



Universität Potsdam

Job Announcement

Young, modern, and research oriented... the University of Potsdam has firmly established itself within the scientific landscape since its founding in 1991. Nationally and internationally renowned scientists teach and perform research here at Brandenburg's largest university. The University of Potsdam is successful in acquiring third-party funds, delivers outstanding performance in technology and knowledge transfer, and has a very service-oriented administration. With about 21,000 students studying at three campuses – Am Neuen Palais, Griebnitzsee and Golm – the University of Potsdam is a prominent economic factor and engine of development for the region. The University of Potsdam has a total of over 2.800 faculty and staff members and is located in one of Germany's most scenic areas.

The **University of Potsdam, Institute of Biochemistry and Biology, Biochemistry - Wendler Research Group** is seeking to fill the following position possibly by 01.04.2019

Academic Staff Member (PhD position) Requisition No.: 201/2019

The position is for 26,67 hours of work per week (66,67 %). The salary is determined by the collective bargaining agreement for public employees in Germany (TV-L 13 Ost). This is a temporary position limited to a term of 42 Months in accordance with Section 2 subsection 1 of the Academic Fixed-Term Contract Law (WissZeitVG).

The PhD position is funded by the UniSyscat (Unifying Systems in catalysis; <https://www.unisyscat.de/>) cluster of excellence, bringing together chemists, biologists and engineers to advance basic research into applied processes.

Eukaryotic rhodopsin guanylyl cyclases (RhGC) and rhodopsin phosphodiesterases (RHPDE) combine a rhodopsin photoreceptor module with an enzymatic unit that catalyzes the conversion of cyclic nucleotides to the corresponding 5'-phosphate nucleotide or *vice versa*. Hence, they confer a light-induced catalytic function to cells, which has the potential to be widely exploited in optogenetic applications. The goal of this project is to determine the structure of fungal RhGC at high resolution. We use single particle cryo electron microscopy in combination with other biophysical techniques to obtain structural snapshots of the complex enabling us to deduce its function.

Responsibilities:

The successful applicant is expected to collect and analyze data, participate in the experimental design and method development, and to closely interact with our collaborators in in the UniSysCat cluster of excellence and in particular with the group of **Prof. Peter Hegemann (HU Berlin)**. Techniques involved will include handling of multi protein com-

plexes, high resolution imaging using cryo EM, image processing, 3D reconstruction and molecular modeling. Relevant publications:

Scheib U, Stehfest K, Gee CE, Korschen HG, Fudim R, Oertner TG, Hegemann P (2015) The rhodopsin-guanylyl cyclase of the aquatic fungus *Blastocladiella emersonii* enables fast optical control of cGMP signaling. *Science signaling* 8 (389):rs8. doi:10.1126/scisignal.aab0611

Scheib U, Broser M, Constantin OM, Yang S, Gao S, Mukherjee S, Stehfest K, Nagel G, Gee CE, Hegemann P (2018) Rhodopsin-cyclases for photocontrol of cGMP/cAMP and 2.3 A structure of the adenylyl cyclase domain. *Nature Communications* 9 (1):2046. doi:10.1038/s41467-018-04428-w

Qualifications:

You should have a University degree in Biochemistry, Biotechnology, Bioinformatics, Physics or other related fields, and have a strong interest in biology and biophysical techniques. Computational skills or experience in statistical analysis are an advantage. You should also have excellent technical skills, good interpersonal skills and the enthusiasm to apply and develop new techniques.

Under the laws of the federal state of Brandenburg, employees under this contract are permitted to dedicate at least 33% of their contract time for their scientific qualification. The University of Potsdam strives to maintain gender balance among its staff. Severely disabled applicants shall receive preference in case of equal qualifications. We expressly invite applications from people with migration backgrounds.

Contact:

Further information can be obtained from Prof. Dr. Petra Wendler. Please send your application in English or German by email to petra.wendler@uni-potsdam.de until **03.02.2019**. The application should comprise a cover letter with a brief statement of research experience and interests, a CV as well as copies of undergraduate and graduate certificates.

In order to return your application documents, we request that you include a self-addressed stamped envelope.

Potsdam, 09.01.2019