



The Paul Scherrer Institute (PSI, www.psi.ch) is a centre for multi-disciplinary research and one of the world's leading user laboratories. With its 1300 employees it belongs as an autonomous institution to the Swiss ETH domain and concentrates its activities on solid-state research and material sciences, elementary particle and astrophysics, energy and environmental research as well as on biology and medicine.

At the Synchrotron Radiation and Nanotechnology division of the PSI and in collaboration with the Swiss Nanoscience Institute (SNI) of the University of Basel, we will investigate organic topological insulators on surfaces. We will prepare self-assembled metal-organic frameworks, investigate and modify their topological electronic states. Therefore we are looking for a

PhD Candidate in Surface Science

Your tasks

You shall design and prepare metal-organic frameworks (MOFs) and analyze their electronic properties at the PEARL beamline of the SLS (<https://www.psi.ch/sls/pearl/pearl>). Your main tasks will be to develop a method of making MOFs with large areal density of edges in order to obtain ARPES data with high signal-to-noise ratio, change or modify the substrate to reduce its influence on the electronic states of the molecular layer and to tune the electronic properties of the molecular layer by changing the metal forming the framework.

You will prepare samples in ultra-high vacuum (UHV) using techniques like ion sputtering and physical vapour deposition and analyse them with local-probe techniques including Scanning Tunneling Microscopy (STM) and Scanning Tunneling Spectroscopy (STS) as well as Angle-Resolved Photoelectron Spectroscopy (ARPES).

You will be registered as a PhD student at the University of Basel where you shall also teach. The workplace will be the Paul Scherrer Institute in Villigen.

Your profile

You are a highly motivated individual who enjoys working in a small team of scientists with different backgrounds. You have a master's degree in nanoscience, materials science, physics, physical chemistry or a related field. An interdisciplinary background is of advantage. Ideally, you have experience in one of the above mentioned methods. You enjoy working with complex scientific instrumentation. You are fluent in English, basic knowledge of German is desirable.

Further Information / Contact

SNI PhD Program
<http://phd.nanoscience.ch>

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Please submit your application online at <https://biped.sni.unibas.ch>