# Position Details

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

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Winanga-y Postdoctoral Fellowship in Precision Fermentation of Functional Food Proteins |
| Job Reference | 74631 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$89,926 to AU$98,504 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Werribee, Victoria |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates |
|  |  |
| Position reports to the | Team leader, Food Engineering team, Process Engineering and supply chains group |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Netsanet Shiferaw Terefe via email at Netsanet.shiferawterefe@csiro.au or phone +61 397313293; Thomas Vanhercke via email at [Thomas.Vanhercke@csiro.au](mailto:Thomas.Vanhercke@csiro.au)  or phone +61 2 6246 4913 |
| 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 area 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

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work 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 Postdoctoral Fellows are appointed for three years or part time equivalent.**

We are thrilled to be able to deliver on the commitment we made in our strategy to invest in frontier science with the new CSIRO Agriculture & Food Winanga-y Postdoctoral Fellowship scheme. The word Winanga-y (pronounced win-na-gnay) is a cultural asset gifted by the Gomeroi Nation in Myall Vale to CSIRO's Agriculture and Food Business Unit to name the new Postdoctoral Fellowship Scheme. Winanga-y means to understand, know, remember, and think.

CSIRO Agriculture & Food has an exciting opportunity for a new CERC Postdoctoral Fellow to develop a precision fermentation platform for sustainable and cost effective manufacture of high value functional proteins for plant-based meat and seafood analogues inspired by natural ingredients and guided by functionality and processing outcomes. The project involves gene discovery and posttranslational modification strategies for target proteins, use cutting age synthetic biology techniques for metabolic engineering of yeast for heterologous expression of target proteins at high yield guided by high throughput multi-omics and functional characterisation of the recombinant proteins in a ‘Design-Build-Test-Learn’ Synbio approach.

The Postdoctoral Fellow will be jointly supervised by Netsanet Shiferaw Terefe (Ag&Food, Food program) and Thomas Vanhercke (CSIRO Agriculture & Food, Traits). The Fellow will also be mentored by a multi-disciplinary supervisory team consisting of world-class experts in synthetic biology, food science, fermentation technology and downstream processing from two CSIRO business units. In addition to the supervisors, the Fellow will have the opportunity to interact with other researchers in CSIRO (Synthetic biology Future Science Platform, Bioanalytic and proteomics experts, Future Protein Mission) and outside CSIRO (Universities and Research institutes) to broaden his/her scientific skills and networks.

### Duties and Key Result Areas:

Under the direction of senior research scientists and engineers, the CERC Postdoctoral Fellow will:

* + Design and conduct metabolic engineering experiments to develop engineered host organism for the extracellular production of target proteins and evaluation of the performance of recombinant strains through gene expression and LCMS proteomics analyses.
  + Conduct laboratory fermentation experiments with selected recombinant strains to evaluate yield, structure and functionality of target heterologous proteins to guide the refinement of the metabolic engineering strategy.
  + Evaluate the scalability of the fermentation process with the engineered host organism by conducting pilot-scale fermentation process to produce prototype proteins and formulated products for industry engagement.
  + Write scientific papers for publication in peer reviewed journals, prepare documentation for IP capture, deliver presentations at industry workshops and scientific conferences, and participate in industry engagements and commercialisation activities.
  + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Recognise and exploit opportunities for innovation and the generation of new theoretical perspectives, and progress opportunities for the further development or creation of new lines of research
  + 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 Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

[**The CERC Postdoctoral Fellow learning and development program**](http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships)is developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellows’ 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

## **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.

## **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) in a relevant discipline, such as Synthetic Biology, Metabolic engineering, Precision Fermentation or related areas.

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

1. Experience in heterologous expression of proteins in yeast.
2. Experience in posttranslational modification of proteins.
3. 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.
4. A sound history of 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 high throughput omic (e.g. proteomic, transcriptomic) analyses.
2. Experience in microbial fermentation and protein purification
3. Experience in working with food materials, knowledge of food proteins and characterisation and structuring techniques
4. Experience in intellectual property (IP) development and commercialisation
5. The ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
6. **The 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.**

To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates will be expected to commence employment by early 2022. Candidates are also be required to have **submitted** their PhD 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 ($87,068). 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 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.
* 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/

**Our value proposition**

We want CERC Postdoc 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.

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

## **About CSIRO:**

We solve the greatest challenges through innovative science and technology. To find out more visit us [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:

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

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

Find out more about CSIRO [Synthetic Biology Future Science Platform](https://research.csiro.au/synthetic-biology-fsp/)

Find out more about CSIRO [Future Protein Mission](https://www.csiro.au/en/about/challenges-missions/)