

Berlin, January 2019

**Call for Postdoctoral Fellow Applications
E. Wanker Lab @ Max Delbrueck Center Berlin, Germany**

<https://www.mdc-berlin.de/wanker#t-profile>

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The research group ‘Neuroproteomics’ of Prof. Erich Wanker at the Max Delbrück Center in Berlin, is currently offering the position of– Postdoctoral Researcher (m/f) with a focus on high-throughput protein-protein-interaction research in Huntington’s disease.

The main objective of our work is to understand the pathomechanisms of neurodegenerative disorders such as Huntington’s and Alzheimer’s disease. One focus of our work lies on the analysis of protein-protein-interactions and their relevance to disease. To advance the possibilities of interactomics, we are constantly developing new detection approaches that enable high-throughput screening. After seminal studies using the Yeast-2-Hybrid system (Stelzl et al. 2005, Cell, doi: <https://doi.org/10.1016/j.cell.2005.08.029>), we have established innovative methods to detect PPIs in mammalian cells with quantitative readouts, like a recent new assay: LuThy (Trepte et al. 2018, Molecular Systems Biology, doi: <https://doi.org/10.15252/msb.20178071>).

Currently, we are working on a large-scale effort to generate a detailed, quantitative interaction map for the full-length huntingtin protein that will comprise information on e.g. binding domains and affinities as well as on the impact of the Huntington’s disease mutation. To make interaction mapping more life-like, we are developing a high-throughput approach in which interacting proteins can be measured endogenously in a cell. We employ CRISPR-based genome editing together with single- and multi-cell PPI techniques to advance the state of the art in binary interactomics and to unravel new disease biology. In particular, we want to answer questions like: Which known or newly detected PPIs of huntingtin can be confirmed in the cellular environment? Which interactors might be relevant targets for therapy? Does new quantitative information fundamentally change our view of huntingtin function?

Working in a highly motivated team of scientists and technicians, the successful candidate’s main task will be to systematically investigate the huntingtin interactome in its breadth and depth. Gaining a clear picture of the functional connections will be the main aim. Individual, highly promising interactions will be investigated in detail to determine their exact function in vivo and their value as targets for therapy. The effects of mutations on interactome networks and cellular processes will also be a central endeavor. Screenings, partly with automated systems, and detailed validation studies of newly discovered interactions and their role in disease mechanisms will be central to the project.

Job Description:

- Mammalian-cell-based interaction screening using various methods like FRET/BRET, Co-IP
- Interaction testing with the Yeast-2-Hybrid system
- Classical and Gateway cloning
- Yeast and mammalian cell culture
- Genome engineering using CRISPR
- Data analysis using bioinformatics tools
- Managing collaborations

- Visiting and presenting at project meetings and conferences
- Writing reports, grant proposals and peer-reviewed publications
- Mentoring of junior scientists, students and technicians
- Managing milestone-driven projects

Your Profile:

- Doctoral degree in molecular biology, biochemistry, cell biology or other relevant discipline with a solid theoretical and experimental skills base in biochemistry, cell culture, etc.
- Bioinformatics skills
- Experience with automated high-throughput screening technologies not essential but advantageous
- High motivation to acquire new techniques and workflows (molecular biology, protein biochemistry, cell biology)
- High ambition to achieve, also with regard to writing papers and grant proposals; resilience, flexibility
- Leadership skills and ability to work in a team
- Independent, well-organized and reliable workstyle

We Offer:

- Stimulating, ambitious and nurturing academic environment in an internationally leading research group in network biology and Huntington's disease
- Comprehensive opportunities for your scientific and personal development at an internationally competitive and highly visible research center in Berlin, the vibrant, iconic German capital and one of Europe's most fascinating cities.
- State-of-the-art research facilities, including semi-automated and automated robotic systems for yeast-, DNA- and cell culture-based interaction studies
- Collaboration with basic and clinical researchers locally, nationally and internationally
- Travel to prestigious conferences
- Full-time position, initially limited to two years of employment
- Compensation and benefits are governed by the collective agreement for employees in the public service in Germany (TVöD – Bund), salary level according to personal qualifications.

How To Apply?

Send your application to ewanker@mdc-berlin.de. Include the following, preferably merged into one pdf file:

Cover letter outlining your research interests, skills and relevant previous experience. Please let us know if you might be eligible for international postdoc fellowships like EMBO, MCSF, Humboldt etc.

Full CV with publications, awards and method list including all techniques you have previously acquired and used; please indicate your level of routine.

Names and contact details of two mentors who we may ask for references (letter or conversation).

The official job advertisement will be posted on *nature careers* soon.

Questions? – Get in Touch!

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