# Research Management – CSOF8

Role summary for potential applicants

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| Advertised Job Title**:** | Research Director, Processing (CSIRO Mineral Resources) |
| Reference Number**:** | 67681 |
| Classification**:** | CSOF8 |
| Salary Range: | Attractive salary package including a motor vehicle allowance and bonus to be negotiated. |
| Location**:** | Current location Waterford, alternative location Clayton could be considered |
| Tenure: | Specified Term of 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | All Candidates |
| Functional Area**:** | Research Management |
| % Client Focus - Internal: | 30% |
| % Client Focus - External: | 70% |
| Reports to the: | Business Unit Director |
| Number of Direct Reports: | 10 |

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| **Role Overview:** |
| Research Managers in CSIRO initiate, develop, lead and promote CSIRO's research capability for the benefit of Australia's economy, society and/or environment. While they often have an individual research component to their roles, their primary responsibility is the management and/or leadership of research, client relationships, staff and other resources. They are responsible for ensuring delivery of scientific results to clients. In accordance with Business Unit and Sector research plans, research managers undertake the establishment and facilitation of multi-team and multi-organisational, collaborative research programs leading to the delivery of results to clients.CSIRO Mineral Resources currently has an opportunity for an experienced leader for our Mineral Processing research program, to lead a large cohort of scientists who deliver enabling research of major value to the minerals processing industry whilst also being committed to delivering innovative and cutting-edge science to an industry that is changing dramatically. This role forms part of the executive team for the Mineral Resources Business Unit made up of 6 programs working collaboratively.CSIRO has a well-established record of engagement with the mineral processing and METS industries and delivers significant innovation and cutting-edge technologies across the value chain. We have long standing collaborative relationships with the majority of multinational mineral processors and related METS companies in Australia. Contributed technologies include dry slag granulation for the steelmaking and nickel smelting industry; engineering design of impellor technology for lower-energy mixing of ore slurries in tanks; building a pilot demonstration plant to produce high quality nickel sulphate for the emerging battery metals industry, and delivering processes for the production of “green” graphite. Multiple technologies have been commercialised in recent years, e.g. cyanide and mercury-free process for recovering gold – Clean Mining; science-based approach to industry’s social license to operate (spun out as Voconiq); and several more are expected to be commercialised over the next 5 years. The Program is at the forefront of innovation towards a low-impact and environmentally sustainable minerals industry. Research is currently focused on, * Hydrometallurgy: unlocking Australia’s more challenging ores through environmentally sustainable extraction and recovery of base and precious metals from challenging ores (for the past five years the focus has shifted towards growth of the battery metals and critical minerals sectors, e.g. lithium, vanadium, cobalt and titanium)
* Low carbon steel: steel and magnesium metal production processes including environmentally responsible technologies such as renewable carbon for steelmaking; recovery of magnesium from fly ash; game-changing carbothermal reduction of magnesia
* Process engineering: optimisation of mineral processing mixing and separation in multi‐phase flow environments using component design based on computational fluid dynamics, in-line monitoring, and sensors

This position will provide opportunities to a leader with a deep understanding of the minerals processing industry field and mining industry, its future challenges and potential solutions. It would suit a leader with an entrepreneurial focus who can pursue new business models, including creation of new companies, spin offs and licensing, and translate science to deliver industry impact. This Program Director will be a driver of change to bring added value through refining and processing of mineral ores whilst delivering environmentally, socially and economically sustainable low impact mineral processing. They should be familiar with the level of digital maturity in the industry and recognise opportunities to initiate innovative and disruptive change through use of sensors and digital approaches to align the Program with future trends in the industry. The Research Program Director has a critical role in building the research capability to enable the program to build on its strengths and evolve to meet new challenges. They will also work to bring in new business models for sustainable revenue and seek new opportunities to build strong external partnerships.The Program has an annual budget of nearly $40m, of which approximately one third is delivered via industry funded Project activities. The Program Director is responsible for the management of capability, staff development, technical outcomes, strategy development and financial outcomes. |

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| **Duties and Key Result Areas:** |
| **Impact Science Leadership** * Through demonstrated deep knowledge of the challenges of the mineral processing industry, provide strategic direction and a clear focus for the Processing program that results in world class research and tangible industry outcomes.
* Initiate major research projects with mining industry that significantly increase the impact of our current research.
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.

**Capability Leadership** * Demonstrate Leadership attributes aligned to CSIRO Leadership model;
* Provide leadership of CSIRO's capabilities and strategy in the Processing program;
* Lead research projects of significant size and provide guidance in the execution of projects undertaken by junior team colleagues, including the negotiation of resource requirements.

**Engagement and Partnership*** In consultation with stakeholders in the mining and METS sectors and in the research community, develop and continually review CSIRO's mineral processing research and development strategy.
* Lead engagement with mining and related METS companies with a view to developing collaborative or one-on-one projects.
* Lead engagement with cross-CSIRO initiatives, notably the Critical Energy Metals Mission, ensuring that the program is well placed to be a key contributor.
* Lead the engagement with other parts of CSIRO in areas that might be brought to bear on innovation in mineral processing.
* Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO's reputation.
* Lead, coach and supervise staff to ensure experiments are established in accordance with research design, within agreed timelines and budget.
* Adhere to the spirit and practice of CSIRO's Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.

**Resource Leadership*** Work collaboratively as part of the Mineral Resources Business Unit Leadership Executive and share responsibility for delivery of the Business Unit’s Impact Areas.
* Manage projects and budgets to deliver planned outcomes.
* Lead external revenue activities to deliver strategically aligned projects and meet revenue targets.
* Work effectively as an integral member or leader of a multi-disciplinary, regionally dispersed research team, to undertake independent scientific investigations and carry out/delegate associated tasks.
* Other duties as directed.
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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed****Pre-Requisites:***1. **Education/Qualifications:** A PhD (or equivalent) in, or equivalent experience, in Materials Science / Engineering, Process / Manufacturing Engineering, Chemistry/Chemical Engineering or a related discipline, plus relevant research leadership experience.
2. **Behaviours:** Professional and respectful behaviours and attitudes in a collaborative environment.
3. **Communication:** Excellent written and oral communication skills, evidenced by high-level reporting, presentation and negotiation abilities, and the capacity to identify and influence critical stakeholders to gain support for complex proposals/ideas
4. **Leadership:** Aligned to CSIRO Leadership model – put people first, make it clear, get things done. The ability to choose appropriate management strategies and communication styles to maintain high levels of motivation and productivity, giving feedback for development purposes and providing support for improvement.
5. **Problem Solving:**Proven ability to anticipate problems in ambiguous situations, develop appropriate solutions based on thorough evaluation and interpretation, and defend the conclusions with reasoned arguments
6. **Adaptability:**Demonstrated ability for flexibility in thinking and adapts to and manages ambiguous and complex projects and stakeholders by adapting strategies, goals and priorities
7. **Safety:** a demonstrated commitment to health, safety and wellbeing of staff, willing to challenge the status quo in pursuit of Zero Harm.

***Essential Criteria:***1. Significant practical experience in the business of mineral processing, preferably in Australian environments, with a broad knowledge of minerals industry specialisations and research areas.
2. Recognition as an experienced leader in the delivery of applied research to mineral processing challenges;
3. The ability to lead a multi-disciplinary, geographically dispersed research team, to build innovation culture and to foster best practice in diversity and inclusion to deliver impact;
4. Strong track record of business development experience for applied research activity;
5. Deep knowledge and track record of at least one area of specialisation within the broad field of mineral processing; and
6. Demonstrated skills and experience in successfully initiating and effectively managing large research, development or demonstration projects and with collaborators.

**Desirable Criteria:**1. Strong track record of business development experience for applied research activity with the minerals industry or with minerals related government programs;
2. Experience in the role of digital / data science to disrupt the minerals sector; and
3. Excellent networks that include critical stakeholders

**As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to**:* Excellent science
* Inclusion, trust & respect
* Health, safety & environment
* Delivery on commitments.

**In your application and at interview you will need to demonstrate alignment with these behaviours.*****Special requirements:***Appointment to this role may be subject to conditions including security/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearance processes, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <http://www.ielts.org/default.aspx> |

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| **Other Information:** |
| **How to Apply**Please apply for this position online at <https://jobs.csiro.au/> and enter requisition number 67681**.** Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’) Please load your CV in a PDF (Maximum 2MB). You may also be required to respond to some screening questions.  If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: careers.online@csiro.au. **Referees**: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact. **Contact:** If after reading the position details above you require more information please contact: **Dr Robert Hough**via email: Robert.Hough@csiro.au Please do not email your application directly to Dr Hough. Applications received via this method may not be considered by the selection panel.We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you. Find out more! [CSIRO Balance](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance) **About CSIRO**At CSIRO, we do the extraordinary every day. We innovate for tomorrow and help improve today – for our customers, all Australians and the world. Our innovations contribute billions of dollars to the Australian economy every year. As the largest patent holder in the nation, our vast wealth of intellectual property has led to more than 150 spin-off companies. With more than 5,000 experts and a burning desire to get things done, we are Australia’s catalyst for innovation. CSIRO. We imagine. We collaborate. We innovateFind out more! [www.csiro.au](http://www.csiro.au) **CSIRO MINERAL RESOURCES**CSIRO Mineral Resources works with industry to grow Australia’s resource base, increase productivity and drive environmental performance. We also provide critical scientific analysis that underpins a growing national dialogue on how resources impact society and the environment.**CSIRO Processing Research program**Research Managers in CSIRO initiate, develop, lead and promote CSIRO's research capability for the benefit of Australia's economy, society and/or environment. While they often have an individual research component to their roles, their primary responsibility is the management and/or leadership of research, client relationships, staff and other resources. They are responsible for ensuring delivery of scientific results to clients. In accordance with Business Unit and Sector research plans, research managers undertake the establishment and facilitation of multi-team and multi-organisational, collaborative research programs leading to the delivery of results to clients.CSIRO Mineral Resources currently has an opportunity for an experienced leader for our Mineral Processing research program, to lead a large cohort of scientists who deliver enabling research of major value to the minerals processing industry whilst also being committed to delivering innovative and cutting-edge science to an industry that is changing dramatically. This role forms part of the executive team for the Mineral Resources Business Unit made up of 6 programs working collaboratively.CSIRO has a well-established record of engagement with the mineral processing and METS industries and delivers significant innovation and cutting-edge technologies across the value chain. We have long standing collaborative relationships with the majority of multinational mineral processors and related METS companies in Australia. Contributed technologies include dry slag granulation for the steelmaking and nickel smelting industry; engineering design of impellor technology for lower-energy mixing of ore slurries in tanks; building a pilot demonstration plant to produce high quality nickel sulphate for the emerging battery metals industry, and delivering processes for the production of “green” graphite. Multiple technologies have been commercialised in recent years, e.g. cyanide and mercury-free process for recovering gold – Clean Mining; science-based approach to industry’s social license to operate (spun out as Voconiq); and several more are expected to be commercialised over the next 5 years. The Program is at the forefront of innovation towards a low-impact and environmentally sustainable minerals industry. Research is currently focused on, * Hydrometallurgy: unlocking Australia’s more challenging ores through environmentally sustainable extraction and recovery of base and precious metals from challenging ores (for the past five years the focus has shifted towards growth of the battery metals and critical minerals sectors, e.g. lithium, vanadium, cobalt and titanium)
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