# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist in Magnetotellurics (MT) |
| Job Reference | 72248 |
| Tenure | Specified Term of 20 months, full-time |
| Salary Range | AU$98k - AU$106k per annum, plus up to 15.4% superannuation |
| Location(s) | Kensington (Perth) Western Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates |
| Position reports to the | Team Leader EM & Seismic |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Aaron Davis via email [Aaron.Davis@csiro.au](mailto:Aaron.Davis@csiro.au) or telephone +61 8 6436 8951 |
| 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. |

### Role Overview

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The role provides the opportunity to build and maintain networks, play a lead role in securing project funds, demonstrate scientific leadership, and pursue new ideas and approaches that create new concepts.

The Research Scientist in Magnetotellurics (MT) participates in strategies relating to exploration through cover; developing methods to quantify uncertainty in MT data. The position is responsible for assessing interpretation biases due to simplifying assumptions in forward and inverse modelling, and supports the ongoing development of MT as an exploration technique through advances in probabilistic modelling, inversion and interpretation. The Research Scientist will facilitate the development of advanced interpretation techniques to reduce exploration time and help companies plan higher-accuracy drilling campaigns through deep cover.

### Duties and Key Result Areas:

* Conduct innovative research aligned with the goals of *CSIRO Mineral Resources* that lead to novel and important scientific outcomes:
  + Develop 1D probabilistic inversion methodology for magnetotelluric data,
  + Integrate the 1D probabilistic inversion methodology in a multi-physics imaging workflow,
  + Apply methodology to derive probabilistic cover-basement electrical interfaces on suitable magnetotelluric datasets.
* Engage and collaborate with the magnetotelluric community in Australia and overseas.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Under limited direction, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Address problems promptly and in a constructive manner, selecting the most profitable lines of attack upon a problem, preparing detailed design proposals and experimental protocols.
* Undertake experimental and/or observational research activities, often requiring the supervision and/or training of others to ensure experiments are established in accordance with research design, or as required.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* 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 in a relevant discipline such as geophysics, or relevant experience coupled with a suitable degree which together are equivalent to a PhD in this area.
2. Demonstrated experience in uncertainty quantification of magnetotelluric data processing.
3. Demonstrated experience in probabilistic inversion of magnetotelluric data.
4. Proven advanced computing skills, with a specific emphasis on high-performance computing, (ideally in a Unix/Linux environment), plus experience and skill in scientific programming.
5. Evidence of high quality written and oral communication skills achieved through high-level reporting, publications and presentations.
6. The ability to work effectively as part of a multi-disciplinary research team and the motivation and self-discipline to conduct independent research.
7. A record of science innovation and creativity with the ability and willingness to incorporate novel ideas and approaches into scientific investigation.

## **Desirable:**

1. Knowledge of magnetotelluric acquisition programs in Australia.
2. **Ability and familiarity with conducting field work in remote locations using 4wd vehicles.**

## **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:** 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

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.

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/) and [CSIRO Mineral Resources](https://www.csiro.au/en/Research/MRF) 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:

1. People First
2. Further Together
3. Making it Real
4. Trusted