The Neuroscience in Developmental Psychiatry Lab at the Department of Child and Adolescent Psychiatry, University Hospital Würzburg and the Psychotherapy and Psychology of Interventions Lab at the Department of Psychology, University of Würzburg invite applications for a

Postdoctoral Fellow E13 TV-L 100% (f/m/d), 3 years

The candidate will work in the project 'Computational foundations of externalizing and internalizing psychopathology', which is an international collaborative project between the Reiter lab at the Department of Psychology, University of Würzburg (Prof. Andrea Reiter), the Neuroscience in Developmental Psychiatry Lab, University Hospital Würzburg (Prof. Lorenz Deserno) and the Daw lab at the Princeton Neuroscience Institute, Princeton University (Prof. Nathanial Daw). The candidate will work in Würzburg under the direct supervision of Andrea Reiter and Lorenz Deserno.

Computational psychiatry approaches have neglected arguably the most prominent taxonomical feature in psychiatry: the grouping of symptoms into **internalizing** (anxiety, somatization, and depression) **vs. externalizing** (acting out, antisocial behaviour, aggression) clusters. However, the computational mechanisms underlying this dichotomy are unknown. The aim of this project is to computationally characterize internalizing vs. externalizing symptom clusters and their development. Because most mental health symptoms – and the specific computational capacities studied here – emerge in childhood and adolescence, there is an opportunity to understand their relationship via development.
This post-doc position is ideal for candidates with a strong interest in clinical applications of Cognitive and Computational Neuroscience and enthusiasm for interdisciplinary clinical research ("Computational Psychiatry").
The project will be funded by a German-USA collaborative grant from the German Ministry for Education and Research awarded to Lorenz Deserno and Andrea Reiter. A partner project is funded in the USA via a grant awarded to Nathaniel Daw. The candidate will be based in Würzburg and cooperate closely with Nathaniel Daw and members from his lab. There is also a possibility for research stays in Princeton as well as the organization of joint symposia in Würzburg and Princeton.

Your Tasks:

- Preparing and conducting behavioural experiments in children, adolescents and adults and in children and adolescents with an internalizing or externalizing disorder
- Analysing experimental behavioural data with a variety of methods including a strong focus on computational models of reinforcement learning
- Preparing manuscripts and presenting results at conferences
- Exchange within the collaborative team (Würzburg & Princeton)

Your profile:

- PhD in Psychology, Neuroscience, Cognitive Science, Computer Science, Medicine, or related disciplines (or shortly before completion)
- Experience in conducting and analysing behavioural experimental data (e.g. mixed effects models)
- Keen interest to learn (or ideally existing experience with) computational modelling of behavioural data (e.g. reinforcement learning) data analysis
- Some existing programming skills in Matlab, R or Python etc.
- Keen interest in experimental approaches to study complex human behaviour
- Interest to achieve clinical insight with cognitive neuroscience / computational psychiatry methods
- An additional background in clinical psychology, psychotherapy or psychiatry is not required but could be plus
- Interest in neuroimaging methods is welcome; there may be add-on opportunities to get involved in ongoing neuroimaging projects or to analyse existing data

We offer you:

- Working in a friendly and interdisciplinary team (psychologists, neuroscientist, medical doctors) who use cognitive neuroscience and computational psychiatry approaches to understand clinical phenomena with regard to the development of mental health problems.
- Close scientific supervision by an enthusiastic and young project leaders
- Arranging for flexible working hours to find a balance between work as well as private or family life
- The unique possibility for international exchange with the Daw lab at Princeton University, Prof. Nathaniel Daw including the possibility for two one-month stays in Princeton and the organization of joint symposia in Würzburg and Princeton

People with disabilities are explicitly encouraged to apply.

The successful candidate will be part of a dynamic research team that values curiosity and team spirit. Our research group has access to an excellent research infrastructure (behavioural and online testing, EEG, MRI) and is well integrated into the local, national and international research community. We value diversity in terms of ethnicity, gender identity or expression, disability, internationality, and social background. Our goal is to optimally promote the professional development of all team members.

We kindly ask you to apply until March 31, 2024 via https://karriere.ukw.de/en/jobs/367/post-doctoral-researcher and look forward to receiving your complete application including a cover letter with a brief summary of research interests and motivation, full CV, and the names of two persons who would be willing to provide references. Planned starting date is June 1st 2024. Please note that this project has been positive evaluated and is planned to start with funding on June 1st. However, a final funding confirmation is still pending.

Please do not hesitate to reach out directly to Andrea Reiter (andrea.reiter@uni-wuerzburg.de) and Lorenz Deserno (deserno_l@ukw.de) in case of questions!