# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants |
| Advertised Job Title | Senior Chemical/Thermal Engineer  |
| Job Reference | 90567 |
| Tenure | Specified Term of 3 years Full-time  |
| Salary Range | AU$121,455 - AU$142,321 per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | Pullenvale, QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents residing in Australia
* Australian Temporary residents residing in Australia who hold a valid working visa till mid of 2026 with no visa sponsorship support from CSIRO
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| Position reports to the | Research Team Leader |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 1 |
| Enquire about this job | Contact Yonggang Jin via email at yonggang.jin@csiro.au or phone +61 7 3327 4146 |
| 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. The Research Scientist/Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of a 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 Chemical Engineer will join the multidisciplinary Environment and Sustainability Research Team that is conducting diverse research & development activities in emissions abatement, water treatment, dust control and waste management. The team is working towards achieving a clean and healthy environment and supporting the sustainable transition of the mining and minerals industry to cleaner and greener operations.

Specific to this role, this position will provide research support and work collaboratively on the team's research projects in the areas of methane emissions abatement and carbon dioxide capture & utilisation. The work will involve managing an industry project on full-scale development of a coal mine ventilation air methane (VAM) mitigation reactor and the R&D of innovative technologies to reduce methane and carbon dioxide emissions from hard-to-abate sectors.

### Duties and Key Result Areas

* Manage a VAM project including project reporting, technical contribution, and efficient communication/engagement with various stakeholders
* Develop methane emissions mitigation and capture technologies
* Develop new processes and technologies for carbon capture and utilisation
* Work collaboratively with team members to carry out the tasks in support of the team’s goals
* Under general direction, use professional expertise, knowledge of other disciplines and research experience and achievement to formulate, develop and complete an approved research program.
* 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 experiments are established in accordance with the research design and are completed within the agreed timeframes and budget.
* 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.
* Identify and adapt quickly to changes in client needs and market directions.
* 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 and prepare documentation for patent applications (where relevant).
* 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, 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 or equivalent years of relevant experience in fields such as chemical or thermal engineering
2. Strong expertise in fugitive methane mitigation, thermal reaction, heat transfer, fluid dynamics and thermodynamics.
3. Experience in designing and setting up laboratory scale rigs and pilot scale units including thermal reactor, combustor, safe ducting system, and heat exchanger.
4. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
5. Demonstrated ability to analyse problems and develop appropriate and practical solutions.
6. Well-developed written and oral communication skills
7. Demonstrated leadership and project management skills to deliver research outcomes on time
8. A demonstrated publication history of authorship on scientific papers in peer-reviewed journals and/or reports, grant applications or inventorship on patent applications.

## **Desirable**

1. Experience in using Aspen for process simulation
2. Experience in electrochemical CO2 reduction or other CO2 conversion

## **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

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 Clearance or equivalent. 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. To find out more visit us [online](http://www.csiro.au/)!

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

CSIRO is a values-based organisation.  In your application and at the interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted