PhD position in Arctic Water Quality Change as a consequence of Permafrost Thaw

About UNIS
The University Centre in Svalbard (UNIS), located in Longyearbyen at 78°N, is the world's northernmost institution for higher education. UNIS specializes in Arctic studies and offers field- and research-based courses at bachelor's, master's, and PhD level in Arctic biology, geology, geophysics, technology, and safety. UNIS makes use of its year-round presence in the unique Arctic environment, using the environment as a natural laboratory for research and education.

We attract around 700 students annually from all over the world. All teaching is conducted in English and roughly half of both staff and students are international. UNIS was established in 1993 and is operated as a state-owned company under the Ministry of Education and Research. The administrative language is Norwegian. UNIS' values are inclusion, transparency, engagement, reliability, and respect.

About the department: The Arctic geology department constitutes 3 professors, 5 associate professors, 2 researchers, 4 PhD students, 6 adjunct professors and 1 technician. The department conducts research and education in Arctic geology and physical geography. The department focuses on 1) the cryosphere and polar landscapes, 2) earth climate history from Holocene to deep time and 3) the dynamic lithosphere with emphasis on the Svalbard regional geology and implications for polar areas more widely.

About the position: This PhD project investigates how permafrost thaw in shale-rich Arctic regions affects surface water quality, with a focus on Svalbard as a natural laboratory. As the active layer deepens due to climate warming, previously frozen pyrite-rich shales are exposed to oxidation. This process releases sulphuric acid, nutrients (e.g., ammonium and nitrate), trace metals (especially manganese and iron), mercury, and other solutes into surface waters.

The project aims to:
• Understand the mechanisms driving pyrite oxidation during thaw using laboratory microcosm experiments on rock and permafrost cores.
• Monitor the effects of pyrite oxidation on drinking water quality (e.g., Mn contamination in Longyearbyen) and nutrient export to coastal ecosystems.
• Develop a predictive understanding of water quality changes under ongoing permafrost degradation.

The four-year contract includes a year of required duties. Alternatively, the candidate may choose a three-year position which excludes these duties. Required duties for the successful candidate will be specified upon employment. Other duties may be assigned by the head of department as required.

Qualifications
• Applicants must hold a master's degree in a field relevant for the position or the degree must be completed by October 1, 2026. Subjects include Geochemistry, Environmental science, Earth science/geology, Hydrology, Environmental engineering, or a closely related field.
• Admission to the doctoral program at the Norwegian University of Science and Technology (NTNU) is a condition for the employment.
• A strong foundation in aqueous geochemistry, mineral weathering processes, redox chemistry and biogeochemical cycling.
• Experience with laboratory experiments (batch incubations, microcosms, or similar).
• Knowledge of chemical analysis techniques, such as ICP-OES or ICP-MS, ion chromatography, and nutrient analysis.
• Experience in environmental sampling (water, sediment, soil), hydrological monitoring, field campaign logistics and harsh or remote environments.
• Strong data analysis skills and experience with statistical tools (R, Python, MATLAB, or similar).
• Willingness to conduct fieldwork in Arctic conditions.
• Proficient in both written and oral English.

You will be offered the opportunity to participate in digital Norwegian language courses during your employment.

Advantageous knowledge and skills
• Experience working independently but also collaborating across departments.
• Experience publishing in peer-reviewed journals and communicate results with local authorities.
• Driver's license class B (valid for Svalbard).

Motivation and personal suitability will be emphasized. Required documents
• Motivational letter (max. 1 page) to state your scientific and personal interest in pursuing a PhD on the announced topic, and your motivation for conducting your PhD at UNIS.
• Full academic CV.
• Transcripts and diplomas showing the completion of bachelor's and master's degrees, alternatively an official confirmation that the master's degree will be completed by October 1, 2026.
• Contact information for two references, one of which must be your master's supervisor.

All applications must be sent through our JobbNorge system and all documents must be uploaded as attachments to the application. Applications lacking required documents will not be considered.

We offer: UNIS offers a challenging and varied job in an exciting and international environment. As an employee you will be a member of the Norwegian Public Service Pension Fund (SPK), which provides one of the best pension schemes on the market. We also offer excellent insurance schemes, coverage of travel and relocation expenses (max NOK 10.000) upon starting the position, and staff housing in accordance with current regulations.

The position is classified under the job code "Stipendiat" (PhD position, code 1017). In addition to the base salary, a Svalbard allowance of NOK 44,640 per annum is provided. A 2% contribution to the Norwegian Public Service Pension Fund is deducted from the salary. The income tax rate in Svalbard is currently 8%, and a national insurance contribution of 7,6% is also deducted.

Application process Inquiries about this position may be directed to:
• Andy Hodson (andrewh@unis.no)
• Marjolaine Verret (marjolainv@unis.no)

Security policy cooperation: UNIS prioritises applicants who are citizens of countries with a security policy cooperation with Norway. This mainly includes countries that are members of the EU/EEA or NATO. Employees holding citizenship from countries outside EU/EEA or NATO may encounter difficulties accessing the government infrastructure that UNIS relies on to hold our courses and perform research work.

Selection and appointment: A committee appointed by the Head of Department will evaluate the qualifications of the applicants and invite the highest ranked person(s) for an interview. The appointment will be made by the Director of UNIS based on the recommendation of the committee.

Public disclosure: It is possible to request that your name/application be exempt from public disclosure in accordance with the Freedom of Information Act (Offentlighetsloven) § 25. The request must be justified. Please note that if the request is not granted, the applicant will be contacted and given the opportunity to withdraw the application.

Diversity, Equity and Inclusion: One of the UNIS values is inclusion. We are committed to achieving diversity within the workforce and creating an inclusive working environment in the High Arctic. We therefore welcome applications from all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age or other characteristics.

Apply? Click the application button on this page.