

Job Description

Job title	Senior Research Technician
Department	Life Sciences
Grade	FA5

Job purpose (a brief summary of the role)	A senior technician is required to provide support for the European Research Council (ERC) Advanced Grant RHYTHMS, 'Rhizosphere Rhythms: Unravelling Diurnal Microbiome Dynamics and Their Role in Plant-Soil Interactions', within Professor Gary Bending's research group in the School of Life Sciences. The research explores how plant circadian rhythms influence rhizosphere microbial communities, nitrogen cycling and interactions with bacteriophages. You will work closely with postdoctoral researchers, students and collaborators to set-up and maintain plant-microbe experiments in controlled environments and the field, undertake microbiological, molecular and environmental analyses, coordinate sampling programmes, and lead the organisation and management of experimental samples and associated data.
Duties and responsibilities	RESEARCH AND EXPERIMENTAL SUPPORT 1. Establish, maintain and sample plant growth systems, including sterile/controlled-environment experiments, with synthetic (SynComs) and natural microbial communities, in consultation with postdoctoral researchers and collaborators 2. Help plan and coordinate time-series experiments, including sampling at regular intervals 3. Prepare microbial media, reagents and inocula; maintain microbial cultures and quantify microbial populations, including through culture-based and molecular techniques. 4. Collect, process and preserve plant and soil samples from laboratory, controlled-environment and field experiments 5. Extract DNA and RNA, undertake PCR/qPCR and related molecular analyses, and prepare or coordinate samples for microbiome sequencing and other analyses. 6. Support the measurement of soil and rhizosphere properties and nutrient cycling, including sampling for chemical analyses and other measurements where required (e.g. pH, oxygen or nitrogen transformation assays). 7. Assist with the set-up, monitoring and sampling of field experiments DATA MANAGEMENT AND RESEARCH QUALITY 8. Coordinate sample storage and metadata records 9. Help collate results across experiments and contribute to data analysis 10. Keep accurate laboratory records, maintain traceability of samples and reagents, and support development of experimental and data handling protocols across researchers and project work packages. LABORATORY OPERATIONS AND TEAMWORK 11. Support the effective day-to-day operation of the research laboratory, including consumables, equipment upkeep, organisation of shared equipment and purchasing 12. Prepare and update risk assessments and standard operating procedures as required, and comply with University health, safety, waste-disposal and relevant fieldwork requirements. 13. Work collaboratively with postdoctoral researchers, PhD students, technical staff and external collaborators; contribute to planning meetings, troubleshooting and the timely delivery of project milestones TEACHING, DEVELOPMENT AND OTHER ACTIVITIES 14. Provide laboratory support to students and less experienced colleagues, with appropriate supervision.

	The duties and responsibilities outlined are not intended to be an exhaustive list but provide guidance on the main aspects of the job. The postholder will be required to be flexible in their duties.
--	--

Person Specification

The Person Specification focuses on the essential and desirable knowledge, skills, experience and qualifications required to undertake the role effectively. This is measured by (a) Application Form, (b) Test/Exercise, (c) Interview, (d) Presentation.

Essential Criterion No.	Essential Criterion Description	Measured by
E1	Honours degree or equivalent in Environmental Science, Biological Science or a related subject.	A & C
E2	Experience working with microbes (maintenance, growth, inoculation, quantification) in culture, soil or organismal systems.	A,C & D
E3	Experience with molecular biology techniques eg DNA and RNA extraction and quantification, PCR/qPCR.	A,C & D
E5	Practical experience of molecular methods eg DNA and RNA extraction, PCR.	A,C & D
E6	Ability to manage projects and workload effectively.	A & C
E8	Ability to work independently and/or as part of a team.	A & C
E9	Ability to maintain accurate sample records, laboratory documentation and electronic research data, with attention to quality and traceability.	A & C

Desirable Criterion No.	Desirable Criterion Description	Measured by
D1	Experience of sampling and analysing soils and other media for key characteristics such as chemical content, microbial activity and microbial communities	A,C & D
D2	Experience of supervising less experienced laboratory workers.	A & C
D3	Experience of data analysis and presentation for input into scientific publications.	A & C
D4	Ability to conduct health and safety assessment of laboratory procedures and completion of the associated documentation.	A & C
D5	Experience with R Studio.	A & C