

JOB DESCRIPTION & PERSON SPECIFICATION

1. Job title: Molecular Plant Pathologist **Centre:** CCR, Pathology & Entomology (Dept. 30)

Job Group: Senior Technical **Location:** Cambridge, HQ

Reports to (Job title): Researcher, Bacterial and Fungal Genomics **Grade:** Senior Specialist

Line Manages (Job titles): n/a

2. Main purpose of role:

The post will provide molecular biology and microbiology support to a number of projects. This includes testing fungicide resistance levels and analysing associated genetic changes in the fungal wheat pathogens using NGS technologies; running molecular marker analyses in rice and wheat; extraction of RNA and DNA; PCR; media and buffer preparation for routine molecular biological work; routine maintenance of pathogen isolates; development of constructs for transformation; raising and care of plants for bioassays; curation of cereal genotypes, including access and importing genotypes from genebanks and other research groups; and assisting with other tasks as and when required.

3. Financial authority/responsibility (e.g. delegated budget, authorisation level, approx value of contracts etc):

Authorised to make purchases from specific grants/contracts to a value of up to £200.

4. Key relationships (external and internal):

Internally, the postholder will interact on a regular basis with their line manager, co-line managers, other members of the Plant Pathology team, and relevant colleagues in other CCR departments.

Tasks/responsibilities (in order of priority)	Approx % of time
Assisting with fungicide resistance testing: isolation of plant pathogenic fungi, sensitivity assays, DNA extractions, PCR, preparation of samples for sequencing	35
Assisting with rice and wheat genotyping: DNA & RNA isolation, PCR, KASP marker analysis	35
Assisting with the research aimed at characterization of virulence effectors in cereals infecting fungi: development of various DNA constructs, qRT-PCR, validation of protein-protein interactions	20
Assistance with other projects requiring molecular biology support	10

6. Working conditions :

The post-holder will be based in the specialist Plant Pathology laboratories at NIAB HQ in Cambridge. Flexible, agile working is required.

7. PERSON SPECIFICATION

Education/Qualifications:

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Essential:	Desirable:
Degree in a relevant discipline, such as plant sciences, genomics, genetics, molecular biology and/or plant pathology	
Experience:	
Essential:	Desirable:
<p>Molecular biology: DNA & RNA extractions, PCR, qPCR, qRT-PCR, cloning</p> <p>KASP marker analysis</p> <p>Aseptic technique (e.g. microbiology or tissue culture)</p> <p>Basic data processing, Microsoft Excel</p> <p>DNA sequence analysis (e.g. using Geneious)</p> <p>Basic statistical analyses: ANOVA, correlations, test of significance; use of R-stats or other</p> <p>Basic DNA sequence and bioinformatic analyses - BLAST, gene function analyses and effector identification software</p>	<p>High throughput sequencing (e.g. Illumina, Nanopore)</p> <p>Isolating and culturing fungi and/or plant pathogens</p> <p>Understanding of plant pathogens and experience of handling fungal pathogens</p>
Specialist Training:	
Essential:	Desirable:
Clean driving licence	
Personal Qualities (skills, behaviours and competencies)	
Essential:	Desirable:
<p>Organisational skills: keeps samples, data files and laboratory notes in good order</p> <p>Excellent communication skills to work across different groups within a team</p> <p>Ability to work independently as well as part of a team</p> <p>Ability to react to changes in work programmes efficiently, using one's initiative</p>	
Date of description: 21 st July 2022	
Compiled by: Kostya Kanyuka	