



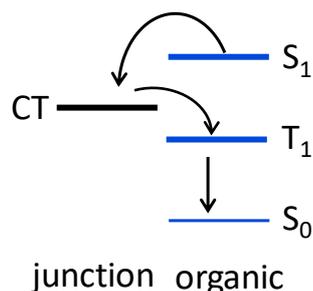
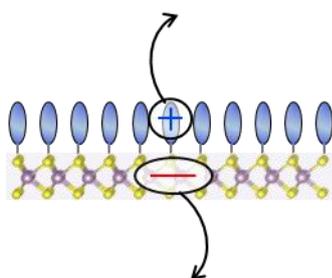
Postdoctoral Position in

Charge Transfer Mechanisms at Hybrid Interfaces Between 2D and Organic Semiconductors

The group of Prof. Dr. Dieter Neher at the University of Potsdam, Germany, invites applications for a postdoctoral position in **Charge transfer mechanisms at TMDC/organic hybrid interfaces**. We are looking for an excellent graduate in Physics, Chemical Physics, or Materials Science. Comprehensive knowledge in solid state physics and/or molecular spectroscopy is highly appreciated. We are particularly seeking for candidates which are familiar with advanced (home built) setups for time-resolved optical spectroscopy. The position is for 2 years, starting fall 2019, with the option for extension by another 2 years.

2D transition metal dichalcogenides (TMDCs) are an exciting new class of semiconductors. TMDCs differ from traditional inorganic semiconductors in that they exhibit a significant exciton binding energy and a strong absorption in the visible range, reminding of organic semiconductors (OSCs). Different from these, excitons on TMDC are delocalized in the 2D plane, exhibit lower binding energies, and are more sensitive to the dielectric properties of the immediate environment. As such, TMDCs combined with organic semiconductors form new and exciting hybrid systems for fundamental studies with potential applications in optoelectronic devices.

To explore the fascinating properties of such TMDC/OSC hybrids, the postdoc will investigate processes at the interface between a two-dimensional TMDC and a thin, down to monomolecular layer of an organic semiconductor. The primary goal is to understand charge generation and recombination at the TMDC-organic interface in relation to the electronic structure of the hybrid multilayer assembly. In analogue to organic and hybrid donor/acceptor heterojunctions, we expect that interfacial CT states will mediate the charge transfer processes across the hybrid interface. The nature of these states will be of particular interest and a central topic of the research. In addition, the multitude of excitonic states in TMDCs and organic materials, in combination with the strong spin-orbit coupling in TMDCs, constitute a wide scientific scope that ultimately helps us to provide answers necessary for technological utilization of these advanced HIOS.



The group of Dieter Neher at the University Potsdam is known for the comprehensive analysis of the charge carrier dynamics in organic and hybrid solar cells. The lab is equipped with state-of-the-art instrumentation for the study of steady-state and time-resolved optical and electronic properties, including unique setups for time-delayed collection fields, bias-assisted charge extraction, transient absorption and fluorescence spectroscopy.

The project is funded by the Collaborative Research Center “Hybrid Inorganic/Organic Systems for Opto-Electronics”, CRC 951. This center comprises more than twenty groups at four universities and several extramural institutions in the Potsdam-Berlin area, renowned for their outstanding work on the design, realization, and understanding of hybrid optoelectronic systems.

For further information, please contact Prof. Dr. Dieter Neher (neher@uni-potsdam.de).

Information on the group and recent results can be found at www.uni-potsdam.de/pwm.

Your application should comprise a letter of motivation, a CV with a list of publications and presentations at conferences, the names of two referees, and record of academic degrees including a transcript of records. Please submit your application via email to Prof. Dr. Dieter Neher (neher@uni-potsdam.de).

Further legal information:

The salary is determined by the collective bargaining agreement for public employees in Germany (TV-L 13 Ost). The position is for 40 hours per week (100%). This is a temporary position in accordance with Section 2 subsection 1 of the Academic Fixed-Term Contract Law (WissZeitVG).

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.