

Ph.D. Position on Design of Novel Chiral Hybrid Semiconductors at the University of Heidelberg

Applications are invited for a PhD Position within the project of an ERC Starting Grant at the Chair for Physical Chemistry at Heidelberg University, starting from April 2022. This 3.5-year research project will focus on synthesis and optical spectroscopy of novel cutting-edge chiral semiconductors and nanostructures based on the highly-promising class of hybrid perovskite materials.

As a PhD student in the group you will have the chance to gain experience in the synthesis and characterization of novel hybrid chiral semiconductors, as well as ultrafast spectroscopy techniques for characterization of excitation dynamics. A core question will be the structural connection between chiral crystal structures and chirality in the electronic states, with the aim to produce bright circularly polarized luminescence. You will work within an established team of researchers within the ERC Starting Grant (1x Postdoc, 3x PhD students).

The Deschler group has been making key contributions to the understanding of energy materials, formerly located at the University of Cambridge (until 2019) and the Technical University of Munich (until 2022). Our research was prestigiously supported by an ERC Starting Grant and the Emmy-Noether Program of the DFG . Our research focuses on the question how structure and composition of materials control the properties and dynamics of electronic states on ultrafast timescales, and how this paves the way for novel material function. For gaining fundamental insights into the underlying physico-chemical mechanisms, we use and develop time-resolved spectroscopic techniques from the X-ray to the THz regime. For more info please check our Website/Twitter.

Candidates should hold a M.Sc. in chemistry, physics, material sciences or related disciplines. For our vibrant and interdisciplinary team, we are looking for creative, enthusiastic students with solid scientific track record and strong experimental background. Experience in energy materials, semiconductors or optical spectroscopy will be an advantage. We support equal opportunity and candidates from currently under-represented groups are strongly encouraged to apply.

The positions are available from 1st April 2022 and ideally filled by 1st of October 2022.

Interested? For your application, please send a curriculum vitae, M.Sc. transcript and a short statement explaining your motivation for pursuing a Ph.D. to felix.deschler@tum.de.