Design Tomorrow's Materials: PhD Position in Quantum Dots & Nanoscience at LMU Munich

Are you passionate about cutting-edge nanoscience, excited by perovskite quantum dots, and ready to make a real impact in next-generation optoelectronics?

We are looking for a **curious, driven, and creative PhD student (m/f/d)** with a **background in chemistry or materials science** to join our interdisciplinary team lead by Professor Alexander Urban at the Nano-Institute of the LMU Munich. You will work at the intersection of **synthetic chemistry, nanomaterials, spectroscopy, and proof-of-concept device fabrication**, exploring the fundamentals and applications of halide perovskite nanocrystals.

What You'll Do

You will take the lead **on designing and synthesizing new perovskite nanomaterials**—quantum dots, nanoplatelets, and beyond—using innovative ligands and reaction strategies. You will explore how subtle changes in size, shape, and surface chemistry affect optical properties, colloidal stability, and performance in devices like LEDs.

You'll work with world-class instrumentation: in-situ and ex-situ **spectroscopy** with highly modular and state of the art self-built setups, **electron and atomic force microscopy**, and many other techniques! Our team **thrives on collaboration**, fast feedback loops, **and sharing ideas across disciplines**—from chemistry and physics to materials engineering giving you access to collaborations with expert groups for X-Ray scattering techniques and advanced electron microscopy (including cutting-edge 4D-STEM).

Who We're Looking For

- A Master's degree in chemistry, nanoscience, materials science, or related fields
- Hands-on experience in **synthetic chemistry** and/or **colloidal nanomaterials**
- Excitement for experimental work and interdisciplinary problem-solving • Strong communication skills and the drive to work independently and in a team

Why Join Us?

- Work on **high-impact research** in one of Europe's top universities
- Collaborate closely with renowned groups (Prof. Urban, PD Dr. Nickel, Prof. Müller-Caspary)
- Access world-class infrastructure (DESY, LMU Core Facilities, CeNS)
- Be part of a diverse, inclusive, and supportive scientific community
- Publish in top journals and attend international conferences
- Live in Munich, one of the most vibrant and livable cities in Europe

Position Details

- Start date: Flexible (preferred early 2026)
- Duration: 3 years (100% DFG-funded)
- Location: Nano-Institute, Physics Faculty. LMU Munich
- Language: English (working language of the lab)

How to Apply

Please email the following documents (in a single PDF if possible) to:
sek.agnanospec@physikuni-muenchen.de
Subject line: PhD Application – Perovskite QDs

- A short motivation letter (What excites you? Why this project?)
- CV with relevant experience
- University transcripts (BSc + MSc)
- Names of 1–2 academic references

We welcome applicants from all backgrounds. Your curiosity and perspective matter.
More information can be found at www.nanospec.de