

## CONGRESS PROGRAM

Wednesday, September 19

from 9:00 REGISTRATION

**10:45 – 11:00 OPENING CEREMONY****Darja Žgur Bertok, Damjan Glavač****11:00 – 11:45 OPENING LECTURE**

Chair: Darja Žgur Bertok

**Borut Peterlin**, University Medical Center, Ljubljana, Slovenia

Genome medicine: From Rare to Complex Disorders

**11:45 – 13:45 SESSION I: Genetic disorders - "Labena session"**

Co-chairs: Nadja Kokalj Vokač, Metka Ravnik-Glavač

**11:45 – 12:10** **Niels Tommerup**, University of Copenhagen, Denmark  
Balanced Chromosomal Rearrangements as Windows into the Developmental  
Regulome

**12:10 – 12:30** **Špela Stangler Herodež**, University Medical Centre Maribor,  
Slovenia  
Next Generation Sequencing (NGS) in Cardiology

**12:30 – 12:45** **Danijela Krgović**, University Medical Centre Maribor, and University  
of Maribor, Slovenia  
Genomic Analysis in Childhood Schizophrenia

**12:45 – 13:00** **Emanuela Boštjančič**, University of Ljubljana, Slovenia  
Expression of Pro-Apoptotic miR-34a and its Target Genes in Human Myocardial  
Infarction and Healthy Heart Tissue

**13:00 – 13:15** **Matija Rijavec**, University Clinic of Respiratory and Allergic  
Diseases Golnik, Slovenia  
Hereditary Angioedema due to C1-inhibitor Deficiency: Heterogeneity of SERPING1  
Mutations, and Genetic Factors Modifying the Clinical Phenotype

**13:15 – 13:30** **Uršula Prošenc Zmrzljak**, Bia Separations CRO and Labena d.o.o,  
Slovenia  
Detection of Somatic Mutations with ddPCR from Liquid Biopsy of CRC Patients

**13:30 – 13:45** **Mojca Milavec**, National Institute of Biology, Slovenia  
Quantification of Human Cytomegalovirus with Digital PCR

**13:45 – 15:00 LUNCH**

<b>15:00 – 17:00</b>	<b>SESSION II: Genome Analysis and Annotation</b>
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Co-chairs: Nataša Štajner, Damjan Glavač

- 15:00 – 15:30**            **Massimo Mezzavilla**, IRCCS “Burlo Garofolo” Trieste, Italy  
Role of Natural Selection in Genetic Isolates: Possible Advantages in Complex-Trait Association Studies
- 15:30 -16:00**            **Cene Gostinčar**, University of Ljubljana and Jožef Stefan Institute, Slovenia  
Genomics of Extremophilic Fungi: Answered and Unanswered Questions
- 16:00 – 16:20**            **Nataša Štajner**, University of Ljubljana, Slovenia  
The Potential of New NGS Approaches for Accurate Genotyping
- 16:20 – 16:40**            **Alenka Matjašič**, University of Ljubljana, Slovenia  
lncRNAs as Regulators of Epigenetic Pathways in Glioma Development
- 16:40 – 17:00**            **Vita Šetrajčič Dragoš**, Institute of Oncology Ljubljana, Slovenia  
The Importance of Functional mRNA Analysis in Clinical Variant Interpretation

<b>17:00 – 17:30</b>	<b>Coffee Break</b>
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<b>17:30 – 19:10</b>	<b>SESSION III: Interactions between Genes and Environment</b>
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Co-chairs: Zlatko Šatovič, Jernej Jakše

- 17:30 – 17:50**            **Bojana Žegura**, National Institute of Biology, Slovenia  
3D Cell Cultures and their Application in Genetic Toxicology
- 17:50 – 18:15**            **Jernej Jakše**, University of Ljubljana, Slovenia  
Ten Years of Citrus Bark Cracking Viroid in Hop Gardens
- 18:15 – 18:40**            **Metka Ravnik Glavač**, University of Ljubljana, Slovenia  
Epigenetics of Mind-Body Interaction
- 18:40 – 18:55**            **Urška Sivka**, Omega d.o.o., Ljubljana, Slovenia  
Identification by Transcriptome Analysis of Genes Associated with Chemical Boring in the Date Mussel (*Lithophaga lithophaga*)
- 18:55 – 19:10**            **Aleš Sedlar**, Agricultural Institute of Slovenia, Ljubljana, Slovenia  
Transcription Profiling of PVY<sup>NTN</sup> Susceptible Potato Tubers in Necrosis Suppressing and Promoting Storage Conditions

<b>19:30 – 22:00</b>	<b>Get-together Reception w/ buffet dinner</b>
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## Thursday, September 20

**8:30 – 10:30**      **SESSION IV: Biotechnology – “Mediline session”**

Co-chairs: Jelka Šuštar Vozlič, Borut Bohanec

**8:30 – 8:55**                      **Zlatko Šatović**, University of Zagreb and Centre of Excellence for Biodiversity and Molecular Plant Breeding, Croatia  
Genetic Diversity and Evolutionary History of *Salvia officinalis* L. and *Salvia lavandulifolia* Vahl

**8:55 – 9:15**                      **Jana Murovec**, University of Ljubljana, Slovenia  
Genome Editing of Plants and its Implementation for Breeding *Brassica* Species

**9:15 – 9:30**                      **Jelka Šuštar Vozlič**, Agricultural Institute of Slovenia, Ljubljana, Slovenia  
Safety, Regulatory and Social Challenges Associated with Modern Biotechnology and Synthetic Biology

**9:30 – 9:45**                      **Gašper Žun**, Jožef Stefan Institute and University of Ljubljana, Slovenia  
A Novel CRISPR-Cas9 Approach in Yeast *Saccharomyces cerevisiae* for Precise Allele Swap Allows Quantitative Trait Genes Validation

**9:45 – 10:00**                      **Michael Hansen**, Qiagen, Denmark  
Genomic Services Solutions at Qiagen: Detection of Exosome-Derived microRNAs

**10:00 – 10:15**                      **Špela Kos**, Institute of Oncology Ljubljana, Slovenia  
Synergy of DNA Vaccine with CTLA-4/PD-1 Blockade

**10:15 – 10:30**                      **Urša Lampreht Tratar**, Institute of Oncology Ljubljana, Slovenia  
The Increase of Immune Cell Infiltration after Interleukin 12 Gene Electrotransfer in Murine and Canine Tumors

**10:30 – 11:20**      **Coffee Break****11:20 – 12:50**      **SESSION V: Genetic Diversity and Genetic Resources**

Co-chairs: Peter Dovč, Simon Horvat

**11:20 – 11:45**                      **D. Phillip Sponenberg**, Virginia Maryland College of Veterinary Medicine, USA  
Genetic Aspects of Conserving Local Breeds

**11:45 – 12:05**                      **Simon Horvat**, University of Ljubljana, Slovenia  
The Endangered Slovenian Drežnica Goat Breed: Assessing Genotypic-Phenotypic Diversity and Population Structure

**12:05 – 12:20** Peter Dovč, University of Ljubljana, Slovenia  
Global Biodiversity in Domestic Pig Breeds (*Sus scrofa*)

**12:20 – 12:35** Mojca Ogrizovič, Jožef Stefan Institute, Ljubljana, Slovenia  
Elucidating the Pleiotropic Effects of *MKT1* Gene in Yeast *Saccharomyces cerevisiae*

**12:35 – 12:50** Barbara Pipan, Agricultural Institute of Slovenia, Ljubljana, Slovenia  
Marker-Assisted Evaluation and Trait-Specific Selection of Accessions from Central and Eastern European Common Bean Germplasm

<b>12:50 – 14:00</b>	<b>Lunch</b>
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<b>14:00 – 15:00</b>	<b>Poster session I w/ coffee served</b>
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<b>15:00 – 17:15</b>	<b>The Golden Chromosome SESSION</b>
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Co-chairs: Peter Dovč, Branka Javornik, Damjan Glavač

Ana Dolinar, University of Ljubljana, Slovenia  
Circular RNAs in Amyotrophic Lateral Sclerosis

Anja Pavlin, University of Ljubljana, Slovenia  
Lytic Gene Expression in the Temperate Bacteriophage GIL01 is activated by a Phage-Encoded LexA Homologue

Ester Stajič, University of Ljubljana, Slovenia  
CRISPR/Cas9-Mediated Genome Editing in Cabbage

Gregor Jezernik, University of Maribor, Slovenia  
Fatty Acid Abnormalities in IBD are linked to Novel IBD Specific Loci

Helena Volk, University of Ljubljana, Slovenia  
The Invisibility Cloak: Chitin Binding Protein of *Verticillium nonalfalfae* Disguises Fungus from Plant Chitinases

Ida Djurdjevič, University of Ljubljana, Slovenia  
Transcriptome Analysis and Cellular Background of the Pigment Pattern in Marble and Brown Trout

Katja Molan, University of Ljubljana, Slovenia  
The *Escherichia coli* Colibactin Resistance Protein ClbS is a Novel DNA Binding Protein that Protects DNA from Nucleolytic Degradation

Katja Uršič, Institute of Oncology Ljubljana, Slovenia

Peritumoral Gene Electrotransfer of Interleukin-12 as Immune Boost to Intratumoral Electrochemotherapy for Treating Murine Melanoma

Kristina Marton, University of Ljubljana, Slovenia

Potential Avirulence Gene Vna8.691 of Phytopathogenic Fungus *Verticillium nonalfalfae*

Luka Predojević, University of Ljubljana, Slovenia

Genetic, Biofilm and Cellular Analysis of Uropathogenic Virulence Factors of Various Human *Escherichia coli* Strains Employing a Biomimetic Urothelial Model *in vitro*

Sara Redenšek, University of Ljubljana, Slovenia

Genetic Variability in Oxidative Stress Pathways Influences the Occurrence of Adverse Events of Dopaminergic Treatment in Parkinson's Disease

**17:15 – 17:45**

**Coffee Break**

**17:45 – 19:15**

**SESSION VI: Pharmacogenomics**

Co-chairs: Sabina Semiz, Uroš Potočnik

**17:45 – 18:10**

Sabina Semiz, International University of Sarajevo and University of Sarajevo, Bosnia and Herzegovina

Pharmacogenomics and Precision Medicine in Type 2 Diabetes

**18:10 – 18:30**

Uroš Potočnik, University of Maribor, Slovenia

Molecular mechanisms of response to biological therapy anti TNF by integrating system medicine and functional genomics approaches

**18:30 – 18:45**

Katja Goričar, University of Ljubljana, Slovenia

Association of *MSLN* Polymorphism with Serum Mesothelin Levels and Survival in Malignant Mesothelioma

**18:45 – 19:00**

Katja Repnik, University of Maribor, Slovenia

Circulating Tumor DNA in Head and Neck Cancer as Predictive and Prognostic Molecular Marker

**19:00 – 19:15**

Nataša Debeljak, University of Ljubljana, Slovenia

Exploring the Genetic Background of Familial Erythrocytosis

**20:00 – 24:00**

**Conference Dinner**

**Friday, September 21**

<b>9:00 – 10:55</b>	<b>SESSION VII: Genetic Disorders and Gene Therapy</b>
Co-chairs: Maja Čemažar, Richard Heller	
<b>9:00 – 9:25</b>	<b><u>Loree Heller</u></b> , Old Dominion University, Norfolk, USA Cytosolic Pattern Recognition Receptors are activated by DNA Electroporation
<b>9:25 – 9:50</b>	<b><u>Michael Kabesch</u></b> , University Children's Hospital Regensburg, Germany Genetics and epigenetics of asthma and asthma therapy
<b>9:50 – 10:10</b>	<b><u>Maja Čemažar</u></b> , Institute of Oncology Ljubljana and University of Primorska, Slovenia Ablative Therapies Combined with Interleukin-12 Gene Electrotransfer for Treatment of Tumors of Client-Owned Dogs
<b>10:10 – 10:25</b>	<b><u>Richard Heller</u></b> , Old Dominion University, Norfolk, USA Potential Therapeutic Applications Using Gene Electrotransfer
<b>10:25 – 10:40</b>	<b><u>David Dobnik</u></b> , National Institute of Biology, Slovenia Characterization of Viral Vectors for Gene Therapy: Molecular Biology Hand-in-Hand with Electron Microscopy
<b>10:40 – 10:55</b>	<b><u>Boštjan Markelc</u></b> , University of Oxford, UK and Institute of Oncology Ljubljana, Slovenia Tumour Endothelium, Sprouting Angiogenesis and Their Response to Radiotherapy
<b>10:55 – 12:00</b>	<b>Poster session II w/ coffee served</b>
<b>12:00 – 13:10</b>	<b>Lunch</b>
<b>13:10 – 14:25</b>	<b>SESSION VIII: Microbial Genetics</b>
Co-chairs: Marjanca Starčič Erjavec, Matej Butala	
<b>13:10 – 13:35</b>	<b><u>Ellen Zechner</u></b> , University of Graz, Austria Molecular Functions of Microbiota-Derived Enterotoxins in Human Intestinal Disease
<b>13:35 – 13:55</b>	<b><u>Marjanca Starčič Erjavec</u></b> , University of Ljubljana, Slovenia Construction and Antibacterial Effect of the Strain ŽP – the First Bacterial Conjugation-Based "Kill" – "Anti-Kill" Antimicrobial System

**13:55 – 14:10**            Tomaž Accetto, University of Ljubljana, Slovenia  
The Lytic *Myoviridae* of *Enterobacteriaceae* form Tight Recombining Assemblages Separated by Discontinuities in Genome Average Nucleotide Identity and Lateral Gene Flow

**14:10 – 14:25**            Ivan Toplak, University of Ljubljana, Slovenia  
Identification and Characterization of Pathogens of Infectious Disease with the Method of Next Generation Sequencing

**14:30 – 15:15**            **CLOSING LECTURE**

Co-chairs: Darja Žgur Bertok, Damjan Glavač

Borut Bohanec, University of Ljubljana, Slovenia

Development of Modern Methods for Breeding F1 Hybrid Cultivars of Agricultural Plants

**15:15 – 15:45**            **Coffee Break**

**15:45 – 16:45**            **The Genetics Society of Slovenia Annual Assembly**

**16:45 – 17:00**            **Best Posters and Golden Chromosome Award Presentation**

**17:00 – 17:15**            **Closing Ceremony**