

Baltic summer school on behavioural characterization of rodent models of major brain disorders

Time: Aug. 25 – 30, 2019

Place: Tartu / Pühajärve (Estonia) <https://www.pyhajarve.com/en/>

Organizers: University of Helsinki, University of Eastern Finland

Maximum number of students: 40; 2 ECTS for attendance, 3 ECTS for attendance with presentation (10 min slideshow)

SUMMARY: The target group for this training course are doctoral and post-doctoral students working in broad areas of neuroscience and pharmacology. The aim of the course is to introduce a variety of methods available for assessment of rodent behaviour in laboratory conditions. A special emphasis is on translational potential of behavioural animal models. In addition, good practices for design and implementation of animal testing will be covered, addressing the ongoing debate and concerns regarding reliability and reproducibility of findings in basic research.

Travel advice in brief: Take a flight or ferry to Tallinn, from where frequent bus connection to Tartu. On Sunday evening (August 25), approximately at 20:30 there will be a common transport for course participants from Tartu bus station to Pühajärve. On Friday, August 30 we will have a bus from Pühajärve back to Tallinn, arrival in Tallinn approximately at 15:00.

Some useful information for traveling can be found here: <https://www.ut.ee/en/admissions/how-get-tartu>

PROGRAM

Day-0 Sunday, 25-08-2019

Arrival in Pühajärve

Day-1 Monday, 26-08-2019

08:45 Opening the meeting

TOPIC: GENERAL ASPECTS AND BACKGROUND FOR RODENT MODELS IN LABORATORY

09:15 **Hannu Ylönen** (University of Jyväskylä, Finland): *How do rodents behave in their natural environment?*

10:15 COFFEE / TEA

10:45 **Vootele Võikar** (University of Helsinki, Finland): *Influence of genetic background and housing conditions on behavioral tests*

11:45 **Satu Kuure** (University of Helsinki, Finland): *GM techniques for disease models*

12:45 LUNCH

TOPIC: MOTOR DISORDERS

14:00 **Liga Zvejniece** (Latvian Institute of Organic Synthesis, Riga, Latvia): *Models of brain trauma*

15:00 **Jukka Jolkkonen** (University of Eastern Finland, Kuopio, Finland): *Rodent stroke models*

16:00 COFFEE / TEA

16:30 **Merja Voutilainen** (University of Helsinki, Finland): *Amyotrophic lateral sclerosis models*

17:30 **Mikko Airavaara** (University of Helsinki, Finland): *Rodent models of Parkinson's disease*

19:00 DINNER – "GET-TOGETHER"

Day-2 Tuesday, 27-08-2019

TOPIC: ANXIETY, DEPRESSION AND SUBSTANCE ABUSE

08:30 **Jaanus Harro** (University of Tartu, Estonia): *Anxiety models*

09:30 **Dilja Krüger-Burg** (Max Planck Institute of Experimental Medicine, Göttingen, Germany): *From molecules to behavior in the anxiety circuitry*

10:30 COFFEE / TEA

11:00 **Tomi Rantamäki** (University of Helsinki, Finland): *Investigating antidepressant mechanisms in rodents: is animal model of depression necessary?*

12:00 **Petteri Piepponen** (University of Helsinki, Finland): *Rodent models of substance abuse*

13:00 LUNCH

TOPIC: SOCIAL BEHAVIOUR

14:30 **Remco Molenhuis** (University of Groningen, The Netherlands): *Modelling behavioural features of autism-spectrum disorders in mice*

15:30 **Angela Caruso** (Istituto Superiore di Sanità, Rome, Italy): *Testing social behaviour and ultrasonic communication in rodents*

16:30 COFFEE / TEA

16:45 **Student presentations (6 x 10 min), end 18:15**

Jane Narvik (University of Tartu, Estonia): Comparing Bl6 and 129Sv: differences in behavior, metabolism and genes.

Kerly Niinep (University of Tartu, Estonia): The effects of early life stress on epigenetic modifiers.

Anna Yotova (Goethe University, Frankfurt, Germany): Modelling Neurodevelopmental Psychiatric Disease via Maternal Immune Activation.

Begün Erba (Bilkent University, Turkey): Possible Therapeutic Roles Of Diet-Regulated Gene Expressions During Brain Aging.

Martina Nigri (ETH, Switzerland): Ribosomal misreading: a potential mechanism involved in neurodegeneration.

Cecilia Cannarozzo (University of Helsinki, Finland): The role of TRKB and cholesterol recognition motifs in adult mouse visual cortex.

18:30 DINNER

Day-3 Wednesday, 28-08-2019

TOPIC: COGNITIVE DISORDERS

09:00 **Heikki Tanila** (University of Eastern Finland, Kuopio, Finland): *Rodent models of Alzheimer's disease*

10:00 COFFEE / TEA

10:30 **Hannelore Ehrenreich** (Max Planck Institute of Experimental Medicine, Göttingen, Germany): *Mouse models of catatonia – starting to understand mechanisms involving myelin and neuroinflammation*

11:30 **Eero Vasar** (University of Tartu, Estonia): *Rodent models of schizophrenia*

12:30 LUNCH

14:00 **David Wolfer** (University of Zürich and ETH, Switzerland): *Testing cognitive functions in the home cage setting*

TOPIC: BEHAVIORAL TESTING ON INDUSTRIAL SCALE

15:00 **Jukka Puoliväli** (Charles River Laboratories, Kuopio, Finland): *High-throughput phenotyping in contract research organization*

16:00 COFFEE / TEA

16:30 **Student presentations (6 x 10 min), end 18:00**

Leonardo Lara (University of Eastern Finland): Traumatic Brain Injury Impairs Ultrasonic Vocalizations in Rats.

Gundega Stelfa (Latvian University of Life Sciences and Technologies): Preclinical models of closed head injury in mice.

László Szente (Semmelweis University, Hungary): Pre-trauma cognitive risk factors of posttraumatic stress disorder.

Dilara Nemutlu Samur (Akdeniz University, Turkey): The Possible Effects of Metformin in Rotenone-Induced Parkinson's Disease.

Abdulhameed Bakreen (University of Eastern Finland): Combined adipose tissue-derived stem cell therapy and rehabilitation in stroke.

Paula Josic (University of Zagreb, School of Medicine, Croatia): Longitudinal MRI evaluation of ischemic injury evolution in TLR2-deficient mice.

18:30 DINNER

Day-4 Thursday, 29-08-2019

TOPIC: BEHAVIORAL TESTING ON INDUSTRIAL SCALE

09:00 **Reinko Roelofs** (Noldus, Wageningen, The Netherlands): *Innovative solutions for behavioural research: Ethovision, Observer and Phenotyper*

10:00 COFFEE / TEA

10:30 **Daniela Oettler** (TSE, Bad Homburg, Germany): *Innovative solutions for behavioural research: Phenoworld and IntelliCage*

11:30 **Student presentations (4 x 10 min)**

Ronni Cohen (Tel Aviv University, Israel): Assessing pattern separation in the mouse via contextual fear discrimination.

Maria Willadsen (Philipps-University Marburg, Germany): Ultrasonic vocalizations and anxiety-related behavior in SERT-/- rats.

Andrea Susana Guzman (Universidad Nacional de Cordoba, Argentina): Stress-induced reinstatement of cocaine-conditioned place preference: an in vivo and in situ microdialysis study.

Monika Sledziowska (Cardiff University, UK): The behavioural characterisation of a double mutant model of ASC.

12:30 LUNCH

TOPIC: CHALLENGES FOR RESEARCH AND DRUG DEVELOPMENT

14:00 **Lior Bikoveski** (University of Tel Aviv, Israel): *Running a core facility at academic institution – advantages and challenges*

15:00 **Alexander Zharkovsky** (University of Tartu, Estonia): *Problems facing academic research in the new drug development*

16:30 **Social interaction – faculty vs students (soccer, bowling, floorball)**

18:30 DINNER

Day-5 Friday, 30-08-2019

TOPIC: EXPERIMENTAL DESIGN AND REPRODUCIBILITY

09:00 **Adrian Smith** (Norecopa, Norway): *PREPARE before you ARRIVE: how to plan animal experiments from day one*

10:00 **Hanno Würbel** (University of Bern, Switzerland): *The 3Rs and the 3Vs of animal research*

11:00 Closing the meeting

12:00 Departure to TALLINN

Summer School is supported by

University of Helsinki – Doctoral School in Health Sciences, Doctoral Programme Brain & Mind (B&M)

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