# Position Details

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Modelling Advanced In Vitro Organ Models (up to two roles) |
| Job Reference | 97042 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$93,267 to AU$105,517 pa (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 Citizens Only |
| Position reports to the | Science Leader, Advanced Ex Vivo Biosystems |
| Client Focus – Internal | 90% |
| Client Focus – External | 10% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Chia-Chi Chien via email at Chia-Chi.Chien@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

**CSIRO Early Research Career (CERC) Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant research experience. These Fellowships aim to develop the next generation of future leaders of the innovation system through:

* A differentiated career development program to deliver capability excellence and breadth across all facets of the national innovation system;
* Research training via strategic research and development projects with a clear focus that will deliver real impact through science and engineering excellence;
* An innovative culture supporting the development and demonstration of original thinking and expertise leading to peer-recognition; and
* Opportunities to develop skills and experience in collaborative research teams to effectively work within national and global multi/transdisciplinary and multi-stakeholder environments.

CERC Fellows are appointed for three years or full time equivalent.

CSIRO Early Research Career (CERC) Postdoctoral Fellowships provide opportunities to scientists and engineers who have completed their doctorate and have less than three years of relevant postdoctoral work experience. These CERC Fellowships aim to develop the next generation of future leaders of the innovation system.

The CERC Fellows will develop advanced in vitro organ models to answer key challenges in infectious disease research related to animal health. The CERC Fellows will adopt recent advancements in 3D tissue culture technologies for modelling in vitro organ models and leverage new developments in the field of infectious disease affecting poultry, swine and cattle.

The CERC Fellows will focus on establishing in vitro organ models of either the brain or the immune system to improve the understanding of pathogenesis and immune responses for a broad range of diseases. Specific attention will be given to diseases of high consequence and increasing concern to Australia’s agricultural and aquatic industries, such as Avian Influenza, Lumpy skin disease, African swine fever and African horse sickness. The development of the advanced in vitro organ models and techniques will support vaccine and drug development programs at CSIRO.

### Duties and Key Result Areas

Under the direction of senior research scientists, this CERC Fellow will:

* + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
* Develop in vitro organ models by co-culturing different cell types, such as cell lines, stem cells, or dissociated cells from harvested animal tissues. These models should be characterised by their defined, repeatable, and scalable nature, proving relevant to diseases and suitable for animal health and disease investigations.
  + Develop in vitro organ models focusing on either the brain (particularly the neurovascular unit in avian and swine) or the immune system (especially lymph node and tonsil in swine). Ultimately apply these organ models in microfluidic 3D cell culture systems for infectious disease studies and ensure adherence to strict biosafety and biosecurity regulations at the Australian Centre for Disease Preparedness (ACDP).
  + Utilise design thinking methodology to plan and prepare research proposals and apply non-academic impact methodology to research projects.
  + Carry out research investigations requiring originality, creativity, and innovation.
  + Record, manage, and analyse data/information using relevant domain data science techniques.
  + Proactively undertake development to grow effective researcher capabilities to support career goals.
  + 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.

The CERC Fellow learning, development and training programis developed between the CERC Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellow’s capabilities to the level expected of an independent researcher and will include on-the-job and course-based development encompassing:

* Discipline-specific techniques and protocols
* Professional growth
* Project management
* Communication and influencing skills
* Working and collaborating with others

## **Selection Criteria**

#### Essential

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

1. A doctorate (or will shortly satisfy the requirements of a PhD). The doctorate must be in a relevant discipline area, such as neuroscience, immunology, medical science, biotechnology, biomedical engineering, or bioengineering.

Please note: To be eligible for this role you must have **no more than 3 years** (full time or   
equivalent) of relevant research experience.

1. Experience with mammalian or avian cell culture techniques and experience with dissociating cells from harvested tissues.
2. Experience with advanced cell culture systems for co-culture of different cell types, such as 3D cell culture, transwell system and/or organ-on-a-chip culture.
3. Experience in cell characterisation skills for genetic and phenotypic properties, such as one or more of the following, DNA/RNA sequencing, flow cytometry, confocal microscope imaging, imaging analysis, tissue section, immunostaining, and biochemical assays.
4. Publication in peer-reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
5. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable**

1. Experience in stem cell culture, differentiation, and/or organoid culture.
2. Experience in establishing stable cell lines
3. Experience with Flow Cytometry and/ or Fluorescence-Activated cell sorting.
4. Knowledge of virology, immunology, and physiology.
5. PC2 virology techniques and working with infectious viruses.
6. **Ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**

## **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:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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.

To be appointed as a CERC Fellow within CSIRO, candidates are required to have **submitted** their doctoral thesis at the time of commencement, as a minimum requirement, if PhD conferment has not been obtained. If a candidate has submitted, but their PhD has not yet been formally attained, the starting salary will be CSOF4-1 ($93,267). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six month period from commencement date), the salary will be increased to the negotiated level and the difference will be back-paid to the Officer’s start date.

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 be required to obtain and maintain a security clearance.
* ACDP - Security Assessment and Microbiological Security Requirements for Personnel Working on the Australian Centre for Disease Preparedness (ACDP) Site.
* The nature of our work requires that each person working on site must comply with the conditions described below.
* Certain positions including those working in the ACDP microbiological secure area will require security clearance at a level appropriate to duties of the position. Confirmation of the appointment is subject to obtaining that clearance.
* It is essential that all work on exotic or emerging diseases carried out at ACDP is conducted in a safe manner to prevent the escape of the disease agents used, and to this end, all activities and personnel will be subject to appropriate microbiological security measures. Consequently, while working at ACDP, you may not reside on a property on which are kept any of the following animals: sheep, cattle, pigs, goats, horses, asses, mules and camelids, any other cloven-hoofed animal, fowls, turkeys, geese, domestic ducks, caged birds, emus or ostriches. Personnel working with diseases of aquatic animals may not keep aquarium fish at their place of residence and at times specific species may be excluded depending on the nature of the work conducted.
* In addition, for a period of seven days after working in the microbiologically secure area of ACDP, personnel may not have close contact with any of the above animals, amphibians or birds or the actual places where these animals are held, or visit any aquatic animal farm or aquatic animal hatchery.
* Working in the barrier maintained Small Animal Facility or the Werribee Animal Health Farm requires avoidance of additional animals such as mice, rats, guinea pigs, rabbits, ferrets and poultry of a minimum of 3 days prior to arrival.
* Certain positions will require medical assessment and vaccinations against various agents.
* Positions working at PC4 will also require a pre-employment psychological assessment.
* Given ACDP’s role in the International Regional Program, there may be a requirement for some personnel to travel internationally and if required for this work, suitable staff should be able to obtain a valid passport and obtain applicable vaccinations.
* Should an emergency response situation arise, ACDP may be required to implement the Emergency Animal Disease Response Plan and personnel may need to contribute to response requirements, including after hours work.
* Personnel must abide by Occupational Health, Safety and Environment regulations. Safety signs and directives issued by CSIRO personnel must be complied with at all times.
* Access restrictions apply to the Werribee Animal Health Facility (WAHF) site that is associated with, but remote from, the ACDP site.

## **Our value proposition**

We want CERC Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

Find out more about our CSIRO Early Research Career (CERC) Fellow Experience Employee Value Proposition (EVP) [here](https://www.csiro.au/en/careers/postdoctoral-fellowships).

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Australian Centre for Disease Preparedness](https://www.csiro.au/en/about/facilities-collections/acdp) 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