# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants |
| Advertised Job Title | Research Scientist – Digital Phenotyping |
| Job Reference | 75324 |
| Tenure | Specified Term of 2 yearsFull-time |
| Salary Range | AU$100,710 to AU$108,985 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Canberra (Black Mountain), ACT |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents currently residing in Australia
* Australian Temporary Residents currently residing in Australia with work rights for the duration of the term and with no requirements for visa sponsorship.
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| Position reports to the | Senior Research Scientist, Biotic Interactions |
| Client Focus – Internal | 0% |
| Client Focus – External | 100% |
| Number of Direct Reports | 0 |
| Enquire about this job | Susan Sprague via email at susan.sprague@csiro.au or phone +61 466 643 227 |
| How to apply | Apply online at <https://jobs.csiro.au/> Internal applicants please apply via **Jobs Central**If you experience difficulties when applying, please email careers.online@csiro.au or call 1300 984 220. |

### Role Overview

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

CSIRO’s mandate is to deliver world-class research that provides innovative solutions for industry, government and the community. The Research Scientist/Engineer position is within the CSIRO Agriculture and Food Biotic Interactions team that is part of the Systems Program**.** This is a dynamic Program delivering science that underpins the ongoing productivity and sustainability of Australia’s agricultural industry.

The Research Scientist will develop methods for high throughput analysis of images of canola disease caused by a fungal pathogen, a major economic constraint to canola production in Australia and worldwide. The position will utilise and contribute to methods to capture images of different disease phenotypes, analytics workflows and the analysis of large phenotyping datasets. This position is part of a Grains Research and Development Corporation (GRDC) Blackleg in Canola project with opportunities to engage across CSIRO with the High Resolution Plant Phenomics Centre (HRPPC) and the Machine Learning Artificial Intelligence Future Science Platform. This position is part of the GRDC project ‘Phenotyping for quantitative resistance to Blackleg disease in canola’ which aims to identify genetic and environmental factors that contribute to the blackleg phenotype. A robust and repeatable phenotyping method underpins breeding efforts to develop cultivars with high levels of quantitative resistance.

### Duties and Key Result Areas:

* Under the supervision of more senior researchers, assist in planning and conducting research investigations, requiring originality, creativity and innovation to identify quantitative disease resistance in host germplasm.
* Refine techniques for the capture and analysis of images of disease phenotypes.
* Manage collection, processing and curation of data from experiments conducted in controlled environments and the field.
* Use advanced statistical approaches to precisely and repeatably quantify disease phenotypes, and test and validate these methods.
* Lead and contribute to ensure timely project delivery including the conducting, interpretation and reporting of research results to an external client and other relevant stakeholders and the scientific community in peer-reviewed journals.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues and project partners in different organisations and locations.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **Required Competencies:**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as Biology or Statistics.
2. Demonstrated skills in data management, image analysis, experimental design and statistical analysis, including proficiency in at least one programming language (e.g. Python, R).
3. Proven experience designing and undertaking biological experiments.
4. Evidence of working effectively with research teams, plus the motivation and discipline to carry out autonomous research.
5. Strong written and oral communication skills with a demonstrated publication history of authorship on scientific paper in peer-reviewed journals and/or reports.
6. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
7. A current driver’s licence.

## **Desirable:**

1. A good understanding of plant-microbe interactions and mechanisms conferring plant resistance and tolerance to pathogens.
2. Sound knowledge of machine learning and statistical modelling approaches for analysis of biological data.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* The successful candidate must be willing and able to conduct overnight trips to field sites in regional locations.

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* People First
* Further Together
* Making it Real
* Trusted

Find out more about CSIRO [Agriculture and Food](https://www.csiro.au/en/Research/AF)