# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist in Omics and Machine Learning for Algae Bioprospecting |
| Job Reference | 87031 |
| Tenure | Specified Term ending 31 August, 2025 - Full-time |
| Salary Range | AU$102k - AU$111k per annum, plus up to 15.4% superannuation |
| Location(s) | Hobart, Tasmania preferred  *(Brisbane or Melbourne considered)* |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian or New Zealand Citizens and Australian Permanent Residents * Australian temporary residents with work rights for the expected length of term (at least to the end of August, 2025, with no requirement for sponsorship) |
| Position reports to the | Project Leader |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Please contact Anusuya Willis via email at [Anusuya.Willis@csiro.au](mailto:Anusuya.Willis@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](mailto: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 **Research Scientist in Omics and Machine Learning for Algae Bioprospecting** will join the Australian National Algae Culture Collection (ANACC) and [Environomics Future Science Platform](https://research.csiro.au/environomics/), where they will design and implement a technically challenging research project that will develop an extensive knowledgebase of algae phylogenetics, omics and bioproduct characterisation, and apply machine learning to create a predictive bioprospecting platform. The Research Scientist will lead the project under the supervision of the project lead, with input from collaborators, and with support from a technical assistant. The scientific challenge of this project is to change algae bioprospecting methods from a narrow screening to an approach based on understanding the evolutionary development of bioproducts to enable targeted sampling. About half of Australia’s algae are taxonomically uncharacterised and their potential bioproducts unknown. The project involves extensive data creation from genomics, metabolomics, proteomics, and bioactive screening, for analysis and machine learning. The machine learning will link evolutionary relationships of algae to bioproduct production to develop a predictive platform for intelligent algae bioprospecting.

The position provides professional development in core research and management skills, including optional co-supervision of a PhD student. The Research Scientist will be expected to lead multiple publications arising from the research. There will be scope for the Research Scientist to develop their own research interests within the project.

[Future Science Platforms](https://www.csiro.au/en/about/strategy/Future-Science-Platforms) (FSPs) are an investment in science that underpins innovation and that has the potential to help reinvent and create new industries for Australia. They are hubs that support world class, creative research teams which integrate science and delivery over the long term, looking to the future science needs of CSIRO and our partners with a 5 to 10 year vision. FSPs are both impact and science focussed.

The [Environomics Future Science Platform](https://research.csiro.au/environomics/) is using genomics and other ‘omics technologies to revolutionise environmental science and natural resource management. The Environomics FSP maintains a varied portfolio of projects that aim to gather more information, more quickly and accurately from the environment using cutting-edge genomic technologies. Projects bring together advances in DNA sequencing, evolutionary biology, big-data, and environmental monitoring. Environmental genomics allows us to see beyond the Australian landscape to the genescape, transforming our ability to manage our biodiversity and make use of the genetic resources in nature.

### Duties and Key Result Areas

* Under the supervision of senior researchers, lead the planning, preparation and execution of creative and innovative research activities relating to algae ‘omics and bioactive characterisation.
* Select the most efficient approaches to research problems, and prepare detailed design proposals and experimental protocols.
* Draw on professional expertise, knowledge of other disciplines and research experience to recognise opportunities for innovation, and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* Participate in the identification of further opportunities which arise from research and initiate new investigations.
* Apply discretion to decide and implement strategies appropriate to the successful completion of work.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Identify and address problems promptly and in a constructive manner.
* Undertake experimental and/or observational research activities and supervise/train others to ensure experiments are established in accordance with research design.
* 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, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s 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 PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as such as environmental genomics, molecular biology, cell biology, molecular ecology, bioinformatics, or similar.
2. Demonstrated ability to undertake original, creative and innovative research.
3. A publication history of authorship on scientific papers in peer reviewed journals, and a demonstrated ability to communicate research outcomes.
4. A willingness to learn new techniques, with a demonstrated ability to design and implement novel genomic, proteomic, or metabolomic protocols, and/or implement machine learning techniques, in the laboratory or field.
5. Proven high-level laboratory competency and technical skills, particularly sample preparation for ‘omic analysis, and the ability to analyse complex biological, genomic, or ecological datasets.
6. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.
7. Demonstrated high-level attention to detail in setting up complex analytical procedures.

## **Desirable**

1. The ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
2. Interest or experience in algae biodiversity.

## **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 responses 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 change.

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 Collections and Marine Infrastructure - CSIRO](https://www.csiro.au/en/about/people/business-units/NCMI) 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