

PhD position – In developing a delivery method for mosquito control agents

The [Department of Plant Protection](#) is an interdisciplinary constellation with good opportunities for strong research collaboration within and outside the departmental area. World-leading research conducted in chemical ecology/sensory biology, as well as successful research in resistance biology and integrated plant protection, has resulted in a dynamic working environment and a strong international reputation in both fundamental and applied research.

At the Department, the chemical ecology of disease vectors group intensively investigates vector mosquitoes. Female mosquitoes are major vectors of human disease and the most dangerous are those that preferentially bite humans. The final acceptance of a host and the taking of a blood meal by mosquitoes is mainly mediated by taste. Understanding how specific salient taste compounds from the blood host and pathogens, together with their cognate receptors, contribute to this behaviour is challenging, controversial and of significant practical importance for controlling these rapidly evolving vectors.

Duties:

The research aims to describe the mechanism underlying the tastant-mediated drive to imbibe a diet, and the contribution of individual taste neurons and the cognate receptors tuned to these behaviorally active salient human and pathogen tastants, in the malaria mosquito *Anopheles coluzzi* and the dengue mosquito, *Aedes aegypti*. The PhD student will analyse the behavioural and neural response of mosquitoes to these tastants, and will strive to identify and functionally characterise the taste receptors tuned to these compounds. The overall aim of this study is to develop a delivery method for

mosquito control agents that makes use of our ability to induce mosquitoes to gorge on meals contaminated with vector control-related substances. This project is fully funded.

Qualifications:

The successful candidate will hold a MSc in biology, or a related field. Experience with at least one of the following techniques is a requirement: (1) behavioural analysis of insects, (2) single sensillum electrophysiology, (3) transcriptomic analysis, and/or (4) functional analysis of receptors in a cell culture-based system. In addition, experience with chemical ecology and mosquito research is a significant asset. S/he should be fluent in spoken and written English (for a details [click here](#)), and have excellent communication skills. The candidate should enjoy working in a group environment, as well as demonstrate a solid ability to work independently to advance our research.

Place of work:	Alnarp, Sweden
Employment:	PhD position (4 years)
Project support:	Fully funded
Extent:	100%, Full time
Starting date:	1 Sept 2018

Please **submit your application**, marked with reference number SLU ua 2017.2.5.1-4703, to registrator@slu.se no later than 1 March 2018.

Specific documents to be attached include: (1) [PhD application form](#) (2) CV, (3) a description of research experience, (4) a statement of scientific interests, (5) contact information of two references, as well as (6) proof of English proficiency.

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