# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Spatial Research Scientist, Natural Resources |
| Job Reference | 79168 |
| Tenure | Specified Term of 3 years  Role is offered on a full-time basis but open to applications from candidates who wish to work part-time (min 0.8 FTE) and will accommodate this if circumstances permit |
| Salary Range | AU$102k to AU$111k pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Perth (Kensington), WA  Whadjuk Noongar Country |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All candidates |
| Position reports to the | Team Leader, Mineral Footprints |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Jessica Stromberg via email at jessica.stromberg@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 area 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 role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

CSIRO Mineral Resources (CMR) is one of the largest minerals research and development groups in the world, with a proud track-record of delivering innovative solutions across the mineral resources value chain. Our multidisciplinary expertise and specialised research techniques and equipment are used to solve the challenging and complex problems faced by minerals mining and exploration companies, as well as mining equipment, technology, and services (METS) companies. We work with government, universities, and industry stakeholders in a collaborative environment. We value the diversity of our researchers and non-research staff as they bring a depth of knowledge, experience and creativity that ignites our innovative research and fosters a healthy and supportive work environment.

As a member of the CMR Discovery Program, the Spatial Research Scientist, Natural Resources will work in a multidisciplinary team of CSIRO researchers and external partners on research relevant to natural resources, such as minerals and water. In the Discovery Program we are developing advanced algorithms to characterise and predict subsurface geology and rock property distributions with informative quantitative assessments of uncertainty. This new role will develop innovative algorithms to generate novel views of mineral distributions from the micro- to regional-scale to better understand mineralising processes. The Scientist will work with a diverse research team to use newly developed mineral characterisation methods for predictive models and test them in associated projects. A key outcome of this work is to link new knowledge of mineral characterisation and distributions with Earth observation data to facilitate exploration targeting, and for applications in mining operations or remediation. Of particular interest for this role is the investigation of sites for carbon storage and water resources to ensure responsible and sustainable land-use practices. This role will contribute to existing projects and development of new industry and government projects to implement Discovery Program’s vision for 21st century holistic exploration tools.

While working at CSIRO, you will be able to create a dynamic career path leveraging from your own experiences and identity. You 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. The position will be based at the Australian Resources Research Centre in Perth (on Wadjuk Noongar Country), Western Australia, which offers world-class laboratory facilities in a dynamic research environment. CSIRO provides an attractive remuneration package that includes a generous superannuation scheme, flexible work options, travel, and multiple leave options including paid maternity and parental leave.

CSIRO is a member of the Science in Australia Gender Equity (SAGE) pilot, and 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 Islanders Peoples’. CSIRO also 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’.

The role is offered on a full-time basis but we are open to applications from candidates who wish to work part-time (min 0.8 FTE) and will accommodate this if circumstances permit.

### Duties and Key Result Areas

* Integrate multi-source and multi-scale spatio-temporal natural science datasets, in 2D and 3D, to develop novel higher-level geoscience products that provide new knowledge to the structure and composition of the Earth’s crust for applications in mineral exploration, mining, and other natural resources.
* Draw on professional expertise to understand the value and limitations of specific geoscience data sets, and how sampling and analytical methods might affect results.
* Apply the appropriate mathematical and statistical treatment of diverse types of geoscience data.
* Communicate openly and effectively with internal and external colleagues, clients, and partners to develop and progress research outcomes and maintain productive stakeholder relationships.
* Under the supervision of more senior researchers, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* 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 presentations to clients or professional associations as well as scientific papers suitable for publication in quality journals and presentation in national and international forums.
* Assist in planning and preparing research proposals and carrying out independent research investigations, requiring originality, creativity, and innovation.
* May provide supervision and coaching to students and technical staff.
* Maintain confidentiality when working with commercially sensitive information.
* 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 Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **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.

## **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 mathematics, statistics and computer science related to applications to geoscience or other natural sciences.
2. Familiarity with spatial statistical and visualisation packages in R and/or Python.
3. Demonstrated experience in natural science spatio-temporal data and modelling methods.
4. Demonstrated experience using spatial data in order to map systems at regional to small scales.
5. 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.
6. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
7. Excellent oral and written communications skills and a demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or technical reports, grant applications or inventorship on patent applications.

## **Desirable**

1. Experience working with earth observation or other novel remote sensing datasets.
2. Experience sourcing, preparing, aggregating, and integrating small- to large-scale data sets into 2D or 3D predictive models utilising knowledge-driven or data-driven (machine learning, geostatistical) methods.
3. Expertise in geostatistics.
4. Experience with 3D geological modelling and GIS.
5. Demonstrated ability to interpret geology from geophysics and other geological data sets.
6. Experience working in, or engaging with, external organizations such as government or industry on industry sponsored research projects.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people 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. To find out more visit us [online](http://www.csiro.au/)!

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

Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF)