# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist – Host Biomarkers of Infectious Diseases |
| Job Reference | 88232 |
| Tenure | Specified Term of 3 years, Full-time |
| Salary Range | AU$102,724 - AU$111,165 per annum (pro-rata for part-time)  plus up to 15.4% superannuation |
| Location(s) | ACDP Geelong |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Research Team Leader – Host Response, Health and Biosecurity |
| Client Focus – Internal | 70% |
| Client Focus – External | 30% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Cameron Stewart via email at [cameron.stewart@csiro.au](mailto:cameron.stewart@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).

### Role Overview

The role of Research Scientist/Engineer 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/Engineer 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 Research Scientist will join the Host Response Team to develop future technologies to improve the management of infectious diseases impacting human and animal health. Specifically, the scientist will investigate if the outcomes of important infections/syndromes of both animals and humans caused by co-infection (e.g. viral + bacterial) can be forecast by immune-based biomarkers. Bovine respiratory disease and a pneumonia will serve as model systems. The candidate will require skills in genomics, bioinformatics and microbiology and will lead activities involving next-generation sequencing, machine learning (ML)-enabled data analysis and the development of specialised assays for biomarker quantification.

### Duties and Key Result Areas

Existing technologies for infectious disease diagnosis (e.g. ELISA, culture, pathogen-specific PCR) are decades old and incapable of forecasting disease onset or severity. The concept of harnessing immune systems to achieve this goal is emerging but nascent for infectious diseases. The project’s overarching goal is to develop a system capable of forecasting the severity, of and guiding intervention strategies for, complex diseases associated with co-infection. Duties include:

* To develop a genomics platform for the comprehensive profiling of molecular immune responses to infection (“the RNAome”), including analysis of RNA synthesis, post-transcriptional modification, specific nuclease events and decay.
* To develop tools for the automation of data analysis and interpretation to identify candidates for biomarker assay development (e.g. justification of antimicrobial use).
* To compare the performance characteristics of the immune-based technology to current methods for disease management.
* Build a portfolio of data for publication/patents.
* Scope the potential for translational development to field-adaptable pen-side/patient-side 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.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Undertake experimental and/or observational research activities and supervise/train others to ensure experiments are established in accordance with research design.
* Work collaboratively as part of a multi-disciplinary research team 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.

## **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 genomics, microbiology or bioinformatics.
2. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
3. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.

## **Desirable**

1. Experience in nanopore sequencing
2. Experience handling infectious material
3. Experience in artificial neural networks for analysis of biological data

## **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 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 Clearance or equivalent. 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 https://www.csiro.au/en/about/people/business-units/health-and-biosecurity 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