

# ZNZ PhD Retreat 23, Clinic Valens 15 - 17 June 2023

## Program

### Thursday, 15 June

- 15:00 – 16:00 Arrival, receiving room keys (Wilhelm-Zinn Saal)
- 16:15 – 18:15 **Short Talks on PhD Research Projects, Part I**, break/drinks at 17:15, 6 talks
- 18:15 – 19:45 **BioMed Entrepreneurship Interactive Workshop**  
Dr. Jessica Plucain, Project Manager BioMed Entrepreneurship, UZH
- 20:00 Dinner (Restaurant Zanai & Zanisäli)

### Friday, 16 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, 8 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, 33 posters (in front of Wilhelm Zinn Saal)
- 17:15 – 18:00 **Clinical Research in Neurosurgery**  
Plenary Talk by Prof. Oliver Bozinov, Head Clinic for Neurosurgery, Kantonspital St. Gallen
- 19:00 Extra Bus leaving Clinic Valens to Malans, Weingut Plandaditsch

### Saturday, 17 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 **Inducing antigen-specific tolerance in Multiple Sclerosis – the translational path**  
Plenary Talk by Dr. Andreas Lutterotti, Chief Medical Officer Cellerys, Schlieren
- 12:58 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. John Darby Cole, Brain Research Institute, UZH

[Multiphoton ontogenetic manipulation of stem cell fate decisions in three-dimensional tissues](#)

2. Vladyslav Korobeynyk, Brain Research Institute, UZH

[Exploration of intercellular signalling networks across age by single cell and spatial data modalities](#)

3. Benjamin Combes, Institute for Regenerative Medicine, UZH

[Multi-scale imaging of alpha-synuclein and neurodegeneration](#)

4. Georgios Kanatouris, Brain Research Institute, UZH

[Revealing the role of Prox1 and NDNF in the development of cortical circuits](#)

5. Alena Kapnulia, Department of Molecular Life Sciences, UZH

[KCNQ2 channelopathy: probing variant-specific effects on channel function and neural excitability](#)

6. Zainab Faik, Institute of Pharmacology and Toxicology, UZH

[Functional metabolic imaging of oligodendrocytes in health and disease](#)

### **Part II, Friday, 9:00 – 12:00**

7. Jonathan Jordi, Dept. of Psychiatry, Psychotherapy and Psychosomatics, Psychiatric Hospital

[Neurobiology underlying stress-induced reward pathologies: Focus on the bidirectional nucleus accumbens-ventral tegmentum neural circuit in a mouse model](#)

8. Tomas Germade, Institute for Neuroscience, ETH Zurich

[Marrying PROTAC to CRISPR –TRAFTACs to elucidate and combat the governing principles of stress pathology](#)

9. Maris Basha, Institute of Neuroinformatics, UZH and ETH Zurich

[The role of imitation in vocal learning](#)

10. Nikhil Phaniraj, Department of Anthropology, UZH

[Investigating vocal and social learning in marmosets using methods for automatic quantification and interactive stimuli](#)

11. Pooya Razzaghi Khamesi, Institute of Physiology, UZH

[In silico modeling of cerebrospinal fluid secretion from choroid plexus](#)

12. Elena Schmidt, University Children's Hospital Zurich

[Closed Loop auditory stimulation in children with epilepsy](#)

13. Madeleine Hau, Department of Chiropractic Medicine, Balgrist University Hospital

[The integration of bottom-up and top-down pain modulation in health and disease](#)

14. Sanuel Marashli, Department of Neurology, University Hospital Zurich

[Understanding the molecular underpinnings of brain cancers](#)

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

15. Nina Raduner, Department of Child and Adolescent Psychiatry and UZH

[Multisensory processing in the brain of adults and children](#)

16. Anna Bankwitz, Department of Psychology, UZH

[EEG predictors of suicidality and depression](#)

17. Melina Giagiozis, Institute for Translational Medicine, ETH Zurich

[Monitoring and assessing the quality of physical activity of individuals with spinal cord injury using wearable movement sensors](#)

18. Joelle Metzger, Spinal Cord Injury Center, Balgrist University Hospital

[Pain-autonomic interaction as a surrogate marker for central sensitization in neuropathic pain after spinal cord injury](#)

19. Giovanni Camisa, Institute of Neuroinformatics, UZH and ETH Zurich

[Autonomous learning in CMOS based neuromorphic hardware](#)

20. Farah Baracat, Institute for Neuroinformatics, UZH/ETH

[Spike-based processing for prosthesis control using EMG signals](#)

### **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 Gonzalo Saiz-Castro, Department of Molecular Life Sciences, UZH

[Role in neural circuit formation of genes associated with neurodevelopmental disorders](#)

P02 Anna Chiosso, Brain Research Institute, UZH

[Functional plasticity of adult-born neurons in the hippocampus](#)

P03 Leonardo Zingler Herrero, Brain Research Institute, UZH

[Epigenetic editing in organoids](#)

P04 Celine Coraj, Neonatology, USZ

[Neural correlates and neurodevelopmental outcomes of intrauterine growth restriction](#)

P05 Marta Brasili, Department of Molecular Life Sciences, UZH

[Probing synaptic function and sub-synaptic organization during homeostatic plasticity in human iPSC-derived neurons](#)

P06 Roy Missall, Brain Research Institute, UZH

[Cross-modal sensory input to V1 during mouse development](#)

P07 Nicola Schmid, Institute of Pharmacology and Toxicology, UZH

[Neuronal response to in vivo autoimmune astrocyte ablation in the mouse cortex](#)

P08 Marta Mazurkiewicz, Institute of Pharmacology and Toxicology, UZH

[Role of oligodendrocytes in painful diabetic neuropathy](#)

P09 Niklas Bargenda, Department of Quantitative Biomedicine, UZH

[Posttranslational modifications of TDP-43 in neuronal physiology and degeneration](#)

P10 Beatrice Gatta, Department of Quantitative Biomedicine, UZH

[Investigating the roles of defined TDP-43 states in healthy aging and ALS patient-derived neural networks](#)

- P11 Sin Kiat Marcus Yong, Department of Ophthalmology, USZ  
The epitranscriptome in the retina: how RNA modifications influence vision
- P12 Vincent Fischer, Institute for Neuroscience, ETH Zurich  
The role of chromatin in defining the impact of stress on offspring phenotype
- P13 Beatriz Achon Buil, Institute for Regenerative Medicine, UZH  
Brain shuttle for systemic delivery of iPS-derived neural cells after stroke
- P14 Nora Rentsch, Institute for Regenerative Medicine, UZH  
Promoting graft survival using injectable/dual-release cryogel microcarriers after stroke
- P15 Paige Howell, Neural Control of Movement Lab, ETH Zurich  
Exploring functional and structural reorganisation following injury to the somatosensory processing stream
- P16 Bianca Badii, Neural Control of Movement Lab, ETH Zurich  
Application of a pupil-based neurofeedback to ameliorate the stress response
- P18 Melissa Luna Flury, Department of Chiropractic Medicine, UZH  
Increased emotional-motivational processing in patients with chronic pain and its neural correlates
- P19 Beatriz Chozas Barrientos, Department of Chiropractic Medicine, UZH  
"Disentangling Contributions of State and Trait-Pain to Alterations in Chronic Low Back Pain: A Study Protocol".
- P20 Lynn Farner, Spinal Cord Injury Center, Balgrist University Hospital  
Developing and applying ultra-high resolution quantitative MRI neurodegenerative diseases
- P21 Anna Lebet, Spinal Cord Injury Center, Balgrist University Hospital  
Quantitative MRI application and method development to investigate microstructural changes following spinal cord injury and neurodegenerative diseases
- P22 Christian Kündig, Spinal Cord Injury Center, Balgrist University Hospital  
Development of lumbosacral fMRI
- P23 Marta Koc, Institute of Pharmacology and Toxicology, UZH  
Overnight emotion reset of hyperaroused tension
- P24 Vanessa Isabel Kasties, University Children's Hospital Zurich  
Mechanisms of acoustic stimulation in NREM sleep and its application in stroke rehabilitation
- P25 Marie Eleni Dimitriades, University Children's Hospital Zurich  
Sleep oscillations across the psychosis spectrum
- P26 Galya Iseli, Psychiatric University Hospital Zurich  
Gut microbiota – hippocampus synergisms in non-clinical subjects with high positive schizotypy
- P27 Camille Elleaume, Institut of Psychology, UZH  
Normative Modelling as pre-screening tool for early stages of Alzheimer's disease
- P28 Lydia Belinger, Jacobs Center for Productive Youth Development, UZH  
Does serotonin system stimulation increase pro-social behavior? - A comparative pharmacological neuroscientific study in healthy humans
- P29 Ladina Gubser and Anna Trippel, Institute of Psychology, UZH  
Boosting and guiding neuroplasticity by combining ketamine with neurofeedback-assisted learning – towards an individualized and integrated pharmaco-psychotherapy for cocaine addiction
- P30 Joelle Aline Dornbierer, Institute for Neuroinformatics, UZH/ETH  
Embracing personal vulnerability: A salutogenic factor in psychedelic-assisted psychotherapy

P31 Payam Sadeghi Shabestari, Department of Otorhinolaryngology, USZ

[Auditory neurofeedback tinnitus](#)

P32 Jessica Lam, Institute for Neuroinformatics, UZH/ETH

[Natural language processing for scientific documents](#)

P33 Kanghwi Lee, Institute for Neuroinformatics, UZH/ETH

[Computation of a song template](#)