PhD in forest ecology and C dynamics

Pyrogenic carbon as a missing sink in the global carbon cycle: calibrating the sediment records to historical fire regimes

The project

The project will contribute assessments of the pools of PyC in the boreal systems and calibrating its transportation pathways. We will achieve this by relying on data on historic and modern fires, reconstructed with high temporal and spatial resolutions across Nordic boreal forests. Our overarching hypothesis is that pyrogenic C (PyC) presents a tangible sink of fire affected C. Such sink can potentially contribute towards a negative feedback mechanism linking an increase in climatologically-forced fire activity with larger C deposition in difficult-to-mobilize forms. In testing this hypothesis, we plan to improve methodology for reconstruction of fire activity from lacustrine sediments and test the hypothesis that landscape-specific calibration of lacustrine fire proxies improves the quality of sediment-based fire reconstructions.

The candidate

We look for a highly motivated PhD student with interest in C dynamics, boreal forest ecology and paleo-dendrochronological methods. The student should be able to demonstrate a record of academic achievements and, preferably, have their Master project published in (alternatively – submitted to) a peer-reviewed journal. The candidate should have strong R programming skills, good knowledge of C biogeochemistry and general forest ecology. Successful candidate should be comfortable with operating in multi-tasking mode and managing complex logistics. A valid driver's license, physical fitness, and excellent command of English are all essential requirements. Knowledge of Swedish and/or French is an advantage. We pay particular attention to personal qualities of the applicants, specifically – their ability to meet deadlines, strong work ethic, and ability to work independently.

The work environment

The position is affiliated with the Southern Swedish Forest Research Centre (SSFRC), Swedish University of Agricultural Sciences (SLU). The project is a consortium that includes Lund University, University of Umeå, and University of Montpellier. The successful applicant will join a dynamic research group at SSFRC, working with diverse topics focused on fire science and dendrochronology (www.dendrochronolgy.se).

Employment

Employment: 100% over four years + standard fringe benefits. Start of employment – preferably March 2025. We will work closely with successful candidate to provide full-fledged support for working visa application to the Swedish Migration Board (MV), if the candidate needs such a visa. We will be ready to accommodate delays related with processing of their application at MV.

Contact

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Application

In order to be eligible for education at postgraduate level, a degree at advanced level or at least four years of full-time studies, of which at least one year at advanced level, is required. Selection among the eligible applicants is based on CV, Master thesis, cover letter and an interview (for shortlisted candidates).

In the cover letter, please reflect about how your background make you fit to the current project. Feel free to reflect on any other topic you may find relevant in this context.

Please provide contact information for two colleagues who can serve as references.

The applicant(s) who are called to an interview must submit certified copies of diplomas, or equivalent, and register extracts from previous studies at undergraduate and advanced level at a university or college, and that applicants with foreign citizenship must also submit an authenticated copy of the page in the passport that contains the photo and personal information. More information about requirements for English skills can be found on the following page: https://www.slu.se/utbildning/program-kurser/forskarutbildning/att-bli-doktorand/

Union contact persons

https://internt.slu.se/min-anstallning/facket/kontaktpersons/

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