

PhD position available

Institution: Department of Microbiology, Nicolaus Copernicus University in Toruń (Poland)

About you: Nicolaus Copernicus University is internationally acclaimed for academic and research excellence. We encourage applications from students with the ability, enthusiasm, curiosity, and commitment needed to pursue further education, irrespective of their background. There are five doctoral schools at Nicolaus Copernicus University (NCU) which offer a unique experience to graduate students from all over the world, including the opportunity to conduct research with leading academics in state-of-the-art laboratories. The modern study programmes at the doctoral schools at NCU equip PhD students with the highest qualifications in a chosen scientific field and skills essential in high-profile research.

Position title: PhD Student in Microbiology

The position:

Title of the project: *“Potential of S. europaea endophytes in decreasing colonization of plants by HPMOs”*

Supervisor: prof. dr hab. Katarzyna Hryniewicz (Faculty of Biology and Veterinary Sciences, Nicolaus Copernicus University, Poland)

Supervisor: apl. Prof. Dr. agr. habil. Christel Baum (Soil Science / Lab of Soil Biology, Faculty of Agriculture and Environmental Sciences, University of Rostock, Germany)

In this PhD project we will investigate a salt-accumulating halophyte, *Salicornia europaea* L., which is one of the most salt tolerant halophytes in the world. Phytochemical analyses of *Salicornia* organs revealed presence of numerous carbohydrates, proteins, phenolic compounds e.g. flavonoids, sterols, saponins, alkaloids and tanins. In our preliminary studies we have revealed that some endophytic strains isolated from *S. europaea* inhibit the development of selected Human Pathogenic Bacteria (HPMOs). In our project we plan to analyze whether an obligatory halophyte *S. europaea* synthesizes specific compounds with anti-HPMO properties and whether its unique microbiome limits the colonization of tissues by HPMOs.

Experience:

Following qualifications are required to execute the research tasks planned for PhD study:

- Experience in collecting environmental samples (soil and plant tissue) under field conditions. Process of sample collection is critical for the result of field experiment samples and it determines the validity of the study.
- Profound experience in molecular biology methods, including environmental DNA isolation, PCR, preparation and quantification of DNA libraries for MiSeq sequencing. Good laboratory skills are important for keeping high quality of obtained results.
- Bioinformatics skills are highly appreciated.
- Proficiency in carrying out statistical analyses (including e.g. ANOVA, ANOSIM, ordinations) and data interpretation. Computation skills will be required to manage large datasets including taxonomical data.

- Experience in writing for scientific publications and presentation of research to scientific audiences.

Candidate qualities:

- Interpersonal communication skills and good time management and organizational skills.
- Fluent in English written and spoken.
- Previous experience in microbiology appreciated.

Requirements for the candidate:

- Master degree in Biology, Biotechnology
- Motivation for scientific work
- Proficiency in spoken and written English

Extra info: Did you include supplementary information such as salary, company benefits, application instructions, and desired start date?

Project PhD@NCU: Potential of *S. europaea* endophytes in decreasing colonization of plants by HPMOs

Deadline for submitting offers: 31 May 2021, 00:00

Form of submitting offers: email: ster@umk.pl

The conditions of employment:

Stipend for 4 years in the amount of 4 266,00 PLN/month.

Scholarship: PhD student stipend is available from July 1st, 2021.

A candidate should submit:

- a) CV (research experience, publications, projects, presentations, scholarships, awards)
- b) cover letter
- c) list of published research papers and documented participation in research projects.
- d) opinion about candidate from master thesis supervisor.
- e) information about previous doctoral studies or education at a doctoral school.
- f) a copy of the master's diploma or completion of graduate studies (or equivalent).
- g) if English is not the mother tongue or higher education studies were not conducted in English, a document confirming the knowledge of English at B2 level.
- h) declaration of selection of the project (available for download at <https://www.ac.umk.pl/nawa-ster/list-of-documents/>).
- i) declaration of selection of the Doctoral School within which the project will be implemented, (available for download at <https://www.ac.umk.pl/nawa-ster/list-of-documents/>).
- j) a statement that the candidate does not possess a doctoral degree (available for download at <https://www.ac.umk.pl/nawa-ster/list-of-documents/>).

k) Statements of readiness to join the project and consent to the processing of personal data in connection with the implementation of the project (available for download at <https://www.ac.umk.pl/nawa-ster/list-of-documents/>).

Please, send the application to: ster@umk.pl

By submitting the application, a candidate agrees to the processing of her/his personal data in the recruitment process.

Additional information: Work in a young, dynamic and international team.