

JOB DESCRIPTION

Job Title:	Plant Molecular Biologist/ Virologist	Grade:	AC2
Department:	Natural Resources Institute Agriculture, Health and Environment Department	Date of Job Evaluation:	May 2021
Role reports to:	Professor in Molecular Plant Pathology		
Direct Reports	None		
Indirect Reports:	Head of Department- Agriculture, Health & Environment		
Other Key contacts:	Commercial Manager Deputy Director, NRI Director of NRI		
This role profile is non-contractual and provided for guidance. It will be updated and amended from time to time in accordance with the changing needs of the University and the requirements of the job.			

PURPOSE OF ROLE:

The overall purpose is to contribute to the work of NRI on pest and disease research particularly on vegetable crops such as tomatoes and cucurbits by developing highly innovative R&D concepts that contribute to the control of destructive pests and diseases of these crops, especially those caused by viruses and insect vectors.

This role will strengthen NRI's capacity to both win new business as well as to deliver on existing projects in the area of plant molecular biology, and plant virology, especially in relation to improved crop protection using biotechnological tools. The person will take part in on-going research programmes to assist NRI in collaborations with national and international organisations to improve food security through better crop management strategies. The post requires developing innovative multidisciplinary concepts with other members of the team that can lead to externally funded projects.

This post is for an early career scientist with a background in biological molecular sciences and having relevant experience and vision to work with a small team of natural scientists to deliver research in the area of plant molecular biology, plant virology, vector entomology, biotechnology and crop protection.

KEY ACCOUNTABILITIES:

The position will be based within the Agriculture, Health & Environment Department of NRI. The role is part of a multidisciplinary team that will involve MSc/PhD students and thus will require supervising junior members of the team as well as being in-charge of molecular biology and quarantine facilities of NRI.

The role will require carrying out independent investigations into complex plant-virus-insect interactions at the molecular level, a sound knowledge of plant physiology/genomics, virus infection processes and/or insect behaviour in a given environment is therefore an essential requirement of the candidate. The role may require undertaking short overseas visits.

Team Specific:

- Undertake independent research to gain insights into virus-host-vector interactions involving tomato and cucurbit viruses and their whitefly insect vectors using qPCR and other state-of-the-art molecular technologies
- Use next generation sequencing on to identify, map and understand the mechanism of resistance with a view to identify resistance genes for vegetable viruses
- Carryout experiments to construct virus infectious clones to develop rapid virus infection protocols for understanding the evolution of plant viruses
- Develop robust, low-cost diagnostic technologies for plant viruses and their vectors, and disseminate to project partners
- Undertake research on invasive insect species such as whiteflies, analyse their genetic diversity and devise innovative control strategies

Generic

- Be able to work independently mainly in the laboratory in the UK and with the possibility to work in the laboratory and field overseas, with initial support as required
- Work co-operatively with other team members, provide inputs to PhD student projects and oversee molecular biology and quarantine facilities
- Contribute to the preparation of bids on any of the above and related topics for both consultancy and research contracts
- Write academic journal papers associated with your research and consultancy activities to a level acceptable by international journals
- Undertake other duties as deemed necessary by the line manager

Managing Self

- Continuously improve own knowledge of people, administrative systems and University working policy
- Maintain own continuous professional development (CPD)
- Continuously strengthen effective interpersonal skills

Core Requirements:

- Adhere to and promote the University's policies on Equality and Diversity and Information Security;
- Ensure compliance with Health & Safety and Data Protection Legislation;
- Support and promote the University's Sustainability policies, including the Carbon Management Plan, and carry out duties in a resource efficient way, recognising the shared responsibility of minimising the university's negative environmental impacts wherever possible.

Additional Requirements:

- Practicing good laboratory etiquette and training junior members of the team in the lab
- Maintaining a good record keeping of laboratory supplies

KEY PERFORMANCE INDICATORS:

- Production and delivery of contracted outputs to clients
- Production of high-quality research outputs and international standard peer reviewed publications
- Meeting agreed personal targets for commissioning

- Effectiveness in assisting the line manager securing external funding
- Contribution to teaching MSc/PhD in the areas of plant molecular biology

KEY RELATIONSHIPS (Internal & External):

- Line manager, Project/Programme Managers, Head of Department and Director
- MSc/PhD level students and visiting workers
- NRI academic staff
- Administrative colleagues in NRI
- Academic and administrative staff in other Schools and University Departments
- Project partners

PERSON SPECIFICATION

Essential	Desirable
<p>Experience</p> <ul style="list-style-type: none"> • Experience of working within a multi-disciplinary team environment • Excellent oral and written communication skills • Computer literacy including word processing, spreadsheets, databases and at least one statistical packages <p>Skills</p> <ul style="list-style-type: none"> • Experience of basic everyday molecular biology techniques • Knowledge of advanced molecular techniques such as qPCR and next generation sequencing • Working with plants, viruses and insect vectors and their bioassays • Knowledge statistical analyses <p>Qualifications PhD in Plant molecular biology, virology or entomology</p> <p>Personal attributes</p> <ul style="list-style-type: none"> • We are looking for people who can help us deliver the values of the University of Greenwich: Excellence, Determination, Inclusivity, Ambition and Creativity 	<p>Experience</p> <ul style="list-style-type: none"> • Knowledge of various sequence analysis software and bioinformatic skills • Experience of using fluorescent microscopy and protein expression • Plant transformation techniques • Publications in high-ranking journals in the last 4 years • Experience with teaching adult learners in a multicultural context <p>Skills</p> <ul style="list-style-type: none"> • Use of bioinformatic software • Constructing virus infectious clones <p>Qualifications PhD in Plant molecular biology, virology or entomology</p> <p>Personal attributes</p> <ul style="list-style-type: none"> • Willingness to undertake short-term overseas visits