



science & innovation

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA

## Quarterly Report 2023/24

**PROGRAMME: African Astronomical Society (AfAS)**

**Quarter 4  
(1 April 2023-31st March 2024)**



AFRICAN  
PLANETARIUM  
ASSOCIATION

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# 1. Rationale/background of the Programme

Over the past three decades, professional astronomy activities on the African continent have increased and this has led to the onset of some growth in capacity. However, this growth has mainly been derived from collaborations with partners from outside the continent through various initiatives. The High Energy Stereoscopic System (H.E.S.S.), the Southern African Large Telescope (SALT), the Square Kilometer Array (SKA), and the African Very Long Baseline Interferometry (VLBI) Network, are examples of massive international ventures in which African countries and scientists are playing a leading role. These ventures are complemented by the efforts to build capacity, through initiatives like the Development in Africa with Radio Astronomy (DARA), the National Astrophysics and Space Programme (NASSP) and the Newton Fund Programme, to train young Africans in astronomy, engineering, technology, and related fields. The purpose of these projects is to develop skills through using astronomy, in a number of targeted African countries at this stage. The DARA project is targeted at countries that will acquire radio telescopes through the African VLBI Network (AVN) as part of their participation in the South African Square Kilometer Array project. The countries involved in the AVN are Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia, Zambia, and South Africa. In 2017, the 32m radio telescope observatory in Ghana was completed and inaugurated, this was the first AVN telescope completed and one of two operating radio telescopes in Africa, the other being the HartRAO telescope in South Africa.

In addition to the progress mentioned above, African countries are rapidly developing their own astronomy training programmes, instruments, and infrastructure. Examples of these developments include the Entoto Observatory and Research Centre in Ethiopia, the refurbished Kottamia Astronomical Observatory in Egypt, Oukaimeden Observatory in Morocco, a 1m optical telescope in Burkina Faso, a Master's Programme in Astronomy in Uganda and Algeria, and several astronomy initiatives in Nigeria. Discussions around the possibility of setting up an Astronomical Observatory and related facilities for education and outreach in Kenya are ongoing to realize this project. Running in parallel to the above-mentioned initiatives are several data processing and analysis infrastructure projects as well as, off late, Astronomy Schools which were hosted by Zambia, Uganda and Morocco as well as one in Botswana in June 2023.

It is therefore crucial that African nations collaborate amongst themselves to develop continental-wide skills through targeted interventions. Thus, the African Astronomical Society (AfAS) has been re-positioned to perform the pivotal role of fostering the growth of astronomy in Africa by coordinating the network of astronomers, promoting the study and applications of astronomy, promoting astronomy research collaborations, and advising the government stakeholders on Astronomy related policy. The organization will therefore ensure that Africa eventually develops and maintains a stable astronomical environment that can sustain knowledge-based economies through various activities. AfAS was relaunched at the Astronomy in Africa Business Meeting, which was held in Cape Town at the South African Astronomical Observatory from 25-26 March 2019. The meeting was attended by some 80 participants from 20 nations and included astronomers, public stakeholders, and research organizations. The meeting focused on field-related issues of strategy, policy, and governance and the planning of the future of astronomy development in Africa. The AfAS Executive Committee elected at this meeting was mandated by the African Astronomy Community to help achieve the mission and vision of the Society through the achievement of the objectives as set out in the AfAS Constitution. At this meeting, the South African Government, through the Department of Science and Innovation (DSI), offered to host and fund a relatively small staffed AfAS Secretariat for three years, from April 2019 to March 2022, funding has subsequently been extended to March 2024 but remains insufficient to meet all the objectives of AfAS now that international restrictions have been lifted and travel is once again possible. **A critical activity during 2023/24 was the renewal of the DSI/AfAS contract from 1<sup>st</sup> April 2024, the contract has been renewed for another 6 years with funding for the initial 3 years pegged at current levels in real terms.**

In addition, there are some major projects which the DSI transferred to AfAS to manage, these are:

- i. **The African European Radio Astronomy Partnership (AERAP)** for the development of astronomy knowledge and skills in Africa through funding and partnerships with European partners. AERAP is the existing Africa-Europe astronomy platform previously managed and funded by the DSI of South Africa. Initially established as a lobbying platform for South Africa to promote the Square Kilometer Array (SKA) African bid in Europe to host the SKA telescope in Africa, the platform has now seen its mandate expanded to support several scientific themes including astronomy, to promote collaborations between Africa and the European Union as well as provide access to major funding mechanisms in Europe. A key objective will be to encourage stakeholders across both continents, including AfAS, to in the implementation of key Africa and European Union policy objectives in several scientific disciplines as well as the the digital economy. A from the 2024/25 financial year, SAERAP scope's has been broadened by the DSI to include additional scientific themes of interest to South Africa and its African partners.
- ii. **African Science Stars Publications (ASSAP)** – The Science Stars magazine has over the past 11 years profiled the work of several science awareness and communication activities within the South African National System of Innovation (NSI). However, the concept of an African Science Stars magazine has now emerged to expand the current initiative to an Africa-wide magazine which will build on the work of the Science Stars project in South Africa and expand it on a continental scale in Africa using astronomy and space science as a tool for science awareness. The project now includes BRICS astronomy with the mandate of demonstrating and encouraging astronomy development through partnerships, across the BRICS countries.
- iii. **African Planetarium Association-** The African Planetarium Association (**APA**) has been created to become a network of planetaria and facilitate their development across Africa. APA is an affiliate of the International Planetarium Society (IPS) and has representation on the IPS board. APA would therefore become the link between the planetaria in Africa and those in the rest of the world. APA was launched at the Iziko Museum and Digital Dome in Cape Town in March 2019, alongside the re-launch of the African Astronomical Society.

**The APA due to its limited resources, is currently being managed, as a committee of AfAS with Secretariat support provided by the AfAS Secretariat and management oversight by the AfAS Executive Committee.**

### **COVID-19**

Covid-19 has had a significant impact on health systems, the world economy, food security, education, mobility, and communities over the past 3 years. The pandemic is now sufficiently controlled across the globe to allow for a normalization of community life across the globe and economic activity is now at pre-pandemic levels. However, a new norm is the growth in hybrid conferences/workshops etc. as participants seek to overcome the high cost of travel as well as the lack of funding to attend such events. AfAS, due to its extremely limited funds, should therefore lean on virtual attendance where this is feasible. Furthermore, the committees will actively attempt to secure external funds for their activities given that COVID 19 restrictions have been completely lifted and the world economy has not attained normality. AfAS will, however be cautious in staging hybrid events as these are more costly than hosting only “in-person” events given the need for having inter-active, high broad-band digital platforms in addition to the physical venue and equipment.

## **2. Summary of performance for the current year**

### **2.1 Key Operational Objectives for 2023/24**

#### **2.1.1 AfAS Core Activities**

- Cultivating collaboration among countries and astronomers in Africa, as well as collaborations between Africa and the rest of the world
- Actively engaging with astronomers and key stakeholders across the African continent to take part in activities leading to the GA 2024 as well as attend the event in August 2024 in Cape Town, South Africa.
- Encouraging an appreciation of the significance of astronomy for society by countries in Africa, as well as the African Union (AU)
- Increasing science and astronomy literacy across Africa and enhancing the presence of astronomy in the public domain.
- Strengthening networks of astronomy outreach practitioners across Africa and establishing additional collaborations as needed.
- Creating and curating reliable and accessible resource material on astronomy for the general public, learners, and teachers.
- Promoting astronomy in countries where its presence is minimal.
- Serving as the interface between the AU and astronomy-related activities
- Encouraging governmental and intergovernmental (AU) investment in astronomy-related activities
- Encouraging the use of astronomy for socio-economic development
- Strengthening the teaching of science, technology, engineering, and mathematics in schools and the public through the use of astronomy and related fields
- Using astronomy to attract African youth and women into science, technology, engineering, and mathematics careers.
- Providing mentorship, leadership, and guidance to early-career astronomers
- Increasing the number of African astronomers as well as the number of astronomers working in Africa
- Organising meetings and events pertaining to astronomy and related fields
- Highlighting and disseminating the scholarship of African astronomers in the public domain, and career opportunities for emerging astronomers
- Publish articles to promote research in astronomy and astrophysics.
- Facilitating the use of existing international astronomical facilities and, where necessary, the development of new astronomical facilities in Africa
- Safeguarding astronomical sites in Africa
- Identifying and preserving indigenous astronomical knowledge
- Implementing a Branding Strategy to enhance the awareness of AfAS internationally.
- Effectively communicating the activities and achievements of AfAS

#### **2.1.2 AERAP**

- Build on the outcome of the second AERAP Forum, which took place in Brussels as a hybrid event from 6-10 March 2023. The focus areas were:
  - a. Green Hydrogen
  - b. Astronomy schools
  - c. Agricultural research
  - d. Science funding from the NDICI/Global Europe
  - e. living labs in Africa
  - f. genome exhilarated capacity building in Africa
  - g. cooperation in research infrastructures
  - h. cooperation on EU warranty Missions
  - i. data protection
- Support the policy basis for access to funding. This will cover Horizon Europe, the 10<sup>th</sup> framework programme for research and development (2027-2034); the NDICI programme and member state programs;
- Raising the number and range of partners from Africa to participate in Horizon Europe submissions in the context of the 2023 Horizon Europe work programme calls for proposals expected to be published from 1 April 2023 onwards;
- Continue the work of the specific groups covering the following: space, agriculture, women in science, astronomy;

- Develop a strong awareness of the vital contribution of science to the strategic objectives of the EU's Neighbourhood, Development, and international cooperation Instrument, NDICI, also known as Global Europe. Current priorities include education and training, agriculture, and health. This will be achieved by gaining policy and political level support from the European Parliament and direct engagement with the European Commission;
- Build links with a range of different Commission DGs;
- Maintaining and increasing significant contributions from African scientific leadership to broader SDG policies espoused by the European Union and other partners; and connecting this reality to the ongoing establishment of policy and political priorities to support post-pandemic engagement with Africa;
- Ensuring science policymakers are kept aware of key scientific developments emanating from Africa;
- Use the opportunity of the 10th anniversary of AERAP to build additional support for science engagement with Africa amongst European policy leaders;
- Support and foster collaborations wherever they bring value, both within the context of European Union funding mechanisms but also within the context of EU member state activities where they are concerned with collaboration with Africa, and they are involved with the SDGs;
- Support scientific dissemination and awareness of research activity emanating from African research partners;
- Take necessary actions to achieve a more robust profile for Africa-based researchers in vital European initiatives. These, in particular include the EU Missions covering soil, oceans, cities, cancer and climate. Following the Forum in March, AERAP will submit an Africa strategy for the European Union in June 2023. Other focus areas will consist of the European Union research infrastructures. AERAP will also seek to establish African partnerships for research infrastructures in the areas of biobanking, clinical trials, medical devices, marine ecosystems, biodiversity Geodiversity , and possibly others.

### 2.1.3 ASSAP

- Advancing public awareness, appreciation and engagement of astronomy and space science.
- Providing wide, regular coverage of astronomy and space science activities in the region from professionals, outreach and career guidance, Astro-tourism and related socio-economic developments, preservation of dark skies, policy developments, conferences, etc.
- Creating partnerships with key stakeholders in the astronomy and space science sector, such as national and regional facilities, astronomy clubs, public organizations, and private companies.

### 2.1.4 APA

- Coordinate the International network of planetaria across Africa and serve as a point of reference for the IPS members outside of Africa.
- Participate in conferences and events to market and grow the APA community and its expertise. These events will include National and International Science events and planetarium events e.g. World Space Week, Global Astronomy Month, International Planetarium Day, National Science week, International day of the girl child etc;
- Create awareness of available planetarium resources within the APA community and develop resources of special relevance to the African contexts;
- Organize regional conferences and promote regional workshops and training on planetarium technology and software, communication skills and voice training for presenters, production of planetarium content;
- Promote student training programmes to enable them to contribute to planetaria as presenters and operators, with technical support and through participation in outreach activities;
- Promote exchange programs for African planetarians to access training in the IPS communities;
- Foster the collaboration with African based science centres to enrich science communication and education, particularly in astronomy;
- Promote Astro- and eco-tourism;
- Share information on planetarium software and hardware, full dome videos and films, and educational resources with APA members with emphasis on resources that are freely available;
- Promote the creation of local African planetarium contents to be showcased both in Africa and internationally;
- Promote fundraising activities to support APA and planetaria in connection with local government and non-government Institutions;
- Negotiate with IPS discounts for African members to attend global meetings, conferences and workshops;
- Negotiate with planetarium service providers to have discounted rates for their products.
- Negotiate with IPS discounts for African members to attend global meetings, conferences and workshops;
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## 2.2 Performance Highlights for the year

### 2.2.1 AfAS

#### Secretariat/General

**AfAS ended the financial year with adjusted unspent funds totalling some R0,6m and actual cash on hand at circa R1,5m. The higher cash balance is due to the majority of costs for the Annual Conference not being spent as the event is to be hosted by Morocco in April 2024. The unspent funds will be used to ease the constrained funding for the coming financial year, especially within the committees.**

**There is also current uncertainty on the annual grant for 2024/25 given that the austerity measures introduced by the South African Government requires an annual 10% reduction in the previous MTEF allocation for future years, the final allocation for the 2024/25 year is expected in April.**

The annual grant for the current financial year was received in full in May 2023 from the DSI, and the annual funds due to both AERAP and ASSAP were immediately disbursed to allow them to secure the requisite resources for the year and implement their planned activities.

**The annual external audit** of AfAS was completed at the end of August and the Society again received a clean audit report. The report was tabled at the October 2023 Executive Committee Meeting and duly noted. However, due to the non-responsiveness of the auditors post the year end audit and during the tax filing system thereafter, as well as failing to meet with the AfAS Project Manager for pre-audit meetings for the 2023/24 financial year, the Secretariat decided to terminate their engagement late in March and appoint a new audit team (CFO360) to complete the audit and tax returns for AfAS for 2024. The appointment is only for the completion of this year's activities and a more permanent arrangement will be concluded by October subject to the approval of the Executive Committee. The previous Auditors (Mazars) appointment ended officially in October 2023 and it was mutually agreed at that time, to continue until the completion of the 2023/24 audit.

- The **AfAS Secretariat** was boosted by the appointment of a SARAO funded young professional (Ms Nombali Qodi) who joined in November, to supplement the Intern from the DSI funded Internship Programme, which is managed by the Human Sciences Research Council (HSRC). She joined AfAS on the 1<sup>st</sup> July for a two-year period and based in Cape Town. The Secretariat now consists of 4 personnel in addition to the Project Manager: the Head of Secretariat, the young professional from SARAO, the HSRC intern, and the BRICS Project Coordinator, who is based at the South African Astronomical Observatory (SAAO) and reports to the Director of the Office of Astronomy for Development (OAD). AfAS however, funds the salary of the Head of Secretariat as well as the fees of the Project Manager. The SARAO young professional who is based at the DSI was released at the end of December to focus solely on DSI tasks. Unfortunately another SARAO young professional (Lunga Mandlazi), who joined AfAS at the beginning of December resigned before the Christmas break to join his previous employer, the Head of Secretariat engaged with SARAO in January 2024 and a list of candidates has been forwarded to SARAO to arrange the interviews.

The Head of Secretariat, Charles Takalana's current contract ended on 31<sup>st</sup> March 2024 and he has decided to accept the post of Deputy Director of the OAD as from 1<sup>st</sup> May 2024. His current contract has therefore been extended by a month to end April 2024 but he will not be completely lost to AfAS. Dr. Takalana has agreed to continue as an official Director of AfAS to assist with any legal and governance compliance matters as needed. Transitional measures relating to his move to the OAD are being discussed between the Director of the OAD, Kevin Govender and Takalani Nemaungani, Thebe Medupe and the AfAS Project Manager, Yunus Manjoo. This will ensure a smooth handover process. The appointment of a new Head of Secretariat and the associated recruitment process will be discussed by the AfAS Executive Committee during and post the AfAS Annual Conference 2024 in Morocco. The Executive Committee thanks Charles Takalana for his sterling efforts and contribution to the AfAS mission since 2019 and especially during his tenure as Head of Secretariat, and wishes him a rewarding future career.

The **change of Director** for AfAS NPC has eventually been resolved with the assistance of the Auditors, Sinenhlanhla Sikhosana has replaced Palesa Nombula. The remaining two Directors are Kevin Govender and Charles Takalana. However, 2 previous Directors who resigned, Takalani Nemaungani and Lerothodi Leeuw, remain on the SARS Data Base and Mazars has not resolved this. This issue will be addressed by the new auditors.

Since April 2023, the Secretariat has had at least a monthly meeting with the Moroccan hosts of the **AfAS-2024 Conference**, a comprehensive fund-raising plan to attract sponsorship for the conference has yielded an extremely positive response with 50% of the AfAS contribution of €20K now being used for travel grants. A budget for the conference was tabled in December and, due to the securing of several grants/sponsorships, the conference budget is now fully funded inclusive of the AfAS contribution of €20K. The date was moved as the March date clashed with the Islamic Holy Month of Ramadan, the conference will now be held from the 15-18 April. The Call for Abstracts produced over 300 requests (219 in Science) with another 26 for special sessions. Sponsors have been secured for the conference dinner (Breakthrough Initiative) and delegate travel grants as well as for students to attend both the annual conference and the Hackathon which follows the conference (DARA). The requests for exhibition stands realized 5 international Exhibitors who will be joined by 12 local exhibitors.

The 2-day Data Science Hackathon, set for April 21-22, 2024, post the AfAS conference, will have 30 participants who were selected from over 400 applications. There will be 15 local participants from Morocco and 15 from other African countries. This event, in collaboration with Hack4Dev, targets undergraduate and postgraduate students as well as young professionals. The AfAS Secretariat and AERAP are collaborating to present an EAS-AfAS special session on celebrating and cultivating Africa-Europe Collaborations in astronomy at AfAS-2024

The National Organising Committee (NOC) of the GA 2024 together with the National Research Foundation (NRF) signed a Memorandum of Agreement with AfAS for the latter to manage the finances and operations of the GA. This decision, prompted by challenges with the initial Professional Conference Organiser (PCO), will see AfAS fulfilling the roles typically handled by a PCO. To manage the operations on a daily basis, a dedicated Conference Project Manager with access to vital networks and suppliers was appointed in January 2024. The AfAS Project Manager will manage the Finances of the GA and provide the NOC with appropriate business support. Current AfAS staff will provide clerical and office services support as needed and any additional costs incurred by AfAS will be funded from the GA 2024 budget. A Financial Policy for the GA has been drafted by the Project Manager and approved by the NOC. Any shortfall of funds arising from the conference will be the responsibility of the NRF, similarly any surplus funds will be transferred to the NRF. The AfAS Project Manager's contract scope has been expanded to include the IAU-GA2024. The budget has been updated with revised cost estimates for the key activities and will be presented to the NOC early in April 2024 for formal adoption as the official budget for the GA. Some 3000 abstracts were received and the selection process will

conclude early April, currently there are 1500 registrations which are expected to increase once the abstracts selected for the IAU Science Committees, are announced.

A grant of R100K was awarded to the Botswana International University of Science & Technology (BIUST) for the **African Astronomy School (BMAAS)** the event was co-hosted with the Max Planck Institute for Astronomy (mpg). The school commenced on June 25 and concluded on July 8. Both Mirjana Povic and James Chibueze attended the School as programme contributors. Funding (R100K) for the **School at the Oukaimeden Observatory in Morocco** was approved by the Executive Committee and covered student airfares. The School ran from July 7- 14, 2023. Due to constraints associated with visa processing timelines, only R50K was utilized.

**Breakthrough Discuss** is an annual scholarly conference hosted by **Breakthrough Listen** in the USA, with a focus on exploring life in the Universe and innovative concepts for space exploration. The 2023 event was held at the University of California, Santa Cruz on June 28-29 with the theme "Welcome to the Neighborhood - New Opportunities for Using and Exploring Our Cosmic Backyard". The African Astronomical Society (AfAS) was invited to co-host the event together with institutions such as:

- California Institute of Technology (Caltech)
- NASA's Ames Research Center
- SETI Institute
- University of Arizona
- University of California, Santa Cruz
- University of California, Berkeley
- University of Manchester
- University of Oxford Department of Physics

AfAS was represented by a delegation coordinated by Takalani Nemaungani (DSI-Ex-officio), others included Thebe Medupe, Charles Takalana, and ExCo member Sinenhlanhla Sikhosana. Breakthrough Listen covered the AfAS delegates' travel and accommodation expenses. The Breakthrough Listen Advisory Committee meeting took place on June 27, incorporating open and closed sessions. These sessions included presentations and discussions regarding existing and potential collaborations with African astronomy institutions through AfAS and other entities.

Takalani Nemaungani and Thebe Medupe addressed the attendees during the conference's official opening and they presented ongoing AfAS activities. AfAS engaged with participants by distributing material on its activities, the African Science Stars magazine, and information on the GA2024.

The conference offered an invaluable opportunity to network with international colleagues and explore potential partnerships which included:

- Engagements with techno-signature researchers at SETI to potentially establish educational initiatives in Africa focusing on this area, along with outreach and citizen science programs.
- Discussions with Dr Jim Adams, former NASA Deputy CTO, regarding a potential space science workshop in October 2024, with the cooperation of AfAS, SANSA, and possibly SAAO.
- Dialogue with JIVE about the African VLBI Network (AVN), particularly regarding Ghana Observatory's integration into the European VLBI Network (EVN) and its VLBI tests. A meeting is to be arranged to discuss this further in consultation with SAAO.
- A potential partnership with the Limitless Space Institute to create and share educational resources, including translating existing materials to reach a wider audience within Africa.
- Breakthrough Listen has reiterated its request for AfAS' assistance in identifying candidates for their Summer internship program. This request will again be forwarded to the Science Committee for consideration.

AfAS has agreed to be a partner in the **African Initiative for Planetary and Space Science (AFIPS)** proposal to the International Research Network (IRN). The activities within the network are divided into four domains: 1) Remote sensing geological mapping of planetary surfaces, comparative planetology with Africa-based planetary analogues, 2) Meteorites and impact science, 3) Space physics, space weather, 4) Astronomical observations of Earth neighborhoods, from space debris to asteroids. David Baratoux leads the project. AfAS submitted a letter of commitment signed by the President. The Head of the Secretariat will be the focal point at AfAS for coordinating activities within this network. AFIPS has been awarded a grant for 4 years commencing 2024, the grant will be from IRN in 2024, with CNRS contributing €7500 from 2025.

The Secretariat, a few members of the Executive Committee and the Chair of the IAU-GA2024 NOC attended the week long **EAS-2023 conference, held in Krakow, Poland from July 10 to 14, 2023.**

The Team consisted of the following representatives:

Charles Takalana (**AfAS: Head of Secretariat, IAU-GA2024**)  
Mirjana Povic (**AfAS: ExCo, AfNWA-AfAS**)  
Sthabile Kolwa (**AfAS: ExCo**)  
Takalani Nemaungani (**DSI, AfAS Ex-Officio**)  
Kevin Govender (**IAU-GA2024, AfAS Ex-Officio**)  
Vanessa McBride (**IAU-GA2024, AfAS Ex-Officio**)  
Sally Macfarlane (**APA, IAU-GA2024**)



### The key events/outcomes were:

- Special Session 1 (SS1) which focused on Africa-Europe collaborations in astronomy and the upcoming IAU-GA2024. This full-day event was structured into three blocks focusing on different topics such as science and infrastructure developments, educational outreach, and aligning astronomy with Sustainable Development Goals (SDGs) and policy engagement.  
The session accentuated the need to foster collaborative efforts between the African and European astronomy communities. Key to this was the identification of specific projects that would be jointly pursued for funding. Through AfAS and EAS, the existing momentum is expected to be propelled forward, with the GA2024 acting as a springboard for future initiatives and funding opportunities.  
There was a significant emphasis on nurturing specific initiatives like the Kenya Optical Telescope Initiative (KOTI) and supporting students from the Historically Disadvantaged Institutions (HDIs) in South Africa. Plans are also discussed to extend this support for a Pan-African focus, primarily through programmes like DARA and NASSP.  
Emphasis was placed on augmenting participation from Africa in global astronomical initiatives such as the ALMA-Africa workshop, which aims at enhancing proposals from Africa to the ALMA observatory.  
The session also underscored the potential of GA2024 in inspiring learners towards scientific careers, especially those in the process of selecting their career paths. EuroPlanet and TUIMP (The Universe In My Pocket) are looking at working with the AfAS Outreach Committee on some initiatives, S Macfarlane is to revert with specific proposals.
- Meetings and discussions regarding potential collaborations, funding opportunities, and inclusion of AfAS in influential committees like COPUOS. C Takalana had discussions with Rudolf Albrecht on the possibility of AfAS being an observer on the UN Committee on the Peaceful Uses of Outer Space (COPUOS). The application process will be forwarded to the Head of Secretariat by R Albrecht.
- An Exhibition stand jointly hosted by AfAS, IAU-GA2024 NOC, APA, ASSAP, SAAO, IAU-OAD, and SALT.
- An invitation to the EAS community during the closing ceremony to attend the IAU-GA2024 in Cape Town, South Africa. This event, marking a first in Africa, intends to be a fusion of scientific advancement and a celebration of African culture, spirit, and natural beauty. Attendees were urged to become ambassadors for the event, encouraging them to bring their institutions and families to Cape Town for an enriching experience.
- There were discussions with various journals, including A&A, MNRAS, and Springer, on how to facilitate African researchers publications in light of recent costs introduced by the journals. It was communicated that there are other discussions taking place around this issue through the editorial boards

The AfAS President, Vice-President, and Head of Secretariat, together with the Director of the OAD, attended the American Astronomical Society (AAS) winter meeting in New Orleans from 7 to 11 January 2024. There were several discussions with potential partners during the week-long meeting to promote Africa-US collaboration in astronomy and to invite the US community to the IAU-GA2024 in Cape Town later this year. AfAS and the IAU-GA2024 NOC Chair, were invited to the AAS Strategic Assembly to address the leadership of the AAS through a 15-minute slot on Sunday, 7 January; this was followed by constructive dialog with members of the Assembly. Charles Takalana also had a meeting with John Carlstrom and Kartik Sheth on the potential of moving the Sunyaev-Zeldovich Array (SZA), a radio telescope, to a site on the African continent. The instrument is currently located at the Owens Valley Radio Observatory, California, and has not been in use for many years. It is ready to ship. The SZA consists of 8 dishes, with a diameter of 3,5 meters, which will work together as one unit and can operate in the two frequency bands 26-36 GigaHertz and 85-115 GigaHertz. The instrument presents an opportunity to build a millimetre-sub-millimetre radio astronomy community in Africa.

The Session organised by AfAS and the AAS titled "Exploring New Frontiers: Strengthening Africa-US Collaborations in the Golden Age of Astronomy in Africa Towards IAU-GA2024 and Beyond" was attended by about 40 participants. The speakers included the incoming President of the AAS and the AfAS Vice President, and it was chaired by Charles Takalana, with the discussions and panel being facilitated by the Director of the IAU-OAD and Chair of the IAU-GA2024, Kevin Govender. The discussions included looking back on previous programmes but also how to leverage on the existing programs and a review of previous programmes, e.g., NASA postdoctoral support. Other discussions included the possibility of increasing collaborations with the NSBP and exploring private philanthropy programmes. During the conference week, the AfAS ExCo members present had a meeting with the Solar System Exploration Research Virtual Institute (SSERVI) to take forward discussions for collaboration with the Institute Director, Gregory Schmidt; this included the establishment of an African SSERVI node in collaboration with AfAS and an annual lunar conference.

The AfAS Team also had a meeting with the NASA Astrophysics Division Director, Mark Clampin, to discuss the engagements and participation of NASA during the IAU-GA2024 and the role of AfAS in facilitating some discussions with African stakeholders.

The Department of State and other US Space Science and Astronomy institutions are looking for support for a declaration of an International Lunar year and support from Africa through organisations like AfAS.

The Africa delegation was also given a plenary slot as well as an opportunity at the closing of the AAS meeting to encourage collaborations between the communities and to invite the US community to the IAU-GA2024. There was an Exhibition booth dedicated to Astronomy in Africa and the IAU-GA2024, which was alongside the SAAO and SALT exhibitions during the meeting week and was visited by scores of delegates. The exhibition booth also became a place for Africans in the diaspora to meet, engage, and connect.

The AfAS Secretariat has contributed three articles to the latest edition of the QUEST magazine titled "Generation SPACE." The magazine can be accessed online at:

<https://research.assaf.org.za/bitstream/handle/20.500.11911/370/Quest%20Vol%2019.3.pdf?sequence=61&isAllowed=y>



The Secretariat participated in two sessions during the 9th edition of the Science Summit around the 78th United Nations General Assembly (UNGA78) on 12-29 September 2023. The sessions focused on 1) Astronomy in Africa, and 2) on Science capacity building for the future: defining the Skills Agenda.

C Takalana presented talks as part of efforts to increase AfAS membership and participation in South Africa at the HEASA 2023, the South African Astronomy Townhall meeting, the AfAS-IAU Shaw Workshop hosted at the South African Astronomical Observatory (SAAO) from October 3rd to 5th, the International School for Young Astronomers (ISYA), the Malagasy Astronomy Meeting (MAM) conference, the SARAO Annual Bursary Conference, and the Science Forum South Africa. During these events, presentations were given to highlight the activities and initiatives of AfAS.

C Takalana has had discussions with SKAO on AfAS institutional membership and possible collaborations. A detailed proposal has been submitted to SKAO and a formal response is awaited given an initial positive feedback. SKAO also expressed their willingness to sign a comprehensive Memorandum of Understanding/Agreement (MOU/MOA). SKAO has in the interim, agreed to contribute €5000 towards the AfAS Annual Conference commencing from the 2024 event.

The AfAS Secretariat completed the preparation of a comprehensive proposal pack for AfAS's application to become a permanent observer within the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). Collaborative discussions are in progress between the AfAS Secretariat, SAAO, SARAO, SANSA, OAD, and NASA-SSSERVI (Solar System Exploration Research Virtual Institute) on the establishment of a potential Africa SSSERVI Node. The NSF proposal that included AfAS as an implementing partner, was successful. For the next three years, the ASTRO ACCEL network will be rolled out and AfAS will be involved in activities and training that will assist in evolving the network and engaging the AfAS community.

Following the AAS meeting in January 2024, there have been three meetings to discuss the relocation of the SZA telescopes to a site on the African continent. Stakeholders that have been brought in include the AfAS Science Committee Chair, SARAO, and Wits. The parties involved are developing a proposal.

Bids were received from Rhodes University and UNISA to host AfAS-2025 Annual Conference; the initial bids were forwarded to AfAS ExCo for review, however, the Secretariat recommended the need for additional information from both bidders. The host will be revealed at the closing of the conference in Morocco.

The Head of Secretariat attended the MeerKAT@5 meeting, gave a talk on AfAS, and encouraged the radio astronomy community to become members of AfAS and participate in its activities.

**AfAS celebrated 5 years since its relaunch in Cape Town in March 2019, to commemorate this achievement, a message was issued together with video recordings from the AfAS President and Chairs of the Science Committee and AfNWA. A 5<sup>th</sup> Anniversary badge will be launched at the annual conference.**

#### **AfNWA (African Network for Women in Astronomy)**

The initial two outreach videos were officially launched on 6 June 2023, the aim is to inspire and empower girls through choosing a career in STEM. The videos were uploaded on the AfNWA website and also promoted through different channels, including the AfNWA email list, Astronomy in Africa email list, AfAS social networks, different collaborations, etc. This initiative was inspired by the fact that in most African countries there are less than 20% female scientists (2019 UNESCO Women in Science Report); this reduces to a smaller ratio when considering fundamental sciences such as physics. It was also inspired by previous activities with the secondary school girls, where it was learnt that the principal reasons for not choosing STEM are the lack of information, lack of support and encouragement, and lack of role models. It is anticipated that these videos will be a useful resource for AfAS' Outreach and Education initiatives in primary and secondary schools and at universities.

The videos are available on YouTube through direct links:

<https://www.youtube.com/watch?v=wAiKaMMymwo>

<https://www.youtube.com/watch?v=9FzXJ8VCSkQ>

OR

On the AfNWA website:

<https://afnwa.org/resources/>

<https://afnwa.org/latest-news/>

There are already more than 520 views on YouTube.

AfNWA, in collaboration with the Outreach & Education Committee, **launched the seed funding call** to support outreach and education activities in Africa with focus on using astronomy and STEM to empower girls living in disadvantaged communities and circumstances (e.g., past or present conflict-affected areas, remote and rural areas, informal settlements, refugee camps, IDP settlements, out-of-school girls, underage mothers, etc.). The "seed funding" is for 250 - 300 Euros per project. **Thirty proposals were received from 14 African countries:** Botswana, Egypt, Ethiopia (2), Ghana (3), Kenya (4), Madagascar, Morocco (2), Mozambique (2), Nigeria (7), Senegal, South Africa (3), Tanzania, Togo and Uganda. The Review Panel eventually agreed to fund 13 proposals; 6 proposals from Botswana, Ghana, Kenya, Madagascar, Nigeria and Togo will receive 300 Euros per project, and the remaining 7, 250 Euros. One minute videos were requested from the funded projects, these will be combined and shown during the annual conference.

An “Astronomy in Africa” talk was given during the BIUST-MPG African Astronomy School 2023 in Botswana (<https://www2.mpia.de/bmaas2023/>). Some 34 students from 15 African countries attended the school. During this talk, AfNWA and AfAS were introduced to the students, opportunities for funding support through the AfNWA and AfAS prizes as well as seed research grants were also mentioned.

AfNWA presented the following talks at international events:

- IAU 386 Symposium in **Ethiopia** on ‘*Dark sky and astronomical heritage in boosting astro-tourism around the globe*’ in Nov 2023.
- Seminar given online in **India** at the Astronomy and Astrophysics Division, Physical Research Laboratory in Dec 2023.

The Terms of Reference for the Committee has been updated and approved by the AfAS Executive Committee. A Call for 2 vacancies on the Committee was issued in January 2024 and closed on 23<sup>rd</sup> February. Thirteen responses were received and the Committee is currently reviewing these.

The AfNWA-ISP 2023 awards for **women in astronomy in Africa** were **launched in November 2023**. The original deadline of 25<sup>th</sup> December was **extended to 15<sup>th</sup> of January 2024**, due to the initial low number of applications received.

Two awards will be given this year in the following categories:

- Prof. Carolina Ödman-Govender early career astronomer award, and
- Senior-level astronomer award.

All panel review members accepted their nominations whilst ISP again co-sponsored the awards. All the information was posted on the AfNWA website and distributed through different AfAS networks and social media. Sixteen nominations (12 for the career award and 4 for the professional career award) were received and the final selections will be announced on 8 April at the conference.

The call to collect the stories of women in astronomy in Africa for the first book, was issued in January 2024. The call closed on 31 March, after having been extended. More than 30 stories were collected, and it was decided to contact women who have not submitted through individual communication to solicit their stories. All information is published here:

<https://afnwa.org/afnwa-women-in-astronomy-in-africa-book/#more-544>



An AfNWA article was published in the recently issued African Science Stars magazine, which has the theme, ‘*Women in STEM*’. The article describes AfNWA's current status, goals, vision, activities and future plans. The article can be found here (pgs. 30-32):

[https://issuu.com/africansciencestars/docs/african\\_science\\_stars\\_-\\_women\\_in\\_stem](https://issuu.com/africansciencestars/docs/african_science_stars_-_women_in_stem)

Mirjana Povic presented a talk on AfNWA during the invited interview on Astronomy for Equity conducted by Mike Simmons. It will be broadcast as a podcast in the coming months.

### **Communications**

The first AfAS newsletter for the year was eventually released at the end of September and it included several articles from across the continent as well as the 2023 Annual Conference. To facilitate the submission of contributions, guidelines/themes for the articles that will be featured, have been issued to members. Key areas include the projects leading up to the IAU GA2024 as well as having a feature dedicated to astronomy highlights. These highlights could either illuminate challenges in some regions or share success stories that could be useful, particularly in parts of Africa that are still struggling with establishing astronomy or astronomy related activities. The year's second edition of the Newsletter was published in March 2024, with the theme being Outreach and Best Practises.

Together with ASSAP, the process of re-design of the promotional and branding material has commenced. The change of logo is the key activity and to date, two options are being reviewed. The Astronomy Community will be consulted prior to the finalization of the logo and this, together with the updated branding, will be presented at the 2024 Annual Conference for inputs from the community. There was a delay due to the change of designer within ASSAP and the new designer and now fully involved in the project.

The Communications Committee, worked closely with the Moroccan LOC members to develop a pro-active campaign for the Annual Conference. The idea was to enhance the AfAS brand and visibility while also creating relevant and relatable content that reaches the entire community. The Committee will be hosting a special session during the AfAS-2024 conference. This session aims to closely align AfAS's communication efforts with the evolving needs and preferences of the continental astronomy community, thereby ensuring a more effective and impactful outcome.

The Communications Strategy remains a work in progress, constructive meetings were held with both the Science and Outreach Committees. The deadline for submission to Exco for approval is now the last quarter of 2024.

There was also engagements with the AfAS Intern (Ms Zodwa Tiki) on the social platforms and interactions with the AfAS Instagram platform were reviewed. The analysis revealed that the most popular time is early morning. Many organisations usually review activity posted to improve engagements and reach their audiences at the times that are suitable for them. Further reviews will be done on the other social media platforms There has also been a significant growth in social media engagements across the various platforms. These achievements reflect the committee's successful strategies in reaching and resonating with new and diverse audiences.

### **Outreach & Education**

The co-chairs have continued to meet with various groups and individuals in order to create more effective networking channels and awareness in the lead up to, during and after the GA2024. Meetings were held with the following:

- the Department of Science and Innovation: Science Promotion Division
- the Western Cape Department of Education representatives
- the IAU Office of Astronomy for Education (OAE)
- the IAU Office of Astronomy for Development
- the African Planetarium Association (APA)
- South African Agency for Science and Technology Advancement (SAASTA)
- Various astronomical research facilities across Africa, including the South African Astronomical Society (SAAO), the Southern African Radio Astronomical Observatory (SARAO), SKAO and the High Energy Stereoscopic System (HESS)
- the international outreach community who attended EAS2023 and APRIM2023
- Writers Space Africa (WSA)
- Science Learning Centre for Africa (SCLA)
- the international outreach community who attended the SHAW Astronomy Education Workshop, BRICS astronomy working group meeting, the SAASTE conference 2023, the IAU Symposium IAU386, the biannual APA workshop, and the Science Forum South Africa 2023
- Africa Millimeter Telescope team in Namibia and the University of Namibia
- Iziko Museums in Cape Town, South Africa
- Inter-university Institute for Data-Intensive Astronomy (IDIA)
- Ethiopian Space Science and Technology Institute (ESSTI)

The Outreach & Education Committee was awarded R90K by SAASTA to conduct Outreach activities during National Science week 2023 (July-August). This initiative included both AfAS and GA2024 related topics and utilised several volunteers. The Committee is actively engaging with the DSI Science Promotion Team to consider Astronomy as the theme for NSW2024. Planning for a similar programme during the GA 2024 has begun.

The Committee assisted to promote AfAS and African Astronomy at meetings/conferences/workshops, these included:

- EAS 2023: Krakow Poland; 10 - 14 July 2023
- APRIM 2023: Koriyama, Japan; 7 - 11 August 2023
- LSST@Europe5; Porec, Croatia; 25 - 29 Sep 2023
- African Regional SHAW-IAU Workshop on Astronomy for Education, Cape Town RSA; 3 - 5 October 2023
- 9th BRICS Astronomy Working Group Workshop, Cape Town RSA; 16 - 17 October 2023
- 24th Annual SAASTE conference 2023, Johannesburg RSA; 20 - 23 Nov 2023
- Biannual APA workshop, Addis Ababa Ethiopia; 11 - 12 November 2023
- IAU Symposium IAU386, Addis Ababa Ethiopia; 13 - 17 November 2023
- Science Forum South Africa 2023, Pretoria RSA; 4 - 6 December 2023

- Malagasy Astronomy Meeting 2023, Madagascar (virtual), 14 December 2023

Five posters (and associated social media posts) were created to celebrate special days. These included:

- 25 May 2023: Africa Day
- 22 June 2023: June/Mars in close proximity
- 30 June 2023: World Asteroid Day
- 28 October 2023: Partial Lunar Eclipse (with translations in Amharic, Kiswahili and Portuguese)
- 9 November 2023: Venus Occultation

An astro calendar is currently under development.

Jamal Mimouni successfully completed an outreach visit to the Democratic Republic of Congo from 17-26 April 2023 which included:

- a high-profile invited talk and AfAS exhibition stand at the 10th edition of the “Science Week in DRC” conference.
- a high-profile talk and discussion at the Faculty of Science at University of Kinshasa (UNIKIN)
- A well-attended lecture at the ULC (Université de Loyola Congo)
- Outreach to Primary and Secondary Educational institutions in Kinshasa

(For more details, refer to Jamal Mimouni’s trip report)

A second trip was undertaken by Jamal Mimouni to Mali and Guinea from 17-29 February 2024. Highlights of this trip were:

- Various talks and meetings at six institutions of Higher learning (Universities and Ecole Normale Supérieures...) and several High Schools, as well as meeting some decision makers in the Educational system to lobby for introducing astronomy at various levels of their educational systems.
- Meetings with various national media, TV and Radio stations as well as printed media
- In both countries, various AfAS newsletters, African Stars magazines, a large number of high quality astronomy posters and post cards were distributed to the NAEC and the various institutions visited, through the generous donation of the Sirius Astronomy Association of Algeria.
- In Mali, a meeting was held with colleagues from the Faculty of Science and Techniques of Bamako University (FST – USTTB). It appeared that the Faculty has several members with a higher degree in astrophysics or space sciences and there was an introductory course in astronomy in the past but it was discontinued. There was consensus that they should restart it within the LMD system as an optional course initially until approval is obtained for a full-fledged astronomy course at the license level. This issue was mentioned again in a later meeting with the Vice Director of Programs of the Ministry of Higher Education.
- A meeting was also arranged at the Ecole Normale Supérieure (ENSUP) of Bamako on the 20<sup>th</sup> of February. It is an "advanced teaching institute," training High School teachers. It was a strategic meeting mostly with the heads of the various departments of the Institute and some of their teaching staff, due to the crucial importance of “teaching the teachers”. Another talk and meeting was with IFM (Institut de Formation des Maîtres) on the 21<sup>st</sup> of February which is a vocational primary teacher schools Institute.
- The visit to Guinea included attending a conference followed by an extended meeting with the Faculty of Science members of the Gamal Abdel Nasser University (UGANC), the largest University in the country. They expressed their willingness to propose at the license level at least, an introductory course in astronomy with small astro projects for the students with some assistance from astronomers from abroad. This proposal has the approval of the Dean of the Faculty of Sciences who was present at the meeting.
- There was also a visit to the “Académie des Science de Guinée” where its President, Prof. Mamadou Aliou Baldé was the host, the meeting included only few members of the NAEC team due to the political situation in the country. There was an exchange of ideas on the science in Africa and how to make it sustainable, as well as the importance of astronomy.
- The visit to both countries was facilitated by Abdelkarim Diallo and Jacob Tolno's, NAEC of Mali and Guinea respectively without which the trip would not have been possible.
- Some key recommendations arising from the trip which the Outreach Committee need to consider to ensure that momentum is sustained include:
  - Provide scholarships to bright students or young researchers; this could be achieved through NASSP in South Africa, with funding from US donors or the AU-EU science program as was proposed by the AfAS-EAS Working Group.
  - Assist in teaching some courses on line or in-person if an astronomy program is set up in the near future at Bamako University or UGANG at Conakry
  - Include some advanced students from Mali and Guinea in AstroLab program of Michèle Gerbaldi which could serve as an introductory course in astronomy at the undergraduate level. This needs to be progressed with AfAS/ OAD

Members of the Outreach Committee, in collaboration with the Acorn to Oaks Comprehensive High School and Acornhoek Institute for Science and Technology (Acornhoek, South Africa) has been granted OAE funding (as part of the OAE teacher training program) to run a teacher training program which will be held in April 2024.

Request for funding to participate in international roadshows has been declined by EXCO due primarily to the lack of funds.

There are active engagements with the DSI Science Promotions and SAASTA to ensure that the broader South African Science Engagement Community participates in astronomy based outreach and education activities including the implementation of astronomy corners. A concept note was presented by AfAS and it is now mandatory for

Science Centres to have some focus on astronomy. A workshop was held with SAASTA and science centre practitioners to discuss how best this initiative can be implemented. Another workshop, organised by SAAO and SARAO, was held at the SAASSTEC conference in November where a group of science centre representatives participated.

A proposal for Affordable and mobile radio telescopes was submitted to the OAD for funding. The team has decided to implement this in 4 countries; Namibia (UNAM), Kenya, Ghana and Egypt, with the first workshop expected to take place in Namibia. After the OAD phase 1 proposal was accepted, unfortunately the phase 2 proposal was declined. The team is now looking at other possible funding avenues, one possible avenue is partnering with DARA to implement this project in the SKA partner countries.

The production of a short 5-minute 2D film on "Astronomy for Mental Health", which can easily be distributed on social media, is complete, the voice over is currently being recorded. The video was shown to a group of Physics students and was well-received.

An active group of initial Ambassadors has been formed and a meeting was held to brainstorm new outreach ideas.

The Call for astronomy hosts across Africa was released in November 2023. The responses will be evaluated during the first quarter of 2024/25.

[https://drive.google.com/drive/folders/1B4ZfVTkqN1jpgGBhe\\_FpXRad91oRcUD](https://drive.google.com/drive/folders/1B4ZfVTkqN1jpgGBhe_FpXRad91oRcUD)

A Call for AstroQuiz Africa, was issued in January and closed on 15<sup>th</sup> March, the submissions will be evaluated during April. A project team (including AfAS, SAAO and SAASTA members) has been established and the project plan to expand the SAAO/SAASTA Astroquiz app across Africa has been developed. Work has begun on updating and expanding the App.

The draft project plan can be seen here:

<https://docs.google.com/document/d/10TwnShAr2MqHNxY9L95tpI8RFGHhQqBar9JPTL0pYKE/edit?usp=sharing>

AfAS has started to collect stories that could potentially feature in future social media posts.

A partnership between AfAS and [Writers Space Africa](#) (WSA) has been formed and a MoU is currently being finalised. WSA is an online magazine that features writers from all over Africa. They have agreed to make the special issue in May to feature Astronomy and the AfricaLookUp Campaign. A web page for story submission will go "live" in April 2024.

AfAS has partnered with the Science Learning Centre for Africa (SCLA, based at the University of the Western Cape) to run the GA2024 Arts Competition aimed at school and university students across Africa (with Astronomy as the primary theme). The call to students will go out April 2024. In addition to the winners being on display at the GA2024, a book of curated submissions will also be published.

A new Hack4Dev framework, consisting of a train the trainers hackathon, and thereafter regional hackathons, is currently being finalised. In collaboration with IDIA, the OAD, BITDN and DARA, the call for the Train the Trainers hackathon will be released in late April 2024 (to take place in August directly after the GA2024).

### **Membership**

The Membership Committee met during the second quarter and it was agreed that Naomi Frimpong and Liz Naluminsa will be interim co-chairs. The major focus will be on member recruitment and the first draft, for discussion at the AfAS Annual Conference in 2024, of membership fees and member benefits. The Membership Committee had two meetings in the last quarter and agreed to nominate a new chair. The nomination and selection process will be finalised during the first quarter of 2024/25.

The Committee has also agreed that the Secretariat will review all current outstanding applications and submit to Committee members the outcomes of this review for approval. Thereafter, the AfAS Executive Committee will be requested to endorse the new members list prior to the commencement of the annual conference. The Membership Committee will in future meet every two months to discuss special cases of membership applications or issues arising, including benefits for members and membership fees, with the fundraising committee.

The committee agreed on a need to conduct a survey among the African astronomy community to understand what members are willing to contribute and their expectations. This could be used to draft a set of membership rules.

### **Science**

There 4 awards made for the AfAS Early Career & Seed Research Grant. The Call for the post-graduate student prizes was issued early November 2023. the review of the applications were completed at end March and will be finalised in April.



The Committee was well represented at BIUST-MPI African Astronomy School (BMAAS) in Botswana, James Chibueze, David Buckley and Mirjana Povic were among the lecturers at the school. James Chibueze and Jamal Mimouni represented AfAS at the National Festival on Popular Astronomy held in Constantine, Algeria.

The applications for the AfAS Research Groups have been reviewed and a successful group is currently being supported by funding from the GA 2024 seed grant, to purchase laptops.

An ARAN 3.7m radio telescope has been installed in Nigeria by a team led by James Chibueze and it is fully operational.

The AfAS Science Committee has completed the review of all the abstracts for the 2024 Annual Conference. The program for the annual conference is now confirmed and all presenters have been advised.

David Buckley and the SAAO technicians have completed their visit to Namibia to assess the ROTSE telescope. An initial report has been issued together with a high level proposal on how to proceed to have the telescope operational for scientific observations, this project's future development is dependent on the availability of funding and broader acceptance by the African Astronomy Community.

### **Fund-Raising**

The Committee met on the 17<sup>th</sup> July, the discussions centred on how best to attract potential funders. It was agreed that specific projects will be presented to potential funders and the AERAP will take the lead in discussions with European partners. The Secretariat has produced a projects summary brochure which will accompany the AfAS Value Proposition.

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### **BRICS**

ASSAP published the second edition of the BRICS magazine in March 2024 and a further two editions have been scheduled for the 2024/25 financial year. AfAS will continue to provide financial oversight during the coming year as well as support for the BRICS website.

The 2023 BRICS Astronomy Working Group (BAWG) meeting was hosted by the Inter-University Institute for Data Intensive Astronomy (IDIA) at the South African Astronomical Observatory, Cape Town, South Africa, with the support of the BRICS Astronomy Secretariat at the Department of Science and Innovation (DSI). Distinguished representatives from the governments and scientific institutions of Brazil, Russia, India, China and South Africa attended. The astronomers and students attended the BRICS Astronomy Workshop on 16 -17 October, this was followed by a two-day hackathon which was attended by students from the BRICS countries. On the third day, delegates from BRICS member countries embarked on a site visit to the MeerKAT/SKA and the SALT facilities in the Karoo. The week concluded with the BAWG business meeting on 19 October where the delegates deliberated on strategic and operational matters.

## **2.2.2 APA**

Susan Murabana has relinquished her position as APA chair due to other work responsibilities. She will however remain on the committee as the IPS liaison. As deputy chair, Sally Macfarlane has accepted the role of Acting Chair until such time a new Chair can be elected by the Committee.

Susan Murabana promoted APA efforts at the IPS annual meeting on 17-18 June in Kingsport, USA immediately preceding the Stars for All US Planetarium Conference. She also negotiated IPS discounts for African members to attend global meetings, conferences, and workshops. The IPS provided a grant of R95000 to fund participants attendance at the APA Workshop in Ethiopia.

The website and other communication channels have not been fully utilized throughout the year. In the short term, Sally Macfarlane will assist with maintenance and update of the website together with the AfAS intern, Nombali Qodi. The website will be re-designed when the AfAS website is fully migrated to the new server at SAAO and re-designed.

The "African Planetarium Association Biannual Workshop" was successfully held from 11 - 12 November in Addis Ababa, Ethiopia. Over 50 participants from around Africa attended the 2-day workshop in-person. Some highlights of the workshop included:

- the first APA workshop to be held outside South Africa
- Engaging networking sessions between participants from across Africa, many of whom had previously not had the opportunity to network with fellow African planetarians before.
- Partnerships set up between South African and Ethiopian planetarians in order to assist with running and maintaining the Ethiopian planetarium
- resolutions to hold training sessions for African planetarians in order to build skills in running planetaria and planetaria software
- a growing network of planetarians in Africa
- strengthening collaborations between APA and IPS communities

Travel grants were given to deserving participants and the LOC in Ethiopia arranged food and accommodation and the virtual platform for presenters. It was decided that the next in-person regional meeting will be held around the same time as the GA2024 (in August 2024), also in Cape Town, South Africa. Until then, tailored virtual workshops will be held to discuss specific challenges facing African planetaria (including software training).



APA is currently in discussions to support the refurbishment and shipment of a planetarium that was donated through the network of the IPS. This planetarium will be donated to a deserving country through an open call. Training workshop(s) will be organized for the recipient of the planetarium and for existing planetarians who are in need. The training will be conducted mostly on-line and with an on-site support component where possible. The planetarium is currently in Nigeria with past-APA secretary Ajiboye Yinka.

Kyle Doane (from Digitalis) met with Susan Murabana, Sally Macfarlane, and Jamal Mimouni to discuss the donation of cost-effective planetarium hardware and software (two SkyBoxes with 1 year trial licenses each) to African planetaria. This "pilot" program, if it works, could potentially open an invitation to other vendors and private individuals who would like to donate planetarium resources for use in Africa.

The APA Committee agreed that the "Local Content Creation Seed Grant" would go towards producing short films on African content which will be shown at a special dome festival to take place at African planetaria during the two-weeks of the IAU General Assembly in 2024.

In addition to the regional meetings, Sally Macfarlane promoted the APA during various international conferences, these included: EAS 2023: Krakow Poland; 10 - 14 July 2023, APRIM 2023: Koriyama, Japan; 7 - 11 August 2023, and LSST@Europe5; Porec, Croatia; 25 - 29 Sep 2023.

APA is currently hampered by inactive committee members and meetings attendance have been less than the quorum required. A call for new committee members will be made during the first quarter of 2024/25.

### 2.2.3 AERAP

The AfAS Secretariat, in collaboration with the Department of Science and Innovation (DSI) and AERAP, has formulated an initial proposal targeted at obtaining funds from the European Union (EU) Neighbourhood, Development, and International Cooperation Instrument (NDICI). This proposal aims to facilitate digital transformation within Africa by establishing and operating astronomy schools, thereby fostering human capacity development. This initiative will be aligned with the African Research Cloud proposal, engaging potential partners within Africa and the EU. As the proposal progresses within the funding request stream, AfAS will actively reach out to these potential collaborators. Currently, IDIA and the IAU-OAD have joined the discussions. Declan Kirrane has presented the initial draft to various stakeholders within the EU and positive responses on the concept, have been received. The key challenge now is to present the concept to key funding decision makers to facilitate the finalization of the funding proposal.

AERAP has been involved in the following activities:

- Built on the outcome of the second AERAP Forum, which took place in Brussels and online from 6-10 March 2023. The focus areas were:
  - Green Hydrogen
  - Astronomy schools
  - Agricultural research
  - Science funding from the NDICI/Global Europe
  - Living labs in Africa
  - Genome exhilarated capacity building in Africa
  - Cooperation in research infrastructures
  - Cooperation on EU warranty Missions
  - Data protection
- Supported the policy basis for access to funding. This covered preparations for Horizon Europe, the 10th framework programme for research and development (2027-2034); the NDICI (Team Europe) programme and member state programs;
- Raised the number and range of partners from Africa to participate in Horizon Europe submissions in the context of the 2023 Horizon Europe work programme calls for proposals, which were expected to be published from 1 April 2023 onwards but has been delayed;
- Continued the work of the specific groups covering the following areas: space, agriculture, women in science, and astronomy.
- Developed a strong awareness of the vital contribution of science to the strategic objectives of the EU's Neighbourhood, Development, and International Cooperation Instrument, NDICI, also known as Global Europe. Priorities included education and training, agriculture, and health. This was achieved by gaining policy and political level support from the European Parliament and direct engagement with the European Commission;
- Built links with various European Commission DGs
- Maintained and increased the significant contributions that African scientific leadership made to broader SDG policies espoused by the European Union and other partners. Connected this to the ongoing establishment of policy and political priorities to support strategic objectives in Africa;
- Ensured that science policymakers were kept aware of key scientific developments emanating from Africa and worked to ensure that scientists, both in Africa and the European Union.
- Used the opportunity of the 10th anniversary of AERAP to build additional support for science engagement with Africa amongst European policy leaders.
- Supported and fostered collaborations wherever they brought value, both within the context of European Union funding mechanisms and within the context of EU member state activities where they were concerned with collaboration with Africa and involved with the SDGs.  
Supported scientific dissemination and awareness of research activity from African research partners.

- Took necessary actions to achieve a more robust profile for Africa-based researchers in vital European initiatives. These, in particular, included the EU Missions covering soil, oceans, cities, cancer, and climate. Following the Forum in March, AERAP submitted an African strategy for Europe in June 2023. Other focus areas included the European Union research infrastructures. AERAP established African partnerships for research infrastructures in biobanking, clinical trials, medical devices, marine ecosystems, biodiversity, geodiversity, and possibly others

#### 2.2.4 ASSAP

The sixth edition ( Astro tourism edition ) of the magazine was published in the first quarter whilst the seventh edition was published in September with a theme of "Space Science". Itumeleng Monageng, an astronomer from both the South African Astronomical Observatory (SAAO) and the University of Cape Town (UCT), authored the foreword. The publication included a profile article dedicated to Elizabeth Naluminsa, who holds the distinction of being Uganda's first female astronomer.

The eighth edition of African Science Stars magazine has been published, it was issued on the 8<sup>th</sup> March 2024 during the International Women's day. The theme of the 8<sup>th</sup> edition is "African Women in Science".

The African Science Stars team attended the 18th Ethiopian Space Science Society's General Assembly at the Addis Ababa Institute of Technology. The two-day event commenced with a keynote address from the Chairman of African Science Stars magazine. The General Assembly included many sessions, including a Youth Session, where copies of the magazines were distributed to participants. ASSAP also visited the offices of the Space Science and Geospatial Institute and met with the Deputy Director of the Ethiopian Space Science and Geospatial institute to discuss a possible collaboration. Officially opened in January 2022, the new Abrehot library is the biggest library in Ethiopia and accepted the Science Stars magazines for visitors to read. The Team also visited the Etege Menen Girl's Boarding Secondary School where magazines were distributed to the students. The students are passionate about space science and astronomy, and also have a Space Club that currently has 20 members. ASSAP will be sending more resources and magazines to the Space Club. The magazine was further distributed to participants at the Back-to-School event at the Abrehot library, a 2-day event. ASSAP used the opportunity to visit the Entoto Observatory which began operations recently but construction continues.

The strategic East Africa Tour continued with a visit to Tanzania. The ASSAP Team visited the Kibele Secondary School in Zanzibar, where copies of our magazines were issued to further disseminate scientific knowledge and insights. Thereafter discussions were held with key members of the Open University of Tanzania in Dar es Salaam including representatives from the Department of Physical Environmental Sciences. ASSAP has now established a formal partnership with the University and it was agreed that African Science Stars will allocate dedicated space in the magazine to the university and that the institution will be the principal distribution point in Tanzania.

ASSAP attended the DSI budget vote panel discussion, which was held at Iziko South African Museum, under the theme, "Growing Our Country Through Empowering Youth in Science, Technology, and Innovation". The platform allowed different entities to showcase their work and engage in meaningful discussions with the aim of shaping the budget allocation and priorities within the science and innovation sector. The visit by the Deputy Minister of Science & Innovation to Rlabs was also covered. Rlabs is a community-based organization dedicated to fostering youth engagement in areas such as business skills, coding and other learning opportunities.

ASSAP attended the Botswana Astronomy School where the magazine was enthusiastically received. The ASSAP Editor interviewed the event's organizer and some of the attendees.

African Science Stars participated in the National Science Week launch event, held at the University of Venda in Thohoyandou, Limpopo, South Africa. The event attracted a significant audience of approximately 630 students and 40 educators to the ASSAP stand. There was also a presence in the Free State during this week.

The Outreach Team attended a three-day event in Sutherland in collaboration with SAAO, OAD, AfAS, and IDIA. Copies of African Science Stars magazine were distributed at the Sutherland High School. ASSAP also participated in the Annual Girl-Learner programme at Sci-Bono Center in Johannesburg.

The GEO Week and Ministerial Summit was also covered, this event was held in Cape Town, South Africa, from 6-10 November 2023. The summit include the GEO-19 Plenary from 8-9 November and the GEO Ministerial Summit on 10 November. The event was organised by the Group on Earth Observations (GEO) and was hosted by the Government of South Africa (Department of Science and Innovation). The event showcased impactful contributions, commitments, and innovative Earth observation solutions on a global stage.

The Human Capital Development Programme of the South African Radio Astronomy Observatory (SARAO) hosted its 15<sup>th</sup> postgraduate scholarship conference in Cape Town. ASSAP was invited to this event which was held in Cape Town from the 27<sup>th</sup> of November to the 1<sup>st</sup> of December 2023. The conference brought together SARAO supported postdoctoral fellows, postgraduate students, supervisors, radio astronomy scientists and engineers from Africa and elsewhere to network and develop an interactive community around the SKA precursor telescope Meerkat, the SKA in Africa and other radio astronomy initiatives. The event will be in the next edition of African Science Stars magazine.

The team was invited by the Department of Science and Innovation (DSI) to attend the SADC Regional Science Journalism Programme side event at the Science Forum, from the 4 – 5 December 2023, in Pretoria. The

programme advanced capacity building on science communication for journalists and media representatives in the SADC region and Africa.

ASSAP also attended the Science Forum South Africa, from 6 – 8 December 2023, in Pretoria at the CSIR ICC. The forum's theme was "Igniting conversations about science - People, partnerships and priorities for the Decadal Plan". The event was attended by some 4000 participants and included talks, many exhibitors and public outreach activities.

The ASSAP Team attended the NASSP symposium which celebrated the 20 years of great work being done by the Programme. The two-day event which was held at UCT at the end of January 2024, will be covered in the next edition of African Science Stars magazine.

Members of ASSAP also attended the MeerKAT @ 5 conference, in Stellenbosch during March 2024

ASSAP and AfAS jointly designed the African Astronomical Society (AfAS) newsletter which was issued in March. The Team attended the Astronomy in the Park event from the 6<sup>th</sup> to the 7<sup>th</sup> of March 2024 at Johannesburg City Park, was covered by ASSAP. Also attended, was the AIMS event in Muizenberg from the 17<sup>th</sup> to the 22<sup>nd</sup> of March 2024.

### 3. Key Performance Indicators/Outputs

AfAS KPIs	TARGET 2022/23	ACHIEVEMENT
1. Annual Conference & Business Meeting	March 2024	Moved to April 2024 at the request of the Host for religious reasons. (Month of ~Ramadaan).
Hackathons	March 2024	The first event was held during the BRICS BAWG meeting in October, in Cape Town. The second event will be at the AfAS 2024 Annual Conference.
2. Enable science results output from research groups around Africa towards IAU GA2024	March 2024	The 1 <sup>st</sup> Working Group selected and the Science Committee has commenced work with this group.
New front end to the existing ARAN telescope	March 2024	Telescope installed in Nigeria in August.
Support the rollout of astronomy schools on the continent in line with the AfAS Astronomy Schools Policy Framework	December 2023	Provided grants to Botswana and Morocco schools. Seeking funds to run an AfAS School. Submitted proposal to AERAP to seek funds
Engage countries with existing observatories on requirements and support to be part of the African Integrated Observation System (AIOS)	December 2023	Follow up on last year's meetings yet to be initiated
Refurbishment of the ROTSE Telescope in Namibia	March 2024	Costs yet to be determined for refurbishments. Visit to telescope site undertaken in December. Future uncertain due to funding constraints but external funds being sources from USA.
Support students and early career researchers through small research grants and prizes	March 2024	Early Career Researchers Awards concluded in December (4 awards). Post-graduate prizes to be confirmed in April.
Launch of the AfAS database portal	March 2024	Deferred to 2024
Increase the number of participants in the Astronomy in Africa Survey	March 2024	Deferred to 2024

Organization of meetings, including annual, regional, and thematic, and supporting regular on-line seminars and colloquia	March 2024	On-going
3.Membership Fees Structure & Benefits with Membership Committee	December 2023	On-going, to be discussed at annual conference in April
4.Funding for Astronomy Schools	December 2023	Initial proposal drafted and sent to AERAP to forward to potential funders. No response received to date.
5.Issue of membership Certificates	September 2023	Deferred to 2024-New committee to progress
Criteria for Institutional, National & Honorary membership	December 2023	Deferred to 2024-New committee to progress
Update of membership Application System	February 2024	New Committee to progress during 2024
Number of new members for 2023/24	200	Membership drive on-going
6.Build a strong network of African ODE professionals and stakeholders that are actively sharing resources and knowledge	Dec 23	On-going
Release the call for African Astronomy Ambassadors and build a network of active and enthusiastic individuals/groups, that are: <ul style="list-style-type: none"> <li>- a diverse collection of Africans ODE communicators, representative of the whole of Africa</li> <li>- actively promoting the GA2024 during their own astronomy activities</li> <li>- sharing GA2024 and African astronomy ODE resources</li> </ul> promoting the GA2024 and African astronomy ODE through social media and multimedia channels	Apr 23 (call) Nov 23 (network)	Initial Call issued and a Group has been established. New members to be sought.
Promote and build the multiwavelength astronomy ODE community in Africa, specifically growing radio astronomy. Hold at least one radio workshop and distribute at least 3 radio telescopes to deserving communities.	2024	On-going
Collaborate with the OAE to hold a regional IAU SHAW Workshop (for Southern Africa)	Oct 23	Held first week in October at SAAO
Produce a 5-minute full dome and flat film that promotes astronomy for mental health that has been played in at least 2 different venues for mental health practitioners	Dec 23	Production of video completed
Release the call for AstroFringe GA2024 events and construct a program that features a wide range of multidisciplinary and inclusive activities	Aug 23 (call) Apr 24 (Final program)	On-going
Develop and promote the "AfricaLook Up" campaign across Africa through marketing over social media and mailing lists	Aug 23 (start of campaign)	Campaign commenced
With AfNWA, release the call for outreach & education projects for girls in rural communities	May 23	Call issued and assessed in March 2024
Engage with schools and delegates to plan the school visit program that will take place during the GA2024	Ongoing	In planning phase
Identify and start expanding Outreach and Education projects into Africa. This can include: <ul style="list-style-type: none"> <li>- GA2024 Vision projects</li> <li>- Hackathons</li> <li>- Astrocode</li> </ul> Online Astronomy Competitions	ongoing	In progress
Hold a competition for astrophotography and astronomy artworks that celebrate African astronomy (including our night skies and astronomy facilities). Winners will be displayed/performed at the GA2024.	March 2024	Call to be issued in April
Run regional Astronomy Olympiads across Africa, the winners or which will be sent to take part in international Olympiads	2023 / 24	Project Team established
Investigate and potentially build an AfAS cell phone App for African astronomy	2023/24	Deferred to 2024
Update the AfAS map of African Astronomy facilities	May 23	Deferred to 2024
Create a calendar of astronomy events relevant to Africa and promote to the public	May 23	Work has commenced
6.Deliver the communications strategy and have approval from ExCo	March 2024	Discussions on-going with committees. Presented to EXCO during 2024
Finalise the Africa media list	Sep 2023	On-going

Present developed branding guidelines to ExCo	March 2024	In progress
Strengthened relationships with committees for flow of information	March 2024	In progress
Release two issues of the AfAS Newsletter	March 2024	First Issued in September, second in March 2024
AfAS website (design and maintenance)	March 2024	On-going
3 Training Courses by AfNWA	January 2024	Due to resourcing constraints, none held in 2024
Event for Women In Astronomy Day	March 2024	Localised events held by individual members
Seed grants for outreach activities	March 2024	Funding unavailable for this project
Outreach Videos	March 2024	Video distributed
Women in Astronomy Book	December 2024	In progress
Report on African Women in Science & Technology	August 2023	Deferred to 2024
Attend at least 3 International Conferences	March 2024	EAS Conference in July/IAU symposium in Ethiopia (November) AAS In January 2024
AfNWA Awards	December 2023	Awardees confirmed and to be announced at AfAS Annual Conference in April
Survey on AfNWA	March 2024	Deferred to 2024

APA KPIs	TARGET 2022/23	ACHIEVEMENT
1.Regional Planetarium Workshops	At least 2 workshops by March 2024	Two planned for the year , only one held due to resourcing constraints.The workshop was held in Ethiopia in November
2. Refurbishment and allocation of donated planetarium	December 2023	Deferred to 2024 due to lack of resources
3. Cost-effective Mobile Planetarium	Feasibility study to be completed by March 2024	Initial discussions held with potential stakeholders on a pilot exercise.
4.Seed Grant for local Content (African) creation	December 2023	New approach to be implemented during 2024

ASSAP KPIs	TARGET 2022/23	ACHIEVEMENT
1.Workshops in Morocco/Ghana/Nigeria	December 2023	Held in Ethiopia and another in Tanzania
2. Participate in National Science Week-South Africa	August 2023	Concluded



3. EAS Exhibition	July 2023	Attended with AfAS delegates
4. African Science Stars magazine publications	April 2023 August 2023 December 2023	Three issues published.
5. BRICS Magazine publications	May 2023 October 2023	Second issue published in March 2024

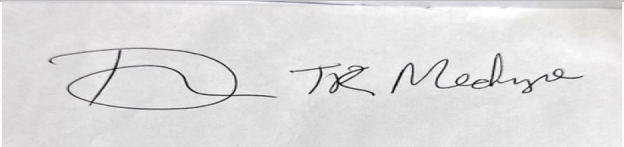
AERAP KPIs	TARGET 2022/23	ACHIEVEMENT
1. Engagement with EU officials	300	130
2. Number of Covid 19 activities identified for African researchers	20	10
3. Number of EU Proposals submitted	20	0
4. Number of AERAP partners engaged	200	260
5. Number of press releases published	10	40
6. The key strategic events	6	4
7. Key policy proposal submitted to the European Union	10	0
8. Number of presentations to financial investors	1	1

## 4. Financial Performance

ITEM <i>(Cash Basis)</i>	ANNUAL BUDGET (R000's)	YTD BUDGET (R000's)	YTD ACTUALS (R000's)	COMMENTS ON VARIANCES
Income	7117	7117	9943	Additional funding for Shaw Workshop (R500K); ASSAP (R600K); GA2024 Travel Grants (R300K); Sponsorship Income for AfAS Conference in April and delayed payments for Exhibitions from 2023 conference
Salaries & Consultancy	(1328)	(1328)	(1089)	
Running Expenses	(2648)	(2648)	(2413)	Includes payments of 2023 conference travel costs and partial payments for 2024 conference costs (operations)
Capital Expenditure	0	0	(60)	
Grants & Bursaries Paid	(4277)	(4277)	(6086)	Additional R600K paid to ASSAP for securing additional personnel and work requested by DSI, recovered from extra funds from DSI
<b>Total Expenditure</b>	<b>(8253)</b>	<b>(8253)</b>	<b>(9648)</b>	
<b>Net funding-Current year</b>	<b>(1136)</b>	<b>(1136)</b>	<b>295</b>	
<b>Previous year carry forward</b>	<b>1186</b>	<b>1186</b>	<b>1186</b>	
<b>NET FUNDING</b>	<b>50</b>	<b>50</b>	<b>1481</b>	

PROGRAMME/PROJECT <i>(ACCOUNTING BASIS)</i>	ANNUAL BUDGET (R000's)	YTD BUDGET (R000's)	YTD ACTUALS (R000's)	COMMENTS ON VARIANCES
Income	7877	7877	9869	Refer to table above
AfAS (Core)	(2689)	(2689)	(3015)	
AfAS (Committees)	(971)	(971)	(624)	Botswana School Funds and AfNWA grant payments. Little spending by committees
AERAP	(1737)	(1737)	(1737)	
ASSAP-AfAS	(2265)	(2265)	(3615)	Refer to table above
ASSAP-BRICS	(600)	(600)	(600)	
APA	(800)	(800)	(376)	
BRICS	(180)	(180)	(151)	
HACKATHONS/OTHER	(140)	(140)	(720)	Delays in receipt of costs for March Event
<b>TOTAL COSTS</b>	<b>(9382)</b>	<b>(7382)</b>	<b>(10838)</b>	
<b>Net funding-Current year</b>	<b>(1505)</b>	<b>(1505)</b>	<b>(969)</b>	
<b>Previous year carry forward</b>	<b>1555</b>	<b>1555</b>	<b>1552</b>	
<b>NET FUNDING</b>	<b>50</b>	<b>50</b>	<b>583</b>	

# 5. Approval

<b>Submitted by</b> <b>Signature</b>	
<b>Name</b>	<b>Professor Thebe Medupe</b>
<b>Date</b>	<b>14th April 2024</b>
<b>Designation</b>	<b>President, AfAS</b>