# Position Details

## Research Scientist/Engineer- CSOF5

|  |  |
| --- | --- |
| The following information is for applicants | |
| Advertised Job Title | Agricultural Systems Economist |
| Job Reference | 98520 |
| Tenure | Specified Term of 3 years  Full Time |
| Salary Range | AU$114,219 - AU$123,605 per annum (pro-rata for part-time)  plus 15.4% superannuation |
| Location(s) | Black Mountain, Canberra |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Team Leader: Sustainable Disease Management |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Susie Sprague via email at susie.sprague@csiro.au |
| 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](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

The role of Research Scientist staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist/Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The Research Scientist 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.

The Agricultural Systems Economist position is within the Sustainable Disease Management team with the CSIRO Agriculture and Food Systems Program**.** TheProgram delivers science that underpins the ongoing productivity and sustainability of Australia’s agricultural industry.

As part of this multidisciplinary role, the Agricultural Systems Economist will lead and conduct original research across multiple projects to quantify the economic value of integrated pest and disease management strategies in Australian farming systems. The Agricultural Systems Economist will also contribute to the development of qualitative socio-economic studies investigating barriers and enablers to the uptake of more sustainable crop management tools and practices. t Part of the role will contribute economic research expertise to a multidisciplinary, externally funded project (Pest READI).

### Duties and Key Result Areas

* Provide quantitative and qualitative economic skills to inform the development of a digital pest management platform. Apply economic approaches to be used
  + indirectly, by researching the opportunities for digital tools to be developed to assist stakeholders at multiple levels in the system, particularly in cases where (pest) risks are high and preparedness is low; and
  + directly, through encompassing economic modelling to quantify the economic benefits, particularly of more sustainable pest management practices, as a component of the digital tool itself.
* Develop an agro-economic model to assess the costs and benefits of the deployment of disease resistant, but yield limited cotton varieties.
* Lead the development of a conceptual and analytical framework to understand barriers and enablers to the uptake of sustainable, integrated pest and disease management strategies in Australian farming systems.
* Under the supervision of more senior researchers, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Participate in identification of further opportunities which arise from research and initiate new lines of research.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Address problems promptly and in a constructive manner.
* Undertake experimental and/or observational research activities and supervise/train others to ensure experiments are established in accordance with research design.
* Provide supervision and coaching to students and technical staff.

Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of scientific objectives for teams and projects.

* 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 and diversity initiatives.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. A doctorate in a relevant discipline area, such as Agricultural Economics, Resource Economics, and Economics with a strong research focus on Agricultural production and productivity.
2. Demonstrated skills in data management, experimental design and quasi-experimental design***,*** including proficiency in economic modelling using at least one programming language (e.g. Stata, R).
3. Demonstrated understanding of links between natural environments (e.g. pests, diseases, climate and weather) and agricultural production, productivity and farm efficiency.
4. Strong knowledge of quantitative data analysis, modelling and interpretation of economic data using advanced econometric approaches.
5. Demonstrated experience in publishable systematic literature review (e.g., Meta-analysis).
6. Strong knowledge of quantitative analysis of large, longitudinal farm-level datasets, modelling and interpretation of economic data using advanced econometric approaches.
7. A demonstrated understanding of economic methods and their application to agricultural or environmental problems with a particular focus on modelling the micro-level impacts of agricultural innovations.
8. High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including the presentation of research outcomes at national and international conferences, and a proven track record of publishing research findings.
9. **The motivation and discipline to carry out autonomous research demonstrated by publications in peer-reviewed agricultural and applied economics journals.**
10. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable**

1. Demonstrated experience designing and building economic simulation models
2. Demonstrated experience in the analysis of agricultural systems and innovations.
3. A good understanding of pest management science

## **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 responses 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 change.

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Agriculture and Food - CSIRO](https://www.csiro.au/en/about/people/business-units/Agriculture-and-Food) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

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