# Position Details

## Research Scientist/Engineer- CSOF7

|  |  |
| --- | --- |
| The following information is for applicants | |
| Advertised Job Title | AIV Systems Scientist (Integration and Verification) |
| Job Reference | 100379 |
| Tenure | Specified term *ending 30 June 2028*  Full-time or part-time (min 0.8FTE) |
| Salary Range | AUD157,833.00 - AUD174,631.00 pa (pro-rata for part-time) plus up to 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 |
| 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 | Rajan Chhetri by email: rajan.chhetri@csiro.au |
| 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](mailto: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 well-being 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).

### 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.

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.

In Australia, the SKAO is collaborating with CSIRO to operate and support the construction of the low frequency telescope (SKA-Low) in remote Western Australia on Wajarri Yamaji Country.

CSIRO is responsible for land management, subleases, maintaining radio quiet protections, providing services to the telescopes, and managing the Indigenous Land Use Agreement.

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.

### Role Overview

CSIRO is seeking a senior scientist for the expanding Assembly, Integration and Verification (AIV) Professional Services Consultant (PSC) Team which is an integrated part of the larger SKAO AIV team.

The AIV System Scientist (Integration and Verification) is responsible for the development and management of the Continuous Integration and Verification (CI&V) Flow of the products which make up the SKA Low Telescope as an important input to the System AIV Plan. The role will then work closely with the AIV Team Manager, the SKA Low Product Delivery Teams, and SKA Low Telescope Delivery Team to develop the System AIV Plan and work collaboratively as part of the AIV team to deliver it.

The AIV System Scientist (Integration and Verification) role will also include day-to-day technical and scientific leadership of AIV Team members to deliver the integration and verification activities detailed in the System AIV Plan using experience gained from previous Radioastronomy projects.

The AIV System Scientist (Integration and Verification) role will be line managed by 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.

The role is based in Perth with other AIV team members but may involve mutually agreed occasional domestic and international travel to the SKA-Low Construction site, other CSIRO offices and supplier locations.

The AIV team works closely with the SKA science, engineering and project communities around the world and is as diverse in culture, skills, and location as they are. We want to recruit and support world-class talent that represents the diversity across our society. Our focus is therefore on finding someone who can bring their unique talents, experience, and perspective to enhance the AIV team knowledge and grow with the team as the project progresses.

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.

### Duties and Key Result Areas:

* Development of the Systems AIV Plan in line with the SKAO I&V Strategy in collaboration with internal and external stakeholders, including identification of opportunities to install and integrate other SKA Low components and demonstrate their interfaces to the Low array assemblies of SKA Low telescope and the Integrated Test Facility (ITF).
* Determine the raw data products needed by AIV to evaluate the SKA Low signal chain as part of the definition and development of the System Continuous Integration and Verification Flow for SKA Low.
* Identify and support the links between science, system requirements and test design for AIV activities through the definition and development of Use Cases.
* Develop performance analysis tools (made by AIV, for AIV) with Python scripts using SDP tools, CASAcore and/or modern astronomy visibility processing and imaging packages and ITF installed systems.
* Diagnose problems and support the establishment of robust operating procedures for complex signal-processing and related systems and take an active part as part of the AIV team in the Verification Activities for the System Under Test (SKA Low Telescope, ITF).
* Contribute to, support and represent the AIV Team (as necessary) for product integration, supplier delivered product training, AIV delivered systems training, system acceptance and other product milestone events.
* Contribute to the planning and prioritisation of AIV related SKA Low project activities within a Lean Agile process and support the AIV Team Leader with project management activities.
* Contribute to Integration and Verification Activities as part of a multi-disciplinary, geographically dispersed integration and verification team within Australia and overseas.
* 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.
* Maintain confidentiality when dealing with commercially sensitive information pertaining to CSIRO and/or research or commercial partners.
* Undertaketravel as necessary to support AIV activities within Australia and overseas.
* 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 Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. A PhD in Radio Astronomy.
2. Sound knowledge and practical understanding of radio interferometry.
3. Specialist domain knowledge of one or more SKA relevant areas of activity (correlation and beamforming, electronic engineering, software engineering, digital signal processing, high performance computing and network infrastructure, AAVS).
4. Significant and demonstrable experience in:

* The development and management of processes for and implementation of the integration and verification of complex radio astronomy systems.
* Leading or influencing teams for developing roadmaps and testing pathways.

1. Demonstrable experience of collaborative working as part of a complex international project in a multicultural environment, and able to work flexibly and adapt to change.

## **Desirable**

1. Membership of, or eligibility for membership of recognised national or international systems engineering institutes.
2. Working knowledge of modern collaboration tools such as Confluence, Jira, Jama, Miro.
3. Knowledge of Lean Agile management tools and processes, including SAFe.
4. Familiarity with project management and Systems Engineering Concepts and Tools.
5. Good understanding of configuration management and engineering change processes.
6. Practical experience of Quality Assurance.

## Required Competencies:

1. **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.
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:** 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.
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:**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

* 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/>

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Space and Astronomy](https://www.csiro.au/en/Research/Astronomy) for 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