Norwegian University of Life Sciences

Jobbnorge ID: 204551
Deadline: 5/15/2021
Website: http://www.nmbu.no
Scope: Fulltime
Duration: Fixed Term

Some plant pathogenic fungi can avoid being damaged by optical radiation treatments. If you are interested in the genetic basis of these mechanisms, you should apply.

PhD scholarship within fungal molecular biology

About the position

The Department of Plant Sciences, Faculty of Biosciences at the Norwegian University of Life Sciences (NMBU) has a vacant three years PhD position related to “Genetic basis of optical tolerance mechanisms in gray mold (Botrytis cinerea)”.

Use of an optical radiation-based strategy in management of diseases and pests in protected crop production systems has been investigated in a number of Research Council of Norway (RCN) funded projects.

Extending the application of optical radiation against gray mold showed that Botrytis species can tolerate higher doses of ultraviolet.

While UV in combination with red light showed great potential against powdery mildew, similar effect was not reflected with gray mold. Presence of melanin pigments, variation of its amount and composition in different tissues of Botrytis, compared with non-pigmented powdery mildews, may be the reason for this effect.

The selected candidate will work in our research group to study the relative contribution of melanins and photolyase in optical tolerance of Botrytis cinerea.

Main tasks

The aim of the PhD project is to better understand the optical tolerance mechanisms of the gray mold pathogen. This will be used to optimize the optical radiation strategies for better control of the disease in horticultural crops grown in greenhouses.

Main tasks:

- Develop single and double mutants for major genes involved in melanin biosynthesis, and photolyase mediated damage repair.
- Conduct experiments in controlled environments to test the relative contributions of these genes in fungal tolerance to optical radiation.
- Contribute to ongoing experiments within this field of research in our research group.
- Analyze data, write 3-4 manuscripts which will be the basis for the PhD thesis.

Competence

The successful applicant must meet the conditions defined for admission to a PhD programme at NMBU. The applicant must have an academically relevant education corresponding to a five-year Norwegian degree programme, where 120 credits are at master's degree level. The applicant must have a documented strong academic background from previous studies and be able to document proficiency in both written and oral English. For more detailed information on the admission criteria please see the PhD Regulations and the relevant PhD programme description. The applicant must document expertise and interest in the research subject.

a) Primary qualification

- Completed MSc with 120 credits corresponding to Norwegian Master degree program within the area of fungal molecular biology
- Sufficient wet lab experience in molecular biology, preferably with experience in gene editing, e.g. CRISPR.
- Documented proficiency in English (written and spoken)

b) Additional qualifications

- Ability to design and execute experiments with statistical data analysis
- Experience with HPLC/GC-MS

Personal characteristics

- Be highly motivated for a PhD education within the field of this position
- Have a strong analytical capability, and an interest and talent for research and academic work
- Have good collaborative skills and ability to work independently

Remuneration and further information

The position is placed in government pay scale position code 1017 PhD. Fellow. PhD. Fellows are normally placed in pay grade 54 NOK 482.200,- on the Norwegian Government salary scale upon employment and follow ordinary meriting regulations.

Employment is conducted according to national guidelines for University and Technical College PhD scholars.

For further information, please contact Dr. Aruppillai Suthaparan, e-mail: aruppillai.suthaparan@nmbu.no; phone +47 67232803.

Information for PhD applicants and general information to applicants

Application

To apply online for this vacancy, please click on the 'Apply for this job' button above. This will route you to the University's Web Recruitment System, where you will need to register an account.

Application deadline: 15.05.2021

Applicants invited for an interview will be asked to present verified copies of diplomas and certificates.

Applications should include (electronically) a letter of intent, curriculum vitae, full publication list, copies of degree certificates and transcripts of academic records (all certified), and a list of two persons who may act as references (with phone numbers and e-mail addresses).

Publications should be included electronically within the application deadline. The relevant NMBU Department may require further documentation, e.g. proof of English proficiency.

Printed material which cannot be sent electronically should be sent by surface mail to the Norwegian University of Life Sciences, Faculty of Biosciences, P.O. Box 5003, NO-1432 Ås, within 15th of May 2021.

Please quote the reference number 21/02172.

About The Faculty of Biosciences

The Department of Plant Sciences study crop plants and plants in natural ecosystems, addressing major challenges in society related to sustainable plant production, agroecology, innovative production methods, and breeding of improved cultivars, as well as fundamental plant biology. Currently, disciplines within the department include Agroecology, Genetics and Plant Breeding, Plant Biology and Plant Biotechnology, and Plant Protection and Food Crops.

The main objective of the Faculty of Biosciences is to contribute to the development of sustainable agriculture and food production systems through basic and applied research on plants and animals including fish (aquaculture). The faculty houses Centre for Integrative Genetics (CIGENE), Imaging Centre, and Foods of Norway, a Centre for Research-based Innovation (SFI).

The faculty is responsible for bachelor- and master programmes in Biology, Animal Science and Plant Sciences, and international master programmes in Genome Science, Agroecology, Plant Sciences, Aquaculture, Animal Breeding and Genetics and Feed Manufacturing Technology.

PhD programmes include Animal Science and Aquaculture, and Plant Sciences. There are currently 480 bachelor and master students, and 90 PhD students, enrolled in these programmes. The faculty has approximately 220 permanent and temporary scientific employees, including technicians, and 18 administrative positions.

The Norwegian University of Life Sciences (NMBU)

NMBU has a particular responsibility for research and education that secures the basis for the life of future generations. Sustainability is rooted in everything we do and we deliver knowledge for life. NMBU has 1,800 employees of which about 250 phd scholarships and 6,000 students. The university is divided into seven faculties and has campuses in Ås and Oslo. We will be co-located in Ås from 2021.

NMBU believes that a good working environment is characterised by diversity.

We encourage qualified candidates to apply regardless of gender, functional ability, cultural background or whether you have been outside the labour market for a period. If necessary, workplace adaptations will be made for persons with disabilities. More information about NMBU is available at www.nmbu.no.

Additional information

Place of service:

Universitetstunet 3 1430 Ås (Ås Municipality)