

# ZNZ PhD Retreat 25, Clinic Valens 12 – 14 June 2025

## Program (Version 26 May 25)

### Thursday, 12 June

- 15:00 – 16:00 Arrival, distribution of room keys (Wilhelm-Zinn Saal)
- 16:00 – 16:15 Introduction
- 16:15 – 18:15 **Short Talks on PhD Research Projects, Part I**, break/drinks at 17:15, 7 talks
- 18:30 – 19:15 **Developing Tolerance Induction as Treatment for Multiple Sclerosis – from Idea to Clinical Translation**  
Plenary Talk by Prof. Roland Martin, Experimental Immunology, UZH
- 19:30 Dinner (Restaurant Zanai & Zanisäli)

### Friday, 13 June

- 08:00 – 9:00 Breakfast (Restaurant Zanai & Zanisäli)
- 09:00 – 12:00 **Short Talks on PhD Research Projects, Part II**, coffee break at 10:15, 10 talks
- 12:00 – 13:00 **Patient Presentations** by Dr. Roman Gonzenbach, Clinic Valens
- 13:15 – 14:15 Lunch (Restaurant Zanai & Zanisäli)
- 14:30 – 15:15 **Guided Tour through the Neurorehabilitation Clinic**
- 15:15 – 17:30 **Poster Session**, coffee at 16:00, 25 posters (in front of Wilhelm Zinn Saal)
- 17:30 – 18:15 **Network Complexity and Slow Waves after Brain Injury**  
Plenary Talk by Prof. Marcello Massimini, Department of Biomedical and Clinical Sciences, University of Milan
- 19:00 Extra Bus leaving Clinic Valens to Lurgass Torkel, Maienfeld

### Saturday, 14 June

- 08:00 – 9:00 Breakfast (Restaurant Zanai & Zanisäli)
- 09:00 – 12:00 **Short Talks on PhD Research Projects, Part III**, coffee at 10:30, 8 talks
- 12:00 – 12:30 **Feedback on the ZNZ PhD Program in Neuroscience**
- 13:02 Public bus to Bad Ragaz

## **Short Talks on Ph.D. Research Projects:**

(10 minutes talk and five minutes discussion)

### **Part I, Thursday, 16:15 – 18:15**

1. Simon Galkin, Institute for Neuroscience, ETH

[The function of long non-coding RNAs in the development of human excitatory neurons](#)

2. Ushnik Das, Department of Molecular Life Sciences, UZH

[Understanding transynaptic nanostructural modulation with regards to homeostatic plasticity](#)

3. Sophia Frangos, Brain Research Institute, UZH

[Novel models of human neural cell aging to characterize the molecular mechanisms underlying brain aging](#)

4. Hanna Preuss, Institute of Pharmacology and Toxicology, UZH

[Embryonic development of the vasculature](#)

5. Severino Thomasin, Department of Molecular Life Sciences, UZH

[Developing an AI-based workflow to analyze the formation of peripheral neural circuits](#)

6. Etay Yacov, Institute for Neuroinformatics, UZH/ETH

[Tools and methods for neuro-behavioral experiments in bird groups](#)

7. Patricia Sonderegger, Institute of Pharmacology and Toxicology, UZH

[The Effect of Dexmedetomidine on overnight hyperarousal adaptation](#)

### **Part II, Friday, 9:00 – 12:00**

8. Angeline Amanda Messerli, Center for MR Research, University Children's Hospital Zurich

[Biomarkers of brain clearance during sleep \(BBCDS\)](#)

9. Larissa Behnke, Institute of Psychology, UZH

[Neuro-cognitive signatures of prospective action planning in working memory](#)

10. Florent Aziri, Developmental Pediatrics, University Children's Hospital Zurich

[The role of sleep in recovery processes following concussions and subconcussive events](#)

11. Antonia Eilfort, Spinal Cord Injury Center, University Hospital Balgrist

[Probing reticulospinal contributions to neuroplasticity and functional recovery in subjects with acute spinal cord injury](#)

12. Nomah Mahnoor, D-HEST at ETH and Department of Neuro-Urology, Universitätsklinik Balgrist

[Neurophysiological approaches to lower urinary tract dysfunction following neurological diseases](#)

13. Jeroen Teurlings, Department of Neurosurgery, USZ

[Intraoperative ECoG for HFO](#)

14. Anna Jacobsen, Psychiatric University Hospital Zurich

[Characterizing neurofilament light chain in psychiatric disorders](#)

15. & 16. Camille Pescatore and Cléo Perrin, Rehabilitation Engineering Laboratory, D-HEST, ETH

[Optical brain imaging for clinical neurorehabilitation: Towards personalized brain stimulation therapy in stroke patients](#)

17. Clément Lhoste, Rehabilitation Engineering Laboratory, D-HEST, ETH

[Movement-gated transcutaneous auricular Vagus Nerve stimulation for upper limb neurorehabilitation](#)

### **Part III, Saturday, 9:00 – 12:00**

18. Wieland Lackinger, Department of Neonatology, USZ

[Spontaneous hemodynamic oscillations and reactivity near-infrared spectroscopy \(SHOR-NIRS\): Development and validation of a new method for the detection and quantification of cerebrovascular and systemic physiology.](#)

19. Richard Francesco Maimon Maria Massari, Institute of Neuroinformatics, UZH/ETH

[Resolving multi-population computations in large-scale electrophysiological recordings](#)

20. Elia Torre, Institute of Neuroinformatics, UZH/ETH

[Computational neural cognition, emergent properties and mechanistic interpretability of neural networks](#)

21. Pehuen Moure, Institute for Neuroinformatics, UZH/ETH

[Generalizable and adaptive machine learning methods for control of complex systems - from robotics to neuroprosthetics](#)

22. Jimmy Weber, Institute for Neuroinformatics, UZH/ETH

[Enabling the full power of spiking neural networks](#)

23. Tianshu Shen, Institute for Neuroinformatics, UZH/ETH

[Emulating cortical circuits on neuromorphic chips](#)

24. Leonardo Martinelli, Institute for Neuroinformatics, UZH/ETH

[E/I balanced microcircuit as computational unit for neuromorphic intelligence](#)

25. Karthik Charan Raghunathan, Institute for Neuroinformatics, UZH/ETH

[Continual learning: From the cortex to the hippocampus, and back](#)

### **Posters, Friday, 15:15 – 17:30**

Even poster numbers: presenters are at their poster 15:15-16:25

Odd poster numbers: presenters are at poster 16:25 – 17:30

Format: A0 Portrait, i.e. height x width: 1189 x 841 mm. Pins/tape will be available.

P01 Qixia Fang, Brain Research Institute, UZH

[The Role of Ascl4 in neuron wiring in the adult mouse brain](#)

P02 Annika Canziani, Institute of Veterinary Pharmacology and Toxicology, UZH

[Naturalistic memory allocation via neuromodulation](#)

P03 Sofia Ushakova, Department of Quantitative Biomedicine, UZH

[Modifying physiological TDP-43 oligomerization to reverse neurodegeneration](#)

P04 Anna Chamont, Brain Research Institute, UZH

[Molecular persistence across systems: From the brain to the germline, can RNA be long-lived?](#)

P05 Julio Eduardo Cáceres Pajuelo, Brain Research Institute, UZH

[Early life stress and neuroepigenetic alterations](#)

P06 Saidong Ma, Brain Research Institute, UZH

[Spontaneous activity in visual cortex during memory consolidation](#)

P07 Cancelled

- P08 Tainá dos Santos Rêgo, Department of Neurology, USZ  
Decoding neuronal dynamics underlying mouse closed-loop auditory stimulation of sleep slow waves
- P09 Xueqian Ma, Institute for Neuroinformatics, UZH/ETH  
Copulation behavior of zebra finches and its underlying neural mechanisms
- P10 Sander de Haan, Institute for Neuroinformatics, UZH/ETH  
On pyramidal neurons and continual learning
- P11 Mirjam Habegger, Jacobs Center for Productive Youth Development, UZH  
Stress and the emotion regulatory brain development: Early influences and effects on mental health
- P12 Elena Federici, Institute of Psychology, UZH  
Intergenerational neural transfer. Parent-child and sibling similarity in the corticolimbic tract.
- P13 Arne Hansen, Institute of Psychology, UZH  
EEG signatures of oculomotor control
- P14 Ines Engler, Institute of Psychology, UZH  
Multimodal transdiagnostic pediatric mental health research
- P15 Julian Deseö, Department of Neurology, USZ  
Recognizing a cardioembolic source of stroke. A deep learning analysis of imaging and clinical data
- P16 Giuseppe Missale, Department of Neurosurgery, USZ  
Modelling of corticospinal tract (CST) and reticulospinal tract (RST) interaction during upper limb movements in healthy subjects and neurological patients
- P17 Rachele Maria D'Angelo, Institute of Pharmacology and Toxicology, UZH  
A causal role for voltage-gated Cav1.2 calcium channels in mediating 5G FRI effects on sleep associated brain health in humans
- P18 Alexandra Schreiber, Department of Child and Adolescent Psychiatry and Psychotherapy, PUK  
Influence of multilingualism on language processing in the brain and the development of literacy skills
- P19 Rahel Wombacher, Department of Child and Adolescent Psychiatry and Psychotherapy, PUK  
Brain Stimulation of the reading network: Investigating letter-speech sound learning with fMRI and tDCS
- P20 Delia Christ, University Clinic Balgrist  
Opioid addiction and the social brain: A collaborative effort to understand the social core of substance use disorder
- P21 Laura Schurek, Department of Adult Psychiatry and Psychotherapy, PUK  
The role of potassium channels in working memory in cocaine use disorder
- P22 Zixiao Li, Institute for Neuroinformatics, UZH/ETH  
Real-time learning accelerator for domain adaptation
- P23 Patrick Bösch, Institute for Neuroinformatics, UZH/ETH  
Robust computation and learning in heterogeneous spiking neural networks
- P24 Mirco Tincani, Institute for Neuroinformatics, UZH/ETH  
Neuromorphic technologies for precision farming
- P25 Siqi Liu, Institute for Neuroinformatics, UZH/ETH  
Resistive RAM (RRAM)-based spiking neural network (SNN) accelerator design