Master's Thesis on Chemical Conversion of Lead Waste into High-Performance Perovskites

We are offering a thesis project focused on designing a chemical process that selectively targets, dissolves, and converts lead from various waste streams into lead perovskites. The aim is to develop an efficient and scalable synthesis route that can match or surpass the performance of perovskites made from commercial precursors.

Who We're Looking For

- Background in chemistry, chemical engineering, materials science, or related fields.
- Solid understanding of reaction kinetics and process optimization.
- Motivation to tackle challenging experimental tasks and interpret data systematically.

Project Tasks

- Develop a chemical reaction strategy that selectively extracts and converts lead waste into perovskite materials.
- Investigate reaction kinetics, energy consumption, and process efficiency.
- Establish appropriate figures of merit and optimize reaction conditions to boost yield and purity.
- Assess and compare the performance of the resulting perovskite in solar cells versus commercially sourced lead-based materials.

Starting date

Immediate start is possible.

Contact Details

Dr Misha Sytnyk
m.sytnyk@fz-juelich.de
Helmholtz-Institute Erlangen-Nürnberg (HI ERN)
Immerwahrstraße 2, 91058 Erlangen
Room 0.7