



The 7th Polish Congress of Genetics

Scientific programme

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CONGRESS PROGRAMME

– AT A GLANCE

MONDAY, 21 SEPTEMBER 2026

	Auditorium Jana Pawła II	0.18	II C
9.00-13.30		Sponsored workshops 	
12.00-14.00	General Assembly of PTG Members		
13.30-15.00	Lunch (foyer)		
14.00-15.00			PTGC Board Meeting
15.00-15.20	Opening of the Congress		
15.20-17.00	Plenary Session I		
17.00-18.00	PTGC Honorary Session		
18.00-20.00	Welcome Reception (foyer)		
18.00-20.00	Poster Session I - Human Genetics (217, 218, 244)		

TUESDAY, 22 SEPTEMBER 2026

	Auditorium Jana Pawła II	I C	II C	III C	IV C
8.30-10.30	Plenary Session II				
10.30-11.00	Coffee break (foyer)				
11.00-13.15	C1 Human Genetics Germinal variants in human solid tumors	Z1 Animal Genetics Genetic diseases and Cyto genetics	B1 Bioinformatics Session 1	R1 Plant Genetics Genome Organization, Genetic Diversity and Trait Mapping	M1 Microbial Genetics Session 1
13.15-14.00	Lunch (foyer)				
14.00-16.00	C2 Human Genetics From validation to data interpretation quality in genetic lab	Z2 Animal Genetics Genomics and Epigenomics	B2 Bioinformatics Session 2	R2 Plant Genetics Epigenetics, RNA Biology and Gene Regulation	SM Mentoring Session
16.00-16.15	Coffee break (foyer)				
16.15-18.00	C3 Human Genetics Preconceptive, prenatal and postnatal genetic diagnostics	Z3 Animal Genetics Genomics and Epigenomics	B3 Bioinformatics Session 3	R3 Plant Genetics Functional genetics of plant development	C8 Human Genetics Somatic variants in human solid tumors
18.00-18.15	Coffee break (foyer)				
18.15-20.00	General Assembly of PTGC Members				

WEDNESDAY, 23 SEPTEMBER 2026

	Auditorium Jana Pawła II	I C	II C	III C	IV C
8.30-10.35	Plenary Session III				
10.35-11.00	Coffee break (foyer)				
11.00-13.00	C4 Human Genetics Hematology in the genomic era – from chromosome aberrations to molecular variants	Z4 Animal Genetics Genomics and Epigenomics	S1 Forensic Genetics Session 1	R4 Plant Genetics Abiotic Stress, Adaptation and Plant Phenotyping	M2 Microbial Genetics Session 2
13.00-14.00	Lunch (foyer)				
14.00-16.00	C5 Human Genetics Genetics of adults – transition, ethics, communication	Z5 Animal Genetics Genetics of population and quantitative traits, nutrigenomics	S2 Forensic Genetics Session 2	R5 Plant Genetics Plant Immunity, Plant-Microbe Interactions and Resistance Mechanisms	M3 Microbial Genetics Session 3
16.00-16.15	Coffee break (foyer)				
16.15-18.00	Poster Session II - Animal, Plant, Microbial, Bioinformatic, Forensic Genetics (217, 218, 244)				
16.15-18.15	C6 Human Genetics Future genetics; possibilities and perspectives of genetic therapies	C9 Human Genetics Neurogenetics			

THURSDAY, 24 SEPTEMBER 2026

Auditorium Jana Pawła II	
08.30- 11.00	C7 Human Genetics Sense organs genetics
11.00-13.00	Panel discussion (in polish) - Panel dyskusyjny
13.00-13.30	Closing of the Congress
13.30-14.30	Lunch (foyer)

THE 7TH POLISH CONGRESS OF GENETICS

WROCLAW, SEPTEMBER 21-24, 2026

PLENARY AND POSTER SESSIONS

MONDAY, 21 SEPTEMBER 2026

15.00-15.20 Opening of the Congress

15.20-17.00 Plenary Session I

- Hereditary skin diseases in domestic animals – might this be relevant for humans as well (50')

Tosso Leeb

- The past, present and future of vector-based gene therapies:
How technological advancements maximize clinical impact and patient benefits (50')

Leszek Lisowski

17.00-18.00 PTGC Honorary Session

18.00-20.00 Poster Session I – Human Genetics

TUESDAY, 22 SEPTEMBER 2026

8.30-10.30 Plenary Session II

- The Art of Letting Go: Transcriptional Control of Stress-Response Elements in Salmonella (30')

Grzegorz Grabe

- If you build it, they will come: a decade of genomics powered by Nextflow and nf-core (30')

Cedric Notredame

- Hereditary optic nerve atrophies – the new perspectives (30')

Maciej R. Krawczyński

- The path from innovation to impact Strategic Segment Manager, Illumina Inc. (15')

Jeroen Adema

- Wyniki sekwencjonowania próbek polskich pacjentów na platformie Axelios (Roche, SBX) (15')

Artur Kowalik - gość specjalny



WEDNESDAY, 23 SEPTEMBER 2026

8.30-10.35 Plenary Session III

- Tracing age and lifestyle through epigenetics: new frontiers in forensic genetics and public health (30')

Ewelina Pośpiech

- How Cancer Reprograms Immunity: From Molecular Mechanisms to Cancer Immunotherapy (30')

Ilona Kryczek

- Carrot transposable elements (30')

Dariusz Grzebelus

- Od Excela do sprawnej analizy danych NGS – doświadczenia laboratoriów diagnostycznych z wykorzystaniem oprogramowania BroVar od Genomed S.A. (20')



Anna Boguszewska-Chachulska

Ewelina Elert-Dobkowska

- Nowoczesne rozwiązania NGS - od próbki do analizy (15')

Jakub Wudarski



16.15-18.00 Poster Session II

Animal Genetics, Plant Genetics, Microbial Genetics, Bioinformatics, Forensic Genetics

THURSDAY, 24 SEPTEMBER 2026

11.00-13.00 Panel discussion (in Polish)/Panel dyskusyjny

Moderator: **Martyna Dziakowicz**

- Genetics of the future - between hope and responsibility/
Genetyka przyszłości - między nadzieją a odpowiedzialnością

Maria Siwek, Jolanta Zakrzewska-Czerwińska, Olga Haus, Jolanta Wierzbą, Izabela Łacmańska

13.00-13.30 Closing of the Congress

(Closing Remarks and Poster and Lecture Awards)

WORKSHOPS EXCLUSIVELY OPEN TO PARTICIPANTS NOMINATED BY



MONDAY, 21 SEPTEMBER 2026

9.00-13.30 Wstęp do analizy danych DRAGEN - część teoretyczna i praktyczna (270')

Prowadzący: **Martyna Ciołek** (BioIT FAS Analityk Genetyka),
Jarosław Grządziel (BioIT FAS Analityk),
Małgorzata Zawadzka (Field Application Scientist Analityk Genetyka)

Część teoretyczna

- Rejestracja
- Powitanie, omówienie agendy
- DRAGEN – wprowadzenie
- BaseSpace Sequence Hub (BSSH)
- DRAGEN Enrichment

Część praktyczna

- DRAGEN Enrichment & CLI

WEDNESDAY, 23 SEPTEMBER 2026

11.00-13.00 Wstęp do analizy danych DRAGEN - część teoretyczna (120')

Prowadzący: **Martyna Ciołek** (BioIT FAS Analityk Genetyka),
Jarosław Grządziel (BioIT FAS Analityk),
Lijuan Zhang, PhD (Sr. Field Application Scientist,
Services and Support Illumina inc.)

Teoria cz. 2 - Lijuan Zhang - Możliwości analizy 3-rzędowej (interpretacja) ang.
Podsumowanie – wnioski, dyskusja



MENTORING SESSION

TUESDAY, 22 SEPTEMBER 2026

14.00-16.00 SM - Mentoring Session

Chair: **Aleksander Czogalla, Marek Świtoński, Małgorzata Kotulska, Bernhard Kepplinger**



HUMAN GENETICS

Attention! All Human Genetics sessions were organized by Scientific Board of Polish Society of Human Genetics = PSHG (Polskie Towarzystwo Genetyki Człowieka = PTGC)

TUESDAY, 22 SEPTEMBER 2026

11.00-13.15 SESSION C1 Human Genetics

Germinal variants in human solid tumors

Chair: **Jan Lubiński, Joanna Trubicka**

- Summary of Research Findings on Polyposis Syndromes in Poland (10')

Andrzej Pławski

- Beyond NF1: The Diagnostic Value of Reanalysis and Expanded Panels in Neurofibromatosis Type 1 Testing (10')

Katarzyna Smolińska-Król

- Prevalence of Cancer-Predisposing Germline Variants in Children Undergoing Phenotype-Driven Genetic Testing: Results from the Nationwide ONKOPRED Study (10')

Agata Pastorczak

- Diagnostic efficiency of whole-exome sequencing (WES) in identifying hereditary cancer predisposition: an analysis of 370 patients (10')

Katarzyna Reszka

- Exploring Novel Cancer Predisposition Genes in Children with Secondary Malignancies Using Whole-Genome Sequencing (10')

Kamila Wypyszczak

- Germline therapeutic compass – how genetic predispositions modify clinical decisions in pediatric oncology (10')

Joanna Trubicka



- Significance of germline variants as predictive biomarkers in precision oncology (10')

Tomasz Stokłosa

- An international cohort study of breast cancer survival in young women (10')

Jacek Gronwald

- Dietary patterns in women attending a genetic counseling clinic according to high-risk breast cancer mutation status (10')

Małgorzata Lisik

- Low selenium status and cancer risk in BRCA1 pathogenic variant carriers: a prospective study (10')

Jan Lubiński

- Selenium and arsenic status and cancer incidence in women with familial breast cancer predisposition (10')

Jan Lubiński

- Germline testing practices across ERN GENTURIS member countries (10')

Milena Kiljańczyk

- Overcoming NGS Coverage Bias with CMS Technology: Applications in Clinical Research (15')



KAWAJSKA

Sun Lei

14.00-16.00 SESSION C2 Human Genetics

From validation to data interpretation - quality in genetic lab

Chair: **Izabela Łacmańska, Marzena Wojtaszewska, Monika Gos**

- RUO Under Scrutiny: Validation of Molecular Laboratory Testing Methods in Light of IVDR (EU) 2017/746 and ISO 15189:2023 (15')

Izabela Łacmańska

- Estimation of measurement uncertainty of quantitative BCR::ABL1 transcript evaluation based on ISO/TS 20914:2019 guidelines using internal LDT calibrators (15')

Marzena Wojtaszewska

- From DNA to reliable WGS results: optimizing wet-lab parameters and quality control during NGS platform implementation (15')

Martyna Rosa

- Next-Generation Sequencing in regulated Clinical Diagnostics environment (15')



Bartosz Wojciechowicz

- Discussion (10')



- Should every variant of uncertain clinical significance (VUS) be reported in postnatal diagnostics using aCGH? (15')

Ewelina Łazarczyk

- Reporting of variants of uncertain significance (VUS) according to ACMG guidelines (15')

Monika Gos

- Discussion (20')

16.15-18.00 SESSION C3 Human Genetics

Preconceptive, prenatal and postnatal genetic diagnostics

Chair: **Beata Nowakowska, Robert Śmigiel, Hanna Moczulska**

- The genetic, chromosomal, and epigenomic landscape of male infertility (15')

Marta Olszewska

- Implementation of a Quick and Coordinated Genetic Diagnostic Program for Newborns and Infants with developmental delay and congenital defects: Results and Conclusions from Three Years of Experience (15')

Robert Śmigiel

- Nine months of pilot population-based newborn screening for spinal muscular atrophy and severe combined immunodeficiency using a combined assay in Poland (15')

Monika Gos

- PURA-related neurodevelopmental disorder: clinical delineation and genotype-phenotype study in further seven individuals (15')

Agnieszka Madej-Pilarczyk

- Phenotypic characteristics of Polish patients with AGO1 and AGO2 mutations (10')

Michał Zawadka

- Clinical evolution and quality of life in Kabuki Syndrome: a 2-year observational study of 45 genetically confirmed Polish patients (15')

Snir Boniel

- Exome sequencing for the genetic evaluation of fetuses with craniofacial abnormalities (10')

Agata Kucińska

- Discussion (10')



16.15-18.00 SESSION C8 Human Genetics

Somatic variants in human solid tumors

Chair: **Małgorzata Oczko-Wojciechowska, Artur Kowalik**

- Application of molecular methods in the differentiation and characterization of bone tumors in children – our own experience (15')

Monika Lejman

- Breast cancer in males report on 48 cases (15')

Małgorzata Lisik

- Retrospektywna ocena niestabilności mikrosatelitarnej (MSI) jako narzędzie wspierające tworzenie złożonych zbiorów próbek biologicznych (15')

Maja Swoboda



- From Validation to Clinical Application: Duplex Sequencing for Detection of Low-Level Mosaicism (15')

Monika Horbacz

- The Essential Role of DNA/RNA Next-Generation Sequencing, Rather than Immunohistochemistry, in the Molecular Subtyping of Intrahepatic Cholangiocarcinoma (15')

Małgorzata Chłopek

- Epigenetics in the diagnosis of central nervous system tumors and sarcomas - a game changer in tumor classification (15')

Joanna Trubicka

- Discussion (15')

18.15-20.00 General Assembly of PTGC Members (105')



11.00-13.00 SESSION C4 Human Genetics

Hematology in the genomic era – from chromosome aberrations to molecular variants

Chair: **Magdalena Zawada, Monika Lejman, Agata Filip, Beata Grygalewicz**

- Application of Cell-Free DNA in the Diagnosis and Monitoring of Lymphomas (15')
Magdalena Zawada

- When the karyotype is not enough: the role of microarrays in pediatric hemato-oncology (15')

Monika Lejman

- Hereditary Alpha-Tryptasemia (HaT) — Pathomechanism, Diagnosis, and Clinical Significance (15')

Dorota Link-Lenczowska

- Regulation of mTOR pathway components by miR-199b-5p, a candidate tumor suppressor in T-ALL (10')

Natalia Maćkowska-Maślak

- ETV6-Related Hereditary Thrombocytopenia with Cancer Predisposition in Pediatric Acute Lymphoblastic Leukemia: Insights from a Nationwide Cohort of 1811 Patients (10')

Ewa Juścińska

- Genomic landscape and clinical correlates of copy number alterations and loss of heterozygosity in pediatric B-cell acute lymphoblastic leukemia with ETV6::RUNX1 rearrangement (10')

Borys Styka

- Clinical and molecular characteristics of inherited bone marrow failures in the Polish population (10')

Katarzyna Bąbol-Pokora

- Neurofibromatosis type I vel Fanconi anemia – diagnostic odyssey of two patients with biallelic variants in FANCI and FANCL genes (10')

Anna Repczyńska

- Innovative anticancer therapy: from CAR-T to gene therapy (10')

Łukasz Łaczmański

- Discussion (15')



14.00-16.00 SESSION C5 Human Genetics

Genetics of adults – transition, ethics, communication

Chair: **Maria Libura, Jolanta Wierzbna, Olga Haus**

- A model of collaboration between clinicians and a patient foundation in the de-velopment of translational research on the ultra-rare PACS2 syndrome (15')

Sylwia Czarnecka

- How a patient-led initiative accelerates drug development in ultra-rare MAP2K2-related RASopathy (15')

Aleksandra Świeca

- Adult phenotype of Cornelia de Lange syndrome: clinical characteristics of a Polish patient cohort (15')

Karolina Śledzińska

- Assessment of circulating microRNA profiles in patients with Ehlers-Danlos Syndrome (EDS) (15')

Anna Junkiert-Czarnecka

- A critical role of physiotherapy in adults with Ehlers-Danlos syndrome (15')

Marta Jokiel

- The Genetic Landscape of Lennox–Gastaut Syndrome in adults (15')

Dorota Hoffman-Zacharska

- Personalized therapy in lower extremity artery disease: biomarkers and pharmacogenetics in the COLSTENT study (15')

Ewa Strauss

- Discussion (15')

16.15-18.15 SESSION C6 Human Genetics

Future genetics; possibilities and perspectives of genetic therapies

Chair: **Grzegorz Węgrzyn, Agata Filip, Jacek Majewski**

- The Genetics of Epigenetics - dissecting the crosstalks between DNA, RNA, and chromatin (25')

Jacek Majewski

- Autophagy Modulation in Huntington's Disease: Insights into Pathogenesis and Therapeutic Potential (20')

Aneta Szulc



- The SLC19A1 gene: a key player in one-carbon metabolism (15')

Anna Stanislawska-Sachadyn

- Genetically determined causes of nystagmus in children with pervasive developmental disorders using whole exome sequencing (WES) and RNA sequencing (IMiD research project No. 510-18-50 for the years 2026-2027) (15')

Dorota Barchanowska

- Development and pilot validation of a targeted NGS panel for analysis of clinically relevant deep intronic and regulatory variants in rare genetic diseases (15')

Katarzyna Wertheim-Tysarowska

- WES and what next? (15')

Beata Nowakowska

- Discussion (15')

16.15-18.15 SESSION C9 Human Genetics

Neurogenetics

Chair: **Dorota Hoffman-Zacharska, Maria Jędrzejowska, Magdalena Badura-Stronka**

- Prevalence of genetic variants with therapeutic potential in a Polish Amyotrophic Lateral Sclerosis Cohort: a Single-Center Experience (20')

Monika Jurkowska

- Genetic heterogeneity of neurotransmitter-related disorders in undiagnosed Polish children with suspected monoamine defects (20')

Klaudia Ślusarczyk

- DYRK1A Syndrome in a Polish Cohort: Phenotypic Characteristics and Parental Quality of Life (20')

Agnieszka Pawelak

- Molecular background of Emery-Dreifuss muscular dystrophy – insights into progenitor muscle cells dysfunction (20')

Katarzyna Piekarowicz

- ReNU Syndrome in a Polish Cohort: Phenotypic Characteristics, Diagnostic Challenges, and Clinical Implications (20')

Agnieszka Pawelak

- Discussion (20')



8.30-11.00 SESSION C7 Human Genetics

Sense organs genetics

Chair: **Dominika Oziębło, Maciej Krawczyński**

- Genetic landscape of Usher syndrome in a Polish cohort: high diagnostic yield and functional validation of splice-altering variants (20')

Natalia Bałdyga

- Contribution of functional studies to variant interpretation in isolated and syndromic hearing loss (20')

Dominika Oziębło

- From Targeted Panels to Whole-Genome Sequencing:

Genomic Diagnostics of Hereditary Hearing Loss in a Cohort of 1022 Patients (15')

Dominika Oziębło

- Zaawansowane panele genetyczne wykorzystywane w diagnostyce onkologicznej (15')



Monika Kolonowska, Marta Kotlarek-Łyskowska

- First transcriptomic analysis of retinal samples from living patients with high myopia (20')

Joanna Świerkowska-Janc

- Molecular Characterization of Oculocutaneous Albinism in a Single-Center Pediatric Cohort Using Next-Generation Sequencing (15')

Beata Chałupczyńska

- CeGaT Exome Xtra - większa skuteczność diagnostyczna (15')



Jacek Łukasik

- Discussion (30')



ANIMAL GENETICS

TUESDAY, 22 SEPTEMBER 2026

11.00-13.15 SESSION Z1 Animal Genetics

Genetic diseases and Cytogenetics

- Variants in the 5'UTR region of BRCA1 gene in dogs with mammary gland tumours (30')

Jagoda Radoń

- Assessment of chromosomal abnormalities in bull sperm using molecular cytogenetic methods (20')

Wiktoria Kowal-Mierzwa

- Reproductive aging and increased sex chromosome aneuploidy in purebred Arabian stallion sperm: a longitudinal sperm-FISH study (20')

Kornelia Gała

- Heteroplasmy in the mitochondrial genome observed in dogs with malignant mammary gland tumours (20')

Krzysztof Kowal

- Reproductive aging in stallions assessed by sperm RNA profiling: preliminary insights (15')

Kornelia Gała

- Discussion (30')

14.00-16.00 SESSION Z2 Animal Genetics

Genomics and Epigenomics (part 1)

- Omentin-1 remodels the transcriptome of GT1-7 GnRH neurons and identifies calcium, MAPK and GnRH secretion pathways as targets of metabolic regulation (30')

Natalia Respekta-Długosz

- The impact of aflatoxin B1 on the mitochondrial MT-ATP6 gene in the domestic pig (20')

Adrianna Styk



- Tissue-specific microRNA expression following in ovo administration of galactooligosaccharides and sodium butyrate in broiler chickens (20')

Sebastian Knaga

- Scaling up bovine muscle satellite cell culture towards cultivated meat production: from flasks to bioreactors - preliminary studies (15')

Karolina Zygmunt

- Effects of dietary *Lepidium meyenii* supplementation on molecular and metabolic traits in pigs (15')

Joanna Nowacka-Woszek

- Discussion (20')

16.15-18.00 SESSION Z3 Animal Genetics Genomics and Epigenomics (part 2)

- Evaluating the Hepatoprotective Effects of Medicinal Herbs Against Aflatoxin B1 Anatomic and Molecular Toxicity: An In Vivo Pig Model (30')

Chandra Shekhar Pareek

- Analysis of mutations in the mitochondrial MT-ND1 gene in dogs with mastocytoma (20')

Oktawia Wojtaszek

- A candidate piRNA drives DNA methylation changes in equine sarcoid cells (15')

Ewelina Semik-Gurgul

- Deciphering the Hepatic MicroRNA Response to *Silybum marianum* Herbal Supplementation in a Porcine Model (15')

Sharmin Sultana

- Discussion (25')

**11.00-13.00** SESSION Z4 Animal Genetics

Genomics and Epigenomics (part 3)

- Transcriptomic Landscape of Coding and Non-Coding RNAs in Normal and Abnormal Canine Gonads (30')

Marek Świtoński

- Beyond morphological equivalence: heterogeneity of mtDNA, lipid, and transcript profiles in sister blastomeres of 2-cell parthenogenetic porcine embryos (20')

Piotr Pawlak

- Hepatic microRNA Profiling Reveals Novel Regulatory Transcripts in Pigs Exposed to Silymarin or Aflatoxin B1 (15')

Varunkumar Asediya

- Transcriptomic evidence for tumor suppressor-like activity of eca-miR-200b in equine sarcoid cells (15')

Klaudia Pawlina-Tyszko

- Hepatic microRNA Profiling in Pigs Identify a Novel DE Transcripts Associated with DMSO Administration (15')

Athul P. Kurian

- Discussion (25')

14.00-16.00 SESSION Z5 Animal Genetics

Genetics of population and quantitative traits, nutrigenomics

- Native chicken breeds, characteristics of genomes and genetic distances (30')

Maria Siwek

- Changes in the genetic characteristics of rainbow trout in the Rutki Fish Farm in 2011–2025 and their potential importance in aquaculture and conservation of salmonid fish (20')

Dariusz Kaczmarczyk

- Associations Between Rumen Microbiome, Production Traits, and Host Genomic Variation in Holstein Cows (15')

Artur Gurgul

- Parentage testing, genetic diversity and population structure of Huacaya Alpacas (15')

Angelika Mąsior

- Discussion (40')



PLANT GENETICS

TUESDAY, 22 SEPTEMBER 2026



TUESDAY, 22 SEPTEMBER 2026

11.00-13.15 SESSION R1 Plant Genetics

Genome Organization, Genetic Diversity and Trait Mapping

Chair: **Dariusz Grzebelus, Anna Kulma**

- Hidden diversity within the *Medicago truncatula* HapMap collection: new chromosome-scale genomes reveal extensive genomic variation and question species boundaries (30')

Agnieszka Żmieńko

- Evolutionary Conservation of Pericentromeric Crossover Hotspots in *Arabidopsis thaliana* (20')

Maja Szymanska-Lejman

- Identification of QTLs for yield, thousand-seed weight, and seed coat proportion using a newly developed genetic map of narrow-leaved lupin (20')

Maciej Jakobina

- From Genome-Wide Association Analysis to Plant Breeding Practice: Development and Validation of PCR Markers for Marker-Assisted Selection of Blackleg Resistance in Rapeseed (20')

Janetta Niemann

- Development and characterization of interspecific hybrids between autotetraploid bilberry (*Vaccinium myrtillus* L.) and highbush blueberry (*Vaccinium corymbosum* L.), and identification of genes associated with phenolic compound accumulation in bilberry fruits using NGS (20')

Monika Markiewicz

- Discussion (25')

14.00-16.00 SESSION R2 Plant Genetics

Epigenetics, RNA Biology and Gene Regulation

Chair: **Magdalena Simlat, Agnieszka Żmieńko**

- Molecular Echoes of Time: Non-coding RNA Signatures of Seed Ageing (30')

Maja Boczkowska



- Weighted gene co-expression network analysis (WGCNA) reveals candidate genes related to phosphorus-deficiency tolerance in rye (*Secale cereale* L.) (20')

David Chan-Rodriguez

- Histone acetyltransferase expression dynamics during wheat microspore embryogenesis reveal genotype-dependent and homeolog-specific regulatory patterns (20')

Dorota Weigt

- Translational landscape of impaired photomorphogenesis in *elo3-6* and *urm11 urm12* mutants (20')

Magdalena Jarosz-Ostrówka

- Wheat small interfering RNAs induced by inoculation with pathogenic and beneficial fungi (20')

Polina Havrysh

- Discussion (10')

16.15-18.00 SESSION R3 Plant Genetics

Functional genetics of plant development

Chair: **Małgorzata Podwyszyńska, Hanna Bolibok-Bragoszewska**

- The Conserved MiaA/MiaB Pathway Supports Chloroplast Translation and Cold Acclimation in *Arabidopsis thaliana* (30')

Piotr Gawroński

- Comparative Analysis of Three-Dimensional Chromatin Organization in Carrot: Identification and Characterization of Topologically Associating Domains (20')

Monika Szewczyk

- A mutation in the brassinosteroid biosynthesis gene *CsCYP90B1* disrupts vegetative and reproductive development in cucumber (*Cucumis sativus* L.) (20')

Renata Słomnicka

- Development and characteristics of intergeneric *Brassica rapa* L. subsp. *pekinensis* × *Sinapis alba* hybrids of early generations as a new germplasm for the breeding (20')

Piotr Kamiński

- Discussion (15')

**11.00-13.00** SESSION R4 Plant Genetics

Abiotic Stress, Adaptation and Plant Phenotyping

Chair: **Małgorzata Jędryczka, Agnieszka Kielkowska**

- Multiple layers of rye's (*Secale cereale* L.) phosphorus deficiency response: genetics, epigenetics and beyond (30')

Hanna Bolibok-Brągoszewska

- Studies of the effects of temperature and duration of vernalization on flowering time, frost tolerance and the development of the three lupins (*Lupinus angustifolius* L., *Lupinus albus* L., *Lupinus luteus* L.) (20')

Anna Surma

- Hyperspectral Imaging as a Tool for Phenotypic Screening of Sugar Beet (*Beta vulgaris* L.) Genotypes Under Stress Conditions (20')

Michał Nowak

- Expression changes of candidate genes for freezing tolerance in wheat under de-acclimated conditions (20')

Magdalena Wójcik-Jagła

- Comparative proteome analysis of the response of two rye inbred lines (L9 and K3) to phosphate deficiency stress (20')

Brian Wakimwayi Koboyi

- Discussion (10')

14.00-16.00 SESSION R5 Plant Genetics

Plant Immunity, Plant-Microbe Interactions and Resistance Mechanisms

Chair: **Lidia Błaszczyk, Grzegorz Bartoszewski**

- Structural variation of the Receptor-Like Protein (RLP) Gene Family in the *Arabidopsis thaliana* genome revealed by Oxford Nanopore sequencing and de novo assemblies (30')

Anastasiia Satyr

- Sequential chitosan-fungicide application improves early physiological response and chlorophyll fluorescence in *Fusarium*-infected barley (20')

Paweł Poznański



- miR167c-3p-calmodulin-like (CML) module associated with the resistant flax response to *Fusarium oxysporum* (20')

Mateusz Chmielarz

- Development of SNP marker for gene Pc39 determining oat resistance to *Puccinia coronata* (20')

Sylwia Sowa

- Development of a CRISPR/Cas9-Based Genome Editing Strategy Targeting an ABA Hydrolase Gene in Flax (*Linum usitatissimum* L.) (20')

Marta Sobolewska

- Discussion (10')



MICROBIAL GENETICS

TUESDAY, 22 SEPTEMBER 2026



TUESDAY, 22 SEPTEMBER 2026

11.00-13.15 SESSION M1

MICROBIAL GENETICS

Chair: **Jolanta Zakrzewska-Czerwińska, Jarosław Dziadek**

- Targeting PNPase-Dependent RNA Homeostasis in Mycobacteria - Implications for Post-Transcriptional Gene Regulation (30')

Yaroslav Lavrynychuk

- Bacterial Epigenetics as a Regulatory Layer in Development and Secondary Metabolism of *Streptomyces coelicolor* A3(2) (20')

Lizaveta Karpovich

- Full-length 16S rRNA gene microbiome profiling in morbid obesity using the novel Oxford Nanopore Microbial Amplicon Barcoding Kit reveals associations with metabolic and inflammatory markers (20')

Wojciech Włoszek

- Molecular and evolutionary insights into contact-dependent growth inhibition (CDI) systems associated with virulence plasmids of opportunistic bacteria of the genus *Cronobacter* (20')

Zofia Owczarzak

Flash talk:

Patryk Wiśniewski, Martyna Pisula, Justyna Ruszkowska, Urszula Wachowska, Anna Barczak, Wiktor Jakubowski

- Discussion (15')



WEDNESDAY, 23 SEPTEMBER 2026

11.00-13.00 SESSION M2

MICROBIAL GENETICS

Chair: **Agnieszka Szalewska-Pałasz, Jolanta Zakrzewska-Czerwińska**

- The influence of natural selection on the DNA gyrase genes of *Mycobacterium tuberculosis* (30')

Daria Zygała-Pytlos

- PknB-dependent phosphorylation of CslA links beta-glucan synthesis to tip growth regulation in *Streptomyces* (20')

Bernhard Kepplinger

- Structure-function characteristics of CemR regulators in *Campylobacter jejuni* and *Arcobacter butzleri* (20')

Łukasz Zambrowski

- No room for two polyketides - coelimycin molecules suppress actinorhodin biosynthesis in *Streptomyces coelicolor* A3(2) (20')

Mateusz Wenecki**Flash talk:****Katarzyna Bzowa, Justyna Zadyłak, Aleksandra Giza, Małgorzata Marczak, Danuta Mizgalska, Mateusz Wenecki**

14.00-16.00 SESSION M3

MICROBIAL GENETICS

Chair: **Jarosław Dziadek, Agnieszka Szalewska-Pałasz**

- The mycobacterial nucleoid-associated protein NapM exhibits stress-induced septal localization and modulates cell envelope gene expression (30')

Kornel Milcarz

- Bacteria resistant to β -lactam antibiotics isolated from horses (20')

Aleksandra Anna Lepianka

- Plasmidome diversity and plasmid-encoded effectors may contribute to pathogenic repertoire of the *Legionella* genus (20')

Piotr Koper**Flash talk:****Patrycja Burzyńska, Magdalena Kotowska, Diana Valietova, Katarzyna Bilka**

- Discussion (30')



BIOINFORMATICS

TUESDAY, 22 SEPTEMBER 2026



TUESDAY, 22 SEPTEMBER 2026

11.00-13.15 SESSION B1

BIOINFORMATICS

Chair: **Witold Rudnicki, Aleksandra Swiercz**

- CASP: Progress, Challenges, and Impact on Computational Structural Biology (30')
Krzysztof Fidelis

- From gut to brain: The impact of bacterial functional amyloids on neurodegeneration (20')
Małgorzata Kotulska

- Evaluating Dimensionality Reduction Techniques and Neural Network Architectures for High-Dimensional, Small-Sample Microbiome Classification (20')
Marek Sztuka

- Comparative evaluation of AVITI, MGI and Illumina NGS Platforms for Molecular Oncology Diagnostics (20')
Ewelina Szczerba

- Comparison of Hyperparameter Optimization Tools in Deep Learning Using Autoencoders in the context of Classification (15')
Joanna Szyda

- Application of molecular dynamics for the analysis of selected peptide groups (15')
Vadzim Krukouski

- **AI in the Laboratory: Listening, Suggesting and Automating** (15')
Mateusz Marczak



14.00-16.00 SESSION B2

BIOINFORMATICS

Chair: **Małgorzata Kotulska, Joanna Szyda**

- Changes in codon usage during evolution of SARS-CoV-2 genomes (30')
Paweł Błażej



- SNP Analyser: a website tool for rapid bioinformatic interpretation of mitochondrial DNA variants (20')

Norbert Ozga

- A Reproducible Bioinformatic Workflow for Nanopore-Based Bacterial Methyome Analysis (20')

Lizaveta Karpovich

- Exploratory DNA methylation profiling uncovers subgroup heterogeneity in BCOR-altered central nervous system tumors (20')

Oktawia Korcz

- Attention-Based Imputation of Structural Variants: Genotype Prediction in Low- and High-LD Genomes (15')

Nagarajan Shunmugam

- PLegio: app for comparative visualisation of Legionella genus plasmidome (15')

Katarzyna Burda

16.15-18.00 Sesja B3

BIOINFORMATICS

Chair: **Paweł Błażej, Paweł Mackiewicz**

- Alternative splicing in triple-negative breast cancer: from patient biopsies to patient-derived xenograft models (30')

Katarzyna Nowis

- Omentin-induced transcriptomic remodeling of porcine granulosa cells: protein-coding and long non-coding RNA signatures of follicular microenvironment regulation (20')

Edyta Rytelewska

- Variant-aware prediction and experimental validation of CRISPR-Cas9 nucleases and base editor off-target sites in HEK293T cells (20')

Maciej Powierża

- Bioinformatic Identification of HMB-Responsive Genes and Pathways in a DMDmdx Rat Model (20')

Abdolvahab Ebrahimpour Gorji

- Comparative Hepatic microRNA Profiling in Pigs Identifies Novel DE Transcripts Associated with Andrographis paniculata Hepato-protection and Aflatoxin B1 Hepatotoxicity (15')

Prarthana Sharma



FORENSIC GENETICS

WEDNESDAY, 23 SEPTEMBER 2026

11.00-13.00 SESSION S1 FORENSIC GENETICS

- Investigative Genetic Genealogy: From Genome-wide SNP Data to Investigative Leads (30')

Marta Sobota

- Validation of the FORCE Panel for Extended Kinship Analysis Using Massively Parallel Sequencing (20')

Maria Wróbel

- From DNA to the Most Recent Common Ancestor: The Scientific Foundations of Forensic Genetic Genealogy (20')

Magdalena Spólnicka

- FacePainter – a comprehensive tool for forensic DNA phenotyping (20')

Katarzyna Urbanelis

- Assessment of the Kinfinder kit suitability for analyzing bone material for identification purposes (15')

Krzysztof Żak

- From Turing models to neural networks: the genetic architecture of fingerprints in DNA phenotyping and forensic systems (15')

Natalia Rogalska-Niżnik

14.00-16.00 SESSION S2 FORENSIC GENETICS

- Dilemmas in Predicting Biogeographical Ancestry from Mitochondrial DNA: The Case of the „Vampire” of Pień (30')

Tomasz Grzybowski

- Comparison of EuroForMix and DNASTatistiX in likelihood ratio analysis of DNA mixtures (20')

Marcin Woźniak



- Comparison of Likelihood Ratios for Real DNA Casework Mixtures Using DNASTatist X and LRMix Studio (20')

Magdalena Marcińska

- Epigenetic age prediction in sperm cells for forensic applications using ForSpEC model (20')

Aleksandra Pisarek-Pacek

- Automation makes the difference – manual vs automated DNA preferential lysis in sexual assault cases (15')

Agnieszka Parys-Proszek

- Utilizing DNA Methylation Markers in Bone and Cartilage for Victim Identification (15')

Kamila Marszałek