

# PhD position: Below and aboveground interactions affecting tree susceptibility to bark beetle attack

A PhD position is available at the Department of Ecology, Swedish University of Agricultural Sciences. The department provides a dynamic and international research environment comprising experts who combine research in basic ecology with research in nature conservation, wildlife management, forestry and crop protection. We have modern and well-equipped laboratories and growth facilities. The position is placed in the Forest Entomology unit, focused on anthropogenic effects on forest insects and sustainable forestry.

Read more about our benefits and what it is like to work at SLU at <https://www.slu.se/en/about-slu/work-at-slu/>

## Postgraduate study subject: Biology

### Description:

The PhD position is available at the department to investigate the mechanisms behind tree drought responses and insect resistance. Spruce trees form symbiotic associations with ectomycorrhizal fungi that may be critically important at times of water stress as mycorrhiza improve the ability of their tree hosts to resist, tolerate, and recover from drought. The aim of this PhD position is to investigate the relationship between soil moisture conditions, mycorrhizal colonisation and community composition, and spruce resistance against European spruce bark beetle attack. The project will use a simulated drought event, combining field studies, laboratory experiments and molecular techniques. The project will strive to contribute to development of existing ecological theory and advance our understanding of ecological interactions, and we aim to produce knowledge that can be used in decision-making.

As PhD student you will have good opportunities to develop international networks as well as contacts with stakeholders. We offer a vibrant research environment at the Department of Ecology with a well-structured PhD education. If you find the project interesting, do not hesitate to apply. Please elaborate on your motivation for applying in your application letter.

### Qualifications:

PhD-education aims to develop creative and analytical thinking, as well as strong communication skills in the context of research. Candidates should have a Master's degree in biology, ecology or forestry, with relevant focus based on the project to be undertaken (for example specialization in community or insect ecology forest/plant ecology, tree physiology, tree - microbe interactions). Experience in design, execution and analysis of field-based experiments, preferably involving ecological interactions, is desired. Knowledge of statistical methods and their application is an extra merit. Familiarity with molecular ecology and bio-informatics is considered advantageous. Proven excellence in written and spoken English is essential (either proof from Swedish gymnasium or TOEFL, IELTS or Cambridge ESOL). Creativity, motivation and drive are important personal characteristics. The fieldwork requires a driver's license. Within this project the candidate will work and participate in an active research environment, and should be capable and willing to take initiative and work independently as well as in a group.

### Place of work:

Uppsala.

### Forms for funding or employment:

Employment (4 years).

### Starting date:

According agreement, Summer 2023.

### Application:

Click the "Apply" button to submit your application. The deadline is 2023-05-24.

To qualify for third-cycle (Doctoral) courses and study programmes, you must have a second-cycle (Master's) qualification. Alternatively, you must have conducted a minimum of four years of full-time study, of which a minimum of one year at second-cycle level.

Applicants will be selected based on their written application and CV, degree project, copies of their degree certificate and transcript of records from previous first and second-cycle studies at a university or higher education institution, two personal references, and

knowledge of English. More information about the English language requirements can be found here:

[www.slu.se/en/education/programmes-courses/doctoral-studies/new-doctoral-students/english-language-requirements/](http://www.slu.se/en/education/programmes-courses/doctoral-studies/new-doctoral-students/english-language-requirements/)

Please note that applicants invited to interview must submit attested copies of their degree certificate, a transcript of records from previous first and second-cycle studies at a university or higher education institution. Applicants who are not Swedish citizens need to submit an attested copy of their passport's information page containing their photograph and personal details.

Read about the PhD education at SLU at [www.slu.se/en/education/programmes-courses/doctoral-studies/](http://www.slu.se/en/education/programmes-courses/doctoral-studies/)

### **Academic union representatives:**

<https://internt.slu.se/en/my-employment/employee-associations/kontaktpersoner-vid-rekrytering/>

**The Swedish University of Agricultural Sciences (SLU)** has a key role in the development for sustainable life, based on science and education. Through our focus on the interaction between humans, animals and ecosystems and the responsible use of natural resources, we contribute to sustainable societal development and good living conditions on our planet. Our main campuses are located in Alnarp, Umeå and Uppsala, however, the university also operates at research stations, experimental forests and teaching sites throughout Sweden. SLU has around 3,000 employees, 5,000 students and doctoral students and a turnover of over SEK 3 billion. We are investing in attractive environments on all of our campuses. We strive to provide a work environment characterised by inclusivity and gender equality, where different experiences generate conversations between people and pave the way for science, creativity and development. Therefore, we welcome applications from people with diverse backgrounds and perspectives.

### **Kontaktperson:**

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