# Position Details

## Research Projects – CSOF3/4

The following information is for applicants

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| Advertised Job Title**:** | Firmware/Software Engineer |
| Job Reference: | 59048 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian Citizens Only  Australian/New Zealand Citizens and Australian Permanent Residents Only   * All Candidates |
| Tenure: | Indefinite OR  Specified Term of 3 years |
| Percentage of Client Focus - Internal: | 100% |
| Percentage of Client Focus - External: |  |
| Reports to the: | Team Lead, Digital Systems |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries: | **Dr John Tuthill**via email: john.tuthill@csiro.au or phone: **+61 2 9372 4392**  Please do not email your application directly to Dr Tuthill. Applications received via this method will not be considered. |
| Contact Details For Applying: | If you experience difficulties applying online Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |
| How to Apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number 59048**.** Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’) |

## Role Overview:

The Signal Processing Technologies Group at CSIRO Astronomy and Space Science (CASS) provides a diverse range of R&D services to support the delivery of world-class, leading-edge technology for Australian radio astronomy and space science capability. Our work includes:

* Research and development in areas including analogue and digital signal processing, algorithm development and implementation, precise timing generation and distribution, optical signal and data transport technology, multi-channel high speed data acquisition.
* Electronics system design: complex multi-layer PCB design, high-speed digital design, low-noise electronics and Radio Frequency Interference (RFI) compliant systems, Field Programmable Gate Array (FPGA) firmware, embedded software and end-to-end prototype production and testing.
* Advanced electronic systems manufacturing and production management.

This role centres on working with the CASS Signal Processing Technologies engineering team to assist in researching new techniques and technology related to the current and future radio astronomy and space science projects in the group, contributing to development in areas including FPGA firmware, software and electronics hardware design and supporting on-going commissioning efforts for our current instruments and projects.

## Duties and Key Result Areas:

* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work as part of a multi-disciplinary engineering team, to carry out tasks under limited direction in support of engineering research and development and project delivery and commissioning.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives.
* Adapt and/or develop new engineering techniques, firmware, software or hardware in support of existing and future instruments and projects.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Contribute actively and constructively to team and project meetings.
* Contribute to documentation, publications and presentations to support project delivery and to enhance the profile of the group both internally within CSIRO and externally to the wider engineering community.
* Maintain a personal learning and development program to stay current with technology trends with a view to capitalise on opportunities for evaluating or adapting these towards the goals of the group.
* Other duties as directed.

## Competencies:

1. **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.
2. **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
3. **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.
4. **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.
5. **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.
6. **Adaptability:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

## Essential Criteria:

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

1. **Education/Qualifications:** Relevant Bachelor’s Degree or equivalent experience in electronic, mechatronic or software engineering or computer science.
2. The ability to work effectively as part of a multi-disciplinary engineering team with a demonstrated ability and willingness to communicate and contribute novel ideas and approaches in support of engineering development and to carry out tasks autonomously.
3. Familiarity with the development of systems using Field Programmable Gate Array (FPGA) technology, including: some experience using a Hardware Description Language (HDL) and with the methods and tools used for developing embedded firmware; experience with electronic systems testing in a mixed hardware/software environment.
4. Experience with programming languages including C/C++ and Python and knowledge of development tools and processes used in an engineering environment, including revision control and issue tracking systems.

## Desirable Criteria:

1. Experience with electronic hardware design, including schematic capture and printed circuit board layout.
2. Experience or a keen interest in any of the following: embedded software, Linux operating systems and device drivers, Graphics Processor Unit (GPU) programming, computer networking, digital signal processing, scripting languages.

## Special Requirements:

N/A

## About CSIRO:

We imagine. We collaborate. We innovate. To find out more visit us [online](http://www.csiro.au/)!

Find out more about CSIRO [Astronomy & Space Science](http://www.csiro.au/en/Research/Astronomy)