



Institute for Biomedical Engineering Translational Neuromodeling Unit

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CERTIFICATE OF ATTENDANCE

This is to certify that

Erfan Baradarantohidi

attended the online **Computational Psychiatry Course 2023** organized by the Translational Neuromodeling Unit, University of Zurich & ETH Zurich. This six-day course (04.09.-09.09.2023) was designed to provide students with the necessary toolkit to master challenges in computational psychiatry research. The course not only taught the theory of computational modeling, but also demonstrated open source software in application to example data sets.

- Day 1, Psychiatry:
 Schizophrenia, depression and affective Disorders, autism, psychosomatics, fatigue
- Day 2, Modeling Basics & Models of Perception:
 Generative models, building a model, fitting a model (maximum likelihood, VB & MCMC),
 Bayesian model selection, models of perception (psychophysics & Bayesian models)
- Day 3: Models of Perception, Action Selection & Models of Metacognition:

 Reinforcement learning, models of perception (predictive coding), Hierarchical Gaussian Filter (HGF), models of action selection (MDPs, Active Inference & DDMs), models of metacognition
- Day 4: Models of Connectivity & Machine Learning:
 Models of connectivity (DCM for fMRI & EEG, biophysical network models), machine learning (basics & advanced)
- Day 5: Computational Psychiatry in Application:
 Talks by international experts on concrete applications of computational models to clinical

problems: Thomas Yeo, Peggy Series, Roshan Cools, Janaina Mourao-Miranda, Thomas Parr, Tobias Kaufmann

Day 6: Practical tutorials with open source software

Zurich, 11.09.2023

Prof. Klaas Enno Stephan, MD Dr.med. PhD Director, Translational Neuromodeling Unit