

# 12th International Multiconference «Bioinformatics of Genome Regulation and Structure\Systems Biology», Novosibirsk, Russia, 06–10 July 2020

06 July, Monday

## 10.00–17.30 Plenary session

*(Chairperson: Galina Orlova, scientific secretary of the Institute of Cytology and Genetics Novosibirsk, Russia)*

### 10.00-11.00 Greetings from the organizers of the conference BGRS/SB

Nikolay Kolchanov, *academic adviser of the Institute of Cytology and Genetics Novosibirsk, Russia*

Alexey Kochetov, *director of the Institute of Cytology and Genetics Novosibirsk, Russia*

Sergey Goncharov, *director of the Sobolev Institute of Mathematics, SB RAS, Novosibirsk, Russia*

Mikhail Fedoruk, *rector of the Novosibirsk State University, Novosibirsk, Russia*

### 11.00–11.45 Experimental investigation and computational modeling of the 3D-genome

Veniamin Fishman, *Institute of Cytology and Genetics Novosibirsk, Russia; NSU, Novosibirsk, Russia*

### 11.45–12.30 Morphogenetic mechanisms of plant root development: systems biology approach

Victoria Mironova, *Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia; NSU, Novosibirsk, Russia*

### 12.30–12.45 Actual approaches of genomic analysis by NGS methods

Dmirty Kwon, *Helicon Company, Moscow, Russia*

### 12.45–13.30 Extra chromosome in germ line and the mystery of songbird evolution

Anna Torgasheva, *Lyubov Malinovskaya & Pavel Borodin, Institute of Cytology and Genetics, SB RAS, Novosibirsk, Russia*

13.30–14.30 Lunch

### 14:30–14:35 Greetings from the organizer of the conference BGRS/SB

Ralf Hofestädt, *University Bielefeld, Germany*

### 14.35–15.20 Genetics and epigenetics of brain functions and pathologies

Evgeny Rogaeu, *University of Massachusetts, USA*

### 15.20–16.05 Mathematical modelling of the immune system

Gennady A. Bocharov, *Marchuk Institute of Numerical Mathematics of the Russian Academy of Sciences*

16.05-16.50 **Cyclin/Cdk-centered regulations are pivotal for autonomous cell cycle oscillator designs in yeast**  
Matteo Barberis, *University of Surrey, Guildford, United Kingdom*

16.50-17.05 Short break

17.05-17.50 **Smart Nanomaterials. A total effect is greater than an arithmetic sum of the constituent agents.**  
Sergey Deyev, *Shemyakin & Ovchinnikov Institute of Bioorganic Chemistry, Moscow, Russia*

17.50-18.35 **Neuroscience Search for Meaning**  
Tatyana Chernigovskaya, *St. Petersburg State University, St. Petersburg, Russia*

## 07 July, Tuesday

09.00- 09.30 **Plenary lecture (Chairperson: Galina Orlova, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Understanding heterozygous carrying of deleterious variants as a key for personalized longevity**  
Ancha Baranova, *School of Systems Biology, George Mason University, Fairfax, VA*

## 08 July, Wednesday

09.00-09.30 **Plenary lecture (Chairperson: Galina Orlova, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Human Genome, Anesthesiology and Critical Care. 20 Years Later**  
Vladimir Zelman, *Keck School of Medicine - USC*

14.30-15.00 **Plenary lecture (Chairperson: Galina Orlova, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Understanding the evolution of complex regions in bird genomes**  
Alexander Sang-Jae Suh, *School of Biological Sciences, University of East Anglia, Norwich, United Kingdom*

## 09 July, Thursday

- 09.00-09.30 **Plenary lecture (Chairperson: Vyacheslav Mordvinov, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Genetic Development of the Nociceptive System and the Epigenetics of the Experience of Pain**  
Jack M. Berger MS, MD, Ph.D., *Professor Emeritus of Clinical Anesthesiology, Keck School of Medicine of USC, University of Southern California, Los Angeles, California, USA*
- 14.15-15.00 **Plenary lecture (Chairperson: Vyacheslav Mordvinov, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Brain Asymmetries in the Cognitive Processing**  
Boris M. Velichkovsky, *Corresponding Member of the Russian Academy of Science, Member of Academia Europaea*

## 10 Friday, Monday

- 09.00-09.30 **Plenary lecture (Chairperson: Vyacheslav Mordvinov, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Mathematical problems driven by COVID-19**  
Sergey Kabanikhin, *Novosibirsk State University, Novosibirsk, Russia*
- 14.30-15.00 **Plenary lecture (Chairperson: Vyacheslav Mordvinov, Institute of Cytology and Genetics Novosibirsk, Russia)**  
**Epidemics: challenges and responses**  
Alexey Romanukha, *Marchuk Institute of Numerical Mathematics of the Russian Academy of Sciences*