ISOQUANT
SONDERFORSCHUNGS-
BEREICH 1225

UNIVERSITÄT
HEIDELBERG
ZUKUNFT
SEIT 1386

PhD Position (3 years, 75% E13) in Nanomaterials

We are looking for a curious and motivated new member of our team working on **single-walled carbon nanotubes as one-dimensional semiconductors**. The goal of this PhD project is to understand the many-body physics of excitons and trions in carbon nanotubes, i.e., the spectroscopic features (optical absorption/emission) of chemically, electrochemically and electrostatically doped carbon nanotubes at different carrier densities and temperatures.

The project is embedded in the **Collaborative Research Centre "Isolated quantum systems and universality in extreme conditions"** (SFB 1225, https://www.isoquant-heidelberg.de/) and the Institute for Physical Chemistry (https://www.pci.uni-heidelberg.de/en) in Heidelberg ensuring close collaboration between theorists and experimentalists.

Requirements:

- Master's degree in physics, chemistry, materials science or related subject
- Previous experience with optical spectroscopy, nanomaterials, experimental condensed matter physics or in related areas is advantageous
- Good communication skills (English/German) and motivation to work in an interdisciplinary team
- Being curious and self-motivated

Duration: Fixed term 3 years

Start date: from September/October 2025

Location: Based in Heidelberg (Germany), a beautiful and vibrant city with lots of history, culture as well as great outdoors. Heidelberg University (https://www.uni-heidelberg.de/en) is one of Germany's "*Universities of Excellence*" with a large campus for natural and life sciences.

We offer: An international, collaborative and friendly work environment with state-of-the-art equipment and many years of experience. Interdisciplinary exchange with different groups within the SFB 1225 and international research groups. Heidelberg University offers comprehensive support and additional training for all graduate students (www.graduateacademy.uni-heidelberg.de).

Applications (*only by email, pdf-files <5 MB*) should include a curriculum vitae (CV), short motivation letter, publication list (if applicable), degree certificates, transcript of Master and Bachelor degrees, list of educators/supervisors who could provide references.

Contact: Prof. Dr. Jana Zaumseil zaumseil@uni-heidelberg.de
https://www.pci.uni-heidelberg.de/apc/zaumseil/index.html