



The **Netherlands Institute of Ecology** (NIOO) is a top research institute of the Royal Netherlands Academy of Arts and Sciences (KNAW). Mission of the NIOO is to carry out excellent fundamental and strategic research in ecology.

The department of **Microbial Ecology** offers a

PhD POSITION

Diversity and functions of the phyllosphere microbiome

Vacancy number PHD-ME-20-009

Project: Diversity and functions of the phyllosphere microbiome

Project description: The MATRIX (**M**icrobiome **A**ssisted **T**riticum **R**esilience **I**n **X**-dimensions) is a multidisciplinary research program between the Netherlands Institute of Ecology (NIOO), University of Copenhagen and North Carolina State University, which aims at developing a scalable, system-based strategy to harness the functional potential of plant microbiomes for improving crop resilience. In this project, we will study the microbiome of the wheat phyllosphere, more specifically, the microbial communities inhabiting the surface and the internal tissue of the wheat flag leaf. The overall goal of the PhD project is to characterize the phyllosphere microbiome composition and identify key microorganisms and mechanisms involved in protection against biotic and abiotic stresses. The obtained fundamental knowledge will contribute to the development of new microbiome-assisted approaches to quantitatively and predictably improve crop resilience management strategies.

Job description:

- Isolate and characterize epiphytic and endophytic microorganisms from the wheat leaves
- Screen isolate collections for improved plant tolerance to (a)biotic stresses
- Develop tools and markers to monitor leaf colonization
- Present your work at (inter)national meetings and publish scientific articles
- Supervise BSc and MSc students

Requirements:

- MSc degree in plant-microbe interactions, microbiology
- Hands-on experience in data mining and microbiome analyses, molecular microbiology, plant bioassays, mutational analyses of microbes
- Experience in bioinformatics (R and Python) and/or (bio)chemistry will be of added value
- Experience with fluorescence/confocal laser scanning/electron microscopes is a plus
- Willing to participate in exchange program/field trials abroad (USA, Denmark)
- Language skills: fluency in English writing and speaking required

Appointment: The PhD position will be hosted at the Department of Microbial Ecology of the Netherlands Institute of Ecology (NIOO-KNAW) and we will work closely together with the Microbial Ecology & Biotechnology group at Copenhagen University. We offer the research environment of a dynamic group with a strong international profile; state-of-the-art laboratory and greenhouse infrastructure; close national and international collaboration with other PhD students and researchers; and the possibility to further develop your scientific education with courses, training and conferences. The position is full-time (38 hours/week), initially for 1 year, after which a go/no-go decision will be taken on extension with another three years. The gross salary in the first year is € 2.325,00 per month rising to € 2.972,00 in the fourth year for a full-time appointment, according to scale P, Collective Agreement for Dutch Universities (CAO Nederlandse Universiteiten), excluding 8% holiday pay and a year-end bonus.

Starting date: September 2020

Principal supervisors: Prof. Jos M. Raaijmakers (NIOO-KNAW, Leiden University); Dr. Viviane Cordovez (NIOO-KNAW); Prof. Lars Hestbjerg-Hansen (Copenhagen University)

Applications: NIOO-KNAW wishes our staff to reflect the diversity of society and thus welcomes applications from all qualified candidates regardless of personal background. Please send your application, in English, including complete curriculum vitae and names and contact details of three professional referees to vacature@nioo.knaw.nl, and mention "ME-20-009" in the subject header.

Closing date for applications: Monday 6 July 2020. Applications received later than this date will not be considered.

Information: Specific information about the PhD position can be obtained from Prof. Jos M. Raaijmakers; j.raaijmakers@nioo.knaw.nl; +31 317-473497.