



**science & innovation**

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA



## **Quarterly Report 2020/21**

**PROGRAMME: AfAS**

**Quarter 4  
(April 2020-March 2021)**



AFRICAN  
PLANETARIUM  
ASSOCIATION

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# 1. Rationale/background of the Programme/Project

Over the past two centuries, professional astronomy activities on the African continent have increased and this has led to some growth in capacity. Collaborations with partners from outside the continent through various initiatives have been a major contributor to the growth that has been seen. 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) Newton Fund programme to train young Africans in astronomy, engineering, technology, and related fields. The purpose of these projects is to develop skills using astronomy in a number of African countries. The DARA project is targeted at countries acquiring radio telescopes through the African VLBI Network (AVN) as part of their participation in the South African Square Kilometre 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 the only radio telescope in Africa apart from 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 Masters programme in Astronomy in Uganda and Algeria, and several astronomy initiatives in Nigeria. Recently, discussions around the possibility of setting up an Astronomical Observatory and related facilities for education and outreach in Kenya began. Running in parallel to the above-mentioned initiatives are several data processing and analysis infrastructure projects.

It is therefore crucial that African nations collaborate amongst themselves to develop continental-wide skills through targeted projects. Thus, AfAS aims to perform the pivotal role of coordinating the network of astronomers, promoting the study and applications of astronomy, promoting astronomy research collaborations, advising the government stakeholders on Astronomy related policy, and fostering the growth of astronomy in Africa. The organization will therefore ensure that Africa maintains a stable astronomical environment that can sustain knowledge-based economies through various activities. The African Astronomical Society (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 including astronomers, public stakeholders, and research organisations. 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 the 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.

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

- i. AERAP - The African European Radio Astronomy Partnership for the development of astronomy knowledge and skills in Africa through funding and partnerships with European partners. AERAP is the existing Africa-Europe radio astronomy platform previously managed and funded by the DSI of South Africa. Initially established as a lobbying platform for South Africa to promote the SKA African bid in Europe to host the SKA telescope in Africa, the platform is designed to support radio astronomy and related sciences collaboration between Africa and the European Union. It will continue to support radio astronomy sciences, and additional application areas will be explored to ensure that it continues to support AfAS in the implementation of key Africa and European Union policy objectives in the field of radio astronomy research and development, including the digital economy.  
  
Covid-19 will be top of the policy agenda in the European Union and around the world. AERAP will focus on identifying Covid-19 research activities, in particular those in Europe with potential relevance to African partners. The regular AERAP webinar will include Covid-19 on the regular agenda and dedicate a number of sessions to Covid-19 with the objective of information sharing and partnership development.
- ii. African Science Stars Publications – 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 African-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 as a tool for science awareness;
- iii. African Planetarium Association- The African Planetarium Association (APA) has been created to become a network of planetaria and 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 with 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.

## 2. Summary of performance for the current year

### 2.1 Key operational Objectives for 2020/21

#### 2.1.1 AfAS Core/Projects

Development of astronomy collaborations through the establishment of science working groups in Africa and establish contacts with international organizations.  
Enhance science collaborations through access of African/International research infrastructure  
Regional meetings to foster collaborations and communications as well as regular online science discussions  
Development of a science data portal which include astronomers, students, facilities, collaborations, publications, etc. which will provide a comprehensive source of information on the astronomy community in Africa  
Human Capacity Development through development of lecture material, curriculums, short courses/workshops, offer of scholarships for early career researchers and annual awards for outstanding post-graduate students  
Support of Archeoastronomy to facilitate the development of African Astronomy Heritage projects  
Develop a workflow membership application, review, and approval system  
Develop a membership fee structure  
Develop a membership benefits plan together with a member's recruitment plan  
Develop and commencement implementation of a fund-raising strategy to reduce the dependence on South African Government funding within the next 2-3 years.  
Develop an affordable mobile planetarium  
Develop a radio telescope for amateur astronomers  
Launch Pan-African campaigns  
Launch Amateur Astronomy Associations in African countries  
Re-design the AfAS website  
Establish social and electronic media platforms  
Establish print and visual communications  
Establish astronomy research programmes in tertiary institutions  
Creation of astronomy related educational resources  
Make students throughout Africa, aware of all astronomy related scholarships  
Strengthen research and leadership capacities of female astronomers and initiating the African Network for Women in Astronomy (AfNWA)

#### 2.1.2 AERAP

Advance AERAP networks and relationships with research users  
Involving research users at all stages of the research processes, including working with user stakeholder and participatory groups in Africa and the European Union, including policymakers and regulators  
Develop flexible knowledge exchange strategies in Africa and the European Union, which recognize the roles that partners, and collaborators may wish to play considering the policy priorities  
Developing a good understanding of policy/practice contexts and encouraging users to bring knowledge of context to researchers and policymakers  
Develop to portfolios of radio astronomy and related research activity that build up reputations with research users and demonstrate innovation more generally  
Illustrate how one can contribute to policy objectives in the EU and Africa;  
Develop focus activities around Covid-19 research to the European Union and Africa  
Work towards the creation of excellent infrastructure, leadership, and management support for the anticipated big data platform between Africa and the EU.  
Providing feedback to policymakers  
Constantly re-evaluate AERAP in the context of global challenges as they relate to the European Union and the African Union

#### 2.1.3 ASSAP

Advancing public awareness, appreciation, and engagement of astronomy.  
Providing a wide regular coverage of astronomy activities in the region from professional astronomy, 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 sector such as national and regional facilities, astronomy clubs, public organisations and private companies.

#### 2.1.4 APA

Growing the expertise of its community  
Focus on having a significant impact outside its own membership  
Collaborating with various partners and stakeholders.  
Networking with other scientific bodies.

**The COVID-19 pandemic which has markedly affected the entire world, has adversely affected the activities of AfAS in 2020/21. However, the Society used its best endeavour to achieve its operational objectives for the year through extensive use of digital platforms but several initiatives were delayed due to the need to avoid physical contact and curtailment in research and outlook activities throughout the world to curb the spread of COVID-19. Activities such as student exchange programmes, access to telescopes, the annual conference and outreach will be reviewed on an on-going basis and plans updated to take account of the pandemic related restrictions.**

## 2.2 Performance Highlights for the year

### 2.2.1 AfAS

#### General

AfAS commenced full operations from 1<sup>st</sup> April 2020 as an independent, not for profit Organization following commitment of annual funding for the next three years, from the DSI. Thus, the majority of the first half of the current financial year was spent on planning and the development of action plans for the next 3 years as well as the establishment of Governance and Internal Control processes. A Project Manager was appointed on an initial one-year contract to set-up the Governance and Company structures and manage the operations and administration of the company. The lockdown severely hampered this process as the South African Revenue Service (SARS) tax registration required personal meetings with the authorities which was not allowed until June, but on a limited basis thereafter. All the Governance and Internal Control processes are now operative and Accounting/Payroll software were acquired on an annual license fees basis to manage the financial and payroll systems. These are maintained by the Project Manager with assistance from the Administration Officer who commenced on the 1<sup>st</sup> April on a 1 year contract. SAAO has offered to provide office space for both the AfAS and APA administrative staff but they will only move in once SAAO returns to normal operations during 2021 provided it is safe for general staff to return to work. Monthly Executive meetings are held to discuss progress on activities and other operational issues including the financial status of AfAS. The 3 year Business Plan and the 2020/21 Annual Operating Plan were drafted by the Project Manager in close consultation with the Executive, sub-committee Chairs and the external Project Leaders. These were approved by the Executive at its June meeting. Reporting systems have been introduced for both monthly and quarterly reporting with the major focus being on sub-committee activities and the cash flow of AfAS. The recruitment for a fulltime Head of Secretariat was initiated in September and interviews were held with short-listed candidates during December. A preferred candidate was selected by the Interview Panel and Dr. Charles Takalana, the current Assistant General Secretary has accepted the offer as the Head of Secretariat with effect from the 1<sup>st</sup> April 2021. The two Administration Officers (AfAS & APA) contracts have been extended for another two years whilst the Project Manager's contract has also been extended for a further two years but at a reduced role of 50% in 2021/22 and 25% in 2022/23.

**The highlight for the year was the inaugural AfAS Annual Conference (postponed from 2020) which was a total virtual event with the control center based at the CSIR International Convention Centre in Pretoria, South Africa and co-ordinated by the Assistant General Secretary (C Takalana) and the Project Manager (Y Manjoo) in collaboration with Tourvest, the service provider of the digital platform. The event ran from 8-12 March 2021 with minimal disruptions due to the excellent bandwidth and connectivity provided by the CSIR. The conference was well attended with over 300 registrations, total individual attendance was eventually 256 with a total of 170 attending the opening session and the science/outreach & education talks during the week with a further total of 86 attending only the 5 special sessions on selected topics run internally by AfAS. There were 25 sessions with some 93 science/outreach talks in total, the average attendance was 58/individual talk and 93 if one combined the two parallel talk streams offered at some of the sessions. The average number of sessions attended by an individual was 6 (compared to a max of 25) across the 5 days. The table below summarizes the attendance:**

<b>AVERAGE/INDIVIDUAL SESSION</b>	<b>59</b>	
<b>AVERAGE/SESSION (with Parallel Sessions combined)</b>	<b>93</b>	
<b>AVERAGE NUMBER OF SESSIONS ATTENDED/DELEGATE</b>	<b>6</b>	
<b>MAXIMUM ATTENDED BY A DELEGATE</b>	<b>22</b>	
<b>NUMBER OF COUNTRIES (AFRICAN COUNTRIES)</b>	<b>38</b>	<b>(23)</b>

**Of the 93 talks, 36 were from South African based astronomers, 36 from other African countries and the remaining 21 from Europe/USA/Canada and India. Also, 33 talks were focused on outreach/education.**

Several members of the Executive Committee attended the virtual European Astronomical Society's 2020 conference from 28<sup>th</sup> June to 3<sup>rd</sup> July. A presentation was given by the President of AfAS, Jamal Mimouni and a panel discussion followed thereafter with Charles Takalana also joining the discussion.

The AfAS Executive approved the funding of 5 projects which addressed COVID-19 related issues across Africa, the proposals accepted were from the OAD CALL for proposals to alleviate the negative impact of the pandemic. The Project Manager was one of the evaluators that reviewed some 120 proposals and around 50 were recommended for funding. Each project was allocated R20K and the projects are:

- Distance Learning for Home-Bound Students Amid COVID-19 (Tanzania)
- e-Amanar: Under the same sky connection (Sahrawi refugee camps near Tindouf, Algeria)
- Astro-Art Contest for Schools Kids (Nigeria)
- Providing astronomy inspiration & Hygienic Supplies to underserved families at high risk of infection from Covid-19 (South Africa)
- Protect Our Stars (POS) (Burkina Faso)

The grant was paid to the OAD who will be responsible for projects disbursements and progress monitoring. Feedback will be provided to the Executive Committee as necessary.

### **Communications**

AfAS now has a functional website and maintained social media platforms. The current social and technological landscape makes it essential that improvements to the communications platforms are on-going and, when efficiently utilized, enables the Association to forge deeper ties with and among its members and the general public.

The first AfAS newsletter for 2020 was published in September, the newsletter highlighted activities post the release of the first issue in September 2019. The latest issue was sent to the African community through the Africa-list via email and uploaded on the AfAS website as well as social media platforms (Facebook and Twitter). The newsletter was downloaded more than 350 times from the website and reached around 500 subscribers on the Africa-list. The Communications Committee will strive to publish at least two newsletters per year instead of one. It is primarily responsible for the content and the African Science Stars Publication, the design and layout. The first newsletter for 2021 will now be published mid-May due to delays in receiving articles for inclusion from contributors. This has been an on-going issue despite reminders to the AfAS community.

The mail server has been migrated to Google due to the erratic service provided by SAAO, the costs are around R2K per month and dependent on the number of active mail users. A review of all active users will be done in terms of frequency of use to ensure that costs are minimized. A mail account has been set-up for the GA2024 to facilitate the collaboration between the NOC and AfAS and active promotion of the event across the continent. The Google option also provides a suite of other facilities such as Google Docs, Forms and Drive through its Cloud service.

A web-designer was appointed to restructure the website and the Executive Committee approved the change to the domain name from [africanastronomicalsociety.org](http://africanastronomicalsociety.org) to [afasociety.org](http://afasociety.org). The website, together with the mail server was initially hosted by SAAO but there were delays in using the new domain and website as SAAO IT is experiencing challenges as a result of Covid-19 related increased demand for support within their organization. It has been agreed with SAAO that priority will be given to transferring the website to the new domain to allow the web designer to complete current upgrades and develop new initiatives that have been agreed by AfAS.

The Communications Committee continues to analyze activity on the AfAS website and the various social platforms, the number of views and visits have increased in comparison to the previous year. It is also pleasing to note that the number of visits to the AfAS website for the current year stands at around 20000 compared to 9500 for the 2019/20 financial year. The 2021 Annual Conference and Outreach activities enhanced interest with the annular solar eclipse in June 2020 attracting numerous enthusiasts. This initiative was led by the Outreach Committee in collaboration with ASSAP. Interest among the African countries is growing with 8 in the top 15 country visits with South Africa obviously being the leader with some 7000 visits to the website followed by the USA at 2000.

The Communications Committee has completed its initial recruitment for members and it now has 9 members including a representative from ASSAP. A Chairperson will be elected at its next meeting. The development of the communications strategy that will result in an articulated communications plan for organizational alignment and transformation remains a high priority task in the immediate future. The Committee has acknowledged that it will need to support all the other committees of AfAS; it has agreed to have a contact point with each sub-committee and partner projects.

### **Membership**

The Membership application process via the AfAS website was made available to all applicants from late 2019. However, it was discovered that there was a problem with the website which meant membership application data could not be downloaded automatically or easily. Throughout 2020, many attempts were made to resolve this issue without success, and it was determined that the website required upgrading. Discussions are ongoing with the recently appointed web designer, it appears the problem is more complex than originally envisaged, and hence the required modifications will now be completed during the first half of 2021 given that the website server is also not readily available for further development. The development of an automated workflow procedure for membership applications has not commenced as it requires discussions within the Membership Committee to design the workflow, followed by discussions with the web developer on implementation.

All current membership applications have been manually downloaded to an EXCEL spreadsheet and an initial review of all applications has been completed by the Committee. During this review, it became evident that key information such as course content for undergraduate studies, reference to published papers and verification of qualifications and experience is required. Letters to all applicants were issued on the 17<sup>th</sup> December with a response expected no later than 10<sup>th</sup> January 2021. Only 105 responses were received and the Committee agreed on accepting 50 full members, 7 associated members and 17 students. Letters to these members will be issued during April 2021 and the Committee endeavored to make further contact to those that did not respond prior to rejecting such applications. A meeting will be held during the first quarter of 2021/22 with the Science and Outreach Committees to discuss the various categories of membership that can be offered in the future including one for newly qualified graduates who have had no practical experience.

### **Science**

The Science Committee appointed a new Chair, David Buckley from SAAO, initial deliberations were on the development of the 3-year operations plan which was approved by the Executive Committee in June. The following is a summary of the activities of the Committee during the current financial year:

- The Science Committee supported an initiative to establish **a research grant for early career researchers**, including postgraduate students. The AfAS Seed Research Grant supports research projects in Astronomy (including Astrophysics and Space Science) conducted by postgraduate students and/or early career researchers based in Africa. Two grants of up to R15 000 each will be awarded to outstanding applicants in 2021. The call for



applications opened on 1 September, the deadline has been extended from 30<sup>th</sup> November to 31<sup>st</sup> December. The AfAS Early Career sub-committee has recently been established with 7 members, the chair is Zara Randriamanakoto and awards will be confirmed in April 2021.

- The initial requirements for the web based **science portal** was discussed at the Committee's meeting on 3<sup>rd</sup> September. The current list is based on an assessment of the points made at the first AfAS Science Committee discussion held in Addis Ababa in 2019, and a study of various astronomy portals of large countries and continents. The main items proposed for the portal include Membership lists, Science Infrastructure, Science Working Groups, Meetings, Teaching Resources, Awards, Research Opportunities/Jobs including items that are of interest for the Early Career sub-committee as well as some suggestions that could be of general interest or form part of the Public Outreach portal. Webpages will be developed for each theme and a meeting with SAAO IT and the Web Designer is planned for the first half of 2021.
- The **Science Committee Slack channel** was set up by Shazrene Mohamed at: <https://app.slack.com/client/T016K4VHB0U/C01667EML5U>  
This will aid communication between the members of the committee and can be a repository of documents, meeting agenda and minutes, etc.
- David Buckley sent a request for nominations for **science contact points** within African countries, through the existing email list held by AfAS. These were requested by 15 September and the Secretariat has now compiled a list of contact points for most of the countries involved in astronomy.
- Mirjana Povic, with assistance from James Chibueze, has drafted the survey questionnaire for the Astronomy in Africa Survey which has been forwarded to members of the Science Committee and other stakeholders for comment.

### ***Fund-Raising***

Members of the Fund Raising Committee have been confirmed and meetings of the full Committee were held in August and December 2020; the final Funding Strategy for AfAS was endorsed by the Committee. The Strategy was also approved by the Executive Committee at its meeting of 15<sup>th</sup> December and forwarded to the DSI who accepted the strategy and the updated Business Plan as part of the 3 year contract between the DSI and AfAS, commencing 2021/22. Thus funding for the next 3 years has been secured providing sufficient time for AfAS to implement its fund-raising strategy and secure external funds for projects across Africa. There will also be a need for consultations with the Membership Committee to determine the appropriate membership fees that will eventually be levied and the timing for the introduction of such fees.

### ***African Network for Women in Astronomy***

The Executive Committee approved the formation of the African Network for Women Astronomers (AfNWA) at its September meeting, the Chair is Mirjana Povic with 5 other committee members. The 3 year Operating Plan was also approved, the Committee requires some R300K over the 3 years with a grant of R79K being provided by the Chair of the Committee through her funding award. Funding for the outer 2 years will be considered with the requirements of the other Committees during the annual budget allocation during March of each year. The Committee had a public launch in January 2021 and currently has at least 80 members with 20% being men. During the last quarter of the financial year, AfNWA presented its credentials at various meetings including the IAU Symposium 367, AERAP Women in Science and a special session at the AfAS Annual Conference. A paper arising from the IAU 367 proceedings has been accepted for publication and is currently in print.

### ***Education Committee***

The Education Committee has been in discussions with the Outreach Committee on collaborations on digital content which will be hosted on the newly established AfAS website. The current work is focused on compiling a reliable database of African Astronomy institutions.

The Education Committee completed a project in the rural regions of Nigeria to mitigate the negative impact of COVID-19 whilst at the same time, stimulating interest in astronomy. AWB Nigeria assisted AfAS with this project as it had carried out Astronomy Education outreach programmes, including the OAD supported Girls Camps in these communities. This project raised awareness on preventing Covid-19 spread, create awareness about sky gazing for kids and also provide relief materials to these communities in the form of grocery packages, hand sanitizers and soap. It provided support to the families who have released their children to be part of the Astronomy activities pre Covid-19 and to also use the medium to invite more kids to participate in the Astronomy Education programs planned for this period. The budget allocation for this project was R50K.

Two other projects of the Education Committee are Social Media Educational Content and Celestial Events over Africa in 2021. In Africa, there are many diverse cultures and heritage that surround astronomy and many contexts. AfAS will seek to establish content that will help disseminate ancient knowledge and to also provide a platform where Africans can be part of the astronomy community. YouTube videos will be streamed on a weekly basis as well as the creation of a social media content calendar and an astronomical events calendar.

### ***Outreach Committee***

The major focus of the Outreach Committee is the design and development of an affordable mobile planetarium. In addition to this Working Group, other groups have been established for Amateur Radio Telescopes and the Astronomy Events Calendar. In addition, two pan-African sub-committees have been set-up for astronomy outreach activities in French and Portuguese.

During the second quarter, an application form was made available for all amateur astronomy associations in Africa to register with AfAS, the form was also available in French, Portuguese and Arabic. Numerous applications for

registration were received and an initial list was compiled for the AfAS Annual Conference, this will be finalized post the conference and uploaded to the website in April.

Two public webinars on the 2020 Physics Nobel Prize to Penrose, Ghez and Genzel, were successfully organized by the Outreach Committee; the English language public webinar was a panel discussion with 6 well known speakers and 2 moderators. The live event had 400 people watching it, and since then, more than 500 additional people have seen it as well.

The French language public webinar had 4 speakers, and was completely in French. It had around 20 people watching it live and more than 60 views since then. This was the first event for the French language network.

The Committee also designed and created 3 posters in English for the 21<sup>st</sup> December Great Conjunction of Jupiter and Saturn, aimed at the general public. This was also translated to French, Arabic, Portuguese, Kiswahili, isiZulu and isiXhosa. These have been uploaded to a dedicated webpage on the AfAS website and also posted on the social media pages. These have become very popular in Africa and globally as well.

After a detailed study, a proposal for an ambitious pan-African project to create a to-scale model of the Solar System across Africa was presented to the Executive Committee for consideration as a possible project for the IAU GA 2024. This was endorsed by the Executive Committee, IAU GA Outreach Committee as well as the National Organizing Committee.

A call was issued for further nominations to the Outreach Committee, over 15 applications were received and 7 were accepted by the Committee, there are now 12 members in the committee.

The Outreach Committee had two special sessions at the AfAS Annual Conference in addition to organizing the various talks throughout the week. The special sessions were on Science Communications (chaired by Carolina Oddman-Govender) and a meeting of Amateur Astronomy Associations across Africa. These were well attended with 67 attending the first session and 57 the second.

### **2.2.2 AERAP**

The regular Monthly digital Calls between all the partners are now firmly established with some 150 participants at each meeting, there is now greater involvement by African State Agencies. AfAS is currently represented by its Project Manager at these meetings but he will be replaced by the Head of Secretariat at future meetings. The mailing list has increased from approximately 40 people at the beginning of the year to around 500. The development of a Policy framework is currently in progress with some 60 contributors, a White Paper will be published in the coming months. The AERAP Office has arranged several key strategic initiatives with the key event for the year being the Africa-Horizon Europe event which was held on the 9-10<sup>th</sup> September. Some 520 people registered for the two-day meeting with the main sessions attracting over 150 participants. Average participation at the smaller and more specific, themed sessions was approximately 40 people. AfAS was actively involved in the webinar with several Executive Committee members attending together with others from the African continent. The President of AfAS, Jamal Mimouni, was one of the keynote speakers whilst a parallel discussion session was hosted by AfAS during the first day and the attendance was good with topics eliciting deep discussions. The event resulted in many new contacts especially for AfAS and it is anticipated that the Society will be invited to further discussion platforms arranged by AERAP. AERAP has 11 Working Groups all of which have Terms of Reference and associated timelines aligned to the drafting of the White Paper. A highlight during the 3<sup>rd</sup> quarter was the virtual event, "**Opportunities for Enhanced STI Co-operation between the EU and Africa**" which was held on the 18<sup>th</sup> November. The new comprehensive EU Strategy for Africa was the main point of discussion and several well-known speakers contributed including Jamal Mimouni.

Links have been established with a philanthropic foundation with the focus being on Health capacity development. AERAP submitted a policy document to the high-level Policy Forum on Science & Innovation which took place on 17 May 2020.

Preparations have commenced for the Africa-Europe Science & Innovation Summit to be held from 15-17 June 2021, it is envisaged that AfAS will have a strong presence at this event. Some 16 key speakers have been confirmed including the Higher Education & Science Minister from South Africa (Minister Nzimande) and Phil Diamond from SKA International.

### **Challenges**

A major challenge will be to translate the approved Strategic Policies/White Paper to action plans which can be implemented in close consultation with African partner countries. The drafting of funding proposals to support such action plans will be a major activity of AERAP but active involvement of the African countries as well as AfAS is essential to ensure that proposals submitted are approved for funding by the European Union. Another major challenge is the development of active interactions between the AERAP Office and AfAS with the latter being used to facilitate interactions between European and African collaborators in astronomy.

### **2.2.3 ASSAP**

ASSAP has appointed a Project Manager and two support staff and, in addition, Dr Julien Larena, a senior lecturer from University of Cape Town was appointed as the in-house researcher and contributor. The organization also secured office space in Century City, Cape Town. Resolution Digital was contracted to develop and manage the ASSAP website which is hosted by Afrihost. The website will also have interview podcasts.



The website: [www.africansciencestars.co.za](http://www.africansciencestars.co.za)

Twitter handle: @AfriScienceStar

Instagram: Science Stars mag

Media and computer equipment that will be used in the production of the magazine and marketing materials were acquired as well. ASSAP collaborated with AfAS to design the Eclipse books and posters. The booklets and posters got positive reviews from the astronomy community and the general public.

The Organization is in the process of signing media partnerships with international TV and radio broadcasters, community radio stations in the SADC region and some print media houses. An online, digital radio station has been established; this will promote astronomy in Africa; a radio host has been appointed to lead the podcasts.

A COVID-19 Special Edition booklet was published at the end of September and was distributed during the World Space Week in October. The publication focuses on the good work that AfAS and the astronomy community have done to combat the COVID-19 pandemic. An Equinox Edition was also published, this included both astronomy and space science articles. The highlight of the edition was a profile on Kevin Govender who is celebrating his 10-year anniversary as the head of OAD. The edition had content from astronomers from Zambia, Namibia, Nigeria, South Africa, and covered the AfAS conference, the South African Minister of Higher Education & Science visit to the SKA site and the Premier of Northern Cape's visit to the SALT site.

### **Challenges**

Due to the travel restrictions that were imposed across the world, the ASSAP team could not conduct physical workshops during the year. A digital workshop studio is currently being set-up. The travel restrictions have also delayed the team from taking photographs of astronomy related sites, conduct face to face interviews and photoshoots. The team will try and mitigate this during the coming year by virtual collaborations with photographers and journalist from different regions.

### **2.2.4 APA**

Registration of the APA as a Non-Profit Entity was completed and opening a dedicated bank account has been deferred until a decision is made during 2021 on the future legal status of APA. Given the delays experienced by AfAS in registering the non-profit company, it was decided by the APA Executive, in consultation with the DSI and the AfAS Project Manager, to operate as an independent business unit of AfAS for the foreseeable future. Once lockdown restrictions are sufficiently lifted to allow for ease of movement, the establishment of an NPC will be considered.

An intern was employed from the 1<sup>st</sup> April 2020 to help in the administration and management of APA operations.

The professional web designer company, Resolution Digital, has been contracted to design the website, servers for the website and the mail server will also be rented from this company. The website has been developed and is currently active with a major challenge being the updating of information on a routine basis. Facebook, Twitter, Instagram, and YouTube accounts have been created and all these platforms are now active.

APA has fully committed to contribute to the alleviation of the COVID-19 induced stress/pressure. The Organization has partnered with the Office for Astronomy for Development (OAD) to fund COVID-19 related projects in Africa. The following projects were selected and funded (each was allocated R20 000):

1. Solar powered Foot-activated Hand Washing Water Dispenser
2. New Planetarium shows in the era of Coronavirus.
3. Development of online astronomy lessons for students in Ghana
4. Teacher training on Teaching Science (Physics) and Mathematics using Astronomy.

APA is currently recruiting new members across Africa. Many planetaria have been badly hit due to the lockdown induced by the COVID-19 emergency so they tend to be difficult to reach. This has slowed down the member recruitment process. The APA is investigating solutions to increment the engagement with these planetaria.

APA was part of the international IPS meeting presenting the Africa planetaria (1 session led by APA president Susan Murabana) and the IAU/IPS connections and synergies (1 session led by APA past-president/advisor Lucia Marchetti). Lucia Marchetti also attended "A New Era for Africa-EU Science and Innovation Partnerships" virtual conference where the organization was introduced. The meeting brought together scientists, innovators, networks policymakers and other stakeholders.

APA Executive members continue to work together with AfAS members as part of the "Affordable Mobile Planetaria working group for the African Continent". The aim of this working group is to study affordable solutions to construct mobile planetaria that would be easily available and accessible across Africa, primarily for schools, colleges, and astronomy associations.

APA has provided consultancy support to the IAU NOC in Sierra Leone and Cameroon who prepared a proposal for the **IAU NOC Funding Scheme 2020/2021**. The proposal aimed to get seed funding to purchase a portable planetarium system to serve the NOC's activities in Sierra Leone and Cameroon. The proposal was not awarded any funding but it fostered collaborations between the IAU, APA and IPS and has confirmed the need for the 3 organizations to work together in the future to better serve similar requests from other African countries.

APA has agreed to provide funding of R300K (from the unspent 2020/21 grant) for the production of a planetarium film based on African culture, titled "Starlore". This production is co-funded by the APA, the National Arts Council of South Africa and the Worldwide Indigenous Science Network. The total cost is some R0,8m and the production will be completed in May 2021. An initial payment of R100K has been made with the remainder to be paid in April 2021.

### **Challenges**

APA commenced operations in the middle of the COVID-19 pandemic, this affected planning and projects development/implementation. The so called "dual" membership of AfAS and APA needs to be resolved by the

Executive Committee in close consultation with the APA Executive as there is currently some confusion on membership status of an organization wanting to be involved in both organizations

### 3. Key Performance Indicators/Outputs

AfAS-KPIs	2020/2021	Achievement
Updated website	March 2021 initially but now during first quarter of 2021/22.	Re-design commenced, delays in introducing new site due to resource constraints within SAAO On-going
Annual Conference & Business Meeting	March 2021	Held successfully with 256 delegates
Fund-Raising Strategy	Feb. 2021	Completed and endorsed by the DSI, new 3-year contract approved by the DSI
Draft Communications Strategy	March 2021	It is likely to be completed during 2021
Astronomy in Africa Survey	Sept. 2020	Planning commenced, to be completed during 2021
Astronomy in Africa Roadmap	Dec. 2020	Planning commenced, to be completed during 2021
Science Portal/Database	Dec.2020	Planning commenced, to be completed during 2021
Annual Awards Criteria	Sept. 2020	Delayed to 2021
Social Networking Platforms	March 2021	Majority completed, new website dependent on server availability from SAAO
Membership application outcomes	Sept. 2020	February 2021 completed initial evaluation, members to be advise during 1 <sup>st</sup> quarter of 2021/22. Ongoing review of applications thereafter
Membership Processes and benefits	March 2021	Likely to be completed during 2021
On-line educational platforms	March 2021	Likely to be completed during 2021

Mobile planetaria, amateur telescopes and starter kits, outreach resource development, amateur astronomy societies and pan-African campaigns	<b>Commence July 2020, on-going</b>	<b>Initial design commenced</b>
Development of Women in Astronomy Network in Africa	<b>1<sup>st</sup> October commencement and on-going</b>	<b>Public launch completed in January 2021 On-going with a meeting held at Annual Conference March 2021</b>

<b>AERAP-KPIs</b>	<b>2020/2021</b>	<b>Achievement</b>
Engagement with EU officials	<b>80</b>	<b>80</b>
Number of Covid 19 activities identified for African researchers	<b>100</b>	<b>30</b>
Number of EU Proposal submitted	<b>4</b>	<b>2</b>
Number of AERAP partners engaged	<b>200</b>	<b>300</b>
Website updates	<b>50</b>	<b>55</b>
Press releases	<b>30</b>	<b>3</b>

<b>ASSAP-KPIs</b>	<b>2020/2021</b>	<b>Achievement</b>
A special edition of the SADC African Science Stars magazine in the first year to be made available both digitally and in hard copies – as well as special editions of the other regions in the outer years. This special edition will have a print run of 8 000 copies in the first year, 10 000 copies in the second year and 12 000 copies in the third year.	<b>March 2021</b>	<b>A COVID-19 Special Edition was published at the end of September The SADC publication will not be published this year. Distribution of the special edition is only at 50%.</b>
A website for the ASSAP initiative.	<b>March 2021</b>	<b>The initial website design completed and it is now active.</b>
An event with relevant stakeholders to solicit inputs and mobilise support of the initiative.	<b>March 2021</b>	<b>A mini event was held with the stakeholders and some partnerships established.</b>

<b>APA-KPIs</b>	<b>2020/2021</b>	<b>Achievement</b>
<b>NPO registration:</b> Complete the registration of the APA as a Non-Profit Organization and open a dedicated bank account.	<b>August 2020</b>	<b>NPO completed but registration of NPC deferred to next financial year. Resolved to operate as a business unit of AfAS. Opening of bank account also deferred.</b>

<p><b>Website:</b> Create and maintain an active website containing the following:</p> <ul style="list-style-type: none"> <li>● General information, contact details and history of the APA.</li> <li>● Database of African Planetaria, linking the individual Planetarium websites to the APA website in order to create a centralised website for all the planetaria of Africa.</li> <li>● Ideas on how to start up a Planetarium with a collection of stories and advice from African Planetaria.</li> <li>● Online hub to share media content, free videos/software as well as locally produced content.</li> <li>● Astro Tourism resources section.</li> </ul>	March 2021	Initial Website development completed and operative. Project is on-going
<p><b>Social Media:</b> Create and maintain active Facebook, Twitter, Instagram, YouTube and other social media accounts for the purpose of promoting APA and its member Planetaria.</p>	March 2021	Achieved
<p><b>COVID 19 Project:</b> The onset of COVID-19 pandemic has changed lives of people drastically. APA is fully committed to help in the alleviation of the COVID-19 – induced stress/pressure. This will be achieved by following the SA government guidelines and allocating part of the yearly budget towards this cause. APA will collaborate with the OAD in co-funding projects selected through the OAD COVID-19-project call as well as issue an <i>ad hoc</i> APA COVID-19 project call for APA members.</p>	March 2021	Projects approved and funds transferred to OAD. OAD will monitor progress and report back to APA. The ad-hoc call remains outstanding.



#### 4. Financial Performance

ITEM	ANNUAL BUDGET (R000's)	YTD BUDGET (R000's)	YTD ACTUALS (R000's)	COMMENTS ON VARIANCES
<i>Income</i>	7130	7130	7275	Interest Income of R66K and AfNWA of R79K not in budget
Salaries	(450)	(450)	(455)	-
Running Expenses	(3850)	(3850)	(3177)	No international travel due to lockdown restrictions and savings in operational costs
Capital Expenditure	(80)	(80)	(55)	Interns have not moved as yet to SAAO Offices, acquired computer for Head of Secretariat
Grants Paid	(2750)	(2750)	(3030)	COVID-19 related grants for initiatives in Africa (R180), R100K for planetarium film
Student Bursaries	-	-	-	-
<i>Total Expenditure</i>	(7130)	(7130)	(6717)	-
<b>NET FUNDING</b>	-	-	558	

PROGRAMME/PROJECT	ANNUAL BUDGET (R000's)	YTD BUDGET (R000's)	YTD ACTUALS (R000's)	COMMENTS ON VARIANCES
AfAS (Core)	(2234)	(2234)	(1552)	No travel, lower operating costs, refer grants below
AfAS (Projects)	(750)	(750)	(1350)	COVID-19 projects (R100K), other grants in original budget as expenses
AERAP	(1500)	(1500)	(1500)	-
ASSAP	(2000)	(2000)	(1912)	Increase in digital activities to replace physical workshops and special publications issued for equinox and COVID-19. Initial capital expenditure to set-up media studio.
APA	(646)	(646)	(403)	Grants for COVID-19 projects in Africa not in budget (R80K), lower operating costs including travel. R100K for planetarium film
<b>TOTAL COSTS</b>	(7130)	(7130)*	(6717)*	

**\*Note that the costs by Programme/Projects are based on actual costs incurred by AERAP and ASSAP and not on the funds paid out to these from the total AfAS grant received from DSI. (Their YTD budgets are also based on expenditure planned to be spent and not on the grant received). Also, AfAS Core costs excludes Internal Grants transfers to the internal AfAS Projects.**

## 5. Approval

<b>Submitted by</b> <b>Signature</b>	
<b>Name Yunus Manjoo</b>	
<b>Date: 9th April 2021</b>	
<b>Approved by: Président AfAS</b> <b>Signature:</b>	
<b>Name: <i>Jamal Mimouni</i></b>	
<b>Date: 9th April 2021</b>	