# Position Details

## Research Projects- CSOF3

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| The following information is for applicants |
| Advertised Job Title | Space Engineer |
| Job Reference | 96967 |
| Tenure | Specified Term of 1 year Full-time |
| Salary Range | AU$70,874 - AU$90,202 per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | Marsfield |
| Relocation Assistance | N/A |
| Applications are open to | Australian Citizens Only |
| Position reports to the | Antenna and Receiver Technologies Group Leader |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Stephanie Smith via email at Stephanie.Smith@csiro.au or phone +61 460 017 782 |
| 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 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).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

The role of Research Projects staff in CSIRO is to collaborate 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.

As part of the radio space situational awareness (SSA) project team, this role will contribute to astrodynamics understanding and calculations relating to SSA data processing from radio astronomy instruments. The radio SSA project team are developing operational SSA modes for a selection of ATNF instruments. The space engineer role will be determining orbital parameters from data collected on radio telescopes for transmitting space objects or objects illuminated by a transmitter.

### Duties and Key Result Areas

* Software development in python for forward modelling of orbital parameters effect on signals incident on array elements.
* Signal to noise modelling.
* Generating synthetic testing datasets for validating and quantifying performance of various processing approaches.
* Optimal orbit determination based on measurements.
* Proposing and conducting experiments with array-based and single dish radio-telescopes.
* Familiarity with relevant radio-astronomy binary data storage formats.
* Communicating and documenting approaches to broader team members.
* Under limited supervision, design and perform straightforward experiments and routine laboratory analyses, design new processes or apparatus by adapting existing techniques and components to meet special circumstances or undertake modifications to methods requiring some innovation.
* Conduct literature reviews, investigations and inspections in the field or laboratory including associated analysis possibly involving statistical or graphics software.
* Develop, test and modify new software applications as required.
* Work with discretion to decide on the timing of operations within the work team’s plan and plan ahead to meet experimental and/or project demands.
* Independently test possible solutions to resolve identified problems.
* Respond courteously and efficiently to client requests, maintaining clear communication regarding mutual expectations and monitoring client satisfaction.
* 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 and diversity initiatives.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. Relevant bachelor’s degree or equivalent relevant work experience in Space Engineering.
2. Demonstrated experience in software development in Python.
3. An understanding of the concepts of interferometry.

## **Desirable**

1. An understanding of radio astronomy.
2. Understanding of or previous experience in space situational awareness.
3. Understanding direction of arrival determination methods.
4. Experience in dealing with real data with noise and system artifacts.

## **Required Competencies**

* **Teamwork and Collaboration:** Proactively seeks and considers the ideas and opinions of others from within and outside the team to help form decisions, plans or actions.
* **Influence and Communication:** Puts forward ideas by presenting factual information supported by data, definitions, examples, illustrations or other aids, which will assist in conveying meaning.
* **Resource Management/Leadership:** Provides instruction and assists other staff to complete allocated tasks and activities.
* **Judgement and Problem Solving:** Identifies and considers the implications of a range of available alternatives in order to select the most appropriate response to problems of a familiar or recurring nature.
* **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **Adaptability:**Willingness to change ideas or perceptions based on new information, contrary evidence or other people's points of view. Prepared to try out different approaches.

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Space and astronomy - CSIRO](https://www.csiro.au/en/research/technology-space/astronomy-space?start=0&count=12) 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