

Postdoctoral position in Chemical Ecology
Reference number SLU.ua.2025.2.5.1-1118
Department of Plant Protection Biology

Postdoctoral Position on Consequences of Microbial Induced Resistance on Trophic Plant-Microbe-Insect Interactions

We seek a motivated postdoctoral researcher for a new project on trophic interactions in systems of microbial induced plant resistance. The postdoc will be part of a collaborative research project entitled ‘Mechanisms and consequences of microbial induced resistance on trophic interactions and biocontrol efficacy’ funded by the Novo Nordisk Foundation. Beneficial microorganisms can be used to colonize the rhizosphere of plants and modulate plant defence mechanisms against insect pests. The project aims to quantify the short- and long-term effects of microbial induced resistance (MIR) on aphid populations feeding for multiple generations on sweet pepper plants inoculated with root-colonizing fungi. The project will moreover investigate how aphid endosymbionts influence aphids in relation to MIR and natural enemies.

About the position: The project will bridge plant-microbe-insect interactions with chemical ecology in a trophic network approach, thereby contributing to our understanding of the full potential of beneficial microbes in plant production. Specifically, the project will investigate the interactive effect of MIR and aphid endosymbiont communities on the emission of volatile organic compounds (VOCs) of plants. Analyses of VOCs will be aligned with behavioural assays using aphidophagous hoverflies to evaluate how MIR affects plant-insect communication at higher trophic levels.

The main duties of the postdoc will be to carry out an independent research project under supervision. Specifically, the postdoc must develop and conduct behavioural experiments with hoverflies and chemical analyses of VOCs. Other duties include cultivation of plants, insects and microorganisms, writing scientific manuscripts, presenting project outcomes, and to supervise students at basic and advanced level.

The research project will be coordinated by Paul Becher at the Swedish University of Agricultural Sciences, Department of Plant Protection Biology, Alnarp, Sweden in partnership with Dr. Nicolai V. Meyling at Copenhagen University, Denmark. The postdoc will collaborate with a PhD student at Copenhagen University, where parts of the project will be carried out. The distance between Alnarp campus and the institute at Copenhagen is about 1.5 h travel by public transport.

Your profile: As a person you are enthusiastic and responsible, and have excellent collaborative skills. In addition, you should meet the following requirements:

- Hold a PhD degree in biology, ecology, analytical chemistry or equivalent
- Educational and professional qualifications relating to the scientific area of the position
- Experience with independent planning, execution and evaluation of experiments, including statistical analysis
- Familiarity with theory and techniques of chemical ecology, chemical analyses, entomology, microbiology, plant science, biological control is meriting

- Interest in contributing to an international research environment and interdisciplinary research
- Curious mind-set and an interest in experimental biological systems
- A proven record of English speaking, reading and writing skills

As postdoctoral appointments are career-developing positions for junior researchers, we are primarily looking for candidates with a doctoral degree that is three years old at most.

About us: At the Department of Plant Protection Biology we conduct interdisciplinary research, encompassing Chemical Ecology, Resistance Biology and Integrated Plant Protection research, providing excellent opportunities for strong research collaboration within and outside the departmental area. Research efforts at the department are directed towards both fundamental and applied research. Applied plant protection research is carried out in collaboration with industry and focuses primarily on the development of environmentally sustainable pest and disease control strategies for agriculture and horticulture, both in Sweden and internationally.

For more information about the department: [Department of Plant Protection Biology | Externwebben \(slu.se\)](#)

Read more about our benefits and working at SLU by visiting: <https://www.slu.se/en/about-slu/work-at-slu/>

Location: This position is based in the Chemical Ecology unit at the Department of Plant Protection Biology at SLU Alnarp, one of SLU's main campuses.

Form of employment: Temporary employment 24 months, with the possibility of extension.

Scope: 100%

Start date: As agreed. Preferably September 2025.

Application: Please submit your application before deadline 4 May 2025. You need to submit your application by clicking the "Apply" button on the website:

<https://www.slu.se/en/about-slu/work-at-slu/jobs-vacancies/?rmpage=job&rmjob=12598&rmlang=UK>

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.

Contact person

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