# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants |
| Advertised Job Title | Biological Collections Data Scientist |
| Job Reference | 84970 |
| Tenure | Specified term of 3 years, Full-time |
| Salary Range | AU$117k - AU$138k per annum, plus up to 15.4% superannuation |
| Location(s) | Canberra, ACT or Hobart, TAS |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens and Permanent Residents
* New Zealand Citizens
* Australian temporary residents with the right to work for the expected duration of the term (at least to end of August 2024), with no requirement for sponsorship
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| Position reports to the | Group Leader, Digitisation |
| Client Focus – Internal | 70% |
| Client Focus – External | 30% |
| Number of Direct Reports | 0 - 3  |
| Enquire about this job | Pete Thrall via email Peter.Thrall@csiro.au or phone 02 6242 1661 |
| 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).

### Role Overview

The Biological Collections Data Scientist is a senior scientist with National Research Collections Australia (NRCA). The position leads the development of new machine learning and artificial intelligence methods to help integrate, leverage and deliver the extensive biological information held in these collections. Potential areas of research focus include diagnostic and identification tools, trait extraction from specimen images, and large-scale analyses that integrate multiple data layers (e.g., spatial, environmental, genetic).

Specific emphasis will be placed on developing projects collaboratively with Digital Group team members, NRCA collection scientists and curators, and colleagues across CSIRO (e.g., Health & Biosecurity, Data61) to solve significant science questions, and deliver new applications, tools and analytical approaches to utilising specimen-based biological data. For example, this could include areas such as species discovery, environmental assessment, biosecurity, conservation and biodiversity management. This research will aid in the understanding, conservation and management of the unique Australian phytoplankton, flora and fauna.

The Biological Collections Data Scientist works closely with the Digital Group leader, NRCA Research Director and others to help build a viable data science and analytics team within the Digital Group. As part of a broader digital strategy, the Biological Collections Data Scientist develops and leads project proposals for internal and external funding, and supports and mentors postdoctoral fellows and students.

NRCA is the most comprehensive specimen-based record of Australia’s unique biodiversity. It provides biological research infrastructure and capability to the Australian and international community, delivering specimens, data, science, training and advice to end-users across government, industry and the STEM sector.

The collections consist of:

* More than 15 million specimens of major vertebrate, invertebrate and plant groups from Australia’s terrestrial and marine environments dating back to the 1770s
* Two major living collections of algae and tree seed
* Preserved tissues and associated DNA samples as well as environmental DNA
* Curatorial and research facilities including archival and cryogenic storage, molecular and microbiology laboratories, digitisation suites and data systems
* Specimen-based taxonomic, geographical and environmental data, genomic information and other digital research assets including images and sounds
* Capability and expertise in remote field operations, collections management, curation, data systems and digitisation, and both fundamental and applied collections-based research

NRCA is impact-focused and research intensive, supporting and delivering across a broad range of fundamental and applied areas, including taxonomy, evolutionary biology, genomics, biogeography and ecological modelling, environmental monitoring, germplasm management, biosecurity, genetic engineering, artificial intelligence and bioprospecting.

### Duties and Key Result Areas

* Liaise and engage with CSIRO’s digital domain (D61, IM&T, ALA), NRCA collections managers and researchers.
* Develop and lead or support cross-NRCA collaboration and external projects.
* Conceptually bridge and engage across biology and data science (e.g., ML/AI) domains internally and externally.
* Develop a significant portfolio of applied collections-based digital science.
* Provide leadership and support to help increase the digital maturity of collection scientists and managers.
* Demonstrate a considerable degree of originality, creativity and innovation in solving problems and introduce new directions and approaches.
* Communicate research results to clients and the scientific community through oral and written reports and prepare documentation for patent applications (where relevant).
* 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.
* Work collaboratively as part of a multi-disciplinary research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. A doctorate in a relevant discipline area (e.g., data science, applied computer science, biodiversity science), and a demonstrated research track record commensurate with a senior scientist role.
2. Demonstrable deep knowledge of AI/ML and analytics and trends, particularly with regard to application in biodiversity/collection science.
3. Proven ability to work effectively as part of a multi-disciplinary research team, plus the motivation and discipline to carry out autonomous research.
4. High level written and oral communication skills with a proven ability to represent the research team effectively internally and externally, including the presentation of research outcomes at national and international conferences.

**Desirable**

1. Knowledge of biodiversity data, e.g., collection specimens, geocoded occurrence data, nomenclatural and taxonomic databases.
2. Solid understanding of global trends in collection and curatorial science.
3. Experience with end-user engagement to identify and develop applications (e.g., in biosecurity, conservation, environmental monitoring).

## **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **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:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

Special Requirements

The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [National Research Collections Australia](https://www.csiro.au/en/about/facilities-collections/Collections) 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:

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