# 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 Genomics and Population Ecology |
| Job Reference | 76024 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$88,163 to AU$96,573 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Canberra, ACT |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Permanent Residents * Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible onshore candidates) |
| Position reports to the | Director, Australian National Wildlife Collection and Group Leader, Vertebrate Collections but also to the Research Team’s representatives from CSIRO, Parks Australia, and ANU |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Leo Joseph via email at [leo.joseph@csiro.au](mailto:leo.joseph@csiro.au) or phone +61 2 6242 2689 |
| 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. |

### 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.**

The postdoctoral fellow will use “eDNA” methodology to address the biology of Australia's iconic but notoriously difficult to study tjakura (Great Desert Skink *Liopholis kintorei*) in Uluru-Kata Tjuta National Park (UKTNP). This little known, cryptic reptile of Australia’s central and western deserts has deep cultural significance to traditional owners of the lands on which it lives. The fellow will address the challenge of retrieving DNA shed by tjakura and other animals (eDNA) in terrestrial environments particularly from communal burrows. Molecular data so generated from tjakura will then be integrated with traditional owners’ knowledge to address specific questions relevant to management of tjakura by Parks Australia and Indigenous traditional owners. These include: How many individuals occupy/have occupied a given burrow? What are the drivers (i.e. environmental and anthropogenic) of tjakura burrow occupancy? How many burrows has one individual occupied? How does tjakura burrow occupancy relate to time since fire and vegetation succession especially for older spinifex where tjakura place their latrines? What is the family, age and sex structure and relatedness of individuals within and among burrows, or across UKTNP? How far do individuals move across the landscape and in which months? Is dispersal distance related to age and sex? Is inbreeding depression present and is management needed to alleviate it? What can be learned of tjakura's diet from scats? Which predators, native or feral, visit burrows of tjakura?

The postdoctoral fellow will also be able to explore application of eDNA from other sources such as surface water, bird nests, and mammalian faecal material to bring new dimensions to our understanding of the ecology of this iconic arid zone region and develop techniques with possible application to other arid environments in Australia and overseas.

The project is a collaboration with Parks Australia (a division of the Department of Agriculture, Water and the Environment that supports the Director of National Parks in managing Commonwealth parks and gardens), Australian National University and Indigenous traditional owners, community members, and ranger groups at UKTNP and the surrounding Katiti-Petermann IPA.

### Duties and Key Result Areas:

* Work closely with members of the research team to co-design and deliver the project. An essential aspect of this is to work collaboratively with the indigenous Anangu community and ranger groups, including involving Anangu people in fieldwork. A key part of this will also be communicating the project with the community, local schools and ranger groups to engage key stakeholder groups throughout the project.
* Develop, validate and refine protocols for the collection and characterisation of eDNA from terrestrial environments in Uluru-Kata Tjuta National Park (UKTNP) focusing on desert sand environments in and around tjakura burrows, from scats in their latrines, from surface water near burrows, and along transects away from burrows and latrines. This may include such techniques as qPCR and metabarcoding.
* Conduct bioinformatic analysis on eDNA data collected from UKTNP.
* Conduct statistical analysis addressing questions relating to burrow occupancy (number, demographic composition of individuals, relationship between time since fire and burrow occupancy), home range and dispersal, reproductive biology.
* Become familiar with specific management questions that indigenous and governmental managers have and design sampling strategies adequate to answer them.
* Lead the analysis and publication of the data in high impact journals

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 population genomics, eDNA-based genomics.

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 extracting and analysing eDNA from challenging sources and a demonstrated, sound grasp of population and conservation genetics.
2. Current driver’s license.
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.
6. The ability to work with Aboriginal and/or Torres Strait Islander communities and their leaders, respecting traditional culture, values and ways of doing business.
7. **The ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, and the motivation and discipline to carry out autonomous research.**

## **Desirable:**

1. Experience working in remote environments
2. Experience of working with Indigenous communities
3. The ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
4. As this role has a strong involvement in issues relating to Aboriginal and/or Torres Strait Islander people, the ability to provide the contact details of at least one Aboriginal and/or Torres Strait Islander Cultural Referee is considered desirable.

To be appointed to this CERC Postdoctoral Fellowship role within CSIRO, candidates will be expected to commence employment by December 2021/January 2022. 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 ($85,361). 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.
* The successful candidate may be required to undertake a pre-employment medical examination prior to commencement.
* 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:

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

Find out more about CSIRO [National Research Facilities and Collections](https://www.csiro.au/en/about/facilities-collections)