UNIVERSITY OF WARWICK

Job Description

Job title	Research Fellow in Microbiology
Department	Life Sciences
Grade	FA6

Job purpose (a brief summary of the role)	Undertake research on plant-microbe interactions in the research group of Professor Gary Bending in the School of Life Sciences, working on the European Research Council (ERC) Advanced grant project 'Rhizosphere Rhythms: Unravelling Diurnal Microbiome Dynamics and Their Role in Plant–Soil Interactions'. You will design and undertake experiments with synthetic bacterial communities to investigate the way in which the plant circadian clock controls rhythmicity of the rhizosphere microbiome via exudation and plant immune responses. You will liaise closely with collaborators in the UK and overseas, and with other research staff working on the project.
Duties and responsibilities	**RESEARCH** • Design and implement experiments using synthetic microbial communities and Arabidopsis mutant lines to investigate the mechanisms by which the plant circadian clock controls rhythmicity of the rhizosphere microbiome • Investigate the ways in which phage and protists modulate microbial community dynamics in the rhizosphere over diurnal time frames • Complete experimental analyses, which could include determining microbial community dynamics, profiling metabolites using untargeted analyses and the spatial analysis of metabolites using MALDI_MS imaging • Integrate data from across experiments to provide a mechanistic understanding of the diurnal dynamics of the rhizosphere microbiome • Work effectively with other members of the ERC Advanced grant research team, including internal and external academic collaborators, PDRAs and a senior research technician to complete project objectives • To publish research findings in high impact international journals • To disseminate research findings at scientific conferences **TEACHING AND LEARNING SUPPORT** • Could be expected to contribute to the teaching and learning programmes in the School. • Assist in the supervision and assessment of undergraduate, postgraduate taught and PhD student projects and the development of student research skills. **ADMINISTRATION AND OTHER ACTIVITIES** • Participate in School activities such as staff meetings and events organised by the postdoc society • Participate in events such as Open Days, Outreach activities and presentation of research work to the media • Ensure compliance with health and safety in all aspects of work. • Work within budget constraints. The duties and responsibilities outlined are not intended to be an exhaustive list but provide guidance on the main aspects of the job. You will be required to be flexible in your 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	Good honours degree and possession of a PhD or equivalent in microbiology, plant-microbe interactions or environmental microbiology	A & C
E2	Proficiency in the culturing and use of bacterial isolates in laboratory scale experimental systems.	A,C & D
E3	Expertise in molecular biology techniques such as quantitative PCR and microbial community profiling (e.g. 16S rRNA).	A,C & D
E4	Expertise in the use of R Studio for bioinformatic and statistical analysis, and for production of high quality figures.	A,C & D
E5	Track record for publication of research in high impact journals.	A,C & D
E6	Able to evidence excellent interpersonal skills with relevant experience of working independently and as part of a team on research programmes.	A,C & D
E7	Good IT skills including Microsoft Office and proven ability to use IT to write technical research papers and presentations.	A,C & D
E8	Able to evidence strong time management and organisational skills.	A,C & D
E9	Strong communication skills including the ability to communicate effectively in English, both verbally and in writing.	A,C & D

Desirable Criterion No.	Desirable Criterion Description	*Measured by*
D1	Expertise in the use of synthetic microbial communities to study plant-microbe interactions.	A,C & D
D2	Experimental experience of bacterial interactions with phages and /or protists.	A & C
D3	Evidence of ability or potential to contribute to the development of funding proposals in order to generate external funding proposals.	A & C