# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist - Host-microbiome Integration |
| Job Reference | 76451 |
| Tenure | Specified term ending 30 June, 2025, full-time |
| Salary Range | AU$100 – AU$108k per annum, plus up to 15.4% superannuation |
| Location(s) | St Lucia (Brisbane) Queensland |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Onshore Australian and New Zealand Citizens * Onshore Australian Permanent and temporary residents (visa sponsorship may be provided to eligible onshore candidates) |
| Position reports to the | Research Science Supervisor / Microbiomes for One Systems Health – Future Science Platform |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Stuart Denman via email: [Stuart.Denman@csiro.au](mailto:Stuart.Denman@csiro.au) or phone +61 7 3214 2273 |
| 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. |

### Role Overview

The role of **Research Scientist** in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The position provides 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 Research Scientist - Host-microbiome Integration forms part of an activity area focused on understanding the inter-connectivity between microbiomes and livestock animals. The scientist will undertake research involving integration of multi-level systems information including phenomics, genomics and microbiomes particularly in ruminants, but with the possibility to expand to other production species. It involves defining the contribution of the microbiomes and host to the “whole” animal through iterative microbiome/host network analysis to generate insights and strategies that consider the dynamics of the complete system. Possible outcomes will involve identification of component specific targets for improved productivity/health and integration of all components for better genetics and higher accuracy of animal predictions. The position works closely with postdoctoral fellows within the activity area and will build a network with the other scientists.

The position will be part of the **Microbiomes for Ones Systems Health - Future Science Platform (Micorbiome FSP).** CSIRO FSPs address new scientific challenges for Australia. They are an investment in science that underpins innovation that has the potential to help reinvent and create new industries. FSPs allow the development of capability and capacity for a new generation of researchers to work with CSIRO on future science.

The Microbiome FSP is developing new understanding of microbiome connectivity across the environment to human continuum and how system perturbations impact on microbiome functionality, diversity and systems health. A key objective is to capture greater benefit from microbiome interactions through more informative and predictive frameworks for functionality and by targeted interventions. Capacity to directly manipulate microbiomes across hosts and environments will provide new opportunities for bio-based solutions to be developed and applied to improve host and environmental health and for increased benefit to plants, animals and humans.

The portfolio of research within the Microbiome FSP is focussed around new science that address; systems connectivity, predictive frameworks and deliberate interventions through the application of multi-omic tools to analyse point and system level change and associated measures of functionality both within and across interconnected biomes. This includes integration and analysis of multi-layered data and use of empirical and/or statistical modelling. The science portfolio of the FSP spans multiple CSIRO Business Units that address key focal areas that include; i) Environment, Soil & Plant Health, ii) Food Chain & Production ii) Diet, Gut and Health and iv) Optimized Industry & Urban Processes.

Further information: <https://research.csiro.au/microbiome/>

### Duties and Key Result Areas:

* Under limited direction, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Undertake experimental and/or computational research activities, often requiring the supervision and/or training of others to ensure experiments are established in accordance with research design, or as required.
* 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 across a range of disciplines.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Supervise and/or train other staff members, postdoctoral fellows, and students.
* 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.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **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 bioinformatics, computer science, computational biology, molecular/ microbiology, population genetics or genomics; or similar.
2. A minimum of approximately two years of industry/postdoctoral experience in a relevant field such as Genetics and Genomics, Molecular Biology, Bioinformatics, Biostatistics or Microbiology.
3. Demonstrated ability to undertake original, creative, and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
4. A publication history of authorship on scientific papers in peer reviewed journals related to bioinformatics, computer science, computational biology, molecular/microbiology, population genetics or genomics; and/or reports or grant applications.
5. Programming experience in bash, R, python and/or other programming languages.
6. Demonstrated experience in microbiome analysis, andsystems biology approaches to analyse complex traits of large multi-omics datasets (regulatory networks, machine learning, etc).
7. Demonstrated ability to work collaboratively in a multidisciplinary team.

## **Desirable:**

1. Experience with animal production systems.
2. Experience collecting and handling biological samples.
3. Basic wet-lab skills for processing and analysis of samples for multi-omic methodologies.
4. Inventorship on patent applications.

## **Required Competencies:**

1. **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.
2. **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.
3. **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.
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **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.
6. **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.

Special Requirements

The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test) - https://ielts.com.au/

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. To find out more visit us at [CSIRO Online](http://www.csiro.au/)

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

* 1. People First
  2. Further Together
  3. Making it Real
  4. Trusted

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

Find out more about Microbiomes for One Systems Health <https://research.csiro.au/microbiome/>