# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Senior Research Scientist in Sensor Development |
| Job Reference | 73806 |
| Tenure | Indefinite |
| Salary Range | AU$115,605 to AU$135,467 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Melbourne (Clayton) VIC |
| 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 currently residing in Australia (visa sponsorship may be provided to eligible candidates) |
| Position reports to the | Team Leader – Electrochemical Processing |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Theo Rodopoulos via email at theo.rodopoulos@csiro.au or phone +61 3 9545 8713 |
| 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. |

### Role Overview

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may 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 Electrochemical Processing team in CSIRO Mineral Resources is designing and developing proprietary solid-state sensors and analytics technology for environmental monitoring, including water quality monitoring and a range of mining and mineral processing applications (e.g. VESI). The innovative sensor technology is continually evolving and undergoing further developments and improvements in order to deliver the best value to industry and to meet their technical requirements. This includes cheaper and simpler fabrication methods and a variety of sensor functionalities.

As part of the Electrochemical Processing team, the Senior Research Scientist will be responsible for conducting, coordinating and leading the cutting-edge research to evaluate and advance the proprietary sensor technology in order to broaden its commercial appeal and create new commercial opportunities. The role will be part of a multi-disciplinary team comprised of electrochemists, synthetic chemists, material scientists and engineers that will work collaboratively to deliver the project goals and the commercial objectives of the Mineral Resources Business Unit.

### Duties and Key Result Areas

* Contribute to and lead the development and commercialisation of the proprietary sensor technology as a member of the Electrochemical Processing Team. Tasks include broadening the functionality and developing new sensing solutions, reducing cost, improving robustness and reducing scale.
* Contribute to the effective functioning of the Electrochemical Processing Team and the sensor project team and help deliver CSIRO’s organisational objectives and plans.
* Collect and document sensor requirements/specifications to communicate to vendors in order to deliver commercially acceptable products.
* Under general direction, use professional expertise, knowledge of other disciplines and research experience/achievement to formulate, develop and complete an approved research program with general direction as to the aims of their activities.
* Lead and supervise staff and students to ensure that experiments are established in accordance with the research design and are completed within the agree timeframes and budget.
* Undertake feasibility studies, demonstrating a considerable degree of originality, creativity and innovation in solving problems and introducing new directions and approaches.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Act as a trusted advisor, utilising knowledge of client’s business and understanding of their underlying needs.
* Anticipate industry and/or community needs and market direction through client liaison/networking and identify and adapt quickly to changes.
* Provide advice to policy makers and inform and transfer knowledge to non-scientific audiences.
* Communicate research results to clients and the scientific community through oral and written reports, which may include the preparation of high-quality scientific papers for publication in high-quality journals, conference papers, client reports and any documents for patent applications.
* Ensure new IP is captured and protected through patents.
* Maintain confidentiality when dealing with commercially sensitive information.
* 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, regionally dispersed 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 Making Safety Personal goals.
* Other duties as directed.

## **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.

## **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 electrochemistry, sensors, chemistry or material science.
2. Sound knowledge of electrochemical science and sensor technologies, including material requirements and its practice in a research environment.
3. Evidence of strong technical leadership and successful innovation in sensor development.
4. Proven experience designing and undertaking complex electrochemical measurements and resolving difficult problems where the recorded data may be ambiguous.
5. Evidence of managing and working effectively with multi-disciplinary research teams, plus the motivation and discipline to carry out autonomous research.
6. Demonstrated ability to develop and maintain stakeholder relationships, together with strong written and oral communication skills.
7. Demonstrated ability to undertake and lead original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
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 the inkjet materials printing.
2. A practical understanding of the role commercial imperatives place on innovation and knowledge and experience with commercialising novel sensor technologies in order to drive customer interactions and build the customer portfolio. Evidence of industry engagement.
3. Experience in machine learning.
4. Skills in modelling electrochemical data and processes.
5. Understanding of a variety of non-electrochemical techniques that help solve electrochemical problems (e.g. SEM, XRD, XPS, NMR, synchrotron-based measurements, UV-Vis etc).

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 Check or equivalent. Please note that people 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. To find out more visit us [online](http://www.csiro.au/)!

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

* 1. People First
  2. Further Together
  3. Making it Real
  4. Trusted

Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF) and [VESI](https://www.csiro.au/en/work-with-us/industries/mining-resources/Social-and-enviromental-performance/VESI)