# Position Details

## Research Projects- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Embedded Software Engineer |
| Job Reference | 71037 |
| Tenure | Indefinite  Full-time |
| Salary Range | AU$113,338 to AU$132,811 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Lindfield, NSW |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian Citizens Only |
| Position reports to the | Team Leader – Electromechanical Development |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Scott Martin, [scott.martin@csiro.au](mailto:scott.martin@csiro.au) 02-9413-7746 |
| 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

Research Projects staff in CSIRO collaborates in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The Embedded Software Engineer will join a team that has decades of experience translating cutting edge superconducting sensor technology from the laboratory into various fields of application. The team is responsible for developing robust, high-performance sensor systems for external customers around the world.

This role will develop software code for sensor instruments and will include responsibility for embedded systems engineering, including top-level architecture, embedded software development and testing/debugging hardware and software.

### Duties and Key Result Areas:

* Key responsibility for embedded systems engineering, including top-level architecture, embedded software development and testing/debugging hardware and software.
* Under limited direction, carry out research investigations, requiring originality, creativity and innovation.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Address problems promptly and in a constructive manner, selecting the most profitable lines of attack upon a problem, preparing detailed design proposals and experimental protocols.
* Undertake in experimental and/or observational research activities, often requiring the supervision and/or training of others to ensure experiments are established in accordance with research design, or as required.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* 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, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s 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, goals and priorities.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A relevant Science degree and/or equivalent relevant work experience, such as in embedded software engineering.
2. Excellent skills in embedded systems design, testing and documentation:
   1. Real-time embedded software development in C, C++, etc.
   2. User interface development using C++, Python, Matlab,etc.
3. Demonstrated experience in systems engineering, such as:
   1. Sensors and acquisition systems
   2. Robotics (controllers, motors, actuators)
   3. Communication technologies (e.g. IP, CAN, Ethernet, serial, Wifi, Zigbee, etc.)
4. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks autonomously in support of scientific research.
5. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.

## **Desirable:**

1. Experience in digital electronics design and implementation of analogue data acquisition systems.
2. Experience in systems engineering in connected devices and automation, e.g. Industry 4.0, Internet of Things (IoT).
3. Basic mechanical skills.
4. Understanding of signal processing theory, e.g.:
   1. Digital filtering, modulation techniques, image processing, etc.
   2. Modelling (e.g. Matlab)
   3. Real-time signal processing implementation (C++ on embedded processors)
5. Demonstrated experience in the preparation of professional technical reports through authorship.
6. Demonstrated experience in managing technical projects in an R&D environment in line with organisational standards, policies and business requirements.

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 Check or equivalent. Please note that people 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 level Negative Vetting 2.

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