



The Institute of Micro- and Nanostructure Research (IMN) & Center for Nanoanalysis and Electron Microscopy (CENEM) at the University of Erlangen-Nürnberg offer a

PhD position

for

Advanced Electron Microscopy of Next Generation Solar Cells

Structural information down to molecular level and their evolution as function of processing conditions are indispensable to develop knowledge-driven design of devices and processing routines for next generation solar cells. Cutting-edge and beam dose managed transmission electron microscopy techniques have enabled imaging the chemical composition (via analytical methods) and molecular crystal structure (by high resolution and diffraction methods) at nanometre and atomic scale thus providing insights into the time evolution of the compositions in active layers. Thus, the structure-property relationship of next generation solar cells can be elucidated, leading to a better understanding and improvement of the device performance.

The IMN (www.em.tf.fau.de) has long-term collaborations with the Institute of Materials for Electronics and Energy Technology (www.i-meet.wiwi.uni-erlangen.de), one of the world-wide leading groups in organic photovoltaics (OPV) research and development. Within the Collaborative Research Center CRC 953 on “Synthetic Carbon Allotropes” (www.sfb953.research.fau.eu), we have successfully developed and applied advanced electron microscopy methods, including high-resolution imaging, EFTEM, STEM-EELS as well as 4D-STEM, to study the nanomorphology as well as the crystal structure of organic and perovskite solar cells.

To further strengthen our activities in this field, we are seeking a highly motivated PhD student for advanced TEM investigations of next generation solar cells. The applicants should have a master's degree in materials science, chemistry, physics or a related discipline. Applicants with a background in OPV research and the willingness to learn the abovementioned microscopy techniques are encouraged to apply.

The IMN, a research institute of the Materials Science Department, explores the advanced capabilities of CENEM (www.cenem.fau.de), a well-established microscopy center and user facility at the University of Erlangen-Nürnberg. The CENEM hosts a number of state-of-the-art electron microscopes, among these a double-corrected monochromated (S)TEM Titan Themis³ 60-300 and a probe-corrected (S)TEM Spectra 200, both equipped with a Super-X detector and a GIF Quantum ERS system or a Continuum S spectrometer for advanced nanoanalytics as well as a FIB Helios Nanolab 660 equipped with versatile add-ons for sophisticated sample preparation and *in situ* studies.

We offer working in a great team and expanding electron microscopy group within a vibrant scientific environment. Scientific discussion, the process of creating own ideas and the possibility to implement them are key elements of our research philosophy.

The salary is according to German standard (75% E13 TV-L). **The position will be filled as soon as possible.**

The University of Erlangen-Nürnberg is interested in increasing the share of women in research and teaching positions and therefore explicitly encourages female candidates to apply.

Physically disabled applicants receive favorable consideration when equally qualified.

Please send your application until 15. Mai 2021 by e-mail to Prof. Erdmann Spiecker (Erdmann.Spiecker@fau.de) and Dr. Johannes Will (Johannes.Will@fau.de).