



## Job Description

<b>Job title</b>	Molecular Plant Pathologist	<b>Location - base</b>	Park Farm, Histon, Cambridge
<b>Team</b>	FCR	<b>Job group</b>	Senior Technical
<b>Department</b>	Plant Pathology	<b>Post ref.</b>	SV/A 1333
<b>Reports to</b>	Senior Specialist	<b>Line manages</b>	N/A

### 1. Team overview

Our Plant Pathology team is a vibrant community of over 20 staff, PhD students, and visiting workers. We are passionate about understanding the biology of plant pathogens and their interactions with plants, and applying this knowledge to provide growers with tools to protect their crops. This post will support a number of projects in the Plant Pathology department, including studies into fungicide resistance and effector function in fungal pathogens of cereals.

### 2. Role purpose

The post-holder will provide molecular biology and microbiology research support for projects involving fungicide sensitivity testing, plant pathogenicity testing, genotyping, and functional genetics. This will also include day-to-day tasks such as pathogen isolation and culturing; DNA extraction, PCR and preparation of samples for sequencing; preparation and inoculation of plants; and cloning and transformation.

### 3. Financial authority/responsibility

Authority to raise Purchase Orders within defined limits.

### 4. Key relationships

- Internal** Line manager Nichola Hawkins, head of department Kostya Kanyuka, and other members of the Plant Pathology team and relevant colleagues in other departments.
- External** The post-holder will be offered opportunities to interact with stakeholders such as growers and agronomists, and members of collaborating research groups.

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## 5. Key tasks/responsibilities

	Approx. % of time
Fungicide resistance testing: isolation of plant pathogenic fungi, maintaining isolate collections, sensitivity bioassays and data analysis	25
Plant pathogen genotyping: DNA extractions, PCR, preparation of samples for sequencing (Sanger or NGS), sequence data analysis, molecular diagnostics such as qPCR/LAMP	25
Assisting with research aimed at characterization of virulence effectors and fungicide resistant alleles in cereal-infecting fungi: development of various DNA constructs, viral (VIGS/VOX) and fungal transformations, qRT-PCR, validation of protein-protein interactions	40
Assistance with other projects requiring molecular biology support; general laboratory support e.g. ensuring laboratory equipment and consumable stock levels are maintained	10

## 6. Working conditions

The post-holder will be based in the new purpose-built research laboratories at NIAB Park Farm, Histon, Cambridge. They will also work in the specialist glasshouse/growth room facilities and may occasionally be requested to assist in the field. This is predominantly a wet-lab post requiring in-person working, but occasional data analysis work may be completed remotely.

The job will involve regular Visual Display Unit usage; regular use of laboratory equipment, including microscopy and pipetting; manual handling of items of up to 2kg (e.g. loading autoclave, restocking consumables); working in Containment Level 1 and 2 laboratory conditions; regular exposure to plant and fungal material, and managed exposure to chemicals (e.g. fungicide testing in vitro or single-pot plant spraying).

## Person Specification

Criteria	Essential	Desirable
<b>Qualifications</b>		
Degree in a relevant discipline, such as plant sciences, genomics, genetics, molecular biology and/or plant pathology, or equivalent qualifications/experience	x	
<b>Knowledge and skills</b>		
Understanding of molecular biology and general microbiology methods	x	
Understanding of plant pathogens and crop protection		x
Organisational skills: keeps samples, data files and laboratory notes in good order	x	
Good IT skills – email, word processing, spreadsheets, document sharing; able to learn new software packages associated with lab machines	x	
Basic data processing in Microsoft Excel; basic statistical analyses; DNA sequence analysis (e.g. using Geneious)	x	
Basic bioinformatic analyses - BLAST, gene function analyses and effector identification software		x
<b>Experience</b>		
Aseptic technique (e.g. microbiology or tissue culture)	x	

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<b>Criteria</b>	<b>Essential</b>	<b>Desirable</b>
Isolating and culturing fungi and/or plant pathogens		x
Working with plants in glasshouse or growth chambers		x
Molecular biology experience: DNA & RNA extractions, PCR, cloning	x	
High throughput sequencing (e.g. Illumina, Nanopore); molecular diagnostics (e.g. qPCR, RT-qPCR)		x
Experience in fungal, microbial, viral or plant transformations		x
<b>Attributes</b>		
Accuracy and attention to detail in following experimental protocols	x	
Collaborative with excellent communication skills to work across different groups within a department	x	
Proactive and self-motivated; can plan own day-to-day work, and uses initiative in dealing with laboratory matters such as consumables stock levels and equipment repairs	x	
Flexibility – able to work alone and as part of a small team		x
Evidence of commitment to own personal development and willing to learn new skills		x
<b>Other</b>		
Driving license or access to independent means of travelling, enabling travel between Histon and Cambridge sites.		x

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