

The MTA Wigner Research Centre for Physics (Budapest, Hungary) in partnership with the the MTA Institute for Experimental Medicine (Budapest, Hungary) invites applications for a postdoctoral or for a PhD position in characterising neural population activity. The applicant will join the newly formed Population Activity Research Unit, which is sponsored by a prestigious National Brain Research Program grant and will be co-supervised by Gergő Orbán and András Telcs. The primary focus of the research group is the characterization of activity patterns of large-scale neural populations in the hippocampus and the understanding of the computational principles underlying its dynamically changing states.

Recent advancements in recording techniques provides access to high temporal resolution data from hundreds of identified neurons. Understanding the organizational principles underlying the high-dimensional activity patterns has become a fundamental challenge of neurobiology. We are seeking highly motivated candidates with strong analytical background to take part of this challenge and to work on a project that is based on a strong collaboration between neurophysiology and theoretical neuroscience.

The ideal candidate has a strong mathematical background, preferably with a PhD in physics, computer science, or mathematics or other quantitative disciplines. Besides mathematical skills, the position requires competence in programming (e.g. matlab, R, python, or C++). Candidates with training or research experience in statistics, machine learning, computational modelling, dynamical systems are especially encouraged to apply. Training in neuroscience is not required but the applicant has to demonstrate his/her willingness to acquire the necessary background for the project. High dimensional neuronal data is recorded by the experimental part of the group (Attila Gulyas, Institute for Experimental Medicine) but the candidate will have the opportunity get experience with cutting-edge neuronal recording techniques to design of novel experiments based on the analysis of the recorded data.

The official starting date of the project is 1 May 2015 but the start date of the position is negotiable. Initial appointment is made for one year but can be extended to three years upon successful evaluation. The work is based in the PATTERN lab at the MTA Wigner Institute (Budapest, Hungary) but requires regular interactions with the experimental partners at the Institute for Experimental Medicine (Budapest). Depending on the experience remuneration is 310.000-410.000 HUF (equivalent of assoc-full prof on official scale) plus cover of incoming economy airfare. For singles on campus accommodation for families childcare arrangement.support is provided.

For further information please visit the project website, <http://pattern.wigner.mta.hu>. For informal inquiries please contact Gergo Orban (orban.gergo@wigner.mta.hu) or Andras Telcs (telcs.szit.bme@gmail.com).

Please send applications, including CV, a research statement and contact information of two references by email to András Telcs before 10 April