# Position Description

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

The following information is for applicants

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| Advertised job title**:** | CSIRO Postdoctoral Fellowship in Geophysical Imaging & Stratigraphic Modelling |
| Job reference: | 62431 |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | * All Candidates |
| Percentage of client focus - internal: | 80% |
| Percentage of client focus - external: | 20% |
| Reports to the: | Team Leader (Geosciences) and Deep Earth Imaging Future Science Platform |
| Number of direct reports: | 0 |
| How to apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |
| Contact details to discuss this position: | Dr. Claudio Delle Piane: Claudio.Dellepiane@csiro.au |
| If you have difficulty applying please contact: | Call 1300 984 220 or email [csiro.online@csiro.au](mailto:careers.online@csiro.au) between 8.30 am and 5 pm Australian east coast time. |

## 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.

Australia’s future minerals, energy and water resources will come from greater depths in the onshore regions and from deep offshore plays. Our ability to find, define and exploit mineral resources is limited by a deep and complex regolith that covers about 80% of the Australian land mass. Undiscovered conventional oil and gas lies in deeper or more subtle traps, or else is sourced from unconventional sources onshore that require new geophysical methods to quantify. The science of Deep Earth Imaging will help us more precisely image and understand the significance of subsurface rock properties, which in turn will unlock the resource potential of this vast and relatively under-explored continent.

## Duties and Key Result Areas:

* Under the direction of a senior research scientists, the successful candidate will conduct innovative research aligned with the goals of *Deep Earth Imaging* that ideally lead to novel and important scientific outcomes around:
  + Stratigraphic modelling as a tool to improve the identification of resources in geological complex settings through imaging and prediction.
  + Improvement and calibration of conceptualised models of hydrocarbon systems through stratigraphic forward modelling.
* Engage and collaborate with the stratigraphic modelling community in Australia and overseas.
* Undertake regular reviews of relevant literature and intellectual property.
* Produce quality scientific and/or engineering papers suitable for publication in quality journals, presentation to clients, and/or applications for patents.
* Prepare and present conference papers as agreed with the Team Leader (Geosciences) and relevant DEI-FSP Theme Leader.
* Contribute to the development of innovative concepts and ideas for further research.
* Contribute to the effective functioning of the Deep Earth Imaging research team and help deliver to CSIRO’s organisational objectives, plans and strategies.
* Work collaboratively with colleagues within the Deep Earth Imaging team, the Minerals, Energy, Data61, and Land and Water Business Units or other CSIRO Business Units as required.
* 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 plans and policies, Diversity initiatives and Zero Harm goals
* Other duties as directed.

**The CERC Postdoctoral Fellow learning and development program**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

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

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

## Selection Criteria:

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

* A doctorate in a relevant discipline (or will shortly satisfy the requirements of a PhD) such as applied geophysics and stratigraphic modelling, with an understanding of their application and extant software packages.
* Demonstrated experience in stratigraphic forward modelling to understand sedimentary systems and simulate their geophysical response.
* Demonstrated experience in geophysical data interpretation.
* Experience with model calibration techniques and global sensitivity analysis techniques.
* Experience in unconventional hydrocarbon systems geochemistry.
* Demonstrated experience and skill in scientific programming.
* Demonstrated high quality written and oral communication skills achieved through high-level reporting, publication, and presentation.
* Demonstrated ability to work effectively as part of a multi-disciplinary research team.
* Motivation and self-discipline to conduct independent research.
* A record of science innovation and creativity with the ability and willingness to incorporate novel ideas and approaches into scientific investigation.

## Desirable Criteria:

* Knowledge of the role stratigraphic modelling plays in the exploration industry.
* Knowledge of basin modelling concepts and applications and relevant software.

To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates are 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 *($83,687 + up to 15.4% superannuation).* 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 security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents 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! <https://www.csiro.au/en/careers/postdoctoral-fellowships>

## About CSIRO:

At CSIRO we solve the greatest challenges through innovative science and technology. See more [online](http://www.csiro.au/)!

Find out more about CSIRO [Energy](https://www.csiro.au/en/Research/EF)