ZNZ PhD Retreat 2020

Unfortunately, we have to organize this year's retreat very differently from past retreats. It cannot completely replace the traditional format. However, it is a chance to try out new things, where some elements might prove valuable for the future and others may not. Therefore, this retreat can be viewed as an experiment with risks and chances. We hope very much that you will still profit from the event.

Agenda

Friday, 8 May

12:00-13:30 **Patient demonstration**
Dr. Roman Gonzenbach, Head of Neurology and Neurorehabilitation Clinic Valens. Live online.

Zoom-Meeting:
https://ethz.zoom.us/j/93318689843?pwd=WWVIQ2VJcnpXZyszNmFIRUprZ2liZz09
Meeting-ID: 933 1868 9843
Passwort: 002630

16:00-17:00 **Improving the reproducibility of science: general concepts and some specific statistical issues in neuroscience**
Dr. Simon Schwab, Postdoctoral Research Fellow, Center for Reproducible Science, UZH. Live online.

Reproducibility is a highly relevant topic for early-career scientists to align with rigorous and sustainable research. In this talk, I will explain the causes of irreproducible research and provide solutions, which will lead to better science. I will introduce preregistration and open science with a case study from psychiatry. Not only general concepts of exploratory versus confirmatory research are discussed, but also some specific statistical issues observed in neuroscience.

Zoom-Meeting:
https://uzh.zoom.us/j/91610879026?pwd=c0daVWlYQ2hvZVZzdWtVb2M1UW5Sdz09
Meeting ID: 916 1087 9026
Password: 316612

Saturday, 9 May

12:00-13:00 **Translational neuromodeling, computational psychiatry and computational psychosomatics**
Prof. Klaas Enno Stephan, Translational Neuromodeling Unit, Inst. for Biomed.Engineering, UZH/ETH

For many brain diseases, particularly in psychiatry, we lack clinical tests for differential diagnosis and cannot predict optimal treatment for individual patients. This presentation outlines a translational neuromodeling framework for inferring subject-specific mechanisms of brain disease from non-invasive measures of behaviour and neuronal activity. Guided by clinical theories of maladaptive cognition and aberrant brain-body interactions, generative models can be developed that have potential as "computational assays". Evaluating the clinical utility of these assays requires prospective patient studies that address concrete clinical problems, such as treatment response prediction. If successful, computational assays may help provide a formal basis for differential diagnosis and treatment predictions in individual patients and, ultimately, facilitate the construction of mechanistically interpretable disease classifications.

Zoom-Meeting:
https://ethz.zoom.us/j/94232940773
Meeting-ID: 942 3294 0773

Homework, to be submitted until Monday, 11 May 2020

- Please send your video pitch (described in our mail of 3 April) to Heidi Gauss (info@neuroscience.uzh.ch) by latest 6 May.

- Please watch all short video pitches of your colleagues on Olat https://lms.uzh.ch/url/RepositoryEntry/16751395370 in the folder "Uploaded Movies"

- After getting an overview of the work of your colleagues: with who would you team up for a collaboration to advance your project to a degree, which would not be possible alone? In the best case, the projects of both collaborators would benefit but it may well be mainly one project profiting from the collaboration.

- Contact the corresponding colleague and work out together (by phone, email, Teams, Skype, Zoom, etc.) a hypothetical joint project. Briefly describe the collaboration in detail (joint hypotheses, methods, resources needed, contributions of each partner and expected results) in a document of two pages and submit to Wolfgang (wknecht@ethz.ch) by latest Monday, 11 May.

- More than two partners in a project are possible (in this case, the project description must contain as many pages as project partners). A collaboration with Roman Gonzenbach is also possible. In case it is difficult to identify a collaboration partner amongst your colleagues in this retreat, you can choose an "external" researcher you know in your research environment or from literature and devise an imaginary joint project with this researcher.

- For any further questions on this homework, please write to Wolfgang (wknecht@ethz.ch).

6 May 2020