

Winter Seminar in Gene Sciences

30.-31.01.2025 Jänedä Manor

Thursday, 30.01

8.30 – Bus departure from Tartu (in front of Vanemuise 46)

9.00 – Bus departure from Tallinn (Akadeemia tee 15 parking lot)

10.30 – 11.00 Arrival, registration, morning coffee

11.00 – 11.05 Opening remarks, introduction – Tiina Tamm, PhD, UT

11.05 – 12.55 Session I, moderator Tiina Tamm, PhD, UT.

11.05 – 11.25 **Margus Leppik, PhD, UT.** “Modifications of ribosomal RNA in bacteria and yeast”

11.25 – 11.45 **Analiis Veeremaa, UT.** “The role of the eukaryote-specific intersubunit bridges in the regulation of viral IRES-mediated translation of the budding yeast ribosome”

11.45 – 12.05 **Indrek Koppel, PhD, TalTech.** “Studying protein synthesis in the nervous system”

12.05 – 12.10 **Karl Jürgenstein, UT.** “The impact of translational fidelity errors on mutation frequency in *Pseudomonas putida* strains with mutations in ribosomal protein S5”

12.10 – 12.30 **Riho Teras, PhD, UT.** “Construction of reporter plasmids for oppositely transcribed genes”

12.30 – 12.35 **Johanna Hendrikson, UT.** “Constructing a Dual-Reporter Plasmid: Investigating the Effect of Gene Orientation on Expression”

12.35 – 12.40 **Mia-Lota Keskküla, UT.** “Choosing a pair of fluorescent proteins to use in a dual-reporter plasmid in *P. putida*”

12.40 – 12.45 **Anastassia Šubina, TalTech.** “Insights into the interactome of transcription factor 4, a schizophrenia- and autism-associated basic helix-loop-helix transcription factor”

13.00 – 14.00 Lunch

- 14.00 – 15.45 Session II, moderator Cecilia Sarmiento, PhD, TalTech.**
- 14.00 – 14.20 **Triin Vahisalu, PhD, TalTech.** Title to be announced.
- 14.20 – 14.25 **Irina Česnokova, TalTech.** “Super-resolution imaging of maturing cardiomyocytes”
- 14.25 – 14.30 **Sigrid Kirss, TalTech.** “World needs a Magic Bullet for Alzheimer's Disease”
- 14.30 – 14.50 **Agne Velthut-Meikas, PhD, TalTech.** “Using transcriptomics to understand ovarian functions in health, disease and unfavourable environmental conditions”
- 14.50 – 15.05 **Inge Varik, TalTech.** “Molecular Composition and Differential Effects of Human Follicular Fluid Extracellular Vesicle Subtypes on the Human Granulosa-Like Tumor Cell Line KGN”
- 15.05 – 15.45 **Guest speaker: Patrick Pausch, PhD (LSC-EMBL Partnership for Genome Editing Technologies, Vilnius University - Life Sciences Center).** “Mechanism of a DNA producing and tRNA cutting bacterial immune system”
- 15.45 – 16.10 Coffee break
- 16.10 – 18.05 Session III, moderator Eve-Ly Ojangu, PhD, TalTech**
- 16.10 – 16.30 **Rita Hõrak, PhD, UT.** “Arms race between bacteria and phages”
- 16.30 – 16.45 **Alicja Cecylia Lewańczyk, UT.** “The TOL plasmid pWW0 in phage defense of *Pseudomonas putida*”
- 16.45 – 17.00 **Annika Rähni, TalTech.** “Antibody Response Patterns in Psychosis Spectrum Disorders: Investigating Antibody-Epitope Signatures Using Phage Display and Next Generation Sequencing”
- 17.00 – 17.20 **Triinu Visnapuu, PhD, UT.** “Synergistic effects of polysaccharides and plant-derived bacteria in promoting plant health”
- 17.20 – 17.35 **Giuseppe Leonardo Auditano, TalTech.** “Bioenergetic Pathways in Colon Cancer: Investigating Glycolytic Flux and Enzyme Kinetics in Clinical Samples And Caco-2 Cells.”

17.35 – 17.50	Naatan Seeba, TalTech. “A negatively charged cluster in the disordered acidic domain of GPIHBP1 provides selectivity in the interaction with lipoprotein lipase”
17.50 – 17.55	Kannan Thirumal Muthu, TalTech. “Microbial Utilization of Technical Lignins”
17.55 – 18.00	Maarja Lipp, TalTech. “New insights into the structure and mechanisms of different lytic polysaccharide monooxygenases”
18.00 – 18.05	Darja Vastšjonok, UT. “Redox enzymes in removal of phenolic compounds from wastewater streams of shale oil production”
18.05 – 19.00	Dinner
19.00 –	Networking

Friday, 31.01

8.00 – 9.00	Breakfast
9.00 – 10.30	Session IV, moderator Andres Ainele, PhD, UT.
9.00 – 9.40	Guest speaker Stephen Jones, PhD (EMBL Partnership Institute at the Vilnius University Life Sciences Center). “How precise is precise? Pursuing specific editing outcomes with CRISPR nucleases”
9.40 – 10.00	Anneli Lorents, PhD, UT. “Developing drug delivery strategies for RNA-based therapeutics”
10.00 – 10.15	Syed Shahid Musvi, TalTech. “Identification of the new replication initiation factors in human cells”
10.15 – 10.30	Sameera Vipat, TalTech. “The role of TIMELESS protein in DNA replication initiation in human cells”
10.30 – 11.00	Coffee break

11.00 – 12.30	Session V, moderator Indrek Koppel, PhD, TalTech
11.00 – 11.20	Juliano Sabedotti De Biaggi, TalTech. “Valorizing Waste with Gene Tech”
11.20 – 11.35	Helena Tull, TalTech. “Molecular communication between neurons and glia”
11.35 – 11.50	Laura Luhari, TalTech. “Integrative multi-omics analyses of clinical outcomes in lung adenocarcinoma”
11.50 – 12.05	Carl Sander Kiir, TalTech. “Genome-Wide Characterization of Neuronal Activity-Dependent Transcription in <i>Drosophila</i> ”
12.05 – 12.25	Age Brauer, PhD, UT. “Small packages, big impact: the power of compact phage genomes”
12.25 – 12.30	Alina Reķēna, TalTech. “Computational design of yeast-based cell factories”
12.30 – 13.45	Lunch
13.45 – 15.00	Session VI, moderator Hedvig Tamman, PhD, UT
13.45 – 14.05	Angela Ivask, PhD, UT. “Benefits of antimicrobial surface coatings but what about threats?”
14.05 – 14.10	Sandra Park, UT. “Natural transformation of <i>Escherichia coli</i> on antimicrobial surfaces”
14.10 – 14.25	Laura Kaarma, TalTech. “Design and development of antifungal materials for biomedical applications”
14.25 – 14.40	Lea Ets, UT. “Mechanisms affecting fluoride tolerance in soil bacteria <i>Pseudomonas putida</i> ”
14.40 – 14.45	Dániel Kácsor, TalTech. “Microfluidic image analysis: turning droplets into numbers”
14.45 – 14.50	Ilona Juvonen, TalTech. “Metal-phenolic network-coated nanoparticles for sustainable metal recycling”
14.50 – 15.00	Closing remarks

15.30 – Buses depart from Jäneda to Tallinn and Tartu