



Two PhD Positions in Environmental Microbiology and Soil Microbial Ecology

RESEARCH ACTION NETWORK FOR REDUCING REACTIVE NITROGEN LOSSES FROM AGRICULTURAL ECOSYSTEMS (ACTIONr)

Two PhD Positions in environmental microbiology and soil microbial ecology

University of Thessaly is offering two PhD positions, for 36 months, in environmental microbiology and soil microbial ecology with expected commencement in November 2022 or as soon as possible thereafter. The position is offered in the frame of the project ACTIONr, an H2020 project funded under the call HORIZON-WIDERA-2021-ACCESS-03-01 Call Twinning. It is a 3-year project starting at 1.11.2022 and involves the collaboration of University of Thessaly with Ecole Centrale de Lyon (Group G. Nicol & C. Hazard) and University of Vienna (Group C. Schleper and M. Kerou).

Brief Project Description

The overall theme of the research programme is to elucidate the interaction of nitrification inhibitors with microbial communities involved in soil nitrogen cycling. The mitigation of reactive N loss via nitrification inhibitors is a promising solution for increasing N use efficiency (NUE) in agriculture. ACTIONr aims to unravel the scientific excellence and innovation potential through a European network of excellence on establishing novel tools and pathways for optimized NUE, reducing the continued acceleration of the N cycle, and decreasing the environmental footprint of reactive N.

Principal supervisors: Prof. Dimitrios Karpouzas, dkarpouzas@uth.gr, +30-2410565294 & Assistant Prof. Evangelia Papadopoulou evapapadopoulou@uth.gr, +30-2410565232

Terms of employment

Recruitment and Terms of appointment will be done according to the national rules and regulations. The stipend of the fellow will be covered through a research fellowship up to 2000 € gross monthly (depending on qualifications of the fellow).

Application Procedure

The application, must be submitted by mail to dkarpouzas@uth.gr and evapapadopoulou@uth.gr and should include (a) Full CV including studies, research experience, work experience and publications if available (b) 2 professional referees (Name, address, telephone & email). The University of Thessaly wish our staff to reflect the diversity of society and thus welcomes applications from all qualified candidates regardless of age, gender, race, religion or ethnic background.

The deadline for applications for both positions is 15.9.2022. Applications received later than this date will not be considered.

Recruitment Process: The project manager will provide all applications to the recruitment committee which will select the best three candidates and ask them for interview. The applicants will be notified of the final selection and will be given 7 days to accept or decline.

POSITION 1

Job description

The position is available for 36 months. The main tasks of the successful candidate **for position 1** will be:

- To assess the efficiency of different synthetic and biological nitrification inhibitors on AOA and AOB soil isolates in liquid cultures studies
- To establish synthetic communities of nitrifiers and test the efficiency of different NIs on them in a more ecosystem relevant in vitro assay
- To determine the mode of action of specific synthetic and novel biological nitrification inhibitors at cellular level using transcriptomic and proteomic approaches,



Two PhD Positions in Environmental Microbiology and Soil Microbial Ecology

- To write scientific papers and present the research in scientific conferences,
- To participate and contribute to the dissemination, networking and training activities of the project

Criteria for the assessment of candidates

- First degree in Biological Sciences or other relevant biosciences
- MSc in Molecular Biology, Biotechnology and other relevant subject
- Strong background in environmental and molecular microbiology
- Previous experience in Nitrification or widely in N cycling research would be a merit

Place of Employment

University of Thessaly, Department of Environmental Sciences, Laboratory of Environmental Microbiology and Biotechnology, Larissa, GREECE, Website: <https://env.uth.gr> . **The successful candidate will spend 12 months of his/her PhD in University of Vienna.**

POSITION 2

Job description

The position is available for 36 months. The main tasks of the successful candidate **for position 2** will be:

- To determine the effects and activity range of synthetic and biological nitrification inhibitors in soil ecosystem using molecular biology approaches and SIP
- To determine the effects of nitrification inhibitors on GHG emissions in soil
- To identify the potential off-target effects of nitrification inhibitors on the overall soil microbial community using an array of omic approaches
- To develop novel and effective nitrification inhibition approaches to optimize NUE and minimum environmental footprint of the N cycling
- To write scientific papers and present the research in scientific conferences,
- To participate and contribute to the dissemination, networking and training activities of the project

Main requested qualifications

- First degree in Biological Sciences or other relevant biosciences
- MSc in Molecular Biology, Biotechnology, Ecology and other relevant subject
- Strong background in molecular microbial ecology and the use of bioinformatic and biostatistical tools
- Experience in chromatographic analysis of environmental contaminants will be a merit

Place of Employment

University of Thessaly, Department of Biochemistry and Biotechnology, Laboratory of Plant and Environmental Biotechnology, Larissa, GREECE, Website: <https://plantenvlab.bio.uth.gr>
The successful candidate will spend 12 months of his/her PhD in Ecole Centrale de Lyon

