

Job vacancy: Postdoc (f/m/d) in Photovoltaics

We are looking for a postdoctoral researcher (f/m/d) to investigate novel materials for photovoltaics - lead-free perovskite solar cells.

Lead halide perovskite solar cells have seen a rapid rise in recent years. With power conversion efficiencies of over 25 %, they are already being traded as a cost-effective alternative to the omnipresent silicon. However, these solar cells contain water-soluble salts containing lead, so that a large-scale implementation and large-scale deployment of the technology seems at least questionable. Therefore, our research group is dedicated to the fundamental understanding of the extraordinary working principle of perovskite solar cells. Using these design criteria, we are searching for novel compounds that exhibit similar properties in solar cells as the well-known lead halide perovskites, with great emphasis on environmentally friendly and long-term stable components. In this way, we span the spectrum from basic research to sustainability and application. In particular, we are researching alternative semiconductors with a perovskite structure, as known from ceramic material science.

Ideally, you have completed your PhD in an engineering or natural science with a very good degree and enjoy working in a multidisciplinary research team. Good knowledge of English is essential, good knowledge of German would also be an advantage. In particular, we expect you to have knowledge in several of the following areas:

- Photovoltaic light conversion
- Characterization of solar cells and charge carrier transport in semiconductors
- Fabrication and characterization of functional ceramics
- Photocatalysis
- Experience in the use of atomic force microscopy, electron microscopy, X-ray diffraction
- Working in a cleanroom environment

We offer a challenging job in a cutting-edge field of research. Scientific results can be published and presented at conferences. The work is carried out in a pleasant, friendly and motivating working atmosphere. In addition to active scientific work in the laboratory, we expect a willingness to supervise doctoral students and undergraduates as well as assistance in applying for and organizing research projects. We are happy to support you in planning your own scientific career.

The remuneration occurs on the basis of the wage agreement of the civil service in TV-L E13, depending on the fulfillment of professional and personal requirements.

Please send your detailed application in the form of a single PDF file by e-mail to:

Prof. Dr. Alexander Colsmann, <https://www.mze.kit.edu/opv>, e-mail: alexander.colsmann@kit.edu

We prefer to balance the number of employees (f/m/d). Therefore, we kindly ask female applicants to apply for this job.

Recognized severely disabled persons will be preferred if they are equally qualified.