

Position Details

Research Projects – CSOF4 Level

THE FOLLOWING INFORMATION IS FOR APPLICANTS

Advertised Job Title	Control Software Engineer - SKA-Low Telescope
Job Reference	96611
Tenure	Indefinite Full-Time, Part-Time or Job-Share
Salary Range	AU\$93,267 to AU\$105,517 per annum, plus 15.4% superannuation
Location(s)	Perth, Western Australia
Relocation Assistance	Will be provided to the successful candidate if required
Applications are open to	All Candidates
Client Focus – Internal	0%
Client Focus – External	100%
Position reports to the	This role will report to the SKA-Low Controls Manager.
Number of Direct Reports	0
Enquire about this job	To enquire about this position, please reach out to the SKA-Low Controls Manager, Drew Devereux, on drew.devereux@skao.int for more information.
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](#).

The CSIRO Experience

As an employee of CSIRO, you will be eligible for the many benefits of working at Australia's National Science Agency. You can read more here:

1. [Life at CSIRO](#)
2. [Personal Development & Learning](#)
3. [Generous Leave & Conditions](#)
4. [Work / Life Balance](#)

Background

The SKA Observatory (SKAO) is a next-generation radio astronomy facility that will revolutionise our understanding of the Universe and the laws of fundamental physics. Enabled by cutting-edge technology, it promises to have a major impact on society, in science and beyond. As an intergovernmental organisation, the SKAO brings together nations from sixteen countries around the world.

The Observatory has an international footprint and consists of the SKAO Global Headquarters in the UK, the SKAO's two telescopes at radio-quiet sites in South Africa and Australia, and associated facilities to support the operations of the telescopes.

Constructing and operating these telescopes will position the SKAO as the leading research infrastructure for radio astronomy globally, providing science capabilities to the international astronomical community for decades to come.

Australia will host the SKAO's low frequency telescope (SKA-Low) in remote Western Australia on Wajarri Yamaji Country.

The Traditional Owners and native title holders, the Wajarri Yamaji, have gifted CSIRO with the traditional name Inyarrimanha Ilgari Bundara for the CSIRO Murchison Radio-astronomy Observatory, home to the SKA-Low telescope. The traditional name means 'sharing sky and stars' in the Wajarri language.

In Australia, SKAO is collaborating with CSIRO to operate and support the construction of the SKA-Low Telescope. SKA-Low teams will operate out of:

- Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory on Wajarri Yamaji Country.
- Our Engineering Operations Centre on Nhanhangardi, Naaguja, Wilynyu and Amangu Country in Geraldton.
- Our Science Operations Centre on Whadjuk Noongar Country in Perth.

Further Reading: [Explore SKAO](#)

Role Overview

The Computing and Software team delivers novel computing and technology solutions to meet the requirements of the SKA Project. The SKAO is driven by software and the systems include:

- An integrated control system that controls and monitors over 2 million process variables.
- Data processing systems that process the vast quantities of data produced by the SKA Low, which will require a high-performance supercomputer capable of more than 100 petaflops and will result in hundreds of Petabytes of data archived per year.
- Science management systems to manage the interaction with scientists from around the world and ensure the huge amounts of data are made available to the appropriate people in a timely manner.
- Networks that move the data at rates exceeding Tbits/second across hundreds of km within the telescope and then shipping it to the scientific community using a world-wide 100 Gbit network.

The SKA-Low Controls Software Engineer position will contribute to the development and operations of the control software of the SKA-Low telescope.

In the current construction phase, the position will work with teams around the world to develop the control and monitoring software. The construction project adheres to lean/agile principles, using an SKA-tailored version of the Scaled Agile Framework (SAFe). This position will work within this framework as it evolves from construction to operations. The SKA Telescope monitoring and control systems are primarily written in Python, and are based on the Tango Control System Framework (<https://www.tango-controls.org/>).

This role will require a willingness and ability to travel interstate and internationally as required, noting we work hard to accommodate personal arrangements.

CSIRO and the SKA Observatory value and respect difference, and we are committed to building an inclusive culture by creating an environment where you can balance a successful career with your commitments and interests outside of work. We believe that you will do your best at work if you have a work / life balance. We are open to discussing flexible working opportunities with this role being offered on a full-time, part-time or job share basis. Please raise your preference in your application.

Duties and Key Result Areas

- Develop control system components in Python, using the Tango Control Systems framework, in accordance with the SKA quality framework and continuous integration processes.
- Build, test, integrate, document and deploy control system components.
- Participate in the activities of the Low Agile Release Train (Low ART) as a member of an international software team.
- Contribute to the maintenance and operations activities of the telescope and observatory control systems, as part of a local controls software engineering team.
- Communicate openly, effectively, and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of SKAO and CSIRO's reputation.
- Adhere to the spirit and practice of both SKAO and CSIRO's Values as well as the Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
- Other relevant duties as directed.

Selection Criteria

CSIRO is an Equal Opportunity employer working hard to recruit world-class talent that represents the diversity across our society. As part of our commitment to equitable employment outcomes for under-represented groups, preference will be given to Aboriginal and Torres Strait Islander people, women and people with a disability who meet the role criteria.

Essential

Under CSIRO policy only those who are able to demonstrate how they can meet the essential criteria may be appointed.

- Bachelor's degree or higher in Computer Science, Computer Engineering or equivalent experience.
- Proficiency in Python software development. **(Please note where possible the candidate is encouraged to provide evidence in the form of publicly available code)**
- Familiarity with modern development practices, including version control, CI/CD, testing, documentation, and code quality aspects.

- Understanding and willingness to work based on lean/agile principles adopting DevOps practices.

Desirable

- Familiarity with working on GNU/Linux platforms.
- Experience developing code for IoT, real-time, control and/or embedded software systems.
- Experience working in a diverse and collaborative team environment across multiple locations.
- Interest in astronomy and understanding of the challenges of controlling telescopes similar to SKA.

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:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.
- **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
- **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
- **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
- **Adaptability:** Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

Special Requirements

- The successful candidate will be required to gain a National Police Clearance or equivalent. This will be conducted by CSIRO, Talent Services, through our provider HireRight. Please note that individuals 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/>).

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](#).

CSIRO and SKAO Values

Visit [CSIRO Online](#) and [Space and Astronomy](#) and [SKAO online](#) and [SKAO Location](#) for more information. In your application and at interview you will need to demonstrate behaviours aligned to our values of:

CSIRO	SKA Observatory
<ul style="list-style-type: none"> • People First • Further Together • Making it Real • Trusted 	<ul style="list-style-type: none"> • Diversity and Inclusion • Excellence • Collaboration • Creativity and Innovation • Sustainability and Safety