

PROFILE

Environmental microbiologist with strong background in optimising methods utilising microbial engineering to increase efficiency in soil and water systems.

CURRENT POSTION

Research Fellow | Environmental Microbiology: Study of Pesticides in Agriculture and their effect on soil health and Microbial Function | Department of Biochemistry and Biotechnology | University of Thessaly

DIMITRA: A novel database built on curated peer-reviewed published data studying pesticide effects on soil microbial endpoints. It collectively identifies ecotoxicologically relevant, sensitive soil microbial endpoints to assess the potential toxicity of pesticides on soil microbiota. In collaboration with Syngenta, the aim of this project is to establish a pesticide database focused around the health of the soil microbial community. It will enable academic, industrial and public sectors access to information regarding the potency of specific pesticidal compounds on soil microbial endpoints.

WORK EXPERIENCE

Researcher | Environmental Microbiology: Optimisation of Constructed Wetlands for Remediation of Landfill Leachate University of East Anglia | October 2020 – October 2022

Optimise the processing of ammonium and nitrate compounds in landfill leachate waste water by optimising local microbial communities in constructed wetlands.

Research Fellow | Soil Microbiology: Presence of Pathogenic Fungi in the Environment | Department of Life Sciences | University of Nottingham | March 2021 – September 2022

Designing analytical methods to study a fungal lung pathogen in the environment and how different environmental conditions affects the prevalence of this pathogen, *Aspergillus fumigatus*.

Research Fellow | Soil Ecology: Mycorrhizal and Bacterial Interactions Between Soil and Plant Roots | Department of Forest Ecology and Management | Swedish University of Agricultural Sciences | October 2017 – 2019

Development a artificial root to study the flow of nutrients to plants regulated by microbial communities.

Researcher | Method development | Azotic Technologies | March 2017

Development of a system to measure isotopic N₂ fixation in Maize that have been inoculated with the N₂ fixing *Gluconacetobacter diazotrophicus* bacterium in order to understand the how to reduce fertilisers inputs into agriculture

EDUCATION

PhD | Environmental Microbiology | University of Nottingham and Scottish Rural College | 2013 – 2017

MSc | Environmental Management | University of Reading | 2010 – 2011

BSc | Environmental Science | University of Nottingham | 2007 - 2010

SKILLS

- Meta-data analysis/bioinformatics
- Design and development of environmental monitoring equipment.
- Wide range of environmental physiochemical and microbiological/molecular monitoring techniques. i.e. 16S/18S metagenomics, qPCR, Fluorescent In-Situ Hybridisation (FISH).
- Scanning Electron Microscopy/Fluorescent microscopy.
- Stable isotope monitoring of nutrients.
- General Microbiological techniques, i.e. culture of environmental organisms, maintaining media cultures etc.
- Gas Chromatography, Ion Chromatography, Biochemical Assays.