


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 future technologies, energy and climate, health innovation and fundamentals of nature. 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 2300 people.

This SNF-funded project investigates acid-base chemistry and hydrogen bonding at ice- and water-air interfaces. Building on our expertise in probing the adsorption of acidic trace gases to ice using Near Ambient Pressure X-ray Photoemission and X-ray absorption spectroscopy, we now seek to develop a predictive understanding of ammonia chemistry in the cryosphere and upper troposphere, addressing significant knowledge gaps in atmospheric multiphase chemistry.

For the multiphase chemistry research group, we are looking for a

PhD Student in physical chemistry of the atmosphere

04.11.2025 • Doctoral • 5505-25377 • 100% 

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Your tasks

- Your research will explore the mechanisms of ammonia (NH₃) adsorption and interfacial proton transfer, focusing on how these processes are influenced by acidic adsorbents (CO₂, HONO, HNO₃), mineral oxides, and reactive trace gases (NO₂, SO₂, O₃)
- A central aim is to investigate molecular-level differences between air-water and air-ice interfaces
- You will design and conduct experiments using coated wall flow-tube reactors, X-ray excited electron spectroscopy at the Swiss Light Source, and sum-frequency generation spectroscopy in collaboration with Boise State University

Your profile

- Brilliant, creative, and motivated - even if your previous research didn't focus on interfaces, snow, or atmospheric science
- Hold a master's degree in physical chemistry, chemical physics, or a closely related discipline
- Talented Experimentalist or experienced with analytical field campaigns
- Curious about molecular-level interfacial processes and eager to develop a predictive understanding
- A strong communicator in English, able to present results in high-impact journals and at international conferences
- Experience in low-temperature experiments, spectroscopic methods, and programming for data analysis is beneficial

We offer

Our institution is based on an interdisciplinary, innovative and dynamic collaboration. You will profit from a systematic training on the job, in addition to personal development possibilities and our pronounced vocational training culture. If you wish to optimally combine work and family life or other personal interests, we are able to support you with our modern employment conditions and the on-site infrastructure.

For further information, please contact Dr Thorsten Bartels-Rausch, phone +41 56 310 43 01.

Please submit your application online by **31 December 2025** (including a motivation letter and addresses of referees) for the position as a PhD Student (Index-Nr. 5505-25377).

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