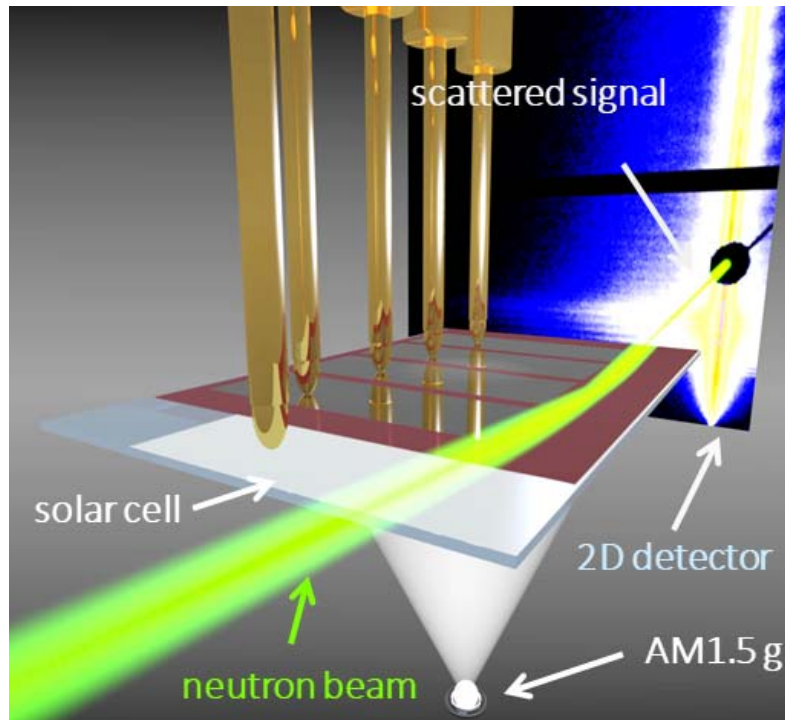


# Doktorarbeit / PhD thesis

## In situ and operando probing of soft materials at buried solar cell interfaces



At the Chair for Functional Materials at the Technical University of Munich, we investigate the physical basis of material properties using state-of-the-art scattering methods (neutron, X-ray and light scattering) and spectroscopic techniques. The general goal of our research is to infer functional properties from knowledge of microscopic structure and dynamics.

We are looking for a PhD student to work on the project "In situ and operando probing of soft materials at buried solar cell interfaces". The salary is 1/2 TVL E13 for 3 years.

Information about the chair can be found at:

<https://www.ph.nat.tum.de/en/functmat/about-us/>

**Topic:** The main goal of this project is a systematic investigation of interlayer materials in polymer-based systems used in organic photovoltaic devices. In particular, the transport of electrons or holes across the organic/inorganic material interface, the interface routinely encountered in photovoltaic devices, depends critically on the work function of the involved material where we have made significant advances in the reduction of the electrode work function by use of organic zwitterionic interlayer materials. Fundamentally, understanding the mechanism by which the work function is reduced requires an understanding of the structure as it is reached with advanced scattering methods using neutrons or x-rays. The target is to quantitatively characterize the interlayer material both in-situ and operando, correlating the results with the performance of the organic photovoltaic devices.

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