

Institute of Molecular and Cell Biology & Institute of Genomics
Annual Conference 2024
Riia 23b/2 lecture hall 105

PROGRAMME

Wednesday January 15th, 2025

09:00 – 09:20 **Opening of the conference:** Director of the IG Prof. **Mait Metspalu**, Director of the IMCB Prof. **Maia Kivisaar**

Morning Session

09:20 – 09:50 Invited speaker 1: Associate Prof. **Ester Oras** (Institute of Chemistry, University of Tartu)
“**Biomolecular humanities: challenges and perspectives**”

09:50 – 10:10 4th-year PhD student **Kadri Irdt** (IG)
“**Stone Age in the Baltic region: revealing the history of first settlers in Estonia**”

10:10 – 10:30 Visiting doctoral student at IMCB **Maarja Lipp** (Department of Chemistry and Biotechnology, Tallinn University of Technology)
“**On the pH Dependency of the Catalysis by a Lytic Polysaccharide Monoxygenase from the Fungus *Trichoderma reesei***”

10:30 – 10:55 Coffee Break

10:55 – 11:15 Associate Prof. **Triin Laisk** (IG)
“**Atlas of genetic and phenotypic associations across 42 female reproductive health diagnoses**”

11:15 – 11:35 3rd-year PhD student **Ivan Kuznetsov** (IG)
“**Measuring genetic effects on Educational Attainment in a changing society**”

11:35 – 11:55 2nd-year PhD student **Jose Rodrigo Flores Espinosa** (IG)
“**The Impact of Selection on Genotype Imputation Accuracy in Ancient DNA Studies**”

11:55 – 12:15 4th-year PhD student **Tarmo Puurand** (IMCB)
“**Y-mer: A k-mer based method for determining human Y chromosome haplogroup from ultra-low sequencing depth data**”

12:15 – 13:15 Lunch Break

Afternoon Session

- 13:15 – 13:35 Prof. **Osamu Shimmi** (IMCB)
“Cellular mechanisms underlying tissue morphogenesis in Drosophila and beyond”
- 13:35 – 13:55 3rd-year PhD student **Kerli Ilves** (IG)
“Disentangling the causal relations between health (behaviours) and personality traits”
- 13:55 – 14:15 2nd-year PhD student **Kanwal Batool** (IG)
“Prevalence and impact of low frequency, protein-structure altering variants on BMI in the Estonian Biobank”
- 14:15 – 14:50 2-min Flash Talks (odd numbers)
- 14:50 – 15:30 Poster Session (odd numbers) + Coffee break
- 15:30 – 15:50 Associate Prof. **Priit Jõers** (IMCB)
“Predator (psychological) stress – an adaptive cause for metabolic disease?”
- 15:50 – 16:10 1st-year PhD student **Saskia Kuusk** (IG)
“Target Trial Emulation in biobank data: estimating the effect of cholesterol-lowering therapy and PRS in the Estonian Biobank”
- 16:10 – 16:30 4th-year PhD student **Siim Kurvits** (IG)
“Metabolic profile of depression symptoms”
- 16:30 – 16:50 Research Fellow **Lehti Saag** (IG)
“North Pontic crossroads: Mobility in Ukraine from the Bronze Age to the early modern period”

Thursday January 16th, 2025

Morning Session

- 09:00 – 09:30 Invited speaker 2: Associate Prof. **Marju Himma** (Institute of Social Studies, University of Tartu)
“More than another science feature story. Why mediatisation is not enough for effective science communication?”

- 09:30 – 09:50 Associate Prof. **Hedvig Tamman** (IMCB)
“Environmental bacteriophages against stressed *Pseudomonas putida*”
- 09:50 – 10:10 Specialist **Margit Nõukas** (IG)
“The impact of NDD-CNVs on health in the general population and later onset comorbidities in adult carriers within the EstBB”
- 10:10 – 10:30 4th-year PhD student **Marili Palover** (IG)
“From Estonian biobank to practice: Undiagnosed adult carriers of genomic disorder CNVs express contentment to learn about their genetic finding”
- 10:30 – 10:55 Coffee Break
- 10:55 – 11:15 Prof. **Kristiina Tambets** (IG)
“Transdisciplinary studies of the human past: ancient DNA perspective focusing on Medieval Europe.”
- 11:15 – 11:35 4th-year PhD student **Fanny-Dhelia Pajuste** (IMCB)
“Evaluating the Predictive Ability of Polygenic Risk Score for Intrahepatic Cholestasis of Pregnancy in the Estonian Biobank”
- 11:35 – 11:55 2nd-year PhD student **Valentina Rukins** (IG)
“Sex-specific predictive performance of polygenic scores for type 2 diabetes”
- 11:55 – 12:15 1st-year PhD student **Alicja Cecylia Lewańczyk** (IMCB)
“The TOL plasmid pWW0 in phage defense of *Pseudomonas putida*”
- 12:15 – 13:15 Lunch Break

Afternoon Session

- 13:15 – 13:45 Invited speaker 3: Associate Prof. **Märt Möls** (Institute of Mathematics and Statistics, University of Tartu)
“Accurate predictions from bad models - statistical jargon for common sense”
- 13:45 – 14:05 1st-year PhD student **Apostol Ganchev Apostolov** (IMCB)
“Multi-omic investigation of uterine fluid-derived extracellular vesicles across the menstrual cycle”
- 14:05 - 14.25 2nd-year PhD student **Jelisaveta Džigurski** (IG)
“Comprehensive Analysis of Hormonal Contraceptive Use in the Estonian Biobank”

14:25 – 15:00	2-min Flash Talks (even numbers)
15:00 – 15:40	Poster Session (even numbers) + Coffee Break
15:40 – 16:00	Research Fellow Andres Ainele (IMCB) “Mapping the antiviral defense landscape of <i>Pseudomonas putida</i> PaW85”
16:00 – 16:20	Research Fellow Burak Yelmen (IG) “A Perspective on Generative Neural Networks in Genomics with Applications in Synthetic Data Generation”
16:20 – ...	Ending of the conference, closing remarks and the award ceremony

Flash Talks & Poster Session numbers

Session 1 (odd numbers) – Wednesday, January 15th at 14:15 – 15:30

- 1 2nd-year PhD student **Madli Tamm** (IG)
“Enhancing Breast Cancer Screening through Genetic Risk-Based Stratification: Results from the BRIGHT Project”
- 3 1st-year PhD student **Telver Objärtel** (IG)
”Early detection of cancer via circulating tumor DNA sequencing and methylation analysis”
- 5 1st-year PhD student **Laura Birgit Luitva** (IG)
“Exploring drug-drug-gene interactions of clopidogrel with *CYP2C19* and proton pump inhibitors using electronic health records of Estonian Biobank participants”
- 7 1st-year PhD student **Merve Nur Güler** (IG)
“Deep Learning for Predicting Quantitative Traits from Genomic Data”
- 9 3rd-year PhD student **Kateryna Pantiukh** (IG)
“Archaeal Landscape of the Estonian Microbiome cohort”
- 11 1st-year PhD student **Sandra Park** (IMCB)
“Natural transformation of *Escherichia coli* on antimicrobial surfaces”
- 13 2nd-year PhD student **Erkin Alacamli** (IG)
“Region-specific reference panel for Genotype Imputation in ancient human genomes from Eastern Europe”
- 15 1st-year PhD student **Birgit Malken** (IG)
“Harnessing polygenic risk scores to understand weight change variability”
- 17 2nd-year PhD student **Darja Vastšjonok** (IMCB)
“Redox enzymes in removal of phenolic compounds from wastewater streams of shale oil production”
- 19 2nd-year PhD student **Jéssica Figuerêdo** (IG)
“A map of genetic and phenotypic associations across male reproductive phenotypes”
- 21 3rd-year PhD student **Triinu Ojalo** (IG)
“Depression Before Dementia: Examining Its Role as a Risk Factor and Prodromal Marker Through Polygenic Risk Scores”

- 23 3rd-year PhD student **Kai Tätte** (IG)
“Austronesian Expansion from a Genetic Point of View”
- 25 3rd-year PhD student **Johanna Hendrikson** (IMCB)
“Constructing a Dual-Reporter Plasmid: Investigating the Effect of Gene Orientation on Expression”
- 27 Research Fellow **Sirli Rosendahl** (IMCB)
“Prophages protect *Pseudomonas putida* from several CEPEST collection phages”

Session 2 (even numbers) – Thursday, January 16th at 14:25 – 15:40

- 2 3rd-year PhD student **Jaan Vihalemm** (IMCB)
“Selective bioleaching of base, heavy and precious metals from e-waste”
- 4 1st-year PhD student **Anastasiia Alekseenko** (IG)
“Systematic interpretation of large-scale GWAS analyses of 5,522 phenotypes”
- 6 2nd-year PhD student **Triinu Varvas** (IG)
“Genetic investigation of self-reported cognitive symptoms in Mental Health online Survey cohort in the Estonian Biobank”
- 8 1st-year PhD student **Analiis Veeremaa** (IMCB)
“The role of the eukaryote-specific intersubunit bridges in the regulation of viral IRES-mediated translation of the budding yeast ribosome”
- 10 1st-year PhD student **Madeleine Thirolle** (IG)
“Metagenomic and proteomic studies of Stone Age anthropogenic birch tar samples”
- 12 2nd-year PhD student **Annabel Klemets** (IG)
“Effects of psychotropic drugs and mental health disorders on the gut microbiome”
- 14 2nd-year PhD student **Galadriel Lucia Velázquez Silva** (IG)
“Multi-omic risk prediction scores for rheumatoid arthritis in Estonian population”
- 16 1st-year PhD student **Rutvi Manishkumar Rajpara** (IG)
“The underlying evolutionary dynamics of the human immune response”
- 18 4th-year PhD student **Biancamaria Bonucci** (IG)
“Ancient DNA and protein preservation and transfer in concretions covering human remains”
- 20 4th-year PhD student **Hanna Maria Kariis** (IG)
“A retrospective biobank study of genetic insights into antidepressant side effects”
- 22 3rd-year PhD student **Miriam Nurm** (IG)
“Hereditary hemochromatosis in the Estonian Biobank”
- 24 3rd-year PhD student **Lea Ets** (IMCB)
“Mechanisms affecting fluoride tolerance in soil bacteria *Pseudomonas putida*”
- 26 3rd-year PhD student **Harleen Kaur** (IMCB)
“Antimicrobial efficacy of copper and quaternary ammonium-based surface coatings in real-life use conditions”
- 28 Research Fellow **Riina Raudne** (IG)
“TeamPerMed Center for Personalised Medicine: Bringing Genomics into Everyday Healthcare”

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