



PhD student position for project at the Paul Scherrer Institute  
**Low-energy electron holography**

**Your tasks**

You will participate in developing a novel imaging technique—low-energy electron holography — which will be applied for atomic-resolution imaging of 2D crystals, such as graphene, and noncrystalline samples such as individual macromolecules. The project will consist of the following tasks: designing and building a coherent low-energy electron microscope, three subprojects, sample preparation and recording holograms, and numerical reconstruction of the sample structure from the holograms.

**Your profile**

You should hold a master's degree in physics or engineering and be highly motivated to do experimental research in an international team. Spoken and written English on at least an upper-intermediate level (CEFR B2) is required. Good knowledge of solid-state physics, coherent optics, and theoretical physics basics (quantum mechanics, QED) is required. Programming skills (Matlab, Python) and experimental experience in electron microscopy and light optical imaging are a plus.

The experimental work will be carried at the Paul Scherrer Institute in Villigen, the PhD student will be enrolled into the PhD program at the Department of Physics, University of Zurich.

The Paul Scherrer Institute PSI is the largest research institute for natural and engineering sciences within Switzerland. We perform cutting-edge research in the fields of matter and materials, energy and environment and human health. By performing fundamental and applied research, we work on sustainable solutions for major challenges facing society, science and economy. PSI is committed to the training of future generations. Therefore, about one quarter of our staff are post-docs, post-graduates or apprentices. Altogether, PSI employs 2100 people.

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