

# Institute of Biomedicine and Translational Medicine Science Seminar Days

○ February 1<sup>st</sup> -2<sup>nd</sup> , 2024  
○ Biomedicum - 1006

February 1<sup>st</sup>

08:30 - 09:00 Registration

09:00 - 09:10 Opening words by Professor Eero Vasar, Head of the Institute of Biomedicine and Translational Medicine

## Session I: Reproductive Health and Disorders (Moderated by Katyayani Singh)

09:10 - 09:30 RASopathy-linked variants in men with spermatogenic failure - Anna-Grete Juchnewitsch (PhD student, Chair of Human Genetics)

09:30 - 09:50 Screening 638 candidate genes for disease-causing variants in male factor infertility - Kristiina Lillepea (PhD student, Chair of Human Genetics)

09:50 - 10:10 Cellular and Metabolic Characteristics of Peritoneal Lesions in Endometriosis - Meruert Sarsenova (PhD student, Institute of Clinical Medicine)

10:10 - 10:30 Histological Dating of Endometrium: Applications, Challenges, and Findings - Ave Minajeva (Associate Professor, Department of Pathological Anatomy and Forensic Medicine)

10:30 - 11:00 Coffee break

## Session II: Molecular Mechanisms and Biological Responses (Moderated by Carolin Kuuskmäe and Mohan Jayaram)

11:00 - 11:20 The hypothermia puzzle: Decoding its molecular effects - Kattri-Liis Eskla (Research fellow, Department of Physiology)

11:20 - 11:40 Radiation-induced expression of antibody-drug conjugates' targets in lung cancer cell lines - Elina Leis (PhD student, Department of Hematology and Oncology, Institute of Clinical Medicine)

11:40 - 12:00 Genome-wide DNA methylation and hydroxymethylation mapping after repeated exposure to delta-9-tetrahydrocannabinol (THC) in human peripheral blood mononuclear cells - Kerda Pulk (PhD student, Department of Pharmacology)

12:00 - 12:20 N4-acetylcytidine (ac4C) promotes mRNA localization to stress granules - Pavel Kudrin (Research fellow, RNA Biology Research Group, Department of Biomedicine)

12:20 - 12:40 Respiration without oxygen - reactions driving CO<sub>2</sub> emission in anoxia - Hans Vellama (PhD student, Department of Physiology)

12:40 - 13:20 Lunch

## Session III: Innovative Approaches in Therapeutics and Analysis (Moderated by Hans Vellama and Kattri-Liis Eskla)

13:20 - 14:00 **Keynote: Using AI for evidence-based reasoning** - Hendrik Luuk (Senior Director of Natural Language Processing, Pfizer)

14:00 - 14:20 Novel anthracycline-loaded nanoparticles for precision cancer therapy - Valeria Sidorenko (PhD student, Laboratory of Precision and Nanomedicine)

14:20 - 14:40 Building an integrated single-cell atlas of blood immune cells in aging - Igor Filippov (PhD student, Molecular Pathology Research Group, Department of Biomedicine)

14:40 - 15:00 Therapeutic trials of nanoformulated curcumin in a mouse model of Alzheimer's disease and investigation of levodopa-induced sensory neuropathy - Miriam Hickey (Associate Professor, Department of Pharmacology)



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15:00 - 15:30 Coffee break

## Session IV: Immunology and Medical Research (Moderated by Maarja Krass and Mohan Jayaram)

15:30 - 15:50 HIV-1 transmitted drug resistance is rising in Estonia - Arina Šablinskaja (PhD student, Department of Microbiology)

15:50 - 16:10 Exploring new strategies for generating tolerogenic dendritic cells through postbiotics - Sudhichan Mehta Udaikumar (PhD student, RNA Biology Research Group, Department of Biomedicine)

16:10 - 16:30 Central Tolerance Mechanisms in an APS1 Rat Model - Artur Stoljar (PhD student, Molecular Pathology Research Group, Department of Biomedicine)

16:30 - 16:50 Clinical importance of the superior shoulder capsule - Tiina Tikk (PhD student, Department of Anatomy, Department of Sports Medicine and Rehabilitation)

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08:30 - 09:00 Registration

Session V: Panel Discussion (Moderated by Miriam Hickey)

09:00 - 10:20 **The tip of the iceberg - probability of becoming a top researcher in Estonia?**

Irja Lutsar (Professor of Medical Microbiology, Member of the Riigikogu), Taavi Lehto (Associate Professor of Nanobiotechnology, Institute of Technology), Hendrik Luuk (Senior Director of Natural Language Processing, Pfizer), Ana Rebane (Professor of Molecular Medicine), Tambet Teesalu (Professor of Nanomedicine)

10:20 - 10:50 Coffee break

Session VI: Diet and Transgenerational Effects (Moderated by Kaie Mikheim and Mari-Anne Philips)

10:50 - 11:30 **Keynote: Maternal high-fat diet impairs social behavior of the offspring: cellular and molecular mechanism** - Urtė Neniškytė (Senior researcher, Vilnius University)

11:30 - 11:50 **Acute high-fat high-sugar diet rapidly increases blood-brain barrier permeability in mice** - Este Leidmaa (Associate Professor, Department of Physiology)

11:50 - 12:10 **Detection of Bifidobacterium breve surface-binding antibodies in children of mothers with gestational diabetes** - Celeste Peterson (Specialist, Department of Immunology)

12:10 - 12:30 **Activation of the innate immune system in children of mothers with gestational diabetes in early childhood** - Aili Tagoma (Research fellow, Department of Immunology)

12:30 - 13:10 Lunch

Session VII: Neurological Insights (Moderated by Arpana Hanumantharaju and Este Leidmaa)

13:10 - 13:50 **Keynote: Regulation of synaptic activity-dependent gene expression in nervous system health and disease** - Tõnis Timmusk (Professor, TalTech)

13:50 - 14:10 **Sex-specific sensory processing dysfunctions in the mice model of neuropsychiatric disorder** - Katyayani Singh (Research fellow, Department of Physiology)

14:10 - 14:30 **Phenotype related to metabolic and affective behavior in NEGR1-deficient mice** - Kaie Mikheim (PhD student, Department of Physiology)

14:30 - 14:50 **Estimating the time of death – first impressions with proton magnetic resonance spectroscopy (1H-MRS)** - Sünne Remmer (Forensic pathologist and radiologist, Estonian Forensic Science Institute)

14:50 - 15:10 **Neurodegeneration in Wolfram Syndrome: Casting a wider net** - Nayana Gaur (Research fellow, Laboratory Animal Center)

15:10 - 15:20 **Concluding words by Professor Maris Laan, Vice Dean for Research, Faculty of Medicine**



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