

## **South African Radio Astronomy Observatory Human Capital Development Programme**

### **Radio Astronomy Advancement Programme (RAAP)**

#### **Call for Proposals for Funding for 2025**

**Closing Date for Proposals: 31 October 2024**

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#### **1. What is the Radio Astronomy Advancement Programme?**

The objective of the Radio Astronomy Advancement Programme (RAAP) is to fund interventions, mostly workshops, that will contribute to the development of necessary scarce skills in radio astronomy-relevant science and engineering, within SARAO, the general radio astronomy community in South Africa, and in the SKA partner countries in Africa. The programme is coordinated within the Human Capital Development (HCD) portfolio of SARAO.

#### **2. Who can apply for a RAAP Grant?**

Individuals eligible for applying for RAAP grants to arrange and facilitate workshops that will develop necessary skills and experience in radio astronomy science or engineering are:

- Academic staff based at South African universities, including postdoctoral research fellows.
- Permanent and fixed-term staff members based at an astronomy national facility, including SARAO.

#### **3. Which skills will be considered for RAAP Funding in 2025?**

For 2025, applications that propose to develop skills in one or more of the following areas will be considered for support:

1. Data Engineering / Computer Engineering - includes storage solutions, archive file systems, high performance / scientific computing etc.
2. Radio Astronomy Data Analysis - includes pipeline development and data calibration techniques. Preference will be given to workshops using MeerKAT data.
3. Space geodesy applications, data analysis and instrumentation.
4. Machine Learning / Artificial Intelligence techniques applied to Radio Astronomy.
5. Digital Signal Processing Platforms and Algorithms.

6. Systems Engineering.
7. Radio Telescope Control and Monitoring systems.
8. Software Development (Focusing on skills development in Python, C/C++ or CUDA).
9. Radio Astronomy Electromagnetic and RF Systems.

**PLEASE NOTE:** To ensure that the proposed workshop is in line with the scarce skill needs of SARAo, it is highly recommended that applicants consult with either or both the SARAo Chief Scientist (Dr Fernando Camillo - fernando@sarao.ac.za) and SARAo Head of Engineering & Technology Development (Ms Keitumetse Molamu - kmolamu@sarao.ac.za) on the topic and content of the proposed workshop BEFORE submitting a formal application.

#### **4. Level of Funding of RAAP Grants for 2025**

Applicants can apply for a RAAP grant up to a maximum value of R750,000 for a workshop. The number of grants available is not set but will be determined by the level of funding requested by the successful proposals. Smaller grants can be requested to co-fund workshops. A detailed budget must be submitted as part of the proposal with a clear indication of the co-funded items for the workshop if additional funds are requested.

#### **5. Timeline for RAAP Grants**

The deadline for the submission of proposals for RAAP grants is 31 October 2024. Proposals will be evaluated by a panel consisting of science and engineering staff at SARAo and may include academic staff based at a university. Applicants will be informed on the outcome of their application in February 2025, with funds for successful proposals transferred to the relevant university or institution in April 2025.

Applicants should therefore plan for the workshop to take place during the period starting 1 June 2025 to 28 February 2026.

#### **6. Participants of RAAP Workshops**

- 6.1. RAAP workshops should target postgraduate science and engineering students at South African universities, as well as young staff members based within SARAo.
- 6.2. Postgraduate students based in the 8 SKA Africa partner countries should be eligible for applying for workshops, but participation numbers will be dependent on the budget available for international flights.
- 6.3. No more than 30% of participants should be from the hosting institution of the workshop to ensure broader inclusivity.
- 6.4. Gender balance and diversity must be considered by the selection committee when selecting the participants for the workshop.

## **7. What criteria will be used to evaluate the proposals for RAAP Grants?**

Proposals will be evaluated using the following criteria:

- 7.1. Relevance and significance of the skills outputs proposed to radio astronomy science or engineering, and specifically to the SKA, MeerKAT and HartRAO radio telescopes, and SARAQ space geodesy instruments.
- 7.2. The potential of the workshop to achieve the skills outputs and objectives proposed, the level of experience of the facilitators, and the availability of the necessary equipment and infrastructure to achieve the objectives proposed.
- 7.3. Cost effectiveness of the workshop and budget confidence.

## **8. Terms and conditions of a RAAP Grant**

- 8.1. Workshops funded with a RAAP grant must ensure the development of important and relevant skills, and the target audience of the workshops must be postgraduate students studying at South African and SKA partner country universities and young staff members at SARAQ, whose research or work is relevant to radio astronomy science or engineering.
- 8.2. The nature of expenses that may be paid for with a RAAP grant are:
  - Flights
  - Accommodation (at the NRF authorised level)
  - Ground transport
  - Catering
  - Venue
  - Equipment / resources (the RAAP grant may not be used to purchase capital items, other than resources required for the workshop.)
- 8.3. As per National Treasury's instruction, the grant may not be used to pay for alcohol.
- 8.4. It is expected that the grant recipient will take on and be responsible for the majority of the work of arranging the workshop.
- 8.5. Grants are non-transferrable from one institution to another as an effect of the grant recipient changing his/her institution.
- 8.6. If the grant recipient is no longer able to carry out the workshop, an alternative member of the organising committee can be proposed to SARAQ to take on the responsibility in organising the workshop. However, SARAQ has the right to cancel the agreement with the grant recipient and hosting institution if there is a lack of confidence in organising the workshop. In the latter case, the hosting institution will need to refund SARAQ for the full amount of the grant awarded.
- 8.7. Copies of all receipts and other proof of expenses, for the workshop, must be retained and submitted to SARAQ HCD, together with a brief expenditure report, no later than thirty (30) days after the workshop has taken place.

8.8. A brief workshop report, summarizing the benefits and outputs of the workshop, expected future research and collaborations, together with copies of the workshop programme and a list of delegates, must be submitted to the SARAo HCD no later than thirty (30) days after the workshop.

## 9. Communication Strategy for RAAP workshops

By accepting a RAAP grant, SARAo is an official partner of the workshop that should be acknowledged through:

- 9.1. Branding of the workshop when advertising / marketing the training opportunity.
- 9.2. Branding at the workshop by displaying the SARAo logo on banners and materials.
- 9.3. Any official communications on the workshop such joint media releases, news articles, etc.
- 9.4. Tagging of SARAo in any official social media posts by the institution that relates to the workshop.

HCD may request that some presentations at the event be recorded to be made public through SARAo's e-learning initiative. This will be discussed with the grant recipient before the workshop takes place.

## 10. How to apply for a RAAP Grant

- 10.1. Consult with either or both the SARAo Chief Scientist (Dr Fernando Camillo - fernando@sarao.ac.za) and the SARAo Head of Engineering & Technology Development (Ms Keitumetse Molamu - kmolamu@sarao.ac.za) on the topic and content of the proposed workshop to ensure that the workshop is relevant to the scarce skills development needs of SARAo.
- 10.2. For SARAo staff, obtain the necessary approval from your line manager for hosting of the workshop and proposal submission for RAAP funding.
- 10.3. Applications must be submitted to [bonita@sarao.ac.za](mailto:bonita@sarao.ac.za) before the closing date, which is **31 October 2024**.
- 10.4. No late or incomplete applications will be considered.
- 10.5. The outcome of the application process will be communicated to applicants in February 2025.
- 10.6. All information provided for each proposal must be submitted as **ONE PDF document** (there is no application form).
- 10.7. Applications must include the information listed in **points a to k** below (please provide the information in the order requested).
  - a. Contact person (title and full name)
  - b. Contact details (email address and telephone number)
  - c. Workshop title
  - d. Proposed date / month, and duration, of the workshop
  - e. Workshop organizing committee details (names, contact details and affiliations)
  - f. One paragraph overview summarizing the proposed workshop.

- g. List the workshop objectives, including the benefits to the workshop participants, and skills output.
- h. Proposed number, and composition of delegates.
- i. Proposed workshop programme (a high-level programme is sufficient)
- j. Proposed venue (including a short motivation for why the venue was selected. A quotation for the venue may be submitted to further justify costs.)
- k. Budget (to a maximum of seven hundred and fifty thousand rand - R 750,000 - per workshop). If the workshop is co-funded, please provide budget items funded through additional funding sources.