Dmitry A. Afonnikov