

## **Draft Terms of Reference**

**15 September 2023**

### **Renewal of the National Multi-Wavelength Astronomy Strategy led by the ACTT**

Timeline: 12 Months

#### **Introduction:**

The renewal of the National Multi-Wavelength Astronomy Strategy is an essential endeavour to ensure the continued growth and impact of astronomy in South Africa. The process will be structured into dedicated working groups, each focusing on key pillars of multi-wavelength astronomy, and a separate group to analyse global strategies and trends. The process is expected to be completed on a 12 month timeline. This document outlines the process, key elements, and groups involved in the strategy renewal. The renewal process will build upon valuable foundations, including:

#### **GTAC's Astronomy Institutional Landscape Review:**

- Utilize insights from GTAC's study to evaluate the existing institutional landscape and strategize around the identified areas of improvement.
- Address recommendations to enhance coordination, efficiency, and resource allocation in the field.

#### **A scientometric assessment of the field of Astronomy in South Africa:**

- Incorporate results from the scientometric assessment of Astronomy in South Africa to identify strengths and areas for growth.
- Leverage insights to align the strategy with international trends and emphasize competitive research areas.

#### **Astro-tourism Strategy:**

- Incorporate findings from the Astro-tourism strategy to harness astronomy's potential for tourism and community engagement.
- Strategize around integrating astronomy facilities and observatories into tourism initiatives, fostering public interest while protecting our competitive advantages.

#### **Step 1: Formation of Working Groups (Month 1):**

Working groups will be established to address specific pillars within multi-wavelength astronomy. The potential pillars are identified as:

1. Human Capital Development and Transformation
2. Observational Research
3. Theoretical Modelling and Simulation
4. Instrumentation
5. Infrastructure Maintenance and New Investments

6. International Collaboration & Partnerships
7. Innovation & Commercialization
8. Education and Outreach
9. Socio-Economic Impact, including Astro-Tourism
10. Astronomy Funding Instruments and Optimization
11. Governance (The role of government, multiwavelength coordination structure, ACTT etc)
12. African and Global Positioning

### **Step 2: Global Strategies and Trends Group (Month 1):**

A dedicated group will analyse international trends, collaborations, and emerging strategies in astronomy. This analysis will inform South Africa's positioning/growth on a global scale.

### **Step 3: Working Group Activities (Months 2 - 5):**

Each working group will conduct thorough research, consult stakeholders, and draft strategies within their respective pillars. Regular coordination meetings will ensure alignment and cross-fertilization of ideas. Each working group should have measurable goals, to be assessed by 2030.

### **Step 4: Integration and Strategy Drafting (Months 4 - 7):**

Working groups will converge their findings into a cohesive multi-wavelength astronomy strategy draft. The global strategies group's insights will be integrated to ensure international alignment. Community review should occur also at this stage.

### **Step 5: Review and Finalization (Months 8 - 11):**

The draft strategy will undergo comprehensive review by experts and stakeholders. Feedback will be incorporated to finalize the strategy document. Final community input will be solicited.

### **Conclusion:**

The renewal of the National Multi-Wavelength Astronomy Strategy is built upon the foundations provided by the Astro-tourism strategy, GTAC's Institutional Landscape Review, the Astronomy Scientometric assessment and Global situational analysis, as well as the current state of astronomy research facilities, human capital and socioeconomic impact in South Africa. By integrating these valuable insights, South Africa's strategy will align with international trends, maximise research output, enhance institutional coordination, and generate significant socioeconomic impact. This collaborative effort will ensure that astronomy in South Africa remains dynamic, innovative, and globally competitive, contributing to both scientific advancements and socio-economic growth.