# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants |
| Advertised Job Title | Bioinformatician/Biostatistician |
| Job Reference | 95291 |
| Tenure | 3 years Full-time |
| Salary Range | AU$105,806 - AU$114,500 per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | Black Mountain (Canberra, ACT); other locations negotiable for exceptional candidates. |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All Candidates
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| Position reports to the | “Genomics and AI” Team Leader |
| Client Focus – Internal | 20 % |
| Client Focus – External | 80 % |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Rad Suchecki or Colleen MacMillan via email at Rad.Suchecki@csiro.au and Colleen.Macmillan@csiro.au, respectively  |
| 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 a bioinformatician in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. Specifically, this role will deliver research outcomes to the CSIRO cotton breeding program, a breeding program with a research and development pipeline from understanding the molecular basis of traits of interest through to commercial variety delivery. As part of numerous industry-supported research projects, we are undertaking a large-scale genomic prediction and phenomic analysis of commercial cotton varieties.

We are looking for a computational biologist specialising in genome informatics that can develop and utilize computational approaches to analyse genomic datasets, with a particular emphasis on next generation DNA sequencing and its application to genotype by sequencing, genome assembly and annotation.

### Duties and Key Result Areas

* Assemble and annotate genomes using short read, long read and Hi-C datasets
* Identify sequence and structural variation between different cotton varieties.
* Identify differentially expressed genes associated with various cotton traits using newly generated and public developmental RNA-seq data sets.
* Construct gene correlation networks based on differentially expressed genes relevant to targeted traits.
* Incorporate differentially expressed genes and/or gene networks into genomic prediction models. Carry out data driven research investigations, requiring originality, creativity and innovation.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* 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 with several Cotton Project Teams and as part of a multi-disciplinary, regionally dispersed research 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 and diversity initiatives.
* 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 bioinformatics and computational biology.
2. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
3. Extensive skills and experience in programmatic/command line handling, processing and analyses of sequencing data.
4. Knowledge of/Skills in statistical genomic models.

## **Desirable**

1. An ability to implement and customise software packages to generate workflows for genomic selection analysis in plants or animals.
2. Knowledge of genetics.
3. Skills in high-dimensional data visualization
4. Experience with version control (git) and workflow management software (e.g. Nextflow, Snakemake)
5. Experience developing and/or applying ML/AI approaches for biology.
6. Experience in data management and the application of FAIR Data principles to scientific data.
7. Interest/curiosity about biological phenomena for example cotton fibre quality and disease resistance.
8. Aptitude/willingness to work across multiple projects.

## **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

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.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [CSIRO Agriculture and Food](https://www.csiro.au/en/about/people/business-units/agriculture-and-food) 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