Teagasc Job Specification

Soil Biotechnologist – Ref: DS1543

Competition Type: Permanent Appointment

A panel may be formed from which future similar vacancies may be filled; such a panel will remain active for a maximum period of 12 months.

Location: Teagasc Crops, Environment and Land-Use Research Centre, Johnstown Castle, Wexford.

Reporting To: Head of Department and/or other designated manager as may be identified from time to time.

Grade/Salary: Technologist Grade 1. The current salary scale for this post is €32,729 to €63,700.

Starting pay will be at the minimum of the scale as per Government Circular E100/8/82. Exceptional circumstances may apply for candidates with current or previous service in the public sector (including Teagasc).

Remuneration may be adjusted from time to time in line with Government Policy.

Basic Function: The Technologist will have a key role in assisting researchers within the soil and environmental microbiology research programme and will take an active role in contributing to ongoing research projects in this area. He/she will be responsible for the administration, workflow, quality control and maintenance of laboratories supporting the research programme, and for training post-graduate students and post-doctoral researchers using the microbiology and molecular biology laboratories. He/she will also have a role in assay development, the development of work pipelines and in overseeing biological safety in the department. The technologist will be responsible for technology foresight to identify emerging technologies/methods, assisting researchers with grant applications, results analysis and reporting. He/she will also contribute to the development of the wider microbiome research programme within Teagasc.

Background: Teagasc Johnstown Castle is leading research into understanding fundamental soil processes and nutrient dynamics that underpin the environmental and agronomic sustainability of Irish and global agricultural systems. Soil microorganisms are critically important for the functioning of soils and their activity is a fundamental determinant of nutrient losses from soil to air and water. Despite their importance we know relatively little yet about their composition and functioning. New technologies are offering hitherto unattainable insights into the microbes and pathways that underpin functions related to productivity, nutrient cycling and carbon sequestration. These technologies offer great potential to inform soil management strategies that are environmentally benign but yet support primary productivity. In addition they enable assessment of the effect of management, environmental and edaphic factors on the soil microbiome.

Teagasc is now seeking to appoint a highly qualified and enthusiastic Soil Biotechnologist that will join an active and dynamic research group. The position will be based in Teagasc Environment, Soils and Land-use Department in Johnstown Castle, Wexford. This research department which is part of the Crops, Environment and Land-use programme, is located at Johnstown Castle and is Ireland's leading research group on soils and environment related research. It conducts both fundamental and applied research on a wide range of subjects, e.g. nutrient efficiency, water quality, gaseous emissions, soil quality, agro-ecology, and land use. Johnstown Castle has an extensive array of laboratory, greenhouse and field facilities to support research as well as 190 hectares of farmland.

Main Duties and Responsibilities:

- To lead the administration, workflow, quality control and maintenance of the microbiology and molecular biology laboratories in Johnstown Castle.
- Stay abreast of new techniques and tests, new procedures, new technologies in soil micro-and-molecular biology, and incorporate these into the Teagasc programme where appropriate.
- To ensure that equipment and facilities are operating at the highest level of efficiency, and advise management on new equipment purchases.
- To carry out laboratory analysis of soil and environmental samples for a range of micro-and-molecular biology techniques.
- To develop new microbiological and molecular methodologies in conjunction with researchers.
- To train post-graduate students and post-doctoral researchers using the microbiology and molecular laboratories.
- To assist researchers with grant application writing, results analysis and reporting.
- To undertake quality control of laboratory analyses and ensure good data management.
- To contribute to the teamwork and team-spirit in the Environment, Soils and Land-use research department at Johnstown Castle, and to foster and add to further collaboration and integration.
- To assist Teagasc in meeting the commitments of the Quality Customer Service Charter and Action Plan.
- To actively participate in the annual business planning and Performance Management Development System (PMDS) processes.
- To fully co-operate with the provisions for ensuring the health, safety and welfare of themselves, fellow staff and non-Teagasc staff and co-operate with management in enabling Teagasc to comply with legal obligations. This includes full compliance with the responsibilities outlined in the Safety Statement.
- To oversee biological safety in the department.
- Such other duties as may be assigned from time to time.

** This job specification is intended as a guide to the general range of duties and is intended to be neither definitive nor restrictive. It will be reviewed with the appointee from time to time.*

Person Specification

	Essential	Desirable
Qualifications	• Candidates must have a QQI Level 8 degree in microbiology, molecular biology, biotechnology or a related discipline.	• A postgraduate degree and/or research experience in soil molecular biology or environmental microbiology would be a distinct advantage.
Skills	• Experience in a wide range of molecular techniques including electrophoresis, PCR, qPCR, nucleic acid quantification and quality assessment, microbial fingerprinting and cloning. • Experience in microbiological and aseptic technique. • Experience of method development and writing of standard operating procedures. • Experience in analysis and interpretation of microbiological and molecular data. • Information technology skills: familiarity with managing and using large data sets. • People and resource management skills. • Strong interpersonal and dissemination skills.	• Previous research experience investigating functional microbial communities in soil. • Experience of sample preparation for next generation sequencing analysis of complex microbial communities. • Experience of nucleic acid extraction and bacterial isolation from environmental matrices. • Experience in primer design and qPCR assay development. • Experience in biological safety and handling of class 2 bacterial pathogens.

		• Evidence of scientific communication of research findings. • Experience in the use of bioinformatics and in microbial sequence analysis. • Experience in method validation and comparison statistics. • Experience in microscopy. • Experience in bacterial phenotyping.
Knowledge	• Understanding of molecular and micro biology. • Understanding of complex microbial communities. • Knowledge of a range of analytical methods for complex microbial community analysis. • Knowledge of amplicon and shotgun sequencing technologies. • Understanding and appreciation of the Irish Public Sector and how it works.	• Knowledge of carrying out method development and introduction of new laboratory tests. • Knowledge of soil microbial communities and functioning.
Behavioural Competencies	• Ability to work as part of a team, including consulting, training, collaborating and building relationships with key stakeholders. • Strives for high quality of work and demonstrates commitment to the programme. • Ability to communicate effectively to enable knowledge and technology transfer. • Flexible approach to work with an ability to prioritise tasks effectively. • A results-driven individual with a strong focus on goal-setting, performance delivery and accountability. • Ability to work independently, and meet self-imposed milestones and deliverables. • A proactive, solutions-focused approach to work with an ability to adapt to changing requirements and shifting priorities. • Ability to set clear standards and have a quality customer service focus.	

Note: The 'essential' qualifications, knowledge, skills and behavioural competencies outlined above are 'must-have' which will be used in the selection process.

How to Apply

A detailed Job Description and an Application Form for this position can be accessed on the Teagasc website at www.teagasc.ie/careers.

Completed Application Forms should be TYPED and saved in PDF format and submitted by email to teagascjobs@clark.ie no later than **12 midnight on Friday 11th August 2017.**

Please state relevant reference code in all correspondence.

Teagasc is an equal opportunities employer. Canvassing will disqualify.