# Position Details

## Research Scientist/Engineer- CSOF6

|  |
| --- |
| The following information is for applicants |
| Advertised Job Title | Senior Groundwater Modelling Scientist |
| Job Reference | 87498 |
| Tenure | Indefinite Full-time |
| Salary Range | AU AU$117,917-$138,176 per annum plus up to 15.4% superannuation |
| Location(s) | Perth, WA |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Team Leader, Water for Regional Development |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Steve Charles, Team Leader, Water for Regional Development, via email at steve.charles@csiro.au or phone +61 8 9333 6795 |
| 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).

### 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. You will 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.

The Senior Groundwater Modelling Scientist position sits within the Perth-based Water for Regional Development Team. The Team is in the Groundwater Management Group in the Water Security Research Program within CSIRO Land and Water. The successful candidate will lead research in support of effective groundwater management in WA and nationally. They will develop and lead projects in groundwater modelling research delivering novel methods to inform regulators and industry on fit-for-purpose, evidence-based, groundwater management options. As well as being a science leader in the discipline, the position will involve high level networking and interaction with government, industry, and universities. The role thus suits an experienced researcher with demonstrated abilities to lead science and develop business.

### Duties and Key Result Areas

* Under general direction, use professional expertise, knowledge of other disciplines and research experience to provide scientific leadership in groundwater modelling for resources management.
* Grow opportunities, revenue and partnerships by responding to and creating funded opportunities with government, industry and the private sector. Develop and maintain relationships with funders, collaborators and delivery partners.
* Develop efficient tools for optimal, robust groundwater management under uncertainty of objectives, constraints, and parameters, while reducing conceptual and parameter uncertainty in model predictions.
* Develop fit-for-purpose groundwater management models through analysis, integration, upscaling and synthesis of information from multiple sources and scales, employing big data analytics and machine learning techniques.
* Apply information theory methods for causal inference, hypothesis testing and prediction and for understanding dynamic complex systems and models of complex systems.
* Design optimal groundwater data acquisition, based on data-worth and data value analysis and experimental design strategies.
* Engage with regulators and industries managing groundwater resources, present research verbally and in reports and publications for clients and the scientific community, collaborate to ensure informed uptake of research outputs, advise policy makers and facilitate the transfer of knowledge to non-scientific audiences.
* Work effectively as an integral member or leader of a multi-disciplinary, often regionally dispersed research team, to undertake independent scientific investigations and carry out/delegate associated tasks under broad guidance from more senior research managers.
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.
* 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.
* Act as a trusted advisor, utilising knowledge of the clients’ business and understanding of their underlying needs.
* Anticipate industry and/or community needs and market direction through client liaison and networking, identifying and adapt quickly to changes in client needs and market directions.
* Adhere to the spirit and practice of CSIRO’s Values, 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 Water Resources Engineering, Groundwater, Civil Engineering, Environmental Engineering, Water Resources or an equivalent discipline.
2. Demonstrated ability to form productive and enduring collaborative relationships with a range of stakeholders and to identify and influence critical stakeholders to gain support for contested proposals/ideas.
3. Demonstrated record of developing project opportunities, responding to project calls and having projects funded.
4. Experience leading research teams and mentoring junior scientists, postdoctoral fellows and postgraduate students.
5. Proven expertise in fit-for-purpose groundwater model development and conceptualisation of aquifers and groundwater flow, supporting robust groundwater management under uncertainty and optimal groundwater data acquisition.
6. Experience in management of cumulative impacts from the resources and agricultural sectors on water resources and groundwater dependent ecosystems within a triple bottom line framework.
7. Demonstrated experience in scientific programming (Python), data visualisation, and high-performance computing.
8. A demonstrated publication history of authorship of scientific papers in peer reviewed journals, reports and grant applications.
9. Excellent written and oral communication skills, evidenced by high-level reporting, presentation and negotiation abilities.

## **Desirable**

1. Experience in GIS, big data analytics and machine learning techniques.
2. Knowledge of groundwater processes and social/economic management issues in Western Australia.

## **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.

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/) for more information and see details of our Groundwater research [here](https://www.csiro.au/en/research/natural-environment/water/Groundwater-resources).

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