Position Details

Technical Services – CSOF4

THE FOLLOWING INFORMATION IS FOR APPLICANTS	
Advertised Job Title	Site Reliability Engineer - SKA-Low Telescope
Job Reference	99276
Tenure	Indefinite - Full-time, Part-time or Job-share
Salary Range	CSOF4 - AU$96,811 to AU$109,527 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 position will report to the SKA-Low Site Reliability Engineering Manager
Number of Direct Reports	0
Enquire about this job	To enquire about this job please reach out to the SKA-Low Site Reliability Engineering Manager, Louisa Quartermaine, on louisa.quartermaine@csiro.au 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 sixteen countries around the world.

The SKAO 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 CSIRO and the SKA-Low Telescope Project

Role Overview

The SKA-Low 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 systems which 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 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 Gb network.

The SKA-Low Site Reliability Engineer (SRE) will be responsible for developing a globally consistent and integrated SRE response to uphold and maintain compute platform and infrastructure stability, reliability and robustness of the SKA-Low Telescope. Infrastructure includes at the SKAO Science Processing Centre (SPC) located at the Pawsey Supercomputing Research Centre and at

the SKA-Low telescope site, Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory.

This position will work alongside other SKAO team members both locally and internationally to establish and maintain this SRE response and will report directly to the SKA-Low Site Reliability Engineering Manager.

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

- Work with key SKAO stakeholders to develop and maintain a globally consistent and integrated SRE response system.
- Implement and maintain SKA Low compute platform and infrastructure stability, reliability and robustness.
- Define, measure and refine Site Reliability Engineering Service Level Objectives (SLO) for the compute, platform and network infrastructure team and corresponding Service Level Indicators (SLI).
- Implement and continuously improve monitoring systems for system/service health and behaviour observability.
- Respond or be willing to respond to on-call incidents within agreed SLAs.
- Be responsible for preparing and maintaining relevant documentation - SRE plan, playbooks, runbooks, knowledge base, training material etc - for education, awareness and to assist with the SRE response to incidents.
- Be a key contributor or chair of postmortem/retrospective sessions to capture feedback and continuous improvement actions.
- 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.

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 who meet the role criteria. CSIRO conscious inclusion practices are intended to constitute a special/equal opportunity/affirmative measure under section 8(1) of the Racial Discrimination Act 1975 (cth).

Essential

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

- A tertiary qualification in Software Engineering, Computer Science, or equivalent work experience.
- Demonstrated experience implementing SRE practices and procedures, such as automation, to deliver and maintain reliable and robust systems/services.
- Experience in using infrastructure provisioning tools (such as Ansible, Puppet) in a cloud or virtualised environment.
- Experience in compute hardware and data centre infrastructure management.
- Ability to communicate in a professional yet friendly and effective manner, both orally and in writing, to an colleagues that spans a wide range of cultures and backgrounds.

Desirable

- Proficient in containerisation, orchestration, and automation platforms such as Kubernetes.
- Experience in administering medium to large scale Linux application servers/clusters in a HPC environment, with tools such Slurm.
- Experience in Continuous Integration/Deployment (CI/CD) pipelines (Jenkins, Gitlab, GoCD, Travis-CI), automated testing, configuration management and continuous monitoring.
- Demonstrated understanding and enthusiasm for working based on lean/agile principles.

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:** Recognises 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/).
- The successful candidate will be required to undertake a pre-employment medical examination prior to commencement.

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
• People First • Further Together • Making it Real • Trusted	• Diversity and Inclusion • Excellence • Collaboration • Creativity and Innovation • Sustainability and Safety