

# ZNZ PhD Retreat 24, Clinic Valens 6 – 8 June 2024

## Program (Version 17 June 24)

### Thursday, 6 June

- 15:00 – 16:00 Arrival, distribution of room keys (Wilhelm-Zinn Saal)
- 16:00 – 17:00 **Introduction**
- 17:00 – 19:00 **Short Talks on PhD Research Projects, Part I**, break/drinks at 17:30, 6 talks
- 19:15 Dinner (Restaurant Zanai & Zanisäli)

### Friday, 7 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, 9 talks
- 12:00 – 13:00 **Patient Presentations** by Dr. Roman Gonzenbach, Clinic Valens
- 13:00 – 14:00 Lunch (Restaurant Zanai & Zanisäli)
- 14:15 – 15:00 **Guided Tour through the Neurorehabilitation Clinic**
- 15:00 – 17:15 **Poster Session**, coffee at 16:00, 30 posters (in front of Wilhelm Zinn Saal)
- 17:15 – 18:00 **Acute Traumatic Spinal Cord Injury**  
Plenary Talk by Prof. Armin Curt, Director Spinal Cord Injury Centre of Balgrist University Hospital
- 19:00 Extra Bus leaving Clinic Valens to Lurgass Torkel, Maienfeld

### Saturday, 8 June

- 08:00 – 9:00 Breakfast (Restaurant Zanai & Zanisäli)
- 09:00 – 11:00 **Short Talks on PhD Research Projects, Part III**, coffee at 10:30, 6 talks
- 11:00 – 11:30 **Feedback on the ZNZ PhD Program in Neuroscience**
- 11:45 – 12:30 **Orchestrated brain stimulation to enhance cognitive functions in health and disease**  
Plenary Talk by Prof. Friedhelm Hummel, Chair of Clinical Neuroengineering, Neuro-X Institute, EPFL
- 12:58 Public bus to Bad Ragaz

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

(10 minutes talk and five minutes discussion)

### **Part I, Thursday, 17:00-19:00**

1. Asuka Toyofuku, Institute of Medical Genetics, UZH

[Genetic and environmental influences on brain development and cognitive functions in congenital heart disease](#)

2. Viktor Beilmann, Institute of Pharmacology and Toxicology, UZH

[How prefrontal astrocytes modulate neuronal activity - Implications for major psychiatric disorders](#)

3. Alexandra von Faber-Castell, Institute of Pharmacology and Toxicology, UZH

[Neuronal lactate transport in brain energy metabolism in the course of aging](#)

4. Vladimirs Dobrovolskis, Brain Research Institute, UZH

[Episodic memory loss in Alzheimers disease](#)

5. Nanda Prakruti, Institute for Neuroscience, ETH

[Molecular tuning of engram neuron recruitment in fear memory consolidation](#)

6. Shinjini Gosh, Brain Research Institute, UZH

[Building an auditory virtual environment to control and understand the feedback loops of neuronal learning and plasticity](#)

### **Part II, Friday, 9:00 – 12:00**

7. Johanna Nieweler, Brain Research Institute, UZH

[Layer 1 inputs into layer 5 neurons in vivo](#)

8. Anna Lasne, Institute of Pharmacology and Toxicology, UZH

[The Role of microglia in cortical astrocytopathy-driven neuroinflammation](#)

9. Michelle Antonias, MR Research, University Children's Hospital Zurich

[3D mesoscale atlas of intrathalamic inhibitory interneurons in the human brain](#)

10. Klemens Egger, Institute for Neuroinformatics, UZH/ETH

[Behavioral and molecular pharmacology of pharmahuasca \(N,N-dimethyltryptamine \(DMT\) and harmine\) in humans - a combined neuropsychological and brain imaging approach](#)

11. Georgia Rita Di Ruggiero, Department of Neurology, University Hospital Zurich

[A study of the vestibulo-brachial reflex: the role of vestibular signals in arm movement control](#)

12. Samuel Meyer, Institute of Physiology, UZH

[Visually induced dizziness in concussed and non-concussed dizzy patients: Identifying the postural pathomechanism upon optokinetic stimuli](#)

13. Lennart Carlson Neumann, Spinal Cord Injury Center, Balgrist University Hospital

[Assessing the role of the cortico- and reticulospinal systems in movement control and neuroplasticity after spinal cord injury](#)

14. Anna Knill, Rehabilitation Engineering Laboratory, ETH

[Specification and validation of a comprehensive assessment of manual dexterity for neurorehabilitation](#)

15. Laura Mayrhuber, Rehabilitation Engineering Laboratory, ETH

[IMU-based assessment of upper limb compensatory strategies in stroke patients](#)

### **Part III, Saturday, 9:00 – 11:00**

16. David Crevillen, Social Brain Sciences, D-GESS, ETH

[Human derived artificial intelligence technologies: from perception towards acceptance and the integration into the bodily self](#)

17. Daryna Koval, Department of Psychology, UZH

[Mobile EEG hyperscanning in educational environments](#)

18. Flavia Davidhi, Department of Neurosurgery, USZ

[Seizure detection with a neuromorphic device](#)

19. Olympia Gallou, Institute of Neuroinformatics, UZH/ETH

[On-edge epileptic seizure detection with neuromorphic hardware](#)

20. Lucas Pompe, Institute of Neuroinformatics, UZH/ETH

[Inferring internally driven dynamics with Sinkhorn recurrent networks](#)

21. Alexander Nedergaard, Institute for Neuroinformatics, UZH/ETH

[The geometry of curiosity](#)

### **Posters, Friday, 15:00 – 17:15**

Even poster numbers: presenters are at poster 15:00-16:10

Odd poster numbers: presenters are at poster 16:10 – 17:15

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

P01 Linda Brandi, Brain Research Institute, UZH

[Elucidating the molecular consequences of neuronal activation across species using forebrain organoids](#)

P02 Megumi Mizoguchi, Brain Research Institute, UZH

[Role of the centromeric histone H3 variant in neural stem cell mitosis and fate determination in the adult hippocampus](#)

P03 Lisa Kistler, Department of Molecular Life Sciences, UZH

[The neurotrophin/agrin-system in axon guidance and cerebellar development](#)

P04 Tamás Bálint, Brain Research Institute, UZH

[Mechanisms of adult brain wiring](#)

P05 Alice Tse, Brain Research Institute, UZH

[Neuronal wiring regulatory molecular programme across the life span](#)

P06 Olga Krzyzaniak, Institute of Veterinary Pharmacology and Toxicology, UZH

[Characterisation of the role of glial cells within the medial prefrontal cortex in cognitive flexibility during adulthood](#)

P07 Ron Schär, Institute of Veterinary Pharmacology and Toxicology, UZH

[Molecular correlates of resilience and susceptibility to maternal immune activation](#)

P08 Nathalie Tichy, Department of Molecular Life Sciences, UZH

[Investigating the role and regulation of efflux transporters during microglial phagocytosis](#)

P09 Noëlle Burri, Institute for Neuroscience, ETH  
Molecular mechanisms of learning and memory using genetic approaches in *C. elegans*

P10 Maria Dimitriu, Brain Research Institute, UZH  
Investigating the ability of neurons to hold molecular traces of glucocorticoid exposure

P11 Robin Scheuplein, Institute for Neuroscience, ETH  
Marrying PROTAC to CRISPR –TRAFTACs to elucidate and combat the transcriptional basis of neuroendocrine cellular stress

P12 Nicole Ziak, Institute of Clinical Chemistry, USZ  
Understanding the selective neurotoxicity of serine-palmitoyltransferase mutations towards motor and sensory neurons

P13 Melvin Alappat, Institute of Pharmacology and Toxicology, UZH  
Oligodendrocytes in painful diabetic neuropathy: The effect of diabetes on myelin homeostasis

P14 Eshita Kamal, Institute of Pharmacology and Toxicology, UZH  
Imaging pain in the brain: a physiological readout of nociception

P15 Carmen Providoli, Department of Child and Adolescent Psychiatry, PUK  
Developmental changes in multisensory processing in typically developing children and children with developmental language disorder

P16 Tugce Aras, Department of Child and Adolescent Psychiatry, PUK  
Neural correlates of multisensory integration and language processing

P17 Caroline Biegel, Center for MR Research, University Children's Hospital  
Development and evaluation of an intervention for adolescents and adults with dyscalculia

P18 Raphaël Fournier, Neural Control of Movement Laboratory, ETH  
Understanding how evidence accumulation from multiple visual cues modulates the process of person recognition

P19 Jenny Imhof, Neural Control of Movement Laboratory, ETH  
Exploring supraspinal mechanisms of motor fatigability through incentives and pupillometry

P20 Lili Timar, Swiss Epilepsy Center, Klinik Lengg  
EEG network dynamics in Photosensitive Epilepsy during photic stimulation

P21 Panagiota Karatza, Department of Neuropediatrics, University Children's Hospital  
High-frequency oscillations in pediatric scalp EEG reflect epileptogenesis and treatment response

P22 Jessica Fritzsche, ORL, USZ  
Neuromodulation in tinnitus

P23 Chryso Lambride, Department of Neurology, USZ  
In silico modeling of reperfusion dynamics during ischaemic stroke and treatment

P24 Jasmin Ewert, Experimental and Clinical Pharmacopsychology, PUK  
Neuroimmune mechanisms and cognitive impairments in cocaine use disorder

P26 Alexandra Retevoi, Rehabilitation Engineering Laboratory, ETH  
RehabCoach: A digital platform to support remote rehabilitation

P27 Yifan Zeng, Department of Psychology, UZH  
Spatio-temporal dynamic of top-down/bottom-up information processing

P28 Niklas Hahn, Institute for Neuroinformatics, UZH/ETH  
Optimizing phosphene vision for low-latency interaction using wearable visual prostheses interfaced to DVS event cameras

P29 Philipp Eugster, Institute for Neuroinformatics, UZH/ETH

[Interaction of prefrontal cortex and dorsal striatum during goal-directed behavior](#)

P30 Jiahui An, D-HEST, Institute for Neuroinformatics, UZH/ETH

[Development of fNIRS biomarkers of visual and cognitive load: towards BCI for optimal workload in gamified therapy exercises after stroke](#)