

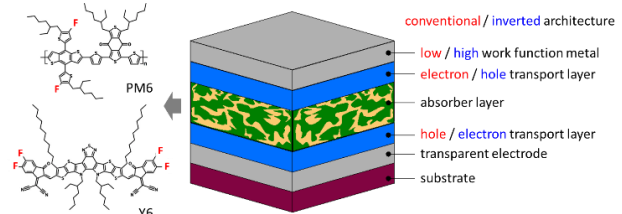
The Austrian Centre for Electron Microscopy and Nanoanalysis (FELMI-ZFE), Austria's leading electron microscopy facility, is offering a position as

## Ph. D. Researcher (F/M/D)

(30 hours per week)

in the Austrian Science Fund project “Halogenated OPV Materials - A Blessing and a Curse?” for a fixed term appointment of 3 years.

The stringent need to reduce extensive emission of CO<sub>2</sub> to decelerate global warming makes research towards new materials and technologies for the supply of our society with clean energy one of the most important and challenging fields in today's materials science. Solution-processable organic solar cell materials hold great promise to fulfil the needs for next generation photovoltaics (PV). However, in order to explore their full potential, there is a number of scientific challenges regarding material properties and their integration in device architectures to be overcome.



*This project will focus on nanoscale characterization of modern fluorinated or chlorinated organic PV (OPV) materials in order to optimize their performance and stability.*

### Your tasks:

You will be part of an interdisciplinary team, whose research activities focus on the study of organic solar cells and OPV materials that are fabricated and investigated at our partner institute, the Institute of Chemistry and Technology of Materials (ICTM) at TU Graz. Unwanted reactions and degradation effects in the active material and at the interfaces of an OPV cell should be identified by means of C<sub>s</sub>-corrected scanning transmission electron microscopy (STEM). By combining state-of-the-art high sensitivity spectroscopic techniques like electron energy loss spectrometry (EELS) and energy dispersive X-ray spectrometry (EDX) with novel imaging and diffraction techniques, chemical and structural changes will be identified to contribute to the development of mitigation strategies. Due to the sensitivity of these materials, innovative preparation and analysis methodologies, including machine learning and smart acquisition strategies have to be applied and adapted.

### Your profile:

- You completed a Master's study in Materials Sciences, Physics, Chemistry, or equivalent
- You are interested in materials science, solid-state physics and related subjects
- You have communication skills in spoken and written English
- You like to work independently and are self-motivated, creative and team-oriented

### Our offer:

We offer an international, ambitious environment for basic research-oriented candidates who want to perform cutting-edge research with access to advanced characterization facilities. The appointment starts on October 1<sup>st</sup>. Gross salary will be based on the salary scale of the Austrian Science Fund (FWF).

Applications with a short CV should be sent to:

**Prof. Gerald Kothleitner & Dr. Daniel Knez**

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