#### **PROGRAMME**

**6th International Conference** 

Genetics & Biotechnology of the 21st Century: Challenges, Achievements and Prospects Timed to the 60th Anniversary of the Institute of Genetics & Cytology, NAS of Belarus

Event dates: November 18-20, 2025

Venue: Renaissance Minsk Hotel, 1E Dzerzhinsky Ave., Minsk

### TUESDAY, November 18, 2025

### Conference Hall, Renaissance Minsk Hotel, 1E Dzerzhinsky Ave., Minsk

### 09:00 - 09:30 REGISTRATION

09:30 – 09:40 OPENING – Director of the Institute of Genetics and Cytology, NAS of Belarus, L.E. Makarina-Kibak

Welcoming remarks to the Conference participants from the Presidium and the Department of Biological Sciences, NAS of Belarus

Plenary report: 09:40 – 13:00. Report duration – 20 minutes; questions – 10 minutes Moderators:

L.E. Makarina-Kibak, DMSc, Professor

P.M. Morozik, Deputy Director for Science

A.V. Kilchevsky, Academician of NAS of Belarus, Professor

S.I. Kutsev, DMSc, Academician of the Russian Academy of Sciences

| 09:45 -<br>10:05 | L.E. Makarina-Kibak DMSc, Professor  P.M. Morozik PhD (Biology) | Director  Institute of Genetics and Cytology, NAS of Belarus | INSTITUTE OF GENETICS & CYTOLOGY, NAS OF BELARUS: SIX DECADES OF SCIENTIFIC DEVELOPMENT |
|------------------|---|--|---|
|                  | ThD (Biology)   | Minsk, Republic of   |   |

|                 |  | Belarus  |   |
|-----------------|--|--|---|
| 10:15-<br>10:35 | S.I. Kutsev DMSc, Academician of the Russian Academy of Sciences                                       | Director  Federal State Budgetary Scientific Institution "Academician N.P. Bochkov Medical Genetics Research Center"                     | PRESENT-DAY POSSIBILITIES OF HEREDITARY DISEASES DIAGNOSTICS                                |
| 10:45-<br>11:05 | V.A. Stepanov  D.Sc. in Biology, Academician PAH   | Director  Tomsk National Research Medical Center of the Russian Academy of Sciences  | HUMAN GENOMICS AND TRANSCRIPTOMICS<br>AND MEDICAL GENETICS                                  |
| 11:15-<br>11:35 | E.K. Khusnutdinova  D.Sc. in Biology, Professor Corresponding Member of the Russian Academy of Science | Academic supervisor  Institute of Biochemistry and Genetics of Ufa Federal Research Center of the Russian Academy of Sciences            | ETHNOGENOMICS OF HEREDITARY PATHOLOGY   |
| 11:45-<br>12:05 | A.V. Misyurin PhD (Biology)  | Director  Federal State Budgetary Scientific Institution "N.I. Vavilov Institute of General Genetics of the Russian Academy of Sciences" | TESTICULAR CANCER ANTIGENS – PROGNOSTIC FACTORS AND A PROMISING TARGET FOR CANCER TREATMENT |

| 12:10-<br>12:30 | Munis Dundar                         | Erciyes University       | MEDICAL GENETICS AND PERSONALIZED |
|-----------------|--------------------------------------|--------------------------|-----------------------------------|
| 12.50           | <b>Professor of Medical Genetics</b> | Turkey                   | MEDICINE                          |
| 12:40-          | A.S. Glotov                          | Head of the Committee    | THE FUTURE OF GENETIC TESTING AND |
| 13:00           |                                      | on Medical Genomics,     | MONITORING FOR COUPLES PLANNING   |
|                 | D.Sc. in Biology                     | Cytogenetic and          | PREGNANCY                         |
|                 |                                      | Molecular Genetic        |                                   |
|                 |                                      | Technologies, E.I.       |                                   |
|                 |                                      | Schwartz Association,    |                                   |
|                 |                                      | Head of the Department   |                                   |
|                 |                                      | of Genomic Medicine      |                                   |
|                 |                                      | named after V.S.         |                                   |
|                 |                                      | Baranov, Research        |                                   |
|                 |                                      | Institute of Obstetrics, |                                   |
|                 |                                      | Gynecology and           |                                   |
|                 |                                      | Reproductive Medicine    |                                   |
|                 |                                      | named after D.O. Ott     |                                   |
|                 |                                      | 13:00-14:00 Lunch        |                                   |

13:00-14:00 Lunch

Plenary reports: 14:00 – 16:40. Report duration – 20 minutes; questions – 10 minutes

Moderators:

S.I. Grib, DAgrSc, Academician of NAS of Belarus

A.V. Kochetov, D.Sc. (Biology), Academician of the Russian Academy of Sciences

| 14:00-<br>14:20 | S.I. Grib  DAgrSc, Academician of NAS of Belarus | Republican Unitary Enterprise "Scientific and Practical Center of the National Academy of Sciences of Belarus for | PRIORITIES, RESULTS AND RESERVES OF<br>AGRICULTURAL PLANT BREEDING AT THE<br>SCIENTIFIC AND PRACTICAL CENTER OF THE<br>NAS OF BELARUS |
|-----------------|--|---|---|
|                 |  | Sciences of Belarus for Agriculture"  |   |

| 14:30-<br>14:50 | I.A. Tikhonovich,  D.Sc. in Biology, Academician of the Russian Academy of Sciences | Scientific Director  All-Russian Research Institute of Agricultural Microbiology  St. Petersburg, Russian Federation   | USING THE POTENTIAL OF MICROBIAL PLANT<br>SYSTEMS IN PRESENT DAY LAND HUSBANDRY                 |
|-----------------|---|--|---|
| 15:00-<br>15:20 | A.V. Kochetov  D.Sc. in Biology, Academician of the Russian Academy of Sciences     | Director  Federal State Budgetary Scientific Institution  "Federal Research Center Institute of Cytology and Genetics of the Siberian Branch of the Russian Academy of Sciences" | GENETICS AND PLANTS   |
| 15:30-<br>15:50 | E.K. Khlestkina  D.Sc. in Biology, Professor of the Russian Academy of Sciences     | Director  Federal Research Center "All-Russian Institute of Plant Genetic Resources named after N.I. Vavilov", St. Petersburg, Russia  | GENETIC RESOURCES AND GENETIC TECHNOLOGIES FOR BIOECONOMY                                       |
| 16:00-<br>16:20 | V.E. Padutov  D.Sc. in Biology Corresponding Member of NAS of Belarus               | Head of the Laboratory<br>of Genetics and<br>Biotechnology, Institute<br>of Forestry, NAS of<br>Belarus, Gomel   | GENETIC RESISTANCE FORMATION MECHANISMS FOR THE FOREST VEGETATION TO BIOTIC AND ABIOTIC FACTORS |
| 16:30-<br>16:40 | Ya.I. Alekseev  | Scientific Director<br>Scientific and Production   | MODERN RUSSIAN MOLECULAR GENETIC RESEARCH TECHNOLOGIES  |

|                                       | PhD (Biology) | Company Syntol |  |
|---------------------------------------|---------------|----------------|--|
|                                       |               |                |  |
|                                       |               |                |  |
| RECEPTION for Conference Participants |               |                |  |

# WEDNESDAY, November 19, 2025

# Conference Hall, Renaissance Minsk Hotel, 1E Dzerzhinsky Ave., Minsk

Plenary reports: 09:30-13:00. Report duration -20 minutes; questions -5-10 minutes

#### Moderators:

A.V. Kilchevsky, D.Sc. (Biology), Professor, Academician of NAS of Belarus

L.E. Makarina-Kibak, DMSc, Professor

O.S. Glotov, D.Sc. (Biology), Professor

| 9:30-<br>9:50   | A.V. Kilchevsky  D.Sc. in Biology, Professor, Academician of NAS of Belarus   | Deputy Chair of the<br>Presidium of the National<br>Academy of Sciences of<br>Belarus  | RESULTS OF THE UNION STATE PROGRAMME "DNA IDENTIFICATION" IN BELARUS. PROSPECTS FOR USE IN FORENSICS AND PUBLIC HEALTH |
|-----------------|---|--|--|
|                 |   | Minsk, Republic of<br>Belarus  |  |
| 10:00-<br>10:20 | N.A. Kolchanov  D.Sc. in Biology, Academician of the Russian Academy of Sciences  Vice President of Vavilov Society of Geneticists and Breeders | Scientific Supervisor  Federal State Budgetary Scientific Institution "Federal Research Center Institute of Cytology and Genetics of the Siberian Branch of the Russian Academy of Sciences" | BIG GENETIC DATA, BIOINFORMATICS AND COMPUTATIONAL BIOLOGY   |

| 10:25-<br>10:45 | V.L. Krasilnikova  MDSc, Professor                                  | Professor  Department of Ophthalmology, Institute for Advanced Training and Retraining of Healthcare Personnel, Belarusian State Medical University, Chief External Pediatric Ophthalmologist, Ministry of Health of the Republic of Belarus | EXPERIENCE IN OBSERVING AN OPHTHALMOLOGICAL PATIENT AFTER GENE SUBSTITUTION THERAPY        |
|-----------------|---|--|--|
| 10:55-<br>11:15 | E.I. Kolomiets  D.Sc. in Biology, Academician of the NAS of Belarus | Director  State Research and Production Association "Chemical Synthesis and Biotechnology"   | MOLECULAR-GENETIC AND MICROBIOLOGICAL BASIS FOR BIOTECHNOLOGY DEVELOPMENT                  |
| 11:20-<br>11:40 | M.E. Mikhailova PhD (Biology), Associate Professor                  | Head of the Laboratory of Animal Genetics  Institute of Genetics and Cytology, NAS of Belarus  Director  | CHARACTERISTICS OF THE GENE POOL OF RED CATTLE BREEDS IN RUSSIA AND BELARUS: FIRST RESULTS |
|                 | A.A Sermyagin PhD (Agriculture)                                     | All-Russian Research Institute of Genetics and Breeding of Agricultural Animals, Branch of the Federal State Budgetary Scientific Institution  |  |

|                 |   | "Federal Research Center<br>for Animal Husbandry –<br>All-Russian Institute of<br>Animal Husbandry<br>named after Academician<br>L.K. Ernst",<br>Podolsk, Russian<br>Federation   |  |
|-----------------|---|---|--|
| 11:45-<br>12:05 | I.O. Stoma  MDSc, Professor             | Rector  Educational Institution "Gomel State Medical University"  | CHARACTERISTICS OF MOLECULAR GENETIC MARKERS OF NEURODEGENERATIVE DISEASES |
| 12:15-<br>12:35 | O.S. Glotov D.Sc. in Biology, Professor | Head of the Moscow Genome Center, State Budgetary Healthcare Institution "Moscow Scientific and Practical Center for Laboratory Research of the Moscow Department of Healthcare"; Head of the Department of Experimental Medical Virology, Molecular Genetics and Biobanking, Federal State Budgetary Institution "Children's Scientific and Clinical Center for Infectious Diseases" of the Federal Medical and Biological | GENETIC TECHNOLOGIES FOR THE MEGAPOLIS                                     |

### **Section Sessions**

# WEDNESDAY, November 19, 2025

## Renaissance Minsk Hotel Halls, 1E Dzerzhinsky Ave., Minsk

### Section 1. Human Genetics: Personalized Medicine, Pharmacogenetics, Sports

Section reports: 14:00 – 18:00. Report duration – 10 minutes; questions – 5 minutes

Moderators:

N.I. Ryabokon, D.Sc. (Biology), Associate Professor

E.L. Savonevich, DMSc, Associate Professor

| 14:00-<br>14:10 | A.N. Shchayuk  PhD (Biology), Associate Professor   | Leading Research Scientist  Institute of Genetics and Cytology, NAS of Belarus  Minsk, Republic of Belarus                               | The role of genetic and epigenetic features in personalizing of non-small cell lung cancer therapy                          |
|-----------------|---|--|---|
| 14:15-<br>14:25 | V.V. Erdman PhD (Biology)                           | Ufa Federal Research<br>Center of the Russian<br>Academy of Sciences<br>Ufa, Russia  | Expression of genes encoding components of mitochondrial and endoplasmic reticulum contact sites during aging and longevity |
| 14:30-<br>14:40 | M.G. Sinyavskaya PhD (Biology), Associate Professor | Head of the Laboratory of<br>Cytoplasmic Heredity<br>Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus | Diagnosing Alpha-1 Antitrypsin Deficiency in the Population of Belarus: Possibilities and Prospects                         |

| 14:45-<br>14:55 | G.V. Shpakovsky  D.Sc. in Biology                   | National Research Center "Kurchatov Institute"  Moscow, Russian Federation   | Quantitative monitoring of various RNA variants of the POLR2J1-POLR2J4 gene system in Homo sapiens for early detection, diagnosis, and prognosis of many socially significant human diseases |
|-----------------|---|--|--|
| 15:00-<br>15:10 | N.N. Chakova PhD (Biology), Associate Professor     | Leading Research Scientist Institute of Genetics and Cytology, NAS of Belarus Minsk, Republic of Belarus                                       | Characteristics of the common TTR gene variant in Belarusian patients with transthyretin amyloidosis   |
| 15:15-<br>15:25 | E.L. Savonevich PhD (Medicine), Associate Professor | Educational Institution "Grodno State Medical University"  Minsk, Republic of Belarus  | Rationality and validity of using next-generation sequencing in the diagnosis of hereditary ovarian cancer: personal experience  |
| 15:30-<br>15:40 | N.I. Ryabokon PhD (Biology), Associate Professor    | Head of the Laboratory of Molecular Basis for Genome Stability  Institute of Genetics and Cytology, NAS of Belarus  Minsk, Republic of Belarus | Studying genome stability issues using the DNA comet assay   |
| 15:45-<br>15:55 | A. Orlova   | Medical and Genetic Research Center named after Academician N.P. Bochkov Moscow, Russia  | Rasopathies in the Russian Federation: spectrum of variants and phenotypic manifestations  |
| 16:00-<br>16:10 | O.A. Kuchur   | Information Technologies, Mechanics and Optics University St. Petersburg, Russian  | TRANSCRIPTION FACTORS OF THE MAJOR<br>NEUROBLASTOMA REGULATORY NETWORK AS<br>TARGETED THERAPY TARGETS  |

|                 |                                   | Federation                                    |  |
|-----------------|-----------------------------------|---|--|
|                 |                                   | Break   |  |
|                 |                                   | Dieak   |  |
| Modera          | tors:                             |   |  |
| A.N. Sh         | chayuk, D.Sc. (Biology), Associat | te Professor                                  |  |
|                 |                                   |   |  |
| M.V. Sh         | tonda, MDSc                       |   |  |
| 16:20-          | E.V. Guzova                       | Belarusian State University                   |  |
| 16:30           |                                   | Minsk, Republic of Belarus                    | Noncanonical RNA splicing in leukemic and normal immature human blood cells            |
|                 |                                   | Minisk, Republic of Belards                   | inimature numan blood cens   |
| 16:35-          | M.D. Amelyanivich                 | Head of the Laboratory of                     | Molecular genetic aspects of personalized nutritional support                          |
| 16:45           |                                   | Human Genetics                                | during physical activity and adaptation to extreme exertion                            |
|                 |                                   | Institute of Genetics and                     |  |
|                 |                                   | Cytology, NAS of Belarus                      |  |
|                 |                                   | Minsk, Republic of Belarus                    |  |
| 16:50-          | M.V. Shtonda                      | Hand of the Thomas                            | Delement in the ADIDOO and IDC 1 and in  |
| 10:50-<br>17:00 | M.v. Sntonda                      | Head of the Therapy Department, Institute of  | Polymorphisms in the ADIPOQ and IRS-1 genes in patients with arterial hypertension and |
|                 | MDSc                              | Advanced Training and                         | overweight/obesity   |
|                 |                                   | Retraining of Healthcare                      |  |
|                 |                                   | Personnel, Belarusian State                   |  |
|                 |                                   | Medical University Minsk, Republic of Belarus |  |
| 17:05-          | Yu.B. Velikomolova                | Head of the Biobank,                          | BIOBANKING AS A BASIS FOR MOLECULAR  |
| 17:15           |                                   | Bashkir State Medical                         | GENETIC RESEARCH OF ONCOLOGICAL DISEASES   |
|                 |                                   | University                                    |  |
|                 |                                   | Ufa, Russia                                   |  |
| 17:20-          | S.E. Nagieva                      | Research Scientist, Genome                    | EVALUATION OF THE EFFICIENCY OF THE METHOD   |
| 17:30           |                                   | Editing Laboratory,                           |  |

|                 |  | Medical and Genetics Research Center named after Academician N.P. Bochkov  Moscow, Russian Federation   | OF SKIPPING EXONS 43-55 OF THE DMD GENE ON A CELL CULTURE OF MYOBLASTS  |
|-----------------|--|---|---|
| 17:35-<br>17:45 | A.A. Petintseva                        | Ufa Federal Research<br>Center of the Russian<br>Academy of Sciences<br>Ufa, Russia   | Contribution of autophagy regulatory genes and associated signaling pathways to longevity and survival                      |
| 17:50-<br>18:00 | M.V. Smolnikova PhD (Biology) (online) | Head of the Molecular Genetic Research Group, Research Institute of Medical Problems of the North, Federal Research Center, Krasnoyarsk Scientific Center, Siberian Branch of the Russian Academy of Sciences Krasnoyarsk, Russia | Molecular genetic approaches to studying the characteristics of the course of diseases in the population of Eastern Siberia |

## **Section 2. Genetics and Breeding of Agricultural Plants**

Section reports: 14:00 – 18:00. Report duration – 10 minutes; questions – 5 minutes

### Moderators:

O.Yu. Urbanovich, D.Sc. (Biology), Professor

O.N. Khapilina, PhD in Biology

| 14:00- | O.Yu. Urbanovich | Institute of Genetics and | Development of potato plants carrying CRISPR/Cas9-   |
|--------|------------------|---------------------------|--|
| 14:10  |                  | ~                         | edited genes regulating defense responses to improve |
|        | D.Sc. in Biology |                           | I I I I I I I I I I I I I I I I I I I                |

|                 |  | Scientific and Practical Center of the National Academy of Sciences of Belarus for Potato and Fruit and Vegetable Growing Minsk, Republic of Belarus | resistance to late blight   |
|-----------------|--|--|---|
| 14:15-<br>14:25 | G.V. Mozgova PhD (Biology), Associate Professor    | Head of the National<br>Coordination Biosafety<br>Centre<br>Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus      | Genomic technologies for marker-assisted selection of rapeseed in the Republic of Belarus                     |
| 14:30-<br>14:40 | I.S. Gordey PhD (Biology), Associate Professor     | Head of the Plant<br>Cytogenomics Laboratory<br>Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus                  | The influence of Rfp genes on genetic selection traits of winter tetraploid rye                               |
| 14:45-<br>14:55 | N. Petrash   | Institute of Cytology and<br>Genetics, Siberian Branch<br>of the Russian Academy of<br>Sciences<br>Novosibirsk, Russia                               | Genetic breeding approach to obtaining triticale varieties with increased anthocyanin content in grain        |
| 15:00-<br>15:10 | O.A. Orlovskaya PhD (Biology), Associate Professor | Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus  | The influence of introgression of foreign genetic material on the main quality indicators of soft wheat grain |

| 15:15-<br>15:25 | A.A. Kiseleva PhD (Biology), Associate Professor | Senior Research Scientist, Laboratory of Genetic Foundations of Grain Crop Breeding. Federal Research Center, Institute of Cytology and Genetics, Siberian Branch of the Russian Academy of Sciences Novosibirsk, Russia | IDENTIFICATION OF LOCI AND GENES CONTROLLING HEADING AND MATURITY TIME IN WHEAT UNDER LONG-DAY PHOTOPERIODS AND THEIR EFFECTS ON YIELD-RELATED TRAITS |
|-----------------|--|--|---|
| 15:30-<br>15:40 | E.V. Lagunovskaya PhD (Biology)                  | Leading Research Scientist, Laboratory of Applied Genomics Institute of Genetics and Cytology, NAS of Belarus Minsk, Republic of Belarus   | KASP genotyping of soft wheat   |
| 15:45-<br>15:55 | E.S. Skolotneva PhD (Biology)                    | Institute of Cytology and<br>Genetics, Siberian<br>Branch of the Russian<br>Academy of Sciences<br>Novosibirsk, Russia   | Immunomodulatory effect of the biopreparation Novokhizol on soft wheat  |
| 16:00-<br>16:10 | A.A. Kakimhanova  Professor, D.Sc. in Biology    | Head of the Laboratory of<br>Biotechnology and Plant<br>Breeding, National Center<br>for Biotechnology<br>Astana, Kazakhstan   | CONSERVATION OF ENDEMIC, RARE, AND ENDANGERED PLANTS IN VITRO   |
|                 | O.N. Mironenko                                   | Director   | CREATION OF A HOPS COLLECTION IN VITRO (HUMULUS LUPULUS L.)   |

|                 | DID (D' 1                                 | A1( ' C) ( C A 1' 1         |   |
|-----------------|---|-----------------------------|---|
|                 | PhD (Biology)                             | Altai Center for Applied    |   |
|                 |   | Biotechnology               |   |
|                 | Online report                             |                             |   |
|                 |   | Barnaul, Russian            |   |
|                 |   | Federation                  |   |
| Moderato        | ors:                                      |                             |   |
|                 | utov, D.Sc. in Biology, Corresponding Me  | ember of NAS of Belarus     |   |
|                 |   |                             |   |
| V.A. Len        | nesh, PhD in Biology, Associate Professor | ſ                           |   |
| 16:15-          | O.G. Babak                                | Leading Research Scientist, |   |
| 16:25           |   | Laboratory of Ecological    | Genetic basis for the expression of quality traits in the |
|                 | PhD (Biology), Associate Professor        | Genetics and                | fruits of vegetable nightshade crops                      |
|                 |   | Biotechnology               |   |
|                 |   |                             |   |
|                 |   | Institute of Genetics and   |   |
|                 |   | Cytology, NAS of Belarus    |   |
|                 |   | Minsk, Republic of Belarus  |   |
| 16:30-          | O.N. Khapilina                            |                             |   |
| 16:40           | •   | Head of the Laboratory      | Genetic variability assessment of wild populations of     |
|                 | PhD (Biology)                             | of Plant Genomics and       | the medicinal plant <i>Paeonia anomala</i> using IPBS     |
|                 |   | Bioinformatics, National    | markers   |
|                 |   |                             |   |
|                 |   | Center for Biotechnology    |   |
|                 |   |                             |   |
|                 |   | Astana, Republic of         |   |
|                 |   | Kazakhstan                  |   |
| 16:45-          | I C Vallage                               | Institute of Genetic        | Antinodical activity of doub again com                    |
| 16:45-<br>16:55 | L.S. Valieva                              |                             | Antiradical activity of dark grain corn                   |
| 10.00           | DID (D' 1 ) A ' · · D C                   | Resources of the            |   |
|                 | PhD (Biology), Associate Professor        | Republic of Azerbaijan      |   |
|                 |   |                             |   |

| 17:00-<br>17:10 | T.V. Marakaeva PhD (Agriculture) | Associate Professor  Department of Agronomy, Breeding, and Seed Production, Omsk State Agrarian University named after P.A. Stolypin,  Omsk, Russia | Phenotyping and genotyping of lentils by mechanical harvesting suitability traits in the Omsk region                      |
|-----------------|----------------------------------|---|---|
| 17:15-<br>17:25 | V.N. Kipen PhD (Biology)         | Leading Research Scientist, Laboratory of Applied Genomics Institute of Genetics and Cytology, NAS of Belarus Minsk, Republic of Belarus            | USING MACHINE LEARNING METHODS (NEURAL NETWORKS) IN PLANT PHENOMICS RESEARCH  |
| 17:30-<br>17:40 | A.S. Simagina                    | Russian State Agrarian University – Moscow Timiryazev Agricultural Academy Moscow, Russia   | Identification of candidate genes for resistance to scaly blight in a fiber flax collection                               |
| 17:45-<br>17:55 | T.A. Baanov                      | Federal State Budgetary<br>Scientific Institution<br>"Federal Scientific<br>Center for Bast Crops"<br>Russia, Tver                                  | Molecular genetic evaluation of a cannabinoid hemp profile in reproductive dynamics                                       |
| 18:00-<br>18:10 | G.V. Shpakovsky D.Sc. in Biology | National Research Center<br>"Kurchatov Institute"<br>Moscow, Russian  | Discovery of the second, most ancient steroid hormonal system in Viridiplantae and prospects for its use in plant growing |

|  | Federation |  |
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# THURSDAY, November 20, 2025

# Renaissance Minsk Hotel Halls, 1E Dzerzhinsky Ave., Minsk

Section 3. Genomic Research in Animal Husbandry. Genetic Resources and Their Conservation.

Section reports: 09:00 – 13:00. Report duration – 10 minutes; questions – 5 minutes

#### Moderators:

M.E. Mikhailova, PhD in Biology, Associate Professor

S.N. Semenov, PhD (Veterinary science)

| 09:00-<br>09:10 | S.N. Semenov PhD (Veterinary Sciences) | Acting Vice-Rector for Science, Head of the Department of Veterinary and Sanitary Expertise, Epizootology, and Parasitology Voronezh State Agrarian University Voronezh, Russia | Genotyping as a driver for the development of a modern breeding process in animal husbandry                                  |
|-----------------|--|---|--|
| 09:15-<br>09:30 | E.S. Artemov PhD (Agriculture)         | Head of the Department of<br>General Animal Science,<br>Deputy Head of Science of the<br>Advanced Engineering School<br>"Agrogen"<br>Voronezh, Russia                           | Molecular genetic technologies as the basis for the rational use and preservation of the gene pool of domestic cattle breeds |

| 09:35-<br>09:45 | E.L. Romanishko                   | Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus   | Determining hereditary anomalies and genetic polymorphisms in the Holstein cattle of Belarusian breeding using the pikodetect genetic analyzer                  |
|-----------------|-----------------------------------|---|---|
| 09:50-<br>10:00 | V.I. Chinarov  D.Sc. in Economics | Chief Research Scientist, Federal Research Center for Animal Husbandry named after Academy Member L.K. Ernst Moscow region, Russia  | Current issues related to preserving the cattle gene pool and its breeding in Russia  |
| 10:05-<br>10:15 | G.N. Singina PhD (Biology)        | Head of the Experimental Embryology Laboratory, Federal Research Center for Animal Husbandrynamed after Academy Member L.K. Ernst Moscow region, Russia   | The presence of follicular-derived exosomes in the oocyte maturation environment improves their quality and ability for embryonic development <i>in vitro</i> . |
| 10:20-<br>10:30 | T.E. Deniskova PhD (Biology)      | Head of the Small Livestock Genetics and Genomics Group, Federal Research Center for Animal Husbandry — Academician L.K. Ernst All- Russian Research Institute of Animal Husbandry  Moscow Region, Russia | Search for breeding traces in the genome of Russian goats in comparison with foreign breeds   |
| 10:35-<br>10:45 | V.V. Volkova PhD (Biology)        | Senior Research Scientist, DNA Technology Laboratory, Federal Research Center for Animal Husbandry – Academician L.K. Ernst All-Russian Research Institute of Animal Husbandry Moscow region, Russia      | STUDYING THE STRUCTURE OF GEESE<br>POPULATIONS BRED IN RUSSIA   |

| 10:50-<br>11:00 | A.I. Tsar Research Scientist                     | Institute of Genetics and<br>Cytology, NAS of Belarus<br>Minsk, Republic of Belarus  | Genomic technologies for the species and breed identification of fish   |
|-----------------|--|--|---|
|                 |  | 11:00-11:20 Break  |   |
| Moderator       | s:   |  |   |
| E.N. Make       | eyeva, PhD in Biology, Associate Professor       | ſ  |   |
| G.V. Moz        | gova, PhD in Biology, Associate Professor        |  |   |
| 11:20-<br>11:35 | E.N. Makeyeva PhD (Biology), Associate Professor | Head of the National<br>Coordination Centre on Access<br>to Genetic Resources and<br>Benefit-Sharing,<br>Institute of Genetics and<br>Cytology, NAS of Belarus | Legal regulation of genetic resources management, their study and conservation                                      |
| 11.10           |  | Minsk, Republic of Belarus   |   |
| 11:40-<br>11:55 | F.B. Musaev DAgrSc                               | Federal State Budgetary Scientific Institution "Federal Scientific Center for Vegetable Growing"   | MICROFOCUS X-RAY IMAGING IN THE<br>CONSERVATION OF PLANT GENETIC RESOURCES  |
| 12:00-<br>12:15 | V.A. Lukanina<br>PhD (Biology)                   | Federal Research Center for<br>Animal Husbandry –<br>Academician L.K. Ernst<br>Research Center for Animal<br>Husbandry<br>Moscow region, Russia                | Genetic resources and their conservation, biosafety   |
| 12:20-<br>12:35 | A.V. Dotsev PhD (Biology)                        | Head of the Laboratory of Functional and Evolutionary Genomics of Animals, Federal Research Center for Animal Husbandry named after Academy Member L.K. Ernst  | Molecular genetic analysis of the population structure and biodiversity of the snow (bighorn) sheep (ovis nivicola) |

|                 |                 | Moscow region, Russian<br>Federation   |  |  |  |
|-----------------|-----------------|--|--|--|--|
| 12:40-<br>12:55 | V.R. Kharzinova | Head of the Laboratory of DNA<br>Technologies in Animal  | Assessing the genetic diversity of reindeer populations ( <i>Rangifer tarandus</i> ): a large-scale screening of myostatin |  |  |
|                 | PhD (Biology)   | Husbandry, Federal Research<br>Center for Animal Husbandry<br>named after Academy Member<br>L.K. Ernst<br>Moscow region, Russian<br>Federation | gene polymorphisms   |  |  |
|                 |                 |  |  |  |  |

### 13:00-14:00 Lunch breaks

## Section 4. Metagenomics, Microbiome and Biotechnology. Bioinformatics and Data Analysis.

*Section reports* 09:00 – 13:00

Moderators:

V.N. Danilenko, D.Sc. in Biology, Professor

E.P. Mikhalenko, PhD in Biology, Associate Professor

| 09:00-          | V.N. Danilenko              | Academic Advisor of the           |  |
|-----------------|-----------------------------|-----------------------------------|--|
| 09:10           |                             | Neuromicrobiome Consortium.       | Neuromicrobiome, genetic technologies, and biotechnology –     |
|                 | D.Sc. in Biology, Professor | Head of the Department of         | the path to creating next-generation pharmabiotics             |
|                 |                             | Genetic Biotechnology,            |  |
|                 |                             | Federal State Budgetary           |  |
|                 |                             | Scientific Institution "N.I.      |  |
|                 |                             | Vavilov Institute of General      |  |
|                 |                             | Genetics, Russian Academy of      |  |
|                 |                             | Sciences"                         |  |
|                 |                             | Moscow, Russian Federation        |  |
| 09:15-          | O.M. Malysheva              | Republican Scientific and         | Cerebral status disorders: the gut-brain axis                  |
| 09:25           | Research Scientist          | Practical Center "Mother and      |  |
|                 |                             | Child", Institute of Genetics and |  |
|                 |                             | Cytology, NAS of Belarus          |  |
|                 |                             | Minsk, Republic of Belarus        |  |
| 09:30-<br>09:40 | S.S. Kozhakhmetov           | Leading Research Scientist,       | Evolution of intestinal microbiota in the mother-child system: |

| 09:45-          | PhD (Biology)  E.P. Mikhalenko                            | Microbiome Laboratory of the National Laboratory, Astana Center for Life Sciences, Nazarbayev University Astana, Kazakhstan Institute of Genetics and | from birth to one year of life  Study of the species composition of the intestinal microbiome  |
|-----------------|---|---|--|
| 09:45-          | PhD (Biology), Associate Professor                        | Cytology, NAS of Belarus Minsk, Republic of Belarus   | of participants of the Belarusian Antarctic expedition in dynamics   |
| 10:00-<br>10:10 | M.A. Sikolenko  | Institute of Microbiology, NAS of Belarus Minsk, Republic of Belarus  | Comparison of the effectiveness of methods for correcting the results of metataxonomic experiments   |
| 10:15-<br>10:25 | D.A. Reznikova  | N.I. Vavilov Institute of General<br>Genetics of the Russian<br>Academy of Sciences<br>Moscow, Russian Federation                                     | Biochemical, immunomodulatory, and transcriptional<br>biomarkers expressed in a combined LPS-lactacystin<br>model of parkinsonism in Wistar rats                         |
| 10:30-<br>10:40 | V.S. Letvinova  | N.I. Vavilov Institute of General<br>Genetics of the Russian<br>Academy of Sciences<br>Moscow, Russian Federation                                     | Controlled fermentation technologies and omics control as tools for improving the efficiency and quality of the final product in the process of pharmabiotic development |
| 10:45-<br>10:55 | S.A. Manabaeva PhD (Biology)                              | Head of the Plant Genetic Engineering Laboratory, National Center for Biotechnology of Kazakhstan. Astana, Kazakhstan                                 | Identification of stress-induced metabolites <i>in Cistanche deserticola</i> callus cultures: a comprehensive GC-MS/HPLC-MS analysis                                     |
|                 |   | 11:00-11:20 Break   |  |
|                 | ors: vdansky, PhD in Biology llysheva, Research Scientist |   |  |
| 11:20-<br>11:30 | O.D. Levdansky PhD (Biology)                              | Head of Bioinformatics Centre Institute of Genetics and Cytology, NAS of Belarus Minsk, Republic of Belarus   | Comparative analysis of software for processing high-throughput sequencing data  |

| 11:35-          | I.N. Ilyushenok                    | Belarusian State University    | An integrated R package huGSVcalleR for the  |
|-----------------|------------------------------------|--------------------------------|--|
| 11:45           |                                    | Minsk, Republic of Belarus     | identification and deep annotation of single nucleotide polymorphism sites in the human genome |
| 11:50-          | O.M. Malysheva                     | Institute of Genetics and      | Whole exome sequencing: from data acquisition to   |
| 12:00           |                                    | Cytology, NAS of Belarus       | conclusion   |
|                 | Research Scientist                 | Minsk, Republic of Belarus     |  |
| 12:05-          | V.N. Kipen                         | Institute of Genetics and      | A bioinformatic approach to NGS data analysis to select  |
| 12:10           | PhD (Biology), Associate Professor | Cytology, NAS of Belarus       | SNPs capable of differentiating biological species   |
|                 |                                    | Minsk, Republic of Belarus     |  |
| 12:15-          | Ya.I. Sheiko                       | Leading Research Scientist,    | Development and testing of a neural network system for   |
| 12:25           | PhD (Biology)                      | Laboratory of Animal Genetics, | analyzing cell culture images  |
|                 |                                    | Institute of Genetics and      |  |
|                 |                                    | Cytology, NAS of Belarus       |  |
|                 |                                    | Minsk, Republic of Belarus     |  |
| 12:30-          | D.A. Skladnev                      | Chief Research Scientist,      |  |
| 12:40           |                                    | Microorganism Survival         |  |
|                 |                                    | Laboratory, Federal Research   | DE NOVO GENERATION OF BIOGENIC METAL   |
|                 | D.Sc. in Biology, Professor        | Center "Biotechnology          | NANOPARTICLES AS A CELL METABOLIC ACTIVITY   |
|                 |                                    | Fundamentals" of the           | INDICATOR  |
|                 |                                    | Russian Academy of             |  |
|                 |                                    | Sciences                       |  |
| 10.45           |                                    | Moscow, Russian Federation     | TODAY TO COLO 100 100 100 100 100 100 100 100 100 10   |
| 12:45-<br>12:55 | Bolin Chen                         | School of Computer Science,    | TGDNN: Text-Graph Dual-Modal Neural Network for  |
| 12:55           |                                    | Northwestern Polytechnical     | cancer driver gene identification  |
|                 |                                    | University, Xi'an, China       |  |
|                 |                                    | 2 MIIT Key Laboratory of Big   |  |
|                 |                                    | Data Storage and Management,   |  |
|                 |                                    | Northwestern Polytechnical     |  |
|                 |                                    | University, Xi'an.<br>China    |  |
|                 |                                    | 13.00-14.00 Coffee bree        |  |

13:00-14:00 Coffee break

Closing. Outcomes.

### **Poster Session**

Chair: V.E. Padutov, D.Sc. in Biology, Correponding Member of the NAS of Belarus Co-chair: E.V. Guzenko, PhD in Biology, Associate Professor

O.D. Levdansky, PhD in Biology

# Renaissance Minsk Hotel, 1E Dzerzhinsky Ave., Minsk

| 1 | D.S. Balashko    | Belarusian State Association of Livestock Breeding "Belplemzhivobedinenie" Minsk, Republic of Belarus       | GENETIC STRUCTURE OF THE HOLSTEIN CATTLE POPULATION BELONING TO THE BELARUSIAN POPULATION   |
|---|------------------|---|---|
| 2 | T.E. Deniskova   | Federal Research Center for Animal<br>Husbandry named after Academician<br>L.K. Ernst<br>Russian Federation | TURKEY (MELEAGRIS GALLOPAVO) GENETIC RESOURCES MONITORING IN DYNAMICS   |
| 3 | V.R. Kharzinova  | Federal Research Center for Animal<br>Husbandry named after Academician<br>L.K. Ernst<br>Russian Federation | STUDYING THE GENETIC DIVERSITY AND POPULATION STRUCTURE CHARACTERISTICS OF HUNGARIAN MANGALICA PIGS IN RUSSIA BY WHOLE-GENOME GENOTYPING  |
| 4 | V.V. Volkova     | Federal Research Center for Animal<br>Husbandry named after Academician<br>L.K. Ernst<br>Russian Federation | EXPLORATORY AND APPLIED RESEARCH OF MICROSATELLITE MARKERS FOR THE DEVELOPMENT OF A MULTIPLEX STR PANEL TO CONTROL ORIGIN VALIDATION AND EVALUATION OF THE GENETIC STRUCTURE OF THE DOMESTIC GOOSE (ANSER ANSER DOMESTICUS) |
| 5 | A.S. Abdelmanova | Federal Research Center for Animal<br>Husbandry named after Academician<br>L.K. Ernst<br>Russian Federation | Assessment of the Preservation of Genetic Components of the Progenitor of the Kostroma Breed in Modern Populations  |
| 6 | S.S. Pogodaeva   | Information Technologies,<br>Mechanics and Optics University<br>St. Petersburg, Russian Federation          | TARGETED NONO INHIBITION TO SUPPRESS THE ADRENERGIC PHENOTYPE OF NEUROBLASTOMA CELLS  |
| 7 | I.A. Mednova     | Tomsk National Research Medical<br>Center of the Russian Academy of<br>Sciences<br>Russian Federation       | ASSOCIATION ANALYSIS OF POLYMORPHIC VARIANTS OF<br>ANTIOXIDANT SYSTEM GENES WITH THE HYPERTENSIVE<br>COMPONENT OF METABOLIC SYNDROME IN PATIENTS WITH<br>SCHIZOPHRENIA  |

|    |                  |   | STUDY OF ASSOCIATIONS OF CATECHOL-O-<br>METHYLTRANSFERASE GENE POLYMORPHISMS AND SUICIDE<br>ATTEMPTS IN SCHIZOPHRENIA                                      |
|----|------------------|---|--|
| 8  | G.T. Zhumalieva  | Kazakh Research Institute of<br>Agriculture and Plant Growing<br>Republic of Kazakhstan   | IDENTIFICATION OF CARRIERS OF GENES FOR RESISTANCE TO COMMON BUNT AND RUST USING MOLECULAR MARKERS IN WHEAT BREEDING LINES                                 |
| 9  | N.A. Churbakova  | Federal Research Center for Animal<br>Husbandry named after Academician<br>L.K. Ernst<br>Russian Federation   | DYNAMICS OF THE GENETIC ARCHITECTURE OF THE LARGE WHITE PIG BREED IN HISTORICAL RETROSPECTIVE: WHOLE-GENOME ANALYSIS OF MUSEUM AND PRESENT-DAY POPULATIONS |
| 10 | I.N. Leonova     | Institute of Cytology and Genetics of<br>the Siberian Branch of the Russian<br>Academy of Sciences  | GRAIN QUALITY OF SOFT (T. aestivum L.) AND DURUM (T. durum DESF.) WHEAT: COMPARATIVE ANALYSIS OF GENETIC LOCI  |
| 11 | N.A. Nebesikhina | Azov-Black Sea Branch of the<br>Russian State Research Center of<br>Fisheries and Oceanography<br>(VNIRO), Russian Federal<br>Research Institute of Fisheries<br>and Oceanography | ASSESSMENT OF THE GENE POOL OF STURGEON FISH SPECIES CONTAINED IN THE RMS FEDERAL STATE BUDGETARY INSTITUTION "GLAVRYBVOD" "DONSKOY STURGEON FACTORY"      |
| 12 | M.G. Udina       | N.I. Vavilov Institute of General<br>Genetics of the Russian Academy of<br>Sciences   | GRAIN QUALITY OF SOFT ( <i>T. aestivum</i> L.) AND DURUM ( <i>T. durum</i> DESF.) WHEAT: COMPARATIVE ANALYSIS OF GENETIC LOCI                              |
| 13 | K.V. Chernov     | Information Technologies, Mechanics and Optics University St. Petersburg, Russian Federation  | COPPER-BASED CHEMODYNAMICAL THERAPY FOR MYELOABLATION IN IMMUNOCOMPROMISED PATIENTS  |
| 14 | Ya.S. Kolmakova  | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | GENOTYPING OF A COLLECTION OF SOYBEAN VARIETIES BY THE E1 PHOTOPERIODISM GENE  |
| 15 | A.S. Alomova     | Southern Federal University, D. I. Ivanovsky Academy of Biology and Biotechnology; Azov-Black Sea Branch of the Russian State Research Center of                                  | TEMPORAL DYNAMICS OF THE GENETIC VARIABILITY OF RUSSIAN STURGEON (ACIPENSER GUELDENSTAEDTII) IN THE SEA OF AZOV  |

|    |                   | Fisheries and Oceanography (VNIRO), Russian Federal Research Institute of Fisheries and Oceanography  |  |
|----|-------------------|---|--|
| 16 | V.M. Veremeichik  | State Forensic Examination<br>Committee of the Republic of<br>Belarus   | CHALLENGES IN NEWBORNE CORPSE IDENTIFICATION: THE COMPREHENSIVE INTERACTION OF FORENSIC GENETIC EXAMINATION AND DNA DATA RECORDING                 |
| 17 | A.K. Dairov       | Stem Cell Laboratory, National<br>Center for Biotechnology;<br>Department of General Biology and<br>Genomics, L.N. Gumilyov Eurasian<br>National University<br>Astana, Republic of Kazakhstan | THERAPEUTIC POTENTIAL OF CYTOKINE-PRECONDITIONED MESENCHYMAL STEM CELLS AND THEIR EXOSOMES ON A MODEL OF MOUSE PSORIASIS                           |
| 18 | A.M. Dzhenisbaeva | Kazakh Research Institute of<br>Agriculture and Plant Growing<br>Republic of Kazakhstan   | CHICKPEA (CICER ARIETINUM L.) HYBRIDIZATION:<br>ENHANCING EFFICIENCY AND REFINING TECHNIQUES USING<br>MORPHOLOGICAL AND MOLECULAR MARKERS          |
| 19 | V.A. Sidorovich   | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | ASSOCIATED ANALYSIS OF TWO POLYMORPHIC LOCI (rs743923 and rs116200048) OF THE ANION TRANSPORTER 1 GENE (SLC26A8) WITH ASTENOSOPERMIA (competition) |
| 20 | E.V. Drozd        | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | ANALYSIS OF ANT1-LIKE GENE POLYMORPHISM TO STUDY GENETIC REGULATION OF ANTHOCYANIN ACCUMULATION IN TOMATO FRUITS (competition)                     |
| 21 | I.N. Andreeva     | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | EVALUATION OF POLYMORPHIC VARIANTS OF GENES INVOLVED IN LIPID METABOLISM IN ELDERLY PEOPLE (competition)   |
| 22 | V.D. Shcherbakova | Russian Federal Research Institute Of Fisheries and Oceanography Russian Federation   | GENETIC DIVERSITY AND CONSERVATION CHALLENGES OF THE NATURAL POPULATION OF BELUGA (competition)  |
| 23 | O. P. Shatarnov   | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | CREATION OF A NEW OILSEED SUNFLOWER GENE POOL FOR HYBRID BREEDING IN BELARUS   |

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|----|--|---|--|
| 24 | A.P. Ermishin<br>O.N. Gukasyan<br>V.M. Zharich                   | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | NEW METHODS OF INVOLVING THE VALUABLE GENE POOL OF WILD POTATO SPECIES IN BREEDING   |
| 25 | A.P. Ermishin<br>E.V. Voronkova<br>O.N. Gukasyan<br>V.M. Zharich | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | SPECIFICS OF ESTABLISHING DIPLOID INBRED POTATO LINES TO OBTAIN HETEROSIC HYBRIDS  |
| 26 | E.V. Voronkova<br>A.P. Ermishin                                  | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | DIPLOID POTATO COLLECTION OF THE INSTITUTE OF GENETICS AND CYTOLOGY OF THE NAS OF BELARUS AND ITS USE IN BREEDING  |
| 27 | A.S. Ageeva<br>A.P. Ermishin<br>E.V. Voronkova<br>A.V. Levy      | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | SCHEMES FOR INVOLVING THE WILD ALLOTETRAPLOID POTATO SPECIES S.STOLONIFERUM SCHTDL. IN BREEDING, MAKING IT POSSIBLE TO INCREASE THE PROBABILITY OF INTROGRESSION OF SUBGENOME GENETIC MATERIAL (competition) |
| 28 | A.N. Zainchkovskaya  | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | Study of the expression level of individual CBF genes in winter wheat varieties under simulated cold stress conditions (competition)   |
| 29 | V.E. Shimko  | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | STUDY OF TETRAPLOID AND DIPLOID FORMS OF WINTER RYE (SECALE CEREALE L.) BY FERTILITY RESTORATION GENES   |
| 30 | N.K. Zaitsev   | Institute of Genetics and Cytology,<br>NAS of Belarus<br>Minsk, Republic of Belarus   | EVALUATION OF SOYBEAN VARIETIES BY A COMPLEX OF USEFUL ECONOMIC TRAITS UNDER CONDITIONS OF BELARUS   |
| 31 | A.S. Mikhailova  | N. I. Vavilov All-Russian Institute of<br>Plant Genetic Resources   | EXPRESSION ANALYSIS OF KEY PIGMENT BIOSYNTHESIS GENES OF FLAVONOID AND PHENYLPROPANOID PATHWAYS IN NATURALLY DYED COTTON FIBER   |
| 32 | M.Yu. Biryukov   | Federal State Budgetary Scientific Institution "Federal Research Center Institute of Cytology and Genetics of the Siberian Branch of the Russian Academy of Sciences" Novosibirsk, Russian Federation | Identification of endogenous viruses in genome assemblies of Myotis bats using tertiary structure profiling of protein domains   |

| 33 | V.N. Kelbin |  | MASRUSPLANTS: a web resource of DNA markers for marker-assisted selection of rust resistance genes in cereal crops |
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