# Position Details

## Research Scientist/Engineer- CSOF7

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| The following information is for applicants | |
| Advertised Job Title | Principal Research Scientist/ Engineer (Mineral Processing) |
| Job Reference | 87465 |
| Tenure | Indefinite  Full-time |
| Salary Range | AU$141,949k - AU$157,055k per annum  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 only |
| Position reports to the | Research Group Leader – Carbon Steel Materials |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Keith Vining via email at Keith.Vining@csiro.au or phone +61 7 3327 4761 |
| 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 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 the CSIRO Mineral Resources (CMR) Business Unit**

We are one of the largest minerals R&D groups in the world, with ~350 employees, and a proud track record of supporting industrial innovation across the minerals value chain.

We apply our expert knowledge and specialised research to deliver technologies and solutions that solve complex and challenging problems faced by minerals companies, METS companies (mining equipment, technology, and services), governments, and other industry stakeholders.

Our R&D is targeted at growing Australia's mineral resource base, increasing the global competitiveness of the Australian minerals industry, and driving social and environmental performance across the global minerals industry.

The Business Unit is currently comprised of six research programs (Discovery, Characterisation, Sustainable Mining Technologies, Hard Rock Mining, Sensing and Sorting, and Processing), with major facilities in, Brisbane, Melbourne, Sydney and Perth.

**About CMR’s Processing Program**

We are one of the largest mineral processing R&D programs in the world, with ~100 employees, and a long and proud history of undertaking world class R&D with a very strong focus on commercial benefit via implementation of technological innovation and know-how. The program is currently at the forefront of R&D efforts to decarbonise the minerals industry, notably via ‘green iron ore and steel’ and to ‘unlock’ Australian critical mineral resources in support of the global energy transformation.

The Program currently operates three Groups. These are based in Melbourne (Process Engineering and Chemistry: electrochemistry and process engineering focus), Perth (Hydrometallurgy: hydrometallurgy and critical minerals focus) and Brisbane (Carbon Steel Materials: carbon steel materials focus).

The Program currently manages a project portfolio delivering direct industry impacts but is also increasingly seeking and creating potential opportunities for larger impacts for CSIRO and the nation. In addition to industry impact and responding to the current technical challenges noted above, other definitive drivers of Program growth announced by the Australian Government during the last year (along with significant Government funding) were the creation of:

* the India-Australia Green Steel Partnership.
* the National Critical Minerals Centre.
* the India-Australia Critical Minerals Research Partnership.

### 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.

As part of the Beneficiation team within the Carbon Steel Materials group, this role will contribute to the team’s goals with respect to supporting Australia’s iron ore industry and decarbonisation of the iron-making value chain through contributions to, and leadership of, projects in the field of selective breakage, mineral processing and beneficiation.

### Duties and Key Result Areas

* Set project goals within the Business Unit’s research direction and manage the delivery of project outcomes.
* Undertake leading edge scientific research and maintain active research collaborations in order to access/share leading edge concepts and technology to advance project goals.
* Progress complex, sensitive or contentious research matters to finality.
* Be recognised as a national authority in an area of expertise and typically possess knowledge across a range of scientific disciplines.
* Identify trends in research and development to inform portfolio analysis and influence the Business Unit’s research directions.
* Lead and/or participate in a number of projects simultaneously (including multi-disciplinary or multi-Business Unit projects).
* Maintain active national and/or international research collaborations in order to access/share leading edge concepts and technology to advance projects.
* Conceive ideas for new projects based on industry/community and identify potential sources of funding.
* Liaise with the business manager and/or account managers to assess commercial opportunities and to protect intellectual property.
* Utilise knowledge and understanding of clients’ business and demonstrate creativity in anticipating client needs.
* Act as a trusted advisor to clients and promote an understanding of client needs amongst other employees.
* Provide scientific or engineering leadership to colleagues and students and coordinate, allocate and manage resources (people, equipment, facilities, and funds).
* Undertake feasibility studies, demonstrating a considerable degree of originality, creativity and innovation in solving problems and introducing new directions and approaches.
* Communicate research results to clients and the scientific community through oral and written reports, which may include the preparation of documents for patent applications.
* Provide advice to policy makers and inform and transfer knowledge to non-scientific audiences.
* 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, 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 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 an equivalent combination of qualifications and research experience) in a relevant field such as Mineral Processing, Engineering (Process, Chemical or Electrical).
2. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems, particularly with respect to:
   * Comminution
   * Selective breakage
   * Beneficiation and mineral processing
3. Demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
4. Ability to identify potential sources of funding, establish and manage research resources at the project level, and meet deadlines through efficient and effective management of staff and research infrastructure.
5. Well-developed interpersonal and communication skills and the ability to explain complex concepts and research results to industry, the scientific community and other stakeholders in written and verbal formats.
6. Demonstrated capacity to maintain and grow industry and academic networks both domestically and internationally.

## **Desirable**

1. An understanding of iron ore and critical mineral mineralogy and their associated value chains
2. Demonstrated ability to secure, mentor and lead a team of post-doctoral fellows, postgraduate students and early career researchers.
3. Demonstrated expertise in beneficiation process flow sheet development and modelling

## **Required Competencies**

* **Teamwork and Collaboration:** Creates and fosters an environment in which there is a high level of cooperation within and between teams. Facilitates positive team relationships to build interactions across Business Units and the organisation.
* **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:** Provides leadership that fosters an environment that encourages new ideas and provides support for the development of emerging skills. Creates trust by displaying consistency, understanding, integrity and patience. Plans, seeks, allocates and monitors resources to achieve outcomes.
* **Judgement and Problem Solving:** Resolves major conceptual scientific, technical, commercial or management problems, which have a significant impact upon the field of research, professional function, the Business Unit or the Organisation. Situations faced have little or no precedent and require original concepts and approaches.
* **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:**Is flexible in response to external change or when faced with external constraints. Identifies and promotes the opportunities arising as a result of change.

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.

Include if relevant:

* 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.
* The successful candidate will be required to obtain and maintain a security clearance at the [insert level].
* The successful candidate will be required to undertake a pre-employment medical examination prior to commencement.
* 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/
* This role has child safety obligations. Accordingly, the successful candidate will be required to obtain or provide evidence that they hold a working with children check prior to confirmation of appointment.
* ACDP - Security Assessment and Microbiological Security Requirements for Personnel Working on the Australian Centre for Disease Preparedness (ACDP) Site.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [CSIRO Mineral Resources](https://my.csiro.au/OrgInfo/Structure/Science/MinRes) 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:

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