Stockholm University

2020-03-25 Ref. No. SU FV-1000-22

PhD student in Environmental Science focusing on

Plant-soil interactions in the Arctic

at the Department of Environmental Science.

Ref. No. SU FV-1000-22
Closing date: 22 April 2022

The Department of Environmental Science is one of the biggest departments at the Faculty of Science. The department consists of four units with more than 170 researchers, teachers, doctoral students and technical/administrative staff from over 30 countries. Research and teaching focuses on chemical contaminants, atmospheric science, biogeochemistry and (eco)toxicology. As an employee at the Department of Environmental Science you will be part of a dynamic environment with research in leading research areas and with a strong international profile.

Research in the Biogeochemistry Unit focuses on the biogeochemical cycles of carbon, nitrogen and metals in soils, fresh water bodies, and the ocean. The unit has a strong and long-standing research focus on the impact of global warming on Arctic environments with the overarching goal to improve the systems understanding and future projections of biogeochemical cycles in this system.

The Biogeochemistry Unit is now seeking a PhD student to complement our team, focusing on the impact of plant-soil interactions on Arctic carbon cycling.

Project description
Climate warming is rapidly changing Arctic environments. Consequences include permafrost thaw, increased microbial degradation of soil organic matter to CO_2 and other greenhouse gases, but also wide-spread stimulation of plant primary production and CO_2 uptake, deeper plant rooting and shifts in vegetation distribution. In addition, plants can accelerate decomposition of soil organic matter near their roots to CO_2 ("rhizosphere priming effect"), and this effect might substantially enhance Arctic CO_2 emissions (Keuper & Wild et al. 2020 Nature Geoscience).

This PhD position will be associated with the new ERC Starting Grant project PRIMETIME that aims to quantify total plant impacts on CO_2 emissions from a warming Arctic. The PhD student will contribute to this aim by providing observational, quantitative data on how plants impact soil carbon cycling. The work might include field campaigns and laboratory experiments, and make use of a range of isotopic tools. A detailed research plan will be developed by student and supervisors in the first months of the thesis work. For more information on potential research topics, please contact Ass. Prof. Dr. Birgit Wild (birgit.wild@aces.su.se).

Qualification requirements
To meet *the general entry requirements*, the applicant must have completed a second-cycle degree, completed courses equivalent to at least 240 higher education credits, of which 60 credits must be in the second cycle, or have otherwise acquired equivalent knowledge in Sweden or elsewhere.

In order to meet *the specific entry requirements,* for doctoral studies in Environmental Science, at least 45 of the credits at the second cycle must be in one of the natural sciences (Biology, Chemistry, Earth Sciences, Physics, or Meteorology) including a 30 credits thesis project. The applicant should also have 30 credits in other natural science subjects different from the major.

The qualification requirements have to be met by the start of the position, but not necessarily by the deadline for applications. Please indicate in your application if you do not fulfil the requirements yet and describe when this will be the case (e.g., when a master thesis will be defended).

Selection
The selection among the eligible candidates will be based on their ability to successfully pursue the research education. Special emphasis is put on the applicant's knowledge and skills within the subject area, ability to express themselves verbally and in writing, analytical aptitude, creativity, initiative and independence, and a capacity for working together with others. The evaluation will be made based on the

relevance of past education and experience, grades from previous university courses (in particular at the advanced level), the quality and ambition of the independent project work, references, a cover letter motivating the candidate's interest, and interviews.

We are seeking a highly motivated person with a strong interest in Arctic environments and in disentangling the biogeochemical processes that control greenhouse gas fluxes in these systems. The thesis work may integrate elements of plant science, soil science, and microbiology, field, laboratory and possibly statistical and/or modelling work. We are looking for a candidate with the motivation to connect these components. A background in e.g. Environmental Sciences, Biology, or Geosciences would be highly suitable. Collaborative skills and proficiency in English are required. Admission Regulations for Doctoral Studies at Stockholm University are available at: www.su.se/rules and regulations

Terms of employment
Only a person who will be or has already been admitted to a third-cycle programme may be appointed to a doctoral studentship. The term of the initial contract may not exceed one year. The employment may be extended for a maximum of two years at a time. However, the total period of employment may not exceed the equivalent of four years of full-time study. Doctoral students should primarily devote themselves to their own education, but may engage in teaching, research, and administration corresponding to a maximum of 20 % of a full-time position. Please note that admission decisions cannot be appealed. Stockholm University strives to be a workplace free from discrimination and with equal opportunities for all.

Contact
For more information, please Ass. Prof. Dr. Birgit Wild, birgit.wild@aces.su.se.

Union representatives
Ingrid Lander (Saco-S), telephone: +46 708 16 26 64, saco@saco.su.se, Alejandra Pizarro Carrasco (Fackförbundet ST/Lärarförbundet), telephone: +46 8 16 34 89, alejandra@st.su.se, seko@seko.su.se (SEKO), and PhD student representative, doktorandombud@sus.su.se.

Application
Apply for the PhD student position at Stockholm University's recruitment system. It is the responsibility of the applicant to ensure that the application is complete in accordance with the instructions in the job advertisement, and that it is submitted before the deadline.

Please include the following information with your application

- Your contact details and personal data
- Your highest degree
- Your language skills
- Contact details for 2–3 references

and, in addition, please include the following documents

- Cover letter motivating your interest for this position
- CV – degrees and other completed courses, work experience, and a list of degree projects/theses
- Degree certificates and grades confirming that you meet the general and specific entry requirements (no more than 6 files)
- Optional letters of recommendation (no more than 6 files)
- Degree projects/theses (no more than 6 files).

The instructions for applicants are available at: How to apply for a position.

You are welcome to apply!

URL to the recruitment system and application for this position:

https://www.su.se/english/about-the-university/work-at-su/available-jobs/phd-student-positions-1.507588?rmpage=job&rmjob=17485&rmlang=UK