AARHUS UNIVERSITY
DEPARTMENT OF AGROECOLOGY

Open position: PhD researcher (3 years)
Untapping belowground plant interactions for optimal plant defence in crops.

Research area and project description:
Plant synthesized phytochemicals are a rich source of metabolites affecting above and belowground interactions. An increasing body of literature demonstrates tremendous benefits of regenerative farming approaches where nutrient balance, pest control, pollination and overall insect biodiversity are optimized based on the plant combination in intercropping approaches. To understand the full potential of intercropping, phytochemical interactions in the rhizosphere (benzoxazinoids, flavonoids, phytohormones) may provide a novel tool in sustainable pest control. This project tackles the agricultural transition by its "roots" with the goal to dissect, understand and utilize phytochemical interactions in the rhizosphere of intercropping approaches for optimal crop production and pest control.

Requirements:
The ideal PhD candidate is motivated about unravelling the chemical ecology of ecological interactions in agricultural ecosystems. Interest in conducting field, common-garden and greenhouse studies and first experience in metabolomics via LC-MS and GC-MS to analyse phytochemical pattern is desired. Applicants should hold a Master's degree (or equivalent qualification) in agroecology, chemical ecology, biology, entomology, environmental science, or a related field.
For detailed information contact Tenure Track Assistant Prof. Benjamin Fuchs, bf@agro.au.dk

Framework
This PhD position is part of the project, "One Crop Health for Next-Generation Crop Protection", integrating latest advances in agricultural technology, ecology, data science, and robotics. The Novo Nordisk Foundation has from 2024-2030 funded a consortium of the University of Copenhagen (Plant & Environmental Sciences, Computer Science) and Aarhus University (Agroecology) in Denmark, and Rothamsted Research and University of Sheffield in the UK to explore innovative ways to reduce reliance on pesticides in cropping systems.
The project includes 12 PhD projects distributed across the five partner institutions.

Place of employment and place of work:
The place of employment is Aarhus University, and the place of work is Forsøgsvej 1, DK-4200 Slagelse, Denmark

How to apply: Please follow this link for more details on the application:
https://phd.tech.au.dk/for-applicants/apply-here/saeropslag/untapping-belowground-plant-interactions-for-optimal-plant-defence-in-crops
Application deadline is 1 May 2025 at 23:59 CEST.
Preferred starting date is 1 September 2025.

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