Jobbnorge ID: 290760
Deadline: 1/7/2026
Website: http://www.ntnu.no
Scope: Fulltime
Duration: Fixed Term

The Department of Biology has a vacancy for a

PhD Candidate in Plant Evolutionary Ecology: plant-parasite interactions under climate warming

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process here.

Video: https://youtu.be/Xt-yHCN5QS0

About the position

A PhD position, fully funded for three years, is available at the Department of Biology of the Norwegian University of Science and Technology (NTNU), Trondheim.

The Vandegehuchte lab is part of the Biodiversity, Ecology, and Evolution (BEE) section. The BEE section investigates ecological and evolutionary patterns and processes underpinning biodiversity, scaling from genes to communities and ecosystems, and how these are affected by environmental change. The BEE section is a collaborative, vibrant, and growing research community including 12 Associate Professors and Professors, 23 PhD candidates, researchers, and postdocs, and 4 engineers. As a PhD Candidate with us, you will work toward your doctorate, while gaining valuable experience that qualifies you for a further career in higher education and research, both in- and outside of academia.

The PhD supervisor will be Associate Professor Martijn L. Vandegehuchte.

About the project

The position is associated with StrawberryWalls, an interdisciplinary project funded by the Research Council of Norway, involving research groups at NTNU in plant ecology (Associate Professor Martijn L. Vandegehuchte), plant molecular biology (Professor Thorsten Hamann) and physics (Professor Bjørn Stokke) and at the University of Tromsø in plant physiology (Professor Kirsten Krause).

The project will investigate how woodland strawberry (Fragaria vesca) and its infection by field dodder (Cuscuta campestris) and northern root-knot nematodes (Meloidogyne hapla) are affected by temperature changes. Both the parasitic plant and the nematode are spreading northward and causing severe damage to crops. The PhD candidate will perform full-factorial common garden experiments to test how plant performance is determined by plant genotype, the environment (above- and belowground parasite and warming in different combinations and sequences), and their interaction. Plant performance will be assessed by measuring life history traits and fitness and using hyperspectral imaging of both roots and shoots. The performance of both parasites will also be quantified. Collaborators on the project will use Brillouin microscopy for in vivo study of changes in the mechanical properties of plant cell walls, which have been implied in responses to the two parasites. We will also use the model species thale cress (Arabidopsis thaliana) as a resource to help identify the molecular mechanisms and genes underlying responses to altered temperatures and parasite (co-)infection. We will then identify homologs of candidate genes in the fully sequenced F. vesca genome and use CRISPR-CAS to test their function in similar experiments with different combinations of altered temperature and added parasites.

The main work of the PhD candidate entails quantitative genetics experiments testing for G×E. The interdisciplinary nature of the project provides a unique opportunity to obtain additional training in cutting-edge imaging techniques and molecular methods to deepen the understanding of the mechanisms and genes at play.

Duties of the position

- Complete the doctoral education (30 ECTS credits)
- Carry out high-quality research within the framework described above

- Publish in peer-reviewed international journals
- Participate in the research group Biodiversity, Ecology, and Evolution (BEE)
- Participate in international activities such as conferences and/or research stays at foreign educational institutions
- Write and defend a PhD thesis

Required selection criteria

- You must have a relevant master's degree in Biology or equivalent. Your course of study must correspond to a five-year Norwegian course, where 120 credits have been obtained at master's level. Master students can apply, but the master's degree must be obtained and documented before starting the position.
- You must have a strong academic background from your previous studies and have an average grade from your master's degree study, or equivalent education, which is equal to B or better compared to NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic foundation. If you have a weaker grade background, you may be considered if you can document that you are particularly suitable for a PhD education.
- Experience with research in ecology, evolutionary biology, and/or phenotyping.
- You must meet the requirements for admission to the faculty's Doctoral Program
- Proficiency in written and spoken English

The appointment is to be made in accordance with NTNUs guidelines for recruitment positions and Regulations for the degrees philosophiae doctor (ph.d.) and philosophiae doctor (ph.d.) in artistic development work at the Norwegian University of Science and Technology (NTNU)for general criteria for the position.

Preferred selection criteria

- Experience with field, greenhouse and/or laboratory work on plants
- Experience in quantitative genetics methods and study designs
- Experience with the study of plant-plant or plant-invertebrate interactions
- Experience in nematology or nematological methods
- Strong quantitative skills (e.g., generalized linear mixed models, permutational methods, Bayesian analyses, machine learning algorithms, structural equation modeling).
- A good practical knowledge of R

Personal characteristics

To complete a doctoral degree (PhD), it is important that you are able to:

- Work independently
- Work in a structured way, set goals and make plans to achieve them
- Work constructively under pressure or in the face of adversity
- Show curiosity and a strong motivation for the subject
- Be flexible and open to adjusting the plan for the project as needed

Emphasis will be placed on personal qualities.

We offer

- An exciting job with an important mission in society
- Career guidance and follow-up during the PhD period
- An open and inclusive working environment with committed colleagues
- Working capital that can be used to implement the project
- A mentor program for new employees at NTNU
- Favorable terms as a member of the Norwegian Public Service Pension Fund (SPK)
- Free Norwegian language training at a basic level (A2)

As a PhD Candidate at NTNU, you will have access to employee benefits.

Diversity

Diversity is a strength, and at NTNU we aim to be an employer that reflects the diversity in society and that makes use of the potential of the population's collective skills. Our vision is Knowledge for a better world and our values are creative, critical, constructive and respectful. We believe that an organization that is equal, diverse and gender-balanced is essential for us to achieve our goals.

We strive to attract employees with different skills, life experiences and perspectives to contribute to even better problem solving of our societal mission in research and education.

If you think this position is relevant and interesting, we encourage you to apply, regardless of gender, functional ability and cultural background, or whether you have been out of work for a period of time.

At NTNU we want to increase the proportion of women in scientific positions. We have a number of measures to promote equality.

Salary and conditions

In the position of PhD Candidate, code 1017, your gross salary will normally be NOK 550 800,- per annum. A 2% statutory contribution to the State Pension Fund is deducted from the salary.

The employment period is 3 years.

Tentative starting date: April 2026.

For employment as a PhD Candidate, it is a prerequisite that you gain admission to the PhD programme in Biology - NTNU within three months of your employment contract start date, and that you participate in an organized doctoral programme through out the period of employment.

As an employee at NTNU, it is important that you keep yourself up to date with academic and organizational changes and adapt to them.

For the necessary professional and social interaction, it is a prerequisite that you are physically present and available to the institution on a daily basis.

The appointment is carried out in accordance with the principles of the State Employees Act, and Export control (legislation that regulates the export of knowledge, technology and services). Candidates who, after assessment of the application and attachments, are considered to bein conflict with the criteria in the latter act, will not be able to be employed.

About the application

The attachments (including a description of your scientific work) must accompany the application as these documents form the basis of the application assessment. The documents must be in English.

Please note: the application will only be assessed on the basis of the information we have received by the application deadline. Therefore, make sure that your application clearly shows how your skills and experience meet the criteria described above. The application and all attachments must be sent electronically via Jobbnorge.no. If you are invited to an interview, you must bring certified copies of certificates and diplomas upon request.

The application must include:

- A cover letter outlining the applicant's research interests, experience, expertise, and motivation for applying for the position (maximum 400 words)
- A full CV
- Transcripts and diplomas for bachelor's and master's degrees
- Copy of the master's thesis. If you have recently submitted your master's thesis, you can attach a draft of the thesis. Documentation of a completed master's degree must be presented before taking up the position.
- A list of publications (if applicable) with a description of the applicant’s contribution to each publication.
- Names and contact information of three relevant referees

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education, both Bachelor's and Master's education, in addition to other higher education. If your institution uses “diploma supplement” (normal for most European institutions), you must attach this. A description of the documentation required can also be found here. If you already have a statement from Norwegian Directorate for Higher Education and Skills (HK-dir), please attach this as well.

Joint work will be considered. If it is difficult to identify your contribution to joint work, you must attach a brief description of your participation.

When assessing the best qualified, we emphasize necessary qualifications such as education, experience and personal suitability. Motivation for the position, ambitions, and potential for research will also count when assessing the candidates.

NTNU recognizes a wide range of academic contributions and has committed itself to The San Francisco Declaration on Research Assessment and CoARA (responsible assessment of research and recognition of a greater breadth of academic contributions in accordance with NTNU's social mission).

General information

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you wish to be exempt from entry on the public applicant list, this must be justified. Assessment will be made in accordance with current legislation. You will be notified if the exemption is not granted.

If you think this position looks interesting and in line with your qualifications, you are welcome to apply.

If you have any questions about the position, please contact Associate Professor Martijn L. Vandegehuchte, e-mail: martijn.l.vandegehuchte@ntnu.no.

If you have any questions about the recruitment process, please contact Maja C. Haaker, e-mail: maja.haaker@ntnu.no.

Application deadline: 07.01.2026

For practical information about working at NTNU, please visit this webpage.

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the tech capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

NTNU - knowledge for a better world

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Biology

We work with global challenges in natural diversity, climate, the environment, health and nutrition. Our expertise in biological processes at all levels - from molecules to ecosystems - contributes to a sustainable society. The Department educate graduates for a wide range of careers in public administration, business and academia. The Department of Biology is one of eight departments in the Faculty of Natural Sciences.

Additional information

Contact person:

Martijn L. Vandegehuchte, Associate Professor
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Place of service:

Campus Gløshaugen 7491 Trondheim (Trondheim Municipality)