## Position Description

## Research Scientist/Engineer – CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Mining Groundwater Modeller |
| Job Reference | 100101 |
| Tenure and Work Schedule | Specified Term of 3 years  Full-time. |
| Salary Range | AU$131,113 - AU$153,639 per annum (pro-rata for part-time) plus 15.4% superannuation |
| Location(s) and Office Arrangements | Brisbane (Pullenvale), QLD.  Turrbal, Jagera and Yugara Country |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents * Australian Temporary Residents with a valid working visa for the duration of the specified term |
| Position reports to the | Team Leader – Mine Geoenvironment |
| Client Focus – Internal | 0% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Manoj Khanal, Team Leader, via email manoj.khanal@csiro.au |
| Support and Workplace Adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email or phone (Vicki Ferrar, Talent Acquisition Partner, [vicki.ferrar@csiro.au](mailto:vicki.ferrar@csiro.au) / 07 3214 2369) if we can help you to equitably participate in our recruitment process or the role itself. |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  We encourage you to reach out if you require any support or experience difficulties when applying - please email [careers.online@csiro.au](mailto:careers.online@csiro.au) |

**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).

**About CSIRO**

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world’s largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and [Indigenous Australia](https://www.csiro.au/research/indigenous-science), Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit [CSIRO.au](file:///C:/Users/lui008/OneDrive%20-%20CSIRO/Desktop/LIFE/LEADERSHIP/Inclusive%20Recruitment/PD%20and%20Job%20Ads/CSIRO.au) for more information.

**Role Overview**

The role of Research Scientist/Engineer staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist/Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The Research Scientist/Engineer 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.

The Mine Geoenvironment Team under the Sustainable Mining Research Program is set to advance science, technologies and engineering practices in five challenging areas associated with mine geoenvironment.

* Mining impact on groundwater systems
* Abandoned mine stability and management
* Tailings dam safety
* Mine gaseous waste control (e.g., methane from coal mines, radon from copper mines)
* Mining geohazards prevention (e.g., structure detection, rock bursts)

This position will be vital to continuing Mine Geoenviornment team’s research in the mine groundwater, maintaining our world-class numerical modelling capabilities, developing new initiatives to grow research in tailings safety, and expediting technology development and commercialisation (i.e., measurement-while-drilling).

**Duties and Key Result Areas**

* Maintain Mine Geoenvironment team’s world class numerical modelling capabilities, for example, COSFLOW, an in-house code developed for coupled rock-water modelling analysis and FRACOD, an in-house code for modelling rock fracturing initiation and propagation.
* Develop challenging but realistic research plans and negotiate resource requirements with research managers or clients.
* Take responsibility for smaller research projects or elements of larger projects within and/or across Business Units.
* Lead and supervise staff to ensure modelling and experiments are established in accordance with the research design and are completed within the agreed timeframes and budget.
* Anticipate industry and/or community needs and market direction through client liaison and networking.
* Undertake feasibility studies, demonstrate a considerable degree of originality, creativity and innovation in solving problems and introduce new directions and approaches.
* Communicate research results to clients and the scientific community through oral and written reports.
* Conduct hydrological, hydrogeological and groundwater modelling research using uncertainty (conceptual and numerical) to better understand and manage groundwater resources
* Provide input and undertake independent work into new research projects or large multi-disciplinary projects to support the science and impact needs of groundwater characterisation.
* Undertake innovative research related to groundwater hydrology processes, recharge, throughflow, inter-aquifer/aquitard leakage and groundwater-surface water exchanges
* Lead technical scientific reports, scientific writing, and delivery of scientific publications, lead opportunities, projects, specific activities or project components, engage with other specialists across CSIRO and external stakeholders to deliver on projects, present project outcomes, have good communication and writing skills.
* 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.
* 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 ground water modelling, reactive transport modelling, groundwater hydrogeological modelling.
2. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems in groundwater science.
3. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
4. Research experience on inter-disciplinary engineering areas in application to resources engineering
5. Established networks in groundwater modelling research communities
6. A demonstrated commitment to health, safety, and wellbeing of staff, willing to challenge the status quo in pursuit of Zero Harm.

**Desirable**

1. Experience with MOOSE, an open-source multiphase modelling platform
2. Experience on working in research environment
3. Experience in programming.

**Not sure if you meet all the criteria?**

While it is CSIRO policy that the successful candidate must meet all the essential criteria, there are many ways to demonstrate this. Don’t let the list discourage you. If you are unsure about applying, please reach out to the contact on page 1 of this document so we can discuss the role further.

## **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

**Setting You Up For Success**

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please let us know via email at vicki.ferrar@csiro.au if we can help you to equitably participate in our recruitment process or the role itself.

**Life at CSIRO and Flexible Working Arrangements**

We [work flexibly at CSIRO](https://www.csiro.au/en/careers/life-at-csiro/Flexible-work), offering a range of options for how, when and where you work.  We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, [benefits](https://www.csiro.au/en/careers/life-at-csiro/Benefits) and [career development](https://www.csiro.au/en/careers/life-at-csiro/Career-development) opportunities. To learn more, visit [Careers at CSIRO](https://www.csiro.au/en/careers).

We celebrate the uniqueness of our workforce and are committed to creating [diverse and inclusive teams](https://www.csiro.au/en/careers/life-at-csiro/Diversity-inclusion-belonging) where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders, sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

**CSIRO Values**

CSIRO is a values-based organisation committed to values-based leadership.

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| **Value** | **Descriptor** | **Behaviour** |
| **People First** | Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences. | * Respectful * Caring * Inclusive |
| **Further Together** | We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems. | * Accountable * Authentic * Courageous |
| **Making it Real** | We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change. | * Partnering * Cooperative * Humble |
| **Trusted** | We’re driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia’s trust in CSIRO. | * Curious * Adaptive * Entrepreneurial |

**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).

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.
* 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/