# 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 Environmental DNA metabarcoding of Australian marine fishes |
| Job Reference | 67720 |
| Tenure | Specified Term of 3 years Full-time  |
| Salary Range | AU$86,434 to AU$94,679 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Hobart, Tasmania |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens
* Australian/New Zealand Citizens and Australian Permanent Residents
* Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible candidates)
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| Position reports to the | Science Leader, Australian National Fish Collection, National Collections and Marine Infrastructure |
| Client Focus – Internal | 75% |
| Client Focus – External | 25% |
| Number of Direct Reports | 0 |
| Enquire about this job | Bruce Deagle via email at Bruce.Deagle@csiro.au or phone +61 3 6232 5420 |
| 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 or call 1300 984 220. |

### 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.**

**Environmental DNA metabarcoding of Australian marine fishes**

This position will involve the development and application of innovative environmental DNA (eDNA) methods for studying Australian marine fish biodiversity. The successful candidate will work with scientists within the CSIRO Australian National Fish Collection (ANFC), as well as collaborators (marine ecologists and geneticists) from other CSIRO teams and Australian Universities. This project will provide the opportunity for collaboration with leading scientists in the fields of eDNA and marine biodiversity research.

The project’s focus will be applying cutting-edge laboratory and analytical approaches to evaluate the capabilities of eDNA for fish biodiversity surveys. The emphasis will be on producing high quality eDNA datasets that can be compared directly with conventional fish biodiversity studies. The adoption of eDNA methods into biodiversity monitoring requires vigorous testing of the strengths and limitations of the approach. Using eDNA for taxonomic identification of fish present in surveyed areas is the primary goal, but investigations will also consider the potential to obtain fish abundance measures from eDNA and/or eDNA-based estimates of population genetic connectivity. Sampling will aim to cover a diversity of habitats, from temperate to tropical reefs and deep-sea sites. There are exciting field sampling opportunities that will be co-ordinated with University of Tasmania scientists leading the Reef Life Survey (<https://reeflifesurvey.com/>) and with marine science surveys from the Marine National Facility (RV *Investigator*).

### Duties and Key Result Areas:

The successful applicant will be expected to take on the following duties.

* Work with the ANFC Science Leader and other internal and external collaborators to design and implement an exemplar Australian marine fish eDNA biodiversity research project.
* Implement, undertake and oversee field-based eDNA collections from several marine sites around Australia
* Carry out and coordinate laboratory analysis of eDNA samples in CSIRO genetics laboratories and through external genomic service providers. Techniques include DNA extractions, PCR and high-throughput amplicon sequencing.
* Carry out and coordinate bioinformatic analysis of eDNA metabarcoding datasets
* Undertake statistical analysis of biodiversity datasets with an emphasis on comparing conventional biodiversity datasets collected by collaborators with eDNA data produced by the successful applicant during the project
* Write scientific publications and present research outcomes at national and international conferences

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

* + 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 area, such as molecular ecology, molecular biology, marine biology, conservation biology.

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. Demonstrated experience working in genetics laboratories with practical experience in eDNA technologies including PCR and high-throughput amplicon sequencing
2. An ability to carry out bioinformatic analysis of high-throughput amplicon sequencing datasets
3. Demonstrated excellent inter-personal skills and the ability to manage complex projects with a range of collaborators
4. 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.
5. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
6. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Demonstrated experience in bioinformatic analysis relevant to eDNA metabarcoding and/or population genetics
2. Field-based experience in marine biological surveys; Scuba diving experience
3. Experience in statistical analysis of biodiversity datasets
4. Understanding of biodiversity monitoring
5. 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 December 2020. Candidates are also 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). 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

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.

**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/)!

Find out more about the CSIRO [National Research Collections Australia](https://www.csiro.au/en/Research/Collections)