



Agroscope Job Advertisement

Position

PhD student researching the chemical ecology of plant-plant interactions

Introduction

Our research group is interested in weed control for sustainable agriculture. Reducing herbicide use is an important social and environmental aim, given the increasing concern about the development of herbicide-resistant weeds and the ecological consequences of herbicide application. Several cover crops are known to successfully suppress weeds, providing an appropriate solution for this problem.

To date, the rhizosphere interactions of two neighbouring plants have received little attention in the scientific community. In previous experiments, we were able to demonstrate that below-ground interactions between the cover crops *Fagopyrum esculentum* (buckwheat) and *Avena strigosa* (black oat) lead to growth suppression of *Amaranthus retroflexus* (redroot pigweed), presumably induced by specific cover-crop root exudates. Our research is conducted as a multidisciplinary collaboration funded by the Swiss and Austrian National Science Foundations (SNSF and FWF). Two PhD students are required to work on this project – one at Agroscope's Changins site, and one at BOKU (the University of Natural Resources and Life Sciences) Vienna and Tulln. The PhD student based at Agroscope-Changins will study phenotypic and transcriptomic changes induced by the direct interaction of roots. Data will be evaluated and interpreted in close collaboration with the team at BOKU Vienna and Tulln.

Tasks

- Conducting split-root experiments
- Developing and implementing Illumina-based sequencing
- Investigating the effect/role of selected root exudates in plant-plant interactions
- Working with the PhD student at BOKU and the genomic facility at UNIL Lausanne (LGTF)
- Authoring scientific publications and taking part in training courses, workshops and conferences

Requirements

- Degree in Biology, Plant Sciences, Ecology, Agronomy, or a related field
- Experience with lab work, plant growth, genomic analysis and quantitative studies
- Data processing (R language)
- Very good communication skills: workplace language is English, knowledge of two Swiss national languages an advantage
- Ability to work independently in an interdisciplinary environment, stress resilience, reliability

Information on the Employer

Agroscope is the Swiss federal centre of excellence for research in the agriculture and food sector. Its researchers carry out their work at a number of sites in Switzerland. Headquartered in Bern-Liebefeld, Agroscope is attached to the Swiss Federal Department of Economic Affairs, Education and Research EAER.

We offer varied work in a young and multidisciplinary research team, as well as thorough initial training. Agroscope and Lausanne University have excellent core facilities providing support in a wide array of research fields. The successful candidate will participate in the Lausanne University doctoral programme.

Place of Work

Agroscope-Changins, 1260 Nyon (Switzerland). / The doctoral programme includes a twice-yearly two-month stay at the University of Natural Resources and Life Sciences (BOKU), Vienna during its second and third years.

Salary Category

As per Swiss National Science Foundation guidelines

Employment Level

100%



Application

If this challenge appeals to you and you meet our requirements profile, we look forward to receiving your online application (human.resources@agroscope.admin.ch, Ref.nr. 40788). Online applications consist of a single PDF comprising an application letter, a CV, a reference letter, copies of MSc and BSc diplomas, and the email addresses of 2 referees.

For further information, please contact Dr. Judith Wirth, Head of the 'Herbology in Field Crops and Viticulture' Research Group, tel. +41 58 460 44 28, judith.wirth@agroscope.admin.ch (Do not send applications to this email address).

Start date: 1 March 2020. Duration of employment: 3 years.