TECHNISCHE UNIVERSITÄT CHEMNITZ

Optics and Photonics of Condensed Matter
Coordination Chemistry
Faculty of Natural Sciences
Prof. Michael Mehring Prof. Carsten Deibel

OPKM

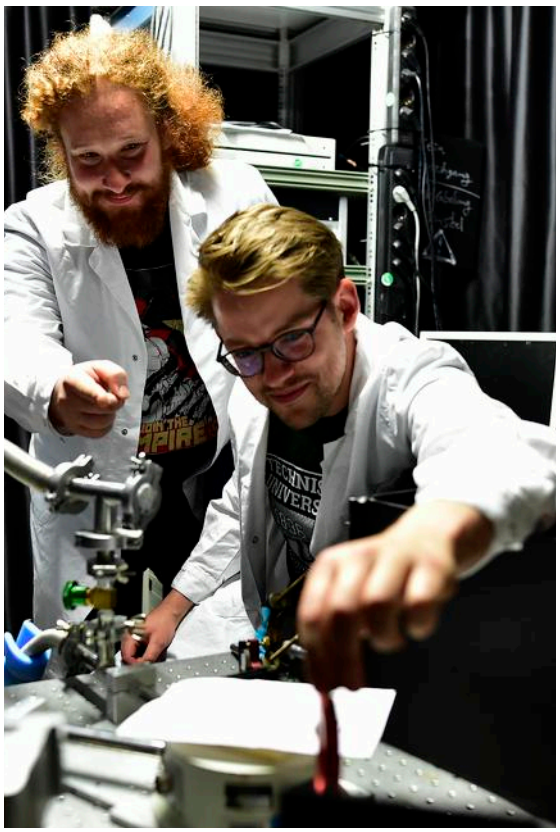
Chemie Koordinationen

Research Project / Master Thesis for AFM Students

Novel Perovskite Solar Cells

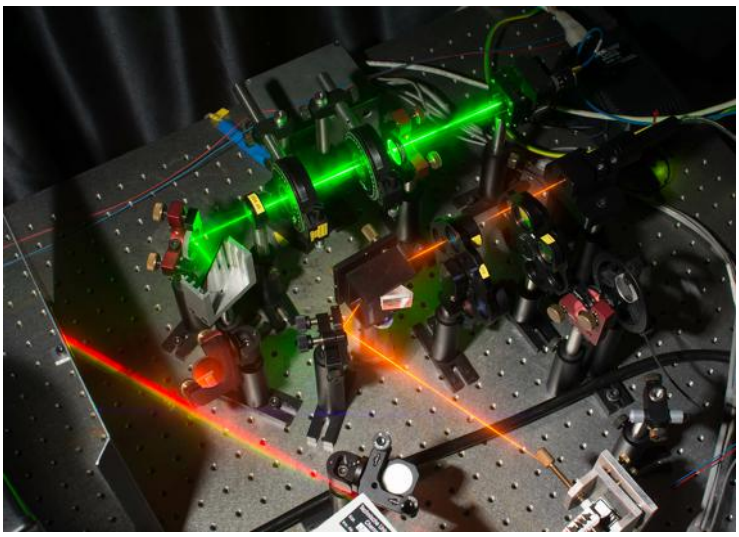
Motivation

Photovoltaics is important for a future in which electrical energy is converted from our largest renewable source, the sun. Metal halide perovskite solar cells have reached very high power conversion efficiencies within a short time, on par or exceeding other thin film technologies in terms of performance. The active material is based on methyl ammonium lead iodide. For commercialisation, however, a non-lead containing active layer is preferred. Our research groups are interested in researching lead-free perovskite solar cells.



Tasks

In this research project or master thesis, the synthesis, film formation, and investigation of non-lead perovskites, their integration as active layer in solar cells, and the characterisation of performance and working mechanism are the major tasks.



Boundary Conditions

We are looking for motivated candidates, who enjoy working at the intersection between physics and chemistry and want to do research in the lab (which includes handling chemicals, working with lasers and other optical elements, as well as highly sensitive measurements setups). You should have a good grasp of semiconductor physics and synthetic chemistry. Also, team spirit is required. In return, we offer an intriguing research topic, very good supervision, and a nice working environment.

Contact

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