2 postdoctoral positions (full time, 3 years each) in the
ERC "Decision Neuroscience" Group in Hamburg

The University Medical Center Hamburg-Eppendorf (UKE) is inviting highly qualified and motivated candidates to apply for two 3-year postdoctoral positions embedded in the recently established "Decision Neuroscience Group" at the Department of Neurophysiology and Pathophysiology, led by Konstantinos Tsetsos. These positions are part of the European Research Council (ERC) Starting Grant "Information Sampling in Multiattribute Choice" (INFOSAMPLE) awarded to Konstantinos Tsetsos.

Research Topic.
Many real-life decisions require combining information across different attributes. It has been shown that during such multiattribute decisions people serially attend to (or *sample*) a subset of the available information. Up to date, information sampling has been studied using eye-tracking techniques. However, the way eye fixations influence the upcoming choice is not precisely known and, thus, this line of research has not yielded any definitive mechanistic conclusions. We will fill this gap in a data-driven fashion by harnessing tools from sensory neuroscience. Using magnetoencephalography (MEG) we will simultaneously track the locus of attention and the tendency to choose one alternative over the other, during the entire time-course of a single multiattribute decision. This approach, together with pharmacological perturbations of different neurotransmitter systems, will enable us to unravel the computational and neural mechanisms that guide attention towards different aspects of multiattribute alternatives. This project aspires to yield a neurophysiologically detailed theory of multiattribute choice–from the level of neurotransmitters, to large-scale brain networks, to behaviour– that will ultimately shed light on century-long questions, such as why humans reverse their preferences irrationally, when irrelevant alternatives are added to the choice-set.

Research Environment.
The postdoctoral researchers will be based in the "Decision Neuroscience" lab, which is led by Dr Konstantinos Tsetsos. The lab is based at the department of Neurophysiology and Pathophysiology at the UKE and has tight collaborative links with leading neuroscience (e.g. Prof. Donner's lab at the UKE) and cognitive psychology (e.g. Prof. Usher's lab at the university of Tel Aviv). The researchers will have direct access to a psychophysics lab equipped with eye-tracker, a multi-station behavioural lab as well as E/MEG equipment. The UKE offers a dynamic and multidisciplinary environment, uniquely combining world-leading basic and translational neuroscience research.

General Skills and Experience Required.
- A PhD (completed or close to the completion) in cognitive science, psychology, neuroscience, computer science, economics, or a related discipline.
- Demonstrable research excellence.
- Effective communication skills.
- Good programming and quantitative skills.
- Experience in writing and publishing peer reviewed scientific papers.

Please note that the distinction in two profiles below is only suggestive, reflecting the overall structure of the project. Candidates with both experimental and theoretical expertise are extremely welcome to apply.

Specific Requirements for Postdoc 1 (Experimental focus).
The aim of this Postdoctoral position will be to participate in the experimental design and implementation of several magnetoencephalography (MEG) experiments involving pharmacological manipulations in healthy individuals. The researcher is expected to work closely with PhD students. Desired skills involve:

- Interest and, ideally, previous experience in investigating attentional processes.
- Experience in conducting and analyzing neuroimaging experiments, especially E/MEG.
- Experience in visual psychophysics.
- Experience with "frequency tagging" (SSVEP) techniques.
- Ability to apply or interest in learning to apply neural decoding techniques.
- Experience in conducting pharmacological experiments.

Specific Requirements for Postdoc 2 (Theoretical focus).
The aim of this Postdoctoral position will be to lead advanced analyses of neural and behavioural data and to contribute to theory development. Desired skills involve:

- Strong quantitative and programming skills.
- Experience with state-of-the-art decoding techniques.
- Experience with computational modeling, especially using dynamical and biophysical models of attention and decision-making.
- Experience with likelihood-free hierarchical Bayesian fitting approaches.
- Strong statistical skills.
- Previous exposure or interest in applying concepts from Network Science in the analysis of neural and behavioural data.

The positions are available for three years and may start on the 01.06.2019 or the soonest possible after that date. The positions will be remunerated at salary level E13 TV-KAH, 100%.

We can provide a working environment that offers equal opportunities regardless of age, gender, sexual identity, disability, origin or religion. We uphold this by our adherence to the Diversity Charter. Specifically, we are aiming to increase the proportion of women in positions of leadership, in particular academic personnel in research and teaching. Priority consideration will be given to women in the event of equal qualification. The same applies in the event of one gender being underrepresented in the recruiting department. People with a severe disability will be given priority where they have equal aptitude, qualifications and professional expertise."

Applicants should send their CV and publication list, a brief statement of research interests as well as the names of two referees to Dr Konstantinos Tsetsos (k.tsetsos@uke.de) until the **10th of May, 2019**. Informal inquiries about the positions can also be addressed to K. Tsetsos. Shortlisted candidates will be invited for an interview.