# Position Details

## Research Projects – CSOF3/CSOF4

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| The following information is for applicants | |
| Advertised Job Title | Instrument Scientist/Engineer |
| Job Reference | 92893 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | **CSOF3:** AU$68,148 – AU$86,733 per annum + up to 15.4% superannuation  **CSOF4:** AU$89,680 – AU$101,459 per annum + up to 15.4% superannuation  \* Applications may be considered across two capability levels, and the successful candidate will be appointed at the level commensurate with their skills and experience. |
| Location(s) | Melbourne (Clayton), VIC |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian or New Zealand Citizens * Australian Permanent Residents * Australian Temporary Residents, currently residing in Australia, with an existing valid visa and unrestricted work rights for the full duration of the term (at least until December 2026) and **no requirement for visa sponsorship**. |
| Position reports to the | Team Leader – Microanalytical Geoscience |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Gareth Moorhead via email at [gareth.moorhead@csiro.au](mailto:gareth.moorhead@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).

**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.

CSIRO Mineral Resources (CMR) is one of the largest minerals research and development groups globally, with a proud track record in delivering innovation and solutions across the mineral resources value chain. We thrive on innovation harnessed by the diversity of the minds and lived experiences of our team and apply our expert knowledge and specialised research to provide innovation that solves the complex problems faced by minerals companies, mining equipment, technology, and services (METS) companies, government, and other industry stakeholders. The CMR Discovery Program aims to be a truly diverse team that reflects the diversity that we see in society, and comprises an enthusiastic multidisciplinary team of STEM researchers, all focused on developing new technologies and concepts for exploration through cover and advancing orebody knowledge.

As a member of the CMR Discovery Program, the Instrument Scientist/Engineer will work as part of a multidisciplinary group of CSIRO researchers, external clients, including industry, cooperative research centres (CRCs), and other government agencies, on research relevant to the resources industry. CSIRO has world-leading capability in X-ray fluorescence microanalysis of geological samples. This analysis underpins our efforts to understand chemical footprints and characterise known mineralisation to optimise extraction and processing. They will collaborate with our engineers and instrument physicists in the on-going development of methodologies, analytical tools and workflows that exploit the capabilities of our unique instrument suite for our world-leading geoscience research. They will be responsible for the operation of our XRF microbeam instrument, the Maia Mapper, including workflow optimisation and management of rock cores and other samples, management of the large datasets, and their preliminary analysis and quality assurance – quality control. The Maia Mapper is complemented by a range of characterisation instruments including Bruker Tornado, Electron Probe Microanalysers, Laser Induced Breakdown Spectroscopy (LIBS), SEM with EDS and EBSD, and bulk analysis with WD-XRF. The position will be based at the CSIRO campus in Clayton Victoria, adjacent to Monash University, on Bunurong Country, which offers world-class laboratory facilities in a dynamic research environment. Our Clayton site is also located close to the Australian Synchrotron where the Instrument Scientist/Engineer may become involved in CSIRO-led experiments.

While working at CSIRO, the Instrument Scientist/Engineer will be able to create a dynamic career path leveraging from their own experiences and identity. They will have access to a range of world-class facilities based at local universities where CSIRO has collaborative arrangements in place, and at other CSIRO sites across Australia.

Applications are considered across two capability levels and the successful candidate will be appointed at the level commensurate with their skills and experience.

### Duties and Key Result Areas

* Operate and maintain the Maia Mapper instrument in Clayton, learning about the system design, maintenance requirements and data infrastructure.
* Communicate openly and effectively with internal and external colleagues, clients, and partners to develop and progress research outcomes and maintain productive stakeholder relationships.
* Collaborate with Research Scientists across CSIRO Mineral Resources to optimise analysis workflows using the Maia Mapper and other instruments.
* Recognise opportunities for innovation and incorporate novel approaches to research to deliver high-impact outcomes of strategic relevance to the minerals industry.
* Produce high-quality technical reports and contribute to client presentations and scientific papers.
* Advise on planning and preparing research plans and proposals.
* Work collaboratively as part of multidisciplinary, often regionally dispersed research teams to carry out tasks supporting 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 Making Safety Personal goals.
* Other duties as directed.

***Additional duties and key result areas at the higher capability level (CSOF4) may also include:***

* Liaison with organisational IT services for the implementation and management of instrument and analysis computing requirements and data storage requirements.
* Manage Linux systems and services in support of instrument operations and data analysis.
* Under general direction, contribute to research and/or technology through the development of original and adapted experimental methods, equipment, or software.
* Show initiative to seek new approaches to meet experimental or technological needs when encountering new problems where methods are not defined.

## **Selection Criteria**

#### Essential

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

1. Relevant degree, or equivalent applied research or industry experience, in the field of physics, engineering or geosciences.
2. Experience maintaining vacuum systems and laboratory instruments.
3. Demonstrated ability to work within a multidisciplinary and diverse research team, and the motivation and discipline to carry out independent research to achieve organisational goals.
4. Willingness to learn new data acquisition and processing methods such as lab based or portable XRF, XRD, hyperspectral equipment.
5. Excellent verbal and written communication skills, including a proven track record of writing technical reports and/or publications.

***For appointment at the higher capability (CSOF4) level, the additional essential criteria will also include:***

1. Experience in managing sample and data workflows for scientific instrumentation.

## **Desirable**

1. Knowledge of mineralogy and geochemistry (however, a keen interest in the applications of X-ray microanalysis to mineral exploration coupled with access to CSIRO’s existing expertise in ore deposit geology would be sufficient).
2. Experience of acquiring, processing, and interpreting XRF spectra.
3. Experience collecting and delivering chemical and mineralogical datasets to commercial customers.
4. Experience writing and maintaining data acquisition software and services in languages such as C and Python.
5. Experience managing Linux systems and services.

## **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.

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.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [CSIRO Mineral Resources](https://www.csiro.au/en/work-with-us/industries/mining-resources/Exploration) 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

CSIRO is a member of the Science in Australia Gender Equity (SAGE) pilot, holds Gold Employer Status through the AWEI (Australian Workplace Equality Index), which sets a comparative benchmark for LGBTIQ+ inclusion for employers across all sectors and is committed to reconciliation with Aboriginal and Torres Strait Islander Peoples. The team recognises that Aboriginal and Torres Strait Islander peoples have made and will continue to make extraordinary contributions to Australian culture, economy and science and we aim to promote and support the vision of ‘A science landscape in respectful partnership with Indigenous Australia delivering innovative, sustainable, holistic solutions to meet our greatest national challenges.’