# МЕЖДУНАРОДНАЯ КОНФЕРЕНЦИЯ

# **ХРОМОСОМА 2023 ПРОГРАММА**





5 - 10 сентября 2023, Новосибирск September 5 - 10, 2023, Novosibirsk, Russia

#### **Program**

#### September 5, Tuesday

16:00–18:00 Registration

18:00–22:00 Welcome party

#### September 6, Wednesday

08:30-09:00 Registration

#### Conference opening Opening lectures

09:00–09:20 **Igor F. Zhimulev**, Institute of Molecular and Cellular

Biology, Novosibirsk, Russia

On the organization of the conference. In memory of N.K. Koltsov and S.L. Frolova

09:20–09:40 Alexander S. Graphodatsky, Institute of Molecular

and Cellular Biology, Novosibirsk, Russia

A.A. Prokofyeva-Belgovskaya – 120 years on the

background of a chromosome

09:40–10:00 Nina Sh. Bulatova, A.N. Severtsov Institute of Ecology

and Evolution, Moscow, Russia

Mammalian cytogenetics and its contribution to the development of chromosomal diagnostics and systems

of species

#### Section I

#### **Chromosomes and genomes**

Co-chairmen: Alexander S. Graphodatsky, Nikolay B. Rubtsov

10:00–10:20 **Veit Schubert**, Leibniz Institute of Plant Genetics and Crop

Plant Research, Gatersleben, Germany

Is chromonema coiling conserved in eukaryotes?

on-line

10:20-10:40	Vladimir A. Lukhtanov, Zoological Institute, St. Petersburg, Russia Cytogenetics of non-model insect species in the era of assembly of complete genomes
10:40-11:00	Nazar A. Shapoval, Zoological Institute, St. Petersburg, Russia Study of parthenogenetic and bisexual populations of psyllids of the genus <i>Cacopsylla</i> (Hemiptera, Psylloidea) by methods of chromosome and molecular analysis on-line
11:00-11:20	Coffee break
11:20–11:40	Anastasia A. Proskuryakova, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Chromosome evolution in Ruminantia
11:40–12:00	Irina Yu. Bakloushinskaya, Koltzov Institute of Developmental Biology, Moscow, Russia Chromosome changes and speciation: the mole voles of the subgenus <i>Ellobius</i>
12:00-12:20	Valentina G. Tambovtseva, Koltzov Institute of Developmental Biology, Moscow, Russia Chromosomal variability of the Alai mole vole <i>Ellobius</i> alaicus in the general mosaic of genetic variability
12:20–12:40	<b>Nikolay B. Rubtsov</b> , Institute of Cytology and Genetics, Novosibirsk, Russia Karyotype and genome of <i>Macrostomum lignano</i> : an unusual result of karyotypic and genomic evolution after whole genome duplication
12:40-13:00	Ingo Schubert, Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany The puzzling genomes of the Lemnaceae family on-line
13:00-14:00	Lunch

Section II  Heterochromatin  Chairman: Igor F. Zhimulev	
14:00–14:20	<b>Eugene N. Kozlov</b> , Institute of Gene Biology, Moscow, Russia Study of the mechanisms of work of promoters of heterochromatic genes
14:20–14:40	Mariya V. Maltseva, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Conservative protein RCC1 is a new component of the inactive regions of <i>Drosophila</i> polytene chromosomes
14:40–15:00	Vladimir E. Gokhman, Lomonosov Moscow State University, Moscow, Russia Repetitive DNA sequences in the Hymenoptera (Insecta) genome
15:00–15:20	Svetlana A. Romanenko, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Constitutive heterochromatin in rodents (Rodentia, Mammalia)
15:20–15:40	Marina A. Popova, Institute of Cytology, St. Petersburg, Russia Analysis of the diversity of large tandem repeats in Carnivora genomes
15:40-16:00	Coffee break
16:00–16:20	Aleksey S. Komissarov, ITMO University, St. Petersburg, Russia Redefining tandem repeat analysis in mammalian genomes: a novel software toolset and classification approach on-line

16:20–16:40 **Prim Singh**, Nazarbayev University School of Medicine, Astana, Kazakhstan
HP1 proteins and phase separation

#### Sponsor's reports

16:40–16:50 Anton A. Korolkov, STORMOFF

Modern microscopy – from simple to complex.

Light microscope selection criteria

16:50–17:00 Andrey A. Barinov, INTERGEN

Applied Spectral Imaging. Chromosomal analysis –

karyotyping. FISH analysis

#### 17:00-20:00 Cultural program

#### September 7, Thursday

#### Section III

#### Genetic organization of the interphase chromosome

Co-chairmen: Sergey A. Demakov, Tatyana D. Kolesnikova

09:00–09:20 **Tatyana Yu. Vatolina**, Institute of Molecular and Cellular

Biology, Novosibirsk, Russia

Structure and organization of promoters in housekeeping and developmental genes in *Drosophila* 

09:20–09:40 Evgeniya S. Soboleva, Tomsk State University, Tomsk,

Russia

Iterative mapping is a new approach to genomic mapping of inversion breakpoints on the example of chromosomes of malarial mosquitoes of the genus *Anopheles* of the Maculipennis subgroup

09:40–10:00 Alla V. Krasikova, St. Petersburg State University, St.

Petersburg, Russia

Domestic chicken oocyte nuclear transcriptome: full spectrum of sequences transcribed on lateral loops of lampbrush chromosomes

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on-line

10:00–10:20	Nadezhda E. Vorobyeva, Institute of Gene Biology, Moscow, Russia Transcription activation by ecdysone in salivary glands of <i>Drosophila melanogaster</i> larvae
10:20–10:40	Igor S. Osadchiy, Institute of Gene Biology, Moscow, Russia Architectural proteins Opbp and M1BP have similar functions in the organization of the active housekeeping gene promoter
10:40–11:00	Nariman R. Battulin, Institute of Cytology and Genetics, Novosibirsk, Russia Architectural proteins of chromatin cohesin and condensins are involved in maintaining the stability of the genome
11:00-11:20	Coffee break
11:20–11:40	Valentin A. Babosha, Institute of Gene Biology, Moscow, Russia The critical role of the unstructured N-terminal region of the MSL1 protein in the functioning of the dosage compensation complex in <i>Drosophila melanogaster</i>
11:20–11:40 11:40–12:00	Russia The critical role of the unstructured N-terminal region of the MSL1 protein in the functioning of the dosage

12:20–12:40	Alexander Yu. Konev, National Research Centre "Kurchatov Institute" – PNPI, Gatchina, Russia The role of Chd1 chromatin assembly and remodeling factor in the regulation of dose compensation in <i>Drosophila</i>
12:40–13:00	<b>Maxim V. Tikhonov</b> , Institute of Gene Biology, Moscow, Russia Trans-splicing in <i>Drosophila melanogaster</i>
13:00–13:20	<b>Dmitry E. Koryakov</b> , Institute of Molecular and Cellular Biology, Novosibirsk, Russia Histone methyltransferases Su(var)3-9 and SetDB1 in <i>Drosophila</i>
13:20–13:40	<b>Evgeniya N. Andreyeva</b> , Institute of Molecular and Cellular Biology, Novosibirsk, Russia Multiplex analysis of the effect of transcription termination on gene activity in eukaryotes
13:40-14:40	Lunch

### Section IV Eukaryote genome and its evolution

Chairman: Nadezhda E. Vorobyeva

- 14:40–15:00 **Pavel A. Panikhin**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Characterization of hybrid progeny from distant hybridization of *Zea mays* with *Tripsacum dactyloides*
- 15:00–15:20 **Polina B. Drozdova**, Irkutsk State University, Irkutsk, Russia
  Reproductive barriers, genome size, and repeat composition in endemic species of Baikal amphipods (Crustacea: Amphipoda) of the *Eulimnogammarus* genus

15:20–15:40 Ekaterina V. Madyarova, Irkutsk State University, Irkutsk, Russia
Genome size and population genetic structure of two closely related species of Baikal endemic amphipods of the genus *Ommatogammarus* in the depth gradient

15:40–16:00 Coffee break

16:00–18:00 Poster session

#### September 8, Friday

#### Section V **Nucleus structure** Chairman: Yuri Ya. Shevelyov 09:00-09:20 Yuri Ya. Shevelyov, Institute of Molecular Genetics of "Kurchatov Institute", Moscow, Russia Influence of Elys nucleoporin on genomic architecture in Drosophila Kirill A. Ulianov, Skoltech, Moscow, Russia 09:20-09:40 Dynamics of chromatin architecture in Saccharomyces cerevisiae cell cycle 09:40-10:00 Veniamin S. Fishman, Institute of Cytology and Genetics, Novosibirsk, Russia Chromosome conformation capture technologies for studying animal chromatin structure, assembling genomes, and detecting chromosomal rearrangements 10:00-10:20 **Igor V. Sharakhov**, Virginia Polytechnic Institute and State University, Blacksburg, USA Dynamics of the 3D genome architecture in a malaria mosquito on-line

10:20–10:40	Maria M. Gridina, Institute of Cytology and Genetics, Novosibirsk, Russia Organization of insect chromatin in the mammalian nucleus
10:40-11:00	Elena S. Klushevskaya, Engelhardt Institute of Molecular Biology, Moscow, Russia Redistribution of nucleolar proteins during heat shock in human cells on-line
11:00-11:20	Coffee break
	Section VI Special chromosomes Chairman: Alexander Yu. Konev
11:20–11:40	Sergey V. Netesov, Novosibirsk State University, Novosibirsk, Russia Basic principles of the structure of virus genomes and their taxonomy
11:40–12:00	Yuri M. Konstantinov, Siberian Institute of Plant Physiology and Biochemistry, Irkutsk, Russia DNA import into plant mitochondria: state of the art and prospects for use in fundamental and applied research on-line
12:00–12:20	Natalya G. Andreyenkova, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Genetic relatedness of the black kite ( <i>Milvus migrans</i> ) populations of Asia, Taiwan, Japan and Australia: does Taiwanese subspecies exist?
12:20–12:40	Maria V. Golubenko, Research Institute of Medical Genetics, Tomsk, Russia Fragments of mitochondrial DNA in the human nuclear genome
12:40-13:30	Lunch

#### Section VII

#### Medical genetics and other human related

Co-chairmen: Igor N. Lebedev, Ilya O. Mazunin

- 13:30–13:50 Ilya O. Mazunin, Skolkovo Institute of Science and Technology, Moscow, Russia
  Human embryo selection based on mitochondrial DNA quality and quantity
- 13:50–14:10 **Beatrisa A. Rimskaya**, Skolkovo Institute of Science and Technology, Moscow, Russia Optimization of CRISPR-Cas12a for improving human mitochondrial genome editing
- 14:10–14:30 **Elena B. Starikovskaya**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Epidemiology and differential diagnosis of hereditary optic neuropathies
- 14:30–14:50 **Igor N. Lebedev**, Research Institute of Medical Genetics, TNRMC, Tomsk, Russia

  The nature and spatiotemporal allocation of mosaic chromosomal abnormalities in first trimester miscarriages
- 14:50–15:10 Natella I. Enukashvily, Institute of Cytology,
   St. Petersburg, Russia
   The role of transcription of pericentromeric tandem repetitive DNA in carcinogenesis
- 15:10–15:30 Nikita V. Ponomartsev, Institute of Cytology,
  St. Petersburg, Russia
  Transcription of centromeric satellite DNA in human
  and mouse lung adenocarcinoma stromal fibroblasts:
  a role in carcinogenesis
- 15:30–15:50 **Ksenia N. Morozova**, Institute of Cytology and Genetics, Novosibirsk, Russia Complex of disturbances in the intracellular organization of neurons differentiated from fibroblasts of patients with Cohen's syndrome

15:50-16:10	Coffee break
16:15-16:25	General photo of the conference participants
16:30-19:00	Cultural program

# September 9, Saturday

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	Section VIII Chromosomes and cell division Chairman: Vladimir A. Lukhtanov
09:00-09:20	Maurizio Gatti, IBPM, CNR, Sapienza University of Rome, Rome, Italy The mitotic roles of nucleolar proteins
09:20-09:40	Maria M. Kurshakova, Engelhardt Institute of Molecular Biology, Moscow, Russia Orc5 is present at the histone gene locus and is involved in the regulation of their expression
09:40-10:00	<b>Tatyana D. Kolesnikova</b> , Institute of Molecular and Cellular Biology, Novosibirsk, Russia <i>Drosophila</i> polytene chromosomes as a tool for studying the probabilistic nature of replication initiation
10:00-10:20	<b>Petr P. Laktionov</b> , Novosibirsk State University, Institute of Molecular and Cellular Biology, Novosibirsk, Russia The role of sirtuins in the regulation of aging of resident human stem cells

# Section IX B chromosomes, telomeres, centromeres, and mobile elements

#### Co-chairmen: Alexander V. Vershinin, Alla I. Kalmykova 10:20-10:40 Andreas Houben, Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany B chromosome, chromosome drive on-line 10:40-11:00 **Svetlana V. Pavlova**, A.N Severtsov Institute of Ecology and Evolution, Moscow, Russia B chromosome polymorphism in narrow-headed voles of subgenus Stenocranius (Lasiopodomys, Cricetidae) 11:00-11:20 Coffee break 11:20-11:40 Marija Rajičić, National Institute of the Republic of Serbia, University of Belgrade, Serbia B chromosome inheritance in Apodemus flavicollis on-line 11:40-12:00 Aleksandra O. Travina, Institute of Cytology, St. Petersburg, Russia Interaction of the linker domain of the telomere-binding protein TRF2 with lamin on-line 12:00-12:20 **Dmitry S. Bogolyubov**, Institute of Cytology, St. Petersburg, Russia Revision of classical ideas about the karyosphere capsule 12:40-13:00 Olesya A. Sokolova, Koltzov Institute of Developmental Biology, Moscow, Russia The insulator protein BEAF32 is required for telomere elongation and maintenance of subtelomeric chromatin

domains

13:00–13:20	Alla I. Kalmykova, Koltzov Institute of Developmental Biology, Moscow, Russia New piRNA-independent mechanism of regulation of mobile elements and telomeres in <i>Drosophila</i> gametogenesis
13:20-14:10	Lunch
14:10–14:30	<b>Yikang Rong</b> , University of South China, Hunan, China Keeping transposons at telomeres
14:30–14:50	Elena R. Gaginskaya, St. Petersburg State University, St. Petersburg, Russia Insertion of the 5S rRNA gene into the ribosomal intergene spacer (IGS) sequence in vertebrates
14:50–15:10	Sima S. Gatskaya, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Expression of CENH3 genes and spatial organization of parental genomes in cells of allopolyploid cereal hybrids
15:10–15:30	Svetlana A. Galkina, St. Petersburg State University, St. Petersburg, Russia Germline restricted chromosome behavior in the zebra finch oocytes
19:00-22:00	Farewell party

# September 10, Sunday – September 11, Monday

Two-days tour of the natural attractions of the Novosibirsk region

#### **Poster presentations**

**Irina G. Adonina**, Institute of Cytology and Genetics, Novosibirsk, Russia Introgressive hybridization of common wheat

**Ildar R. Alembekov**, Engelhardt Institute of Molecular Biology, Moscow, Russia

Evidences for specific proteins associated with hot spots of physiological double-stranded genomic DNA breaks at forum domain termini

**Polina A. Antoshina**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

The role of the dREAM complex in gene regulation in *Drosophila* melanogaster spermatogenesis

**Nadezhda V. Battulina**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Development of the effective system of targeted gene repression using chimeric dCas12-REPRESSOR proteins in *Drosophila melanogaster* S2 cell model

**Darya O. Bayramova**, Engelhardt Institute of Molecular Biology, Moscow, Russia

The mammalian PBAF complex specifically recognizes H3K14ac via the DPF domain of the PHF10-P subunit

**Violetta R. Beklemisheva**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Studies of constitutive heterochromatin and comparative chromosome maps in martens from the genera *Martes* (Mustelidae, Carnivora, Mammalia): using bioinformatics' analysis and methods of molecular cytogenetics

**Tatiana I. Bikchurina**, Novosibirsk State University, Novosibirsk, Russia Hybrid sterility of male gray voles of the genus *Microtus*: cytogenetic and transcriptomic analysis

**Zarema M. Biyasheva**, al-Farabi Kazakh National University, Almaty, Kazakhstan

Epigenetic effects of ionizing radiation in *Drosophila melanogaster* test systems

**Ilya I. Brusentsov**, Institute of Cytology and Genetics, Novosibirsk, Russia Patterns of genetic differentiation imply distinct evolutionary histories of the sibling mosquito species *Anopheles messeae* and *Anopheles daciae* in Eurasia

**Eduard A. Chuyko**, Institute of Cytology and Genetics, Novosibirsk, Russia The use of CRISPR/Cas9 technology in obtaining a megabase scale of deletions in the peritelomeric region of mouse chromosome 12 causes developmental arrest at early stages

**Sergey A. Demakov**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

The use of directed genome editing systems in the study of the structural and functional organization of the Notch locus in *Drosophila melanogaster* 

Mariia A. Dobrovolskaia, St. Petersburg State University, St. Petersburg, Russia

Lampbrush chromosomes of *Danio rerio*: morphological description and cytological mapping

**Elena V. Evtushenko**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Dynamics of inclusion of centromeric histone H3 variants in centromere nucleosomes in allopolyploid rye and wheat hybrids

**Ekaterina A. Gushcha**, Institute of Cytology, St. Petersburg, Russia Determination of chromosomal localization of the transcript of the centromeric DNA of the HSAT2 family in A549 cells and human mesenchymal stromal cells: in situ and in silico analysis

**Mohamed Kader Haidara**, Tomsk State University, Tomsk, Russia Inversion polymorphism of natural populations of *Anopheles* malarian mosquitoes of the *Maculipennis* subgroup in Western Siberia in connection with infection with parasitic nematodes

**Ekaterina S. Ivanova**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia
Comparative studies of X chromosomes in Cervidae family

**Evelyn M. Kabirova**, Institute of Cytology and Genetics, Novosibirsk, Russia

Relationship of gene regulation with 3D genome architecture in the mouse Kit/Kdr locus model

**Kirill M. Kirilenko**, Tomsk State University, Tomsk, Russia Analysis of genomic landscapes in *Anopheles* mosquitoes

**Viktor V. Konstantinov**, Institute of Cytology and Genetics, Novosibirsk, Russia

Modeling of chromatin folding mechanisms in lampbrush chromosomes

**Anastasiya G. Koroleva**, Limnological Institute, Irkutsk, Russia Acoustic stress changes telomere length dynamics and telomerase activity in *Danio rerio* 

**Maria M. Kulak**, St. Petersburg State University, St. Petersburg, Russia Telomere length in the chromosomes of the red-eared turtle *Trachemys scripta elegans* 

Mariya A. Kusliy, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Genetic diversity of horses of the Sargarinsko-Alekseevsky culture of the Ob-Irtysh region of Western Siberia

**Natalya A. Lemskaya**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia Differential staining of heterochromatin by CDAG

**Anna E. Letiagina**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Multiplex analysis of the effect of transcription termination on gene activity in eukaryotes

**Lada S. Lisachova**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Evolution of satellite DNA in racerunners (*Eremias*, Lacertidae)

**Svetlana A. Modina**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Phylogeography of the woolly mammoth (*Mammuthus primigenius*) in Eastern Siberia in the Late Pleistocene

Maria N. Molodova, Lomonosov Moscow State University, Moscow, Russia

The mechanisms of haemoglobin gene switching in *Danio rerio* 

**Anna S. Molodtseva**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Species identification of mammals accompanying humans at sites in the mountainous regions of Central Asia

**Kirill V. Morozov**, Skoltech, Moscow, Russia Chromatin folding changes revealed in schizophrenia patients

**Artem R. Nurislamov**, Novosibirsk State University, Novosibirsk, Russia CTCF and the evolution of the spatial organization of the genome

**Yakov A. Osipov**, Novosibirsk State University, Novosibirsk, Russia Searching for potential functional state markers of cultured cells

**Ilya A. Pletenev**, Skolkovo Institute of Science and Technology, Moscow, Russia

Long-range interactions of chromatin in neurons of the cerebral cortex

**Egor V. Panferov**, St. Petersburg State University, St. Petersburg, Russia rRNA genes in the zebra finch genome: organization of 5S rDNA

**Andrey A. Popov**, Institute of Cytology and Genetics, Novosibirsk, Russia Expanding the list of sequence-agnostic enzymes for chromatin conformation capture assay with S1 nuclease

**Ximena Soledad Calderon Rueda**, National Research Tomsk State University, Tomsk, Russia

Cytogenetic markers for identification of polymorphic inversion karyotype in diploid cells of *Anopheles messeae* (Culicidae) malaria mosquito

**Daria V. Rubtsova**, Institute of Cytology and Genetics, Novosibirsk, Russia Hybrid sterility in voles of the genus *Alexandromys*: what chromosomal polymorphism and heterozygosity for rearrangements are capable of

**Pavel A. Salnikov**, Novosibirsk State University, Novosibirsk, Russia Tissue-specific relationship between chromatin spatial architecture and gene expression on the example of mouse Slc29a3/Unc5b locus

Maria V. Sharakhova, Virginia Polytechnic and State University, Blacksburg, USA

Chromosomal inversions in the arboviral vector *Aedes aegypti* are associated with epidemiologically important traits

**Anastasia S. Shtompel**, Lomonosov Moscow State University, Moscow, Russia

Reorganization of the spatial structure of the locus containing type I keratin genes during epidermal differentiation

**Lev O. Sidelnikov**, Novosibirsk State University, Novosibirsk, Russia Search for markers of replicative potential of LF1 cells using cytologic methods

**Tatyana V. Sizova**, Koltzov Institute of Developmental Biology, Moscow, Russia

Lamin-B disruption and physiological aging lead to destabilization of telomeres and heterochromatin in *Drosophila* germ cells

**Alexander V. Smirnov**, Institute of Cytology and Genetics, Novosibirsk, Russia

A method for studying the role of SMC complexes in the repair of distant DNA double-strand breaks in mouse embryonic stem cells

**Eugenia A. Tiukacheva**, Lomonosov Moscow State University, Moscow, Russia

Development of a system for targeted editing of the 3D human genome

**Avel V. Urin**, Institute of Gene Biology, Moscow, Russia New genomic data on the origin of the hybrid parthenogenetic lizard species *Darevskia unisexualis* 

**Yaroslav A. Utkin**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Genetic diversity of the Prussian carp (*Carassius gibelio*) of Siberia and the Far East.

**Stanislav A. Vasilyev**, National Research Tomsk State University, Tomsk, Russia

Large-scale methylation disorders against the background of aneuploidy in the human placenta

**Oksana Yu. Vasilyeva**, National Research Tomsk State University, Tomsk, Russia

Anomalous methylation of coiled artery remodeling genes in the background of aneuploidy in the human placenta

**Aleksandra P. Yan**, Novosibirsk State University, Novosibirsk, Russia Detecting three-dimensional contacts of plasmid DNA with chromatin in HEK293T cells

**Daniil A. Yukhtanov**, Institute of Cytology and Genetics, Novosibirsk, Russia

Electron microscopic analysis of a unicellular eukaryote *Thraustochytrium* aureum ssp. strugatskii at different life cycle stages

**Anastasia M. Yunusova**, Institute of Cytology and Genetics, Novosibirsk, Russia

Investigation of the role of condensin complexes in maintaining the spatial structure of the mouse embryonic stem cell genome

**Igor F. Zhimulev**, Institute of Molecular and Cellular Biology, Novosibirsk, Russia

Characterization and localization of housekeeping and developmental genes in *Drosophila* polytene chromosomes

Alina A. Zhukova, Herzen State Pedagogical University, St. Petersburg, Russia

The rDNA sequence of the Japanese quail de novo

## Организаторы



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# Спонсоры







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# Материалы

