Paul Jakob Lobpreis | M.Sc.

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Paul Lobpreis

Materials scientist and engineer with a background in chemistry

Professional Experience

University of Siegen, Chair of Micro- and Nanoanalytics **Siegen**
Research Associate *04/2025 – present*
- PhD project combining TEM, 4D-STEM, and HPC-based data analysis to investigate complex materials

University of Siegen, Chair of Surface and Materials Technology **Siegen**
Research & Teaching Assistant *03/2023 – 07/2024*
- Supervision of lab courses on thin film technology
- Maintenance of CVD and PVD systems

Dynamit Nobel Defence GmbH **Wilnsdorf**
Working Student *01/2024 – 03/2024*
- R&D Scientist in the working group 'Materials, Chemistry and Processes'

University of Siegen, Chair of Chemistry & Structure of novel Materials **Siegen**
Research Assistant *05/2022 – 03/2023*
- R&D of Ultra High Performance Concrete (UHPC) as part of a third-party funded project (ceEntek Pte. Ltd.)

Metro AG **Siegen**
Working student in Wholesale *11/2019 – 05/2022*
- Shelf stocking, quality assurance, and customer management

Education

M.Sc. Materials Science and Engineering **Siegen**
University of Siegen *2022 – 2025*
- Specialization in Coating Technology, Solid State Chemistry, and Micro- and Nanoanalytics
- Master's thesis: 'Four-Dimensional Scanning Transmission Electron Microscopy (4D-STEM) Analysis of NiCu alloy using py4DSTEM on High Performance Computing Cluster'

B.Sc. Chemistry **Siegen**
University of Siegen, *2017 – 2022*
- Specialization in Materials Chemistry
- Bachelor's thesis: 'Electron microscopic investigation of the hydration products of tricalcium silicate'

Publications & Presentations

[1] Paul Lobpreis. *Four-Dimensional Scanning Transmission Electron Microscopy (4D-STEM) Utilizing a CMOS Camera*. Poster presented at the Microscopy Conference (MC2025), Karlsruhe, Germany. Sept. 2025.

[2] Paul Jakob Lobpreis. "Four-Dimensional Scanning Transmission Electron Microscopy (4D-STEM) Analysis of a NiCu Alloy Using py4DSTEM on a High-Performance Computing Cluster". Master's thesis. Siegen, Germany: University of Siegen, Feb. 2025.

IT Skills

Data Visualization: Matplotlib, PGF/TikZ

Programming Languages: Python

Typesetting: LaTeX, MS Office

CAD: SolidWorks

Languages

German: Native

English: C1 (UNIcert III)

Others

Team Sports: Handball player at TSG Siegen