Position Details

Research Scientist/Engineer – CSOF6 or CSOF7

THE FOLLOWING INFORMATION IS FOR APPLICANTS	
Advertised Job Title	Systems Scientist – Assembly, Integration and Verification (AIV)
Job Reference	100379
Tenure and work schedule	Specified Term until 30 June 2028 Full-time (preferred) or part-time (min 0.8FTE) may be considered. Due to the specified term, secondment from other organisations will be considered.
Salary Range	Applications would be assessed across two capability levels, and the successful candidate will be appointed at the level commensurate with their skills and experience, as assessed by the Selection Panel. • **CSOF6:** AU$135,571– AU$158,863 per annum (pro-rata for part-time) plus up to 15.4% superannuation • **CSOF7:** AU$163,199 – AU$180,568 per annum (pro-rata for part-time) plus up to 15.4% superannuation
Location(s) and office arrangements	Perth (Kensington), Western Australia
Relocation Assistance	Will be provided to the successful candidate if required
Applications are open to	Australian/New Zealand Citizens and Australian Permanent Residents
Position reports to the	CSIRO AIV Work Group Supervisor
Client Focus – Internal	20%
Client Focus – External	80%
Number of Direct Reports	0
Enquire about this job	To enquire about this position, please contact Ryan Spence, Interim AIV Team Leader, via email at ryan.spence@csiro.au.
Support and workplace adjustments	We offer a range of reasonable supports and workplace adjustments. Please let us know via email Mark.Rice@csiro.au (Mark Rice – Talent Acquisition Specialist) if we can help you to equitably participate in our recruitment process or the role itself.
How to apply	Apply online at https://jobs.csiro.au/ Internal applicants please apply via **Jobs Central**

We encourage you to reach out if you require any support or experience difficulties when applying – please email careers.online@csiro.au

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.

About CSIRO

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world's largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and Indigenous Australia, Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit CSIRO.au for more information.

Background

The SKA Observatory is a next-generation radio astronomy facility set to transform our understanding of the Universe and fundamental physics. By deploying cutting-edge technology, it will have a lasting impact on science and society. With investment totalling almost A$3.5bn, the scale and reach of the facility will be unsurpassed.

The SKA Observatory is an Intergovernmental Organisation, supported on five continents and in both hemispheres under a unique partnership of sixteen nations. The SKA Observatory's facilities include its headquarters in the UK and radio-quiet sites in remote areas of South Africa and Australia, where the mid- and low-frequency telescopes are being built respectively.

By constructing and operating these advanced telescopes, the SKA Observatory will become the world leader in radio astronomy, providing unparalleled research capabilities for decades.

In Australia, the SKA Observatory is collaborating with CSIRO, Australia's national science agency, to construct and operate the SKA-Low Telescope. SKA-Low teams are operating 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 System Scientist will be vital part of the Assembly, Integration and Verification (AIV) Professional Services Consultant (PSC) Team, which is an integrated part of the larger SKAO AIV team. The AIV team is responsible for integrating complex digital and RF electronic systems into the SKA LOW

Telescope Signal Chain and verifying the Telescope to defined System Level requirements during the construction phase of the Low Telescope. The role will include day-to-day technical and scientific leadership of AIV Team members to deliver these integration and verification activities in a dynamic environment. This involves activities like writing and running Test Cases and investigating issues with Telescope components.

The role is based in Perth but may involve mutually agreed occasional domestic and international travel to the SKA-Low Construction site, the System Integration and Test Facility (ITF, a lab environment in Geraldton) and other supplier locations.

To deliver its mission, the AIV team works closely with a diverse, globally distributed group of SKA stakeholders, primarily the SKA Science Commissioning team. We aim to attract world-class talent and recognise the value that diverse backgrounds and perspectives bring to complex engineering challenges like the SKA. We are therefore looking for a candidate who can contribute their technical expertise, experience and insights to strengthen the AIV team and grow with it as the project progresses.

The System Scientist will be line managed by the Work Group Supervisor, and functionally report to the AIV Team Leader, who has the overall responsibility for the successful integration and verification of the SKA Low Telescope.

CSIRO's Space and Astronomy business unit (S&A) is committed to providing a safe and inclusive work culture and implementing initiatives to improve diversity and equity within our workplaces. This position is available on a full-time or part-time basis (minimum 0.8 FTE), and flexible working arrangements will be considered in agreement with the Line Manager. Please indicate your preference for full-time or part-time in your application. Requiring visa sponsorship will impact these arrangements.

Duties and Key Result Areas:

- Contribute to Integration and Verification activities as part of a multi-disciplinary, geographically dispersed team whilst ensuring strong alignment between scientific objectives, system requirements, and test design for AIV activities.
- Provide expertise in different aspects of radio astronomy including (and not limited to) correlation, spectral and continuum observations, calibration, imaging, pulsar search/timing, spectral line observations to AIV and SKA stakeholders.
- Diagnose issues (primarily at Telescope Product Interfaces) using standard and non-standard approaches
- Support the development of robust operating procedures for complex signal-processing and related systems.
- Develop performance analysis tools for AIV using custom Python scripts, SKA data-processing tools, modern astronomy software (i.e. CASAcore) and ITF installed systems.
- Undertake domestic and international travel as required to support AIV activities, primarily at the SKA-Low Telescope site and the Integration and Test Facility (ITF).
- Support and represent the AIV Team (as necessary) at key events such as product acceptance milestones, supplier delivered trainings, AIV delivered systems training.

- 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.
- Adhere to the spirit and practice of CSIRO's and SKAO's Codes of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
- Perform other related tasks as requested.

In addition to the duties listed above, if the successful candidate is appointed at the higher CSOF7 level, their additional duties & key result areas would also include:

- Refine the Systems AIV Plan in line with the SKAO AIV Strategy and in collaboration with internal and external stakeholders
- Build and maintain effective relationships with internal and external stakeholders to achieve project objectives, including sharing methods and approaches for characterising telescope performance within SKAO.
- Build relationships with internal and external stakeholders and work collaboratively to reach project objectives, including information sharing with the SKAO on methods and approaches for characterising telescope performance.

Selection Criteria

Applications would be assessed according to the Selection Criteria listed below and the level they're met, and the successful candidate will be considered/appointed at the capability level commensurate with their skills and experience, as assessed by the Selection Panel.

Essential

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

1. A PhD in Astronomy, or an equivalent field.
2. Strong practical understanding of radio interferometry at a systems level, demonstrated through significant experience in AIV / commissioning of radio telescopes.
3. Specialist knowledge of one or more SKA-relevant domains such as correlation and beamforming, spectral line imaging, electronic engineering, digital signal processing, high performance computing and network infrastructure etc (preferentially ordered).
4. Proven ability to work collaboratively within complex international projects and multicultural environments, demonstrating flexibility and adaptability to change.
5. A track record of scientific contributions, including authorship of peer-reviewed publications, reports, grant applications, and/or patent applications.

*To be considered for the CSOF7 level, the following **additional essential criteria** must also be met:*

6. Demonstrated leadership in commissioning of radio telescopes.
7. Demonstrated ability to lead and influence teams in developing and managing comprehensive testing roadmaps for the integration and verification of complex systems.

Desirable

1. Experience in low-frequency radio astronomy.

2. Familiarity with project management principles and systems engineering concepts and tools.
3. Proficiency with modern collaboration platforms such as Confluence, Jira, Jama, and Miro.
4. Strong understanding of quality assurance, configuration management, and engineering change control processes.

Required Competencies

CSOF6

- **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, goal and priorities.

CSOF7

- **Teamwork and Collaboration:** Creates and fosters an environment in which there is a high level of cooperation within and between teams. Facilitates positive team relationships to build interactions across Business Units and the organisation.
- **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:** 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.
- **Judgement and Problem Solving:** Resolves major conceptual scientific, technical, commercial or management problems, which have a significant impact upon the field of research,

professional function, the Business Unit or the Organisation. Situations faced have little or no precedent and require original concepts and approaches.

- **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:** Is flexible in response to external change or when faced with external constraints. Identifies and promotes the opportunities arising as a result of change.

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 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.

- 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/

Setting you up for success

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please email the Talent Acquisition Partner, listed on Page 1, to let us know if we can help you to equitably participate in our recruitment process or the role itself.

Life at CSIRO and flexible working arrangements

We work flexibly at CSIRO, offering a range of options for how, when and where you work. We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, benefits and career development opportunities. To learn more, visit Careers at CSIRO.

We celebrate the uniqueness of our workforce and are committed to creating diverse and inclusive teams where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders,

sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

CSIRO values

CSIRO is a values-based organisation committed to values-based leadership.

Value	Descriptor	Behaviour
People first	Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences.	• Respectful • Caring • Inclusive
Further together	We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems.	• Accountable • Authentic • Courageous
Making it real	We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change.	• Partnering • Cooperative • Humble
Trusted	We're driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia's trust in CSIRO.	• Curious • Adaptive • Entrepreneurial

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.