# 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 – Collaborative Intelligence Future Science Platform – Biomolecular Modelling |
| Job Reference | 91293 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$92,624 – AU$101,459 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Clayton, Victoria |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates |
| Position reports to the | Team Leader, Protein and Molecular Modelling (MCM, Man.) |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Albert Ardevol via email at albert.ardevolgrau@csiro.au or phone +61 3 9662 7105 |
| 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

**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 Postdoctoral Fellows **are appointed for three years** and will work closely under the direction of senior research scientists and engineers. They carry out innovative, impactful research of strategic importance to CSIRO with the possibility of novel and important scientific outcomes. They present the findings in appropriate publications and at conferences.

The CERC Fellow will be part of the collaborative intelligence (CINTEL) Future Science Platform (FSP) that will develop the science that enables human intelligence and technology to work together across multiple domains, driving sustainable productivity growth and improving both the quantity and quality of jobs for human workers. The CERC Fellow will develop tools and processes required to integrate artificial and human intelligence and produce a general-purpose technology which could have a transformative impact across a wide range of industries and domains.

An outstanding opportunity exists for a motivated and skilled researcher to join the Protein and Molecular Modelling (PMM) team in the Manufacturing Business Unit. PMM is a team of multidisciplinary researchers that develop and use methods of applied mathematics, molecular modelling and molecular biology to enable discovery in computational chemistry, medchem, biophysics and materials science.

The CERC Fellow will conduct research and development of a dynamic framework of collaborative intelligence to support projects in structural biology and biomolecular modelling. An experienced researcher with excellent skills in computational structural biology, molecular biology and ML/AI methods with demonstrated appreciation of human-computer interaction factors will be required. The CERC Fellow will need to have experience using a range of biomolecular modelling and bioinformatics software and have a sound knowledge of structural biology and molecular biology to inform decisions about protein biophysics and crystallography. The CERC Fellow will need to have experience in ML/AI methods in the context of biochemistry or bioinformatics and be familiar with all the protein crystallography data repositories and formats. Experience in experimental molecular biology will be a plus, but technical assistance and scientific advice will be available for experimental aspects of the work.

**Duties and Key Result Areas:**

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

* Develop broad, enabling tools and dynamic workflows that facilitate protein modelling, protein crystallization and experimental designs for improved laboratory performance.
* Collaborate with the broader research group to develop and test new protein modelling methods and predictive tools.
* Work with other CINTEL FSP researchers to understand and implement the best human-machine collaboration practices.
* Significant enhancement of biological prediction accuracy allowing improved use of extensive, available, complex biological information
* Accelerate generation of in silico data through the development and use of innovative AI/ML collaborative strategies and algorithms.
* Communicate results through the production of reports and scientific papers and contributions to appropriate scientific conferences.
* Communicate 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, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

**The CERC Postdoc**toral **learning and development** programis 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

<https://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships>

## **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 Biophysics, Applied Mathematics, Computational Biochemistry, Collaborative Intelligence or a relevant field. Please note: To be eligible for this role you must have **no more than 3 years** (or full-time equivalent) of relevant research experience.
2. Previous research experience working at the intersection of Computer Science or Modelling and Behavioural Science (including human factors, human-computer interaction or similar).
3. Demonstrated experience in experimental design, ML/AI and statistical analysis of complex data.
4. Demonstrated ability to conduct independent research with limited supervision.
5. 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.
6. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
7. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
8. Strong interpersonal skills, with demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.

## **Desirable:**

1. Domain knowledge in biomolecular modelling, bioinformatics and protein engineering.
2. Experience in biochemistry, protein production and protein crystallography.

## **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 to this CERC Fellowship role 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 ($89,680). 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 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 the [CINTEL FSP](https://research.csiro.au/cintel/) 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:

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