# Position Details

## Research Projects- CSOF5

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| The following information is for applicants |
| Advertised Job Title | Molecular Laboratory Developer - Research Projects Officer |
| Job Reference | 97738 |
| Tenure | Specified Term of 3 years, Full-time |
| Salary Range | AU$110k - AU$119k per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | ACT, Black Mountain |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian or New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Team Leader Phylogenomics |
| Client Focus – Internal | 90% |
| Client Focus – External | 10% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Andreas Zwick via email at andreas.zwick@csiro.au |
| 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. |

**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).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

The role of Research Projects staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The position will be based at the [Australian National Insect Collection](https://www.csiro.au/en/about/facilities-collections/collections/anic) (ANIC), which is part of the [National Research Collections Australia](https://www.csiro.au/en/showcase/nrca) (NRCA) and located in Canberra, ACT. The successful candidate will work closely with research scientists and technicians from the NRCA/ANIC and the [National Biodiversity DNA Library](https://research.csiro.au/dnalibrary/) (NBDL).

The position will support two [Environomics Future Science Platform](https://research.csiro.au/environomics/) projects: “[Gearing high-throughput collection genomics to production](https://research.csiro.au/environomics/team-research-projects/gearing-high-throughput-collection-genomics-to-production/)”, and the “National Biodiversity DNA Library (NBDL)”. The former focuses on automating a laboratory pipeline for the large-scale sequencing of whole genomes from old and fresh specimens through miniaturised genome skimming. The pipeline generates genomic reference sequences for the molecular identification of specimens, with applications in, e.g., eDNA-based biodiversity surveys, conservation and biosecurity. The operationalisation of this pipeline to generate a comprehensive library of reference sequences for all named Australian species is the focus of the NBDL.

The combination of degraded / fragmented DNA from up to 150y old samples and high-throughput DNA sequencing poses a unique challenge, and cutting-edge technology like acoustic liquid handling and robotics are used to reduce potential for cross-contamination and to miniaturise reactions to the nano-litre scale. The successful candidate will work in a team on the continued development, further automation and integration of the pipeline into a Laboratory Information Management System (LIMS) and NBDL workflows.

The successful candidate will contribute to DNA library building for NBDL sequencing campaigns , and other projects as needed. With the collection genomics development underpinning the NBDL, the successful candidate will cater particularly to the needs of the NBDL and be part of the NBDL team. This includes the generation of whole genome shotgun sequence data for specimens of insects, marine invertebrates, vertebrates, plants and algae. It also includes the sequencing of primary type specimens.

[The Environomics Future Science Platform](https://research.csiro.au/environomics/) is genomics for environmental science, a frontier science that brings together advances in DNA sequencing, evolutionary biology, big-data and environmental modelling. Just as genomics has revolutionised agriculture and medicine, Environomics will shift Australia towards a whole-of-environment understanding of the genetic roots and relationships of our biodiversity, from our evolutionary hotspots, to the trillions of microbes essential to our soils, to the genes that give plants drought tolerance. Environomics will allow us to see beyond the Australian landscape to the genescape, transforming our ability to manage our biodiversity and make use of the genetic resources locked inside.

The [National Biodiversity DNA Library (NBDL)](https://research.csiro.au/dnalibrary/) is a globally unique and significant national infrastructure to generate comprehensive reference sequences to support molecular species identification, based on vouchered, taxonomically verified specimens of Australian animals and plants. It is powered by developments from CSIRO’s Environomics Future Science Platform, in particular novel platform technology for high-throughput collection genomics for the large-scale sequencing of whole genomes from specimens in the National Research Collections Australia and in collaboration with the wider Australian collection community.

### Duties and Key Result Areas

* Further automation and development of miniaturised whole genome shotgun (WGS) library preparations on an acoustic liquid handler (ALH) and robotic deck.
* Integration of the miniaturised WGS library preparations in CSIRO's laboratory information management (LIMS) system.
* Development and documentation of protocols for the ALH and robotic deck.
* Development and documentation of new molecular methods for collection genomics.
* Documentation of all experiments and steps in an electronic lab notebook.
* Building DNA libraries with the miniaturised WGS workflow.
* Working closely with the wider NBDL team on data generation and integration of the laboratory pipeline with sample acquisition, data management, bioinformatics, etc, to meet the aims of the NBDL.
* Providing leadership on NBDL data generation in the laboratory, including assisting team members with troubleshooting other elements of the pipeline.
* Regular active participation and communication of laboratory work in team meetings of the laboratory, NBDL, ANIC, NRCA and Environomics FSP.
* Order lab consumables as needed and manage purchase order and credit card spendings.
* Represent CSIRO externally, including in public forums, with industry, the research sector or Government.
* Communicate openly, 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, Code of Conduct, Health, Safety and Environment procedures and policy and diversity initiatives.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

* Relevant bachelor’s degree or equivalent relevant work experience in molecular genomics or molecular biology.
* Theoretical and practical expertise in current laboratory techniques for molecular genetics.
* Extensive practical experience with DNA library preparations for Illumina sequencing.
* Practical experience in the independent implementation, optimisation and troubleshooting of laboratory protocols, using critical thinking.
* The ability to focus on complex tasks and attention to detail.
* The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks under general direction in support of scientific research and data delivery to clients.
* Proven ability to manage time effectively to meet external deadlines.
* Proven ability to communicate effectively with team members, collaborators and audiences with different levels of technical expertise.

## **Desirable**

* Experience with lab automation.
* Experience with acoustic liquid handlers.
* Experience with LIMS.
* Experience with historical DNA lab work.
* PhD in molecular biology
* Experience working with large sample numbers and high throughput molecular analyses
* Experience performing molecular work with a range of taxa.

## 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 team 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:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **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:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **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.

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals 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/

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/), [Environomics Future Science Platform](https://research.csiro.au/environomics/) and [National Biodiversity DNA Library](https://research.csiro.au/dnalibrary/) for more information.

CSIRO is a values-based organisation.  In your application and at the interview you will need to demonstrate behaviours aligned with our values of:

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