

Postdoc in Decoding Biological Nitrification Inhibition (BNI) in Cereals: Integrating Metabolomics and Host-associated microbiomes

The Department of Agroecology at Aarhus University, Denmark, invites applications for a three-year postdoctoral position in biological nitrification inhibition (BNI), starting 01-08-2026 or as soon as possible thereafter.

You will be part of a research environment focusing on sustainable crop production, nitrogen use efficiency and plant–soil–microbiome interactions. You will be contributing to the area of biological nitrification inhibition (BNI), and the focus of your position will be to integrate metabolomics, microbiome characterization, and field experiments to identify and validate BNI traits in cereal crops. You will work experimentally with already established field experiments, with key activities including plant cultivation, soil sampling, fertilization trials, and root/rhizosphere sampling, combined with laboratory-based metabolomics, microbiome analyses and quantitative PCR.

We expect that you will report research results in high-impact scientific journals. We also expect that you will be an important part of the research environment, including teaching activities, and contribute positively to the social working environment.

Your profile

We are searching for a highly motivated candidate who has

- A PhD in plant science, agroecology, microbiology, environmental sciences, molecular/chemical ecology, or similar
- Collaborative skills and ability to demonstrate commitment in teams
- An ability to take initiative, develop, and manage research activities
- Proficient quantitative skills with data analysis and programming e.g. in R and python
- Documented experience in scientific writing and publication in peer-reviewed scientific journals
- Research experience in some of the areas of plant–soil interactions, rhizosphere ecology, metabolomics, microbial ecology, nitrogen cycling, or crop physiology

Additional qualifications

Further, we will prefer candidates with some of the following qualifications:

- Teaching and supervision experience at the BSc and MSc level
- Interest and experience in developing competitive national and international research applications
- Experience in planning and conducting laboratory work within metabolomics, molecular biology and microbial ecology
- Experience in planning and conducting fieldwork
- Insight into BNI compounds, soil nitrogen cycling, nitrification and nitrogen use efficiency
- Experience with metabolomics (targeted and untargeted), high-resolution mass spectrometry data analysis, amplicon sequencing/metagenomics including the analysis of sequencing data

Who we are

At the Department of Agroecology, our main goal is to contribute to sustainable solutions to some of the world's biggest problems within the areas of soil, plants, animals, humans, and the environment. We want to make a difference by contributing to both fundamental knowledge generation and the attainment of sustainable production systems via innovative research, contracted policy advice, and education. We offer professional laboratories, greenhouses, semi-field, and field-scale research facilities, advanced computing capacities as well as an extensive national and international researcher network. The department consists of nine research sections with around 350 highly skilled employees, of which approximately 50% are scientific

Application Deadline:
20 April 2026

Institute/Faculty:
Department of
Agroecology

Faculty:
Faculty of Technical
Sciences

**Academic contact
person:**
Jawameer Hama
Tenure Track adjunkt
jawameer@agro.au.dk

Vacant positions:
1

Number of months:
36

Hours per week:
37

**Expected date of
accession:**
01/08/2026

staff. More information can be found [here](#).

We believe in encouraging inclusion, acceptance, and understanding by employing staff who bring unique perspectives to our department.

What we offer

- A collaborative, international research environment that combines high academic standards with an informal and supportive atmosphere. We value accountability, curiosity, flexibility, and teamwork in everything we do.
- An inclusive and respectful workplace culture, where mutual trust, kindness, and professional dialogue are part of daily life. We encourage open communication and develop a cohesive sense of community across teams and disciplines.
- A flexible working environment that supports work-life balance and individual needs.
- An active institutional commitment to diversity, equity, and inclusion – in recruitment, career development, and everyday interactions.
- An innovative and meaningful workplace where your work contributes to solving real-world challenges. No two days are alike, and we welcome creative thinking and new ideas.
- Support for international researchers and their families, including [Relocation Service](#) and an [Expat Partner Programme](#)

Living and working in Denmark

- Subsidized childcare and free education from primary school through university.
- Universal healthcare for you and your family as residents.
- Five weeks of paid holiday per year.
- Generous parental leave – up to 52 weeks shared between parents, with full or partial salary.

Place of Work

The place of work is Aarhus University, Department of Agroecology, Research Center Flakkebjerg, 4200 Slagelse. The affiliation will be with the Department of Agroecology. More information can be obtained from Head of CROP HEALTH section René Gislum, rg@agro.au.dk: and Tenure Track Assistant Professor Jawameer Hama, jawameer@agro.au.dk (project manager)

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline. Unfortunately, it is not possible to ensure that letters of reference received after the application deadline will be taken into consideration.

If you wish to add a referee **after** you have submitted your application, you must send this person's details (name, job title, place of work, and email address) as well as the name of the position you have applied for to: HR.Nattech@au.dk

Formalities and salary range

Technical Sciences refers to the [Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation](#).

The application must be in English and include a curriculum vitae, degree certificate, a

complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found [here](#).

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Taxation and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the [Memorandum on Job Structure for Academic Staff at Danish Universities](#).

Salary depends on seniority as agreed between the Danish Ministry of Taxation and the Confederation of Professional Associations.

Aarhus University's ambition is to be an attractive and inspiring workplace for all and to foster a culture in which each individual has opportunities to thrive, achieve and develop. We view equality and diversity as assets, and we welcome all applicants.

Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more [here](#). Please find more information about entering and working in Denmark [here](#).

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it [here](#).

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 37,000 students (FTEs) and 8.700 employees and has an annual revenue of EUR 1.106 billion. Learn more at www.international.au.dk/