AfAS

African Astronomical Society

NEWSLETTER

DECEMBER
2025

VOLUME 6
ISSUE 7

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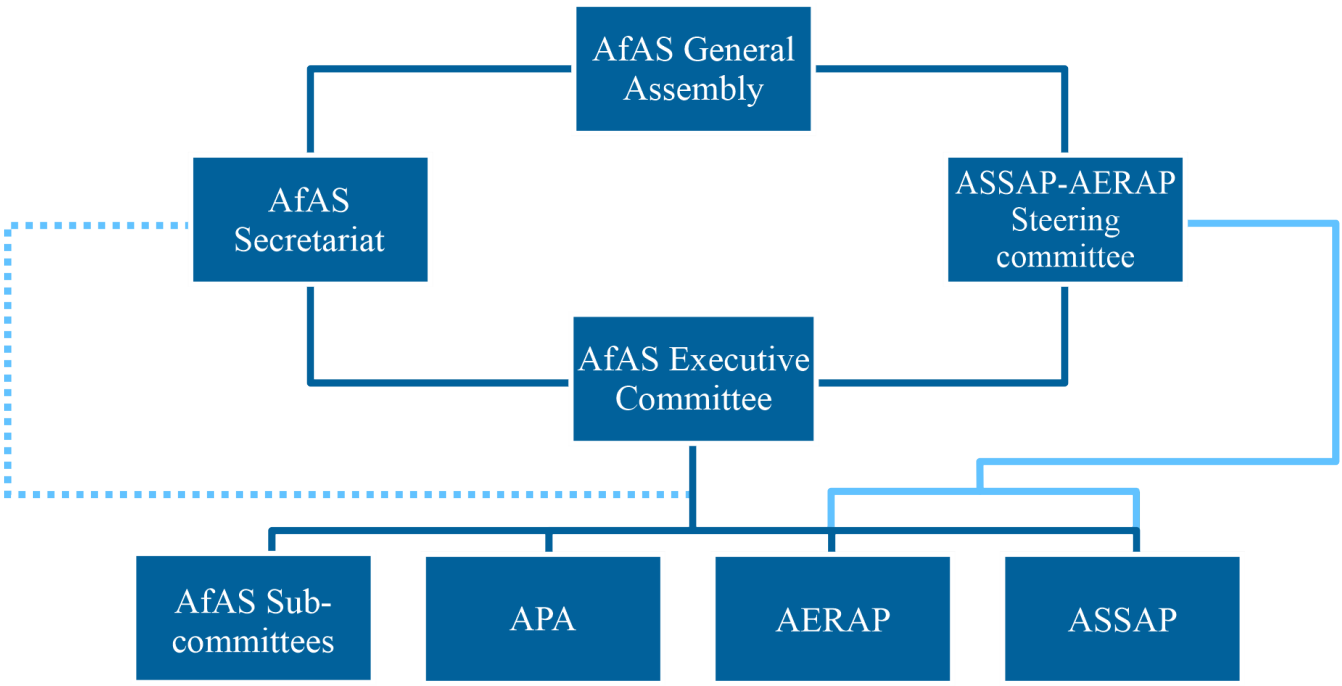
About AfAS

The African Astronomical Society (AfAS) is a Pan-African Professional Society of Astronomers, registered in South Africa, as a non-profit, voluntary society. Our vision is to create and support a globally competitive and collaborative astronomy community in Africa. Our mission is to be the voice of astronomy in Africa and to contribute to addressing the challenges faced by Africa through the promotion and advancement of astronomy. Our key objective is to develop Astronomy and Human Capacity throughout the continent of Africa through a vibrant and active AfAS. South Africa currently hosts the Secretariat of AfAS through the Department of Science, Technology and Innovation (DSTI), and our office is located at the South African Astronomical Observatory (SAAO) in Cape Town.



Our Brief History

At the 2010 launch of the African Physical Society in Dakar, astronomers from across the continent and the African diaspora resolved to form the African Astronomical Society (AfAS). Following this meeting, a whitepaper on the formation and structure of the AfAS was drafted and disseminated. An Interim Working Group was formed to conduct the formation of the AfAS at the International Astronomical Union (IAU) Symposium in Ouagadougou. The initial Constitution of the AfAS was agreed to and signed by the members of the Interim Working Group at Ouagadougou, Burkina Faso, on 16 December 2010. The interim Working Group consisted of members from Algeria, Burkina Faso, Cameroon, Ethiopia, Gabon, Ghana, Kenya, Mauritius, Morocco, Nigeria, South Africa, Uganda, and the U.S.A. AfAS was officially launched at the 2nd Middle East and Africa Regional IAU Meeting in Cape Town, South Africa, in April 2011. However, AfAS had not been an active organization since its inception in 2017, and at the 4th Middle East and Africa Meeting in Ethiopia, it was decided to bring together stakeholders and relaunch AfAS. In March 2019, the Astronomy in Africa meeting was held for this purpose at the SAAO in Cape Town, South Africa. At that meeting, a revised Constitution was approved and accepted by the delegates. The AfAS Secretariat was incubated by the DSI from April 2019 to March 2020 and has been fully operational since April 2020.

Message From The President

It is with renewed optimism and a deep sense of purpose that I share this message with you in our latest edition of the AfAS newsletter. These past months have been a season of reflection and forward momentum for our community, as we continue to strengthen the foundations of African astronomy while widening the horizons of what is possible.

The success of AfAS2025 in Johannesburg earlier this year continues to reverberate across the continent. The energy and ideas generated there have already seeded new collaborations. As we now look towards AfAS2026 in Kasane, Botswana, our commitment to inclusivity, mobility, and regional representation remains stronger than ever.

AfAS and its members continue to showcase African-led research and innovation on the global stage, contributing to international conferences, publications, and collaborative projects that highlight both scientific excellence and the unique perspectives of our continent. These engagements not only affirm the quality of work being done by African astronomers but also strengthen our partnerships with sister societies and global institutions, ensuring that Africa's voice is firmly heard in shaping the future of astronomy. In this regard, we take great pride in the recent prestigious recognitions awarded to AfAS members, which we have shared in our recent communications. These honours are a testament to the excellence, dedication, and leadership emerging from the African astronomy community, and they inspire us all to aim higher. I also wish to highlight the growing role of initiatives such as Astrolab, which continue to demonstrate their value in developing scientific skills, nurturing young talent, and enabling meaningful research experiences across Africa. The recent workshop at Sol Plaatjie University in Kimberley this August was a powerful example, equipping students with practical, inquiry-based training and sparking fresh enthusiasm for astronomy. Building on this momentum, AfAS is working to broaden the reach of Astrolab by expanding its presence into more African countries and by embedding it as a regular side event at our conferences.

In parallel, AfAS has recently taken the important step of formalising a partnership with the Pan-African Citizen Science e-Lab (PACS e-Lab), which will now operate as a special project under AfAS. This collaboration opens new opportunities to engage learners and communities through hands-on citizen science in astronomy and space science, with a strong focus on inclusivity and participation from underrepresented groups. Together, Astrolab and PACS e-Lab embody our long-term vision of building a resilient, globally competitive astronomy ecosystem in Africa - one that empowers young people, strengthens research capacity, and connects science directly to society.

As always, the progress we celebrate is the fruit of collective effort. I remain profoundly grateful to our members, partners, and supporters, whose dedication makes this journey possible. At the same time, in order to realise the full potential of AfAS, the road ahead calls for even greater active participation: from individual members, our committees, and especially our Executive Committee. A more engaged and collective effort will allow us to be bolder, more impactful, and more visible, both within Africa and on the global stage. Together, we are not only advancing astronomy in Africa but also demonstrating its power to inspire, educate, and unite.

appreciation With and warm regards,
Amare Abebe
President, African Astronomical Society (AfAS)

Update From The Acting Executive Officer

The AfAS General Assembly and annual conference in March 2025 was a vibrant gathering that brought together our community from across Africa and beyond. Held from 23 - 28 March at the University of South Africa (UNISA) and Emperors Palace in Gauteng, the event featured dynamic side events, stimulating discussions, and the election of a new Executive Committee (ExCo), which will guide the society until the next General Assembly. We are grateful to UNISA for hosting and to our sponsors and partners for their invaluable support.

A key outcome of the Assembly was the renewal of AfAS committees. I am pleased to share that new chairs and co-chairs have now been elected for the Science, Communication, and Membership committees. Other committees will remain under their current leadership for now, with the process of electing new chairs still underway. Importantly, all committees remain active and continue to advance existing projects while also launching new initiatives that will strengthen the society and expand its impact.

New partnerships are also taking shape, further enriching AfAS's work. The Pan-African Citizen Science e-Lab (PACS eLab) has officially joined one of our committees, reinforcing our commitment to advancing STEM education across Africa through hands-on engagement in astronomy and space science. AfAS is also proud to be part of the Astrolab program, which equips students and educators with the skills to engage with real astronomical data and research practices. These collaborations not only broaden our reach but also create exciting opportunities for cross-border collaboration and inclusivity.

Looking ahead, preparations are already underway for the AfAS2026 conference, which will be hosted by the Botswana International University of Science and Technology (BIUST) from 22 - 27 March 2026. Members and partners should be on the lookout for registration details, calls for participation, and announcements of side events in the coming months. We look forward to building on the success of our past gatherings and showcasing Africa's growing contributions to astronomy.

This issue puts great emphasis on science initiatives, providing a platform for African researchers to share their work, highlight scientific achievements, and foster deeper engagement within the community. This focus strengthens AfAS's role in supporting scientific excellence and knowledge exchange across the continent. At the AfAS2025 conference, we also announced the appointment of Dr. Meryem Guennoun as the new Executive Officer of AfAS. While Dr. Guennoun completes the necessary administrative processes, I will continue to serve in an acting capacity. During this transitional period, I remain committed to supporting the society and promoting equitable access to resources, education, and research opportunities throughout Africa.

With renewed leadership, revitalised committees, exciting new collaborations, and a growing publication platform, AfAS is well-positioned to grow stronger and amplify Africa's voice in the global astronomy community. I hope you find this newsletter enjoyable and informative.

With sincere appreciation and warm regards,
Nombali Qodi

Acting Executive Officer, African Astronomical Society (AfAS)

ROTSE Reborn: A Collaborative Effort Revives a Namibian Telescope

By Dr. Nicolas Erasmus

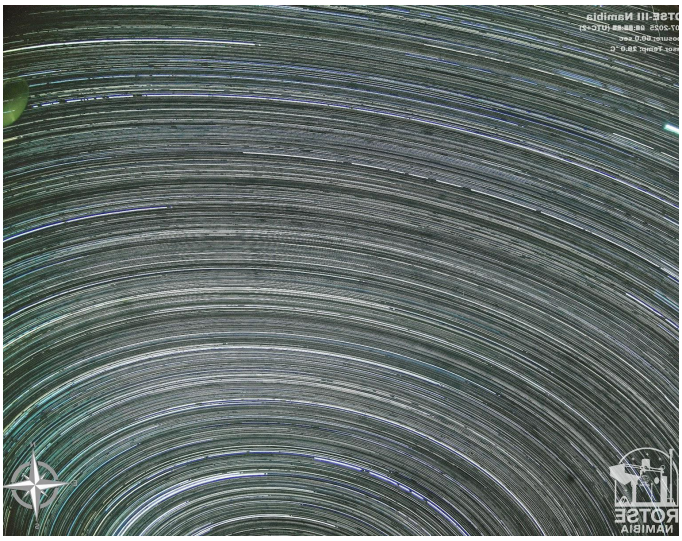
A dedicated team from the South African Astronomical Observatory (SAAO) and the University of the Free State (UFS) has successfully brought the Robotic Optical Transient Search Experiment (ROTSE) telescope in Namibia back to life. Once decommissioned and left idle for years, the telescope has now been transformed into a new facility that will aim to serve the African astronomical community. Its revival positions it as a possible first instrument within the African Integrated Observation System (AIOS) project, embodying collaboration, perseverance, and innovation.

The initiative began in late 2022 when the African Astronomical Society (AfAS) science committee explored the possibility of reviving the ROTSE telescope, which had been out of operation since 2013. The 0.45m wide-field instrument, located at the High Energy Stereoscopic System (H.E.S.S.) site in Namibia, was originally used for rapid follow-up observations of gamma-ray bursts.

A core team of David Buckley, Pat van Heerden, Willie Koorts, and Nic Erasmus led the effort, with invaluable support from Namibian-based amateur astronomer Clyde Foster, University of Cape Town student Enzo Afonso, Tim-Oliver Husser from the University of Göttingen, and the dedicated H.E.S.S. site staff. Their first reconnaissance visit revealed the scale of the challenge: the telescope's mirrors were coated in dust, a missing original camera, and its control system relied on obsolete 2000s-era technology, including a Windows NT computer. Nevertheless, the team saw potential. They cleaned the optics and devised a plan for modernisation.

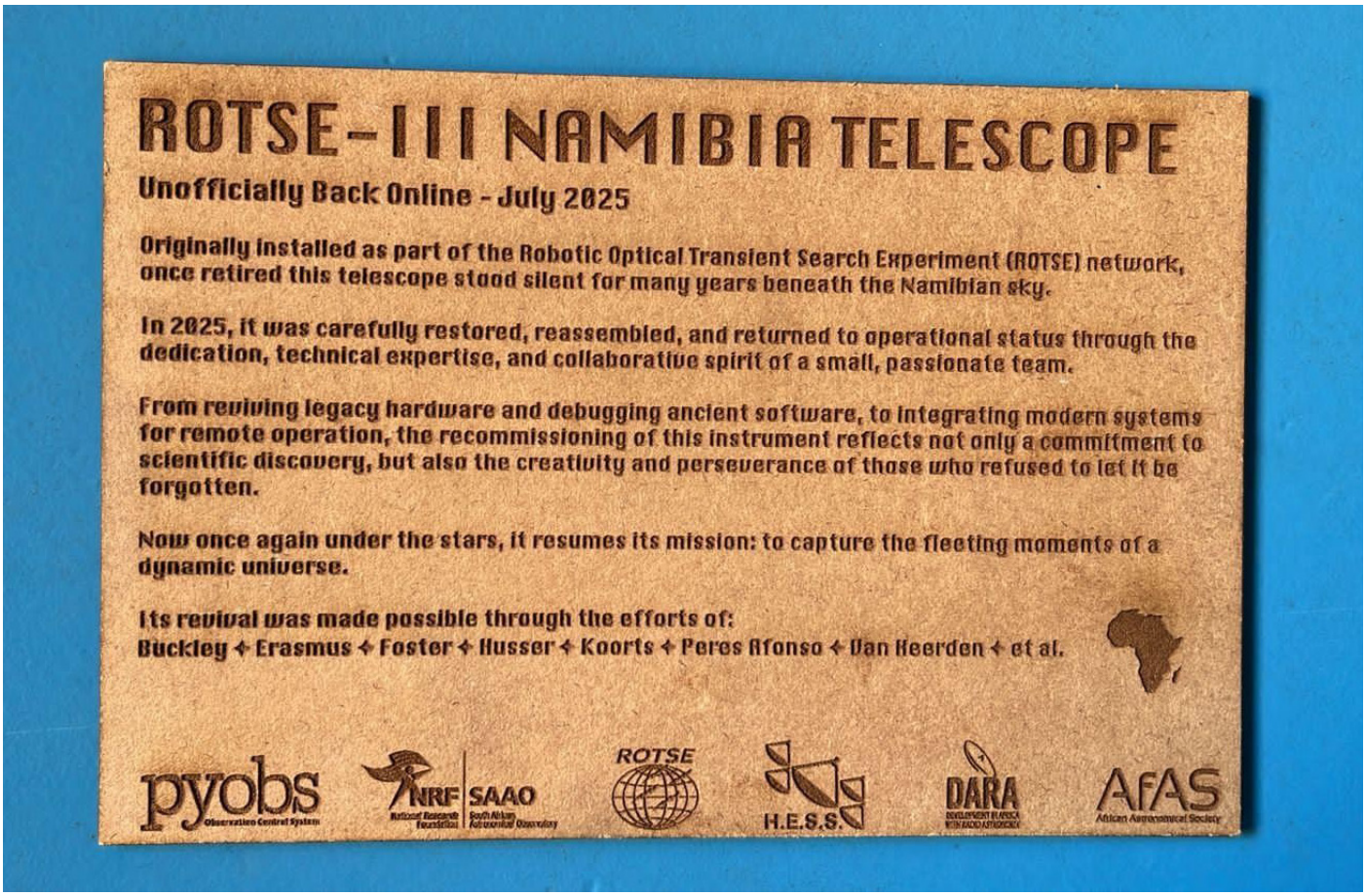
In May 2024, the project reached a major milestone with "first light" using a new CMOS camera. After aligning the optics and installing the camera, the team captured images of Omega Centauri and the Eta Carina region proving that the image quality from the original mirror and optics was still good. Although the original control system was not yet fully functional again, they engineered a workaround to achieve basic pointing and tracking, enabling preliminary photometric tests that showed promise.

A third visit in October 2024 accelerated progress. A new Linux-based control computer was installed, and the telescope and camera were successfully operated remotely from a nearby building. The team also managed to open the roof enclosure under software control. During



this trip, they attempted a target-of-opportunity observation, imaging fragments of the lost Intelsat IS-33e satellite, a particularly ironic target, as this same satellite had been up until a day earlier, and provided internet to their remote guesthouse close to the H.E.S.S site. The observation also demonstrated the excellent tracking still possible with the original mount motors and control software.

The final and decisive trip occurred in July 2025, when team members Enzo Afonso, Pat van Heerden, and Nic Erasmus returned to implement further new hardware and integrate a more modern and open-source control system based on PyObs. A custom weather station, designed and built by Enzo, and a new focusing mechanism were also installed. The most daunting



obstacle was the telescope's legacy mount. Enzo overcame this by writing a completely new mount driver from scratch, a breakthrough that finally unlocked full functionality. The team confirmed success by conducting fully remote observations from their guesthouse 5 km away and subsequently from Cape Town a few days after returning home.

With the hardware restoration complete, attention now turns to finalising software integration and user interfaces remotely from South Africa. Soon, the reborn ROTSE telescope will hopefully be available to the broader AfAS community. Its revival is both a triumph of ingenuity and a shining example of how dormant infrastructure can be revitalised to advance African astronomy and empower the next generation of astronomers.

AfAS ROTSE Telescope Observing Time Framework

By Prof James O.Chibueze

The African Astronomical Society (AfAS) in collaboration with the South African Astronomical Observatory (SAAO) has completed the refurbishment of the ROTSE optical telescope located on the High Energy Stereoscopic System (HESS) site in Namibia. This project was led by Prof David Buckley. The main aim of the ROTSE telescope is to provide access to African astronomers for the purpose of research and education.

The objective is to build capacity in optical observational astronomy, time-domain astrophysics across Africa, enabling rapid follow-up observations, data processing, and participation in international transient networks. It aligns with AfAS's goals of collaborative international activity, training, youth engagement, and building astronomical infrastructure in Africa.

AfAS will offer ROTSE observing time mainly to astronomers within the African continent, but will also consider proposals from outside the continent on a case-by-case basis, support for data reduction and development of pipelines if needed, possibly via training or shared software resources. There may be the possibility of modest funding for small equipment like external hard-drives for data transfer if required for proposal execution.

Who Can Apply

- Professional astronomers based in Africa, including early-career researchers (PhD, postdoc) or faculty members.
- Postgraduate students (MSc / PhD) in African universities, ideally in collaboration with a senior mentor/institution.
- Amateur astronomers or outreach organisations in partnership with academic institutions could apply for certain categories (especially educational or follow-up work), subject to specific guidelines.
- Lecturers/teachers who would like to use a real telescope to teach astronomy and optical observational techniques.

Proposal Requirements

Proposals submitted should include:

1. Title and abstract: concise summary of the scientific objective.

2. Scientific justification: motivation for the observations: transient follow-up, variable stars, supernovae, gravitational wave/neutrino alerts, etc.

3. Targets / observing plan: specific targets or type of survey; scheduling needs; anticipated cadence, exposure times, filters.

4. Technical justification: required telescope specifications, sensitivity limits, sky coverage, seeing, and response time.

5. Team members: roles of PI, co-PIs, students; external collaborations if any.

6. Data handling and analysis plan: where data will be processed; plan for making data available; capacity building/training component.

7. Timeline and milestones: when observations will be done; when analysis is done; when results or deliverables will be produced.

8. Budget (if funds are requested): computational resources, possibly minor equipment.

9. Institutional support / Infrastructure: ensuring access to necessary infrastructure; stable power/connectivity; necessary staff support.

How to Apply

● Proposals to be submitted via AfAS's proposal portal (when ready). However, prior to the availability of the portal, proposals can be submitted via email to the AfAS secretariat, per the stated format.

● Required documents: proposal PDF (as per requirements above), list of PI / team, institutional support, letters of collaboration if external.

● The scientific and technical justification must be limited to a maximum of 3 pages.

● Proposal deadline must be adhered to.

The call for proposals for shared-risk observing time with the ROTSE telescope would be released in due course by the AfAS science committee along with the proposal submission deadline.

An operational ROTSE telescope would be a valuable opportunity to push forward time-domain astronomy in Africa, build human and institutional capacity, and contribute to international astronomical discoveries. It is our hope that observing programmes would enhance AfAS's broader goals of collaboration, training, and infrastructure development.

The Vera C. Rubin Observatory

By Prof. Patricia Whitelock

The Vera C. Rubin Observatory is poised to revolutionise our understanding of the universe through its Legacy Survey of Space and Time (LSST), due to begin towards the end of 2025. Perched on Cerro Pachón in Chile, the observatory is funded by the United States of America's National Science Foundation and their Department of Energy's Office of Science.

At its core is the 8.4-metre Simonyi Survey Telescope, with an innovative design optimised for wide-field, rapid imaging. Coupled with the largest digital camera ever built, 3.2 gigapixels, it will image the entire visible southern sky every few nights for a decade. The outcome will be a kind of "movie of the Universe," capturing celestial changes with unprecedented depth and resolution.

Managing the Data Deluge

One of Rubin's greatest challenges is not what it will see, but how it will manage the flood of information. Each night, it will produce around 20 terabytes of data, transferred to a data centre in California. Automated software will compare new images with earlier ones and issue alerts within 60 seconds for anything that has moved or varied in brightness.

Over its 10-year survey, Rubin will generate about 60 petabytes of data—more than all the words ever written in human history. Only the Square Kilometre Array (SKA), now under construction in Africa and Australia, will exceed this. Increasingly, astronomy is limited less by what we can observe and more by how we process, analyse, and interpret immense datasets.
Unlocking the Universe

Rubin Observatory will tackle questions across a wide range of science: mapping the Solar System, detecting asteroids and comets, tracking variable stars, and probing exploding stars such as supernovae. At cosmological scales, it will measure the distribution of galaxies and probe of dark energy and dark matter. Perhaps most excitingly, it will reveal phenomena we have not yet imagined—the "unknown unknowns."

But Rubin itself is only the starting point. Its discoveries will depend on follow-up studies using other observatories—optical, infrared, radio, and space-based—and on the models and theories developed by astronomers worldwide.

South Africa and Rubin

South Africa plays a direct role in Rubin through the South African LSST Programme, coordinated by the South African Astronomical Observatory (SAAO) with Prof. Ros Skelton as national lead. Our contributions, made in exchange for data rights, include:

- Guaranteed specific amounts of observing time on the Southern African Large Telescope (SALT) and other SAAO telescopes at Sutherland.
- Access to MeerKAT radio data, coordinated by Prof. Matt Hilton (University of the Witwatersrand).
- Software and organisational support for Rubin's Dark Energy Survey, led by Dr. Michelle Lochner (University of the Western Cape).

In return, South Africa has secured ten LSST Principal Investigator (PI) positions, each supported by up to eight Junior Associates. These scientists, drawn from institutions across the country, lead projects ranging from the study of transients and variable stars to galaxies, galaxy clusters, and cosmology. Importantly, they also contribute to training the next generation of South African and African astronomers.

Although South Africa's Department of Science, Technology and Innovation (DSTI) provided initial funding for the first PIs, there is no ongoing dedicated support, meaning that researchers must secure resources independently. Nevertheless, the programme has established a strong national footprint, linking Rubin to SALT, SAAO, and MeerKAT, and embedding South Africa firmly within this global scientific effort.

Opportunities Beyond Data Rights

Even without direct access to Rubin's database, there are exciting opportunities for wider participation. Rubin will issue up to 10 million alerts per night for transient events—ranging from asteroids to gamma-ray bursts—which will be publicly available in real time. These alerts invite immediate follow-up from observatories worldwide, offering African astronomers and even well-equipped amateurs the chance to make discoveries.

Rubin has also invested in education and outreach. Classroom-ready activities, accessible through a web browser, allow students and teachers to engage with real astronomical data. Citizen science projects hosted on Zooniverse will invite anyone with internet access to help classify objects and contribute directly to research. In this way, Rubin will not only transform professional astronomy but also inspire and involve the public.

A Tribute to Vera Rubin

The observatory is named after Vera C. Rubin (1928–2016), who provided the first convincing evidence for dark matter through her studies of galaxy rotation. Despite facing significant barriers as a woman in a male-dominated field, she became a champion for women in science and a role model for generations of astronomers. Naming this ground-breaking facility after her is both fitting and inspiring.

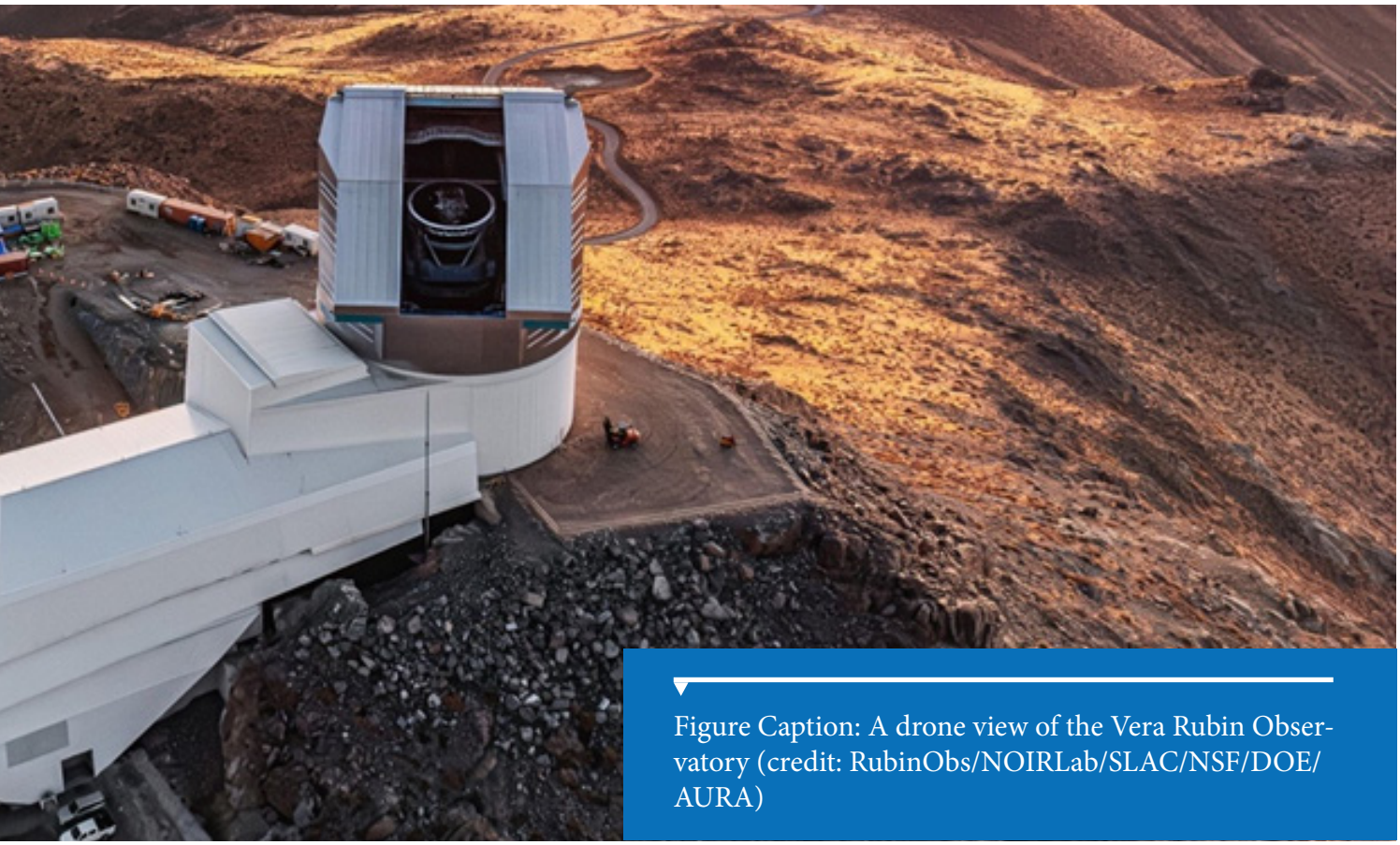


Figure Caption: A drone view of the Vera Rubin Observatory (credit: RubinObs/NOIRLab/SLAC/NSF/DOE/AURA)

AfAS at the ASTRO ACCEL Summit 2025

By Nombali Qodi

AfAS is pleased to announce its participation in the second Accelerating Synergies Through Research on Astronomy in Culture, Communication, Education, and Learning (ASTRO ACCEL) Summit, taking place in Iceland from 26th to 29th October 2025. ASTRO ACCEL, is a multi-year initiative funded by the U.S. National Science Foundation (NSF) AccelNet program. The project seeks to build an international "Network of Networks" (NoN) that accelerates collaboration across astronomy's cultural, educational, and societal dimensions, while fostering a globally connected and diverse research community.

AfAS has been part of ASTRO ACCEL from its inception, supporting the initial NSF proposal with a letter of collaboration and continued engagement by our leadership. The first Summit, held in Cape Town alongside the IAU General Assembly in August 2024, brought together researchers, practitioners, and early-career scientists to identify the socio-technical infrastructures needed to support a global NoN. The upcoming second Summit will move this work forward by focusing on concrete collaborative research projects designed to close identified knowledge gaps.

Through its participation, AfAS gains an important platform to connect with international partners while advancing its core mission to grow astronomy on the continent. The objectives enshrined in the AfAS constitution, promoting education, outreach, research, development, and communication, align closely with ASTRO ACCEL's goals. This collaboration provides AfAS with new networks, opportunities for interdisciplinary partnerships, and access to resources that strengthen our work in areas such as human capital development, data access, research exchange, and infrastructure growth.

AfAS will be represented at the Summit by Ms. Nombali Qodi, Acting Executive Officer of AfAS, who has served as the Society's representative on the ASTRO ACCEL Council since April 2025. Her participation ensures continuity in AfAS's role in the network, especially during this leadership transition period. As part of the Council, she will also report on the work of AfAS's networks and committees, highlighting the society's contributions to outreach, education, and research development across Africa. In addition, Ms. Duduzile Khubeka, an associate at ASTRO ACCEL and a co-chair of the AfAS Outreach Committee, will contribute to discussions around community engagement.

Participation in ASTRO ACCEL brings tangible benefits to AfAS. It strengthens our role in shaping global collaborations, enhances opportunities for African researchers and educators, and ensures that Africa's perspective is represented in decisions that will influence the future of astronomy worldwide. It also ensures knowledge continuity as AfAS transitions into its next phase of leadership with the incoming Executive Officer.

Looking forward, AfAS is excited to deepen its engagement with ASTRO ACCEL as the initiative grows into a truly global platform. This collaboration will not only expand AfAS's reach but also amplify Africa's voice in international astronomy, creating new opportunities for innovation, capacity building, and socio-economic development through science.

Astrolab: Building Skills, Capacity, and Community for the future of Astronomy in Africa

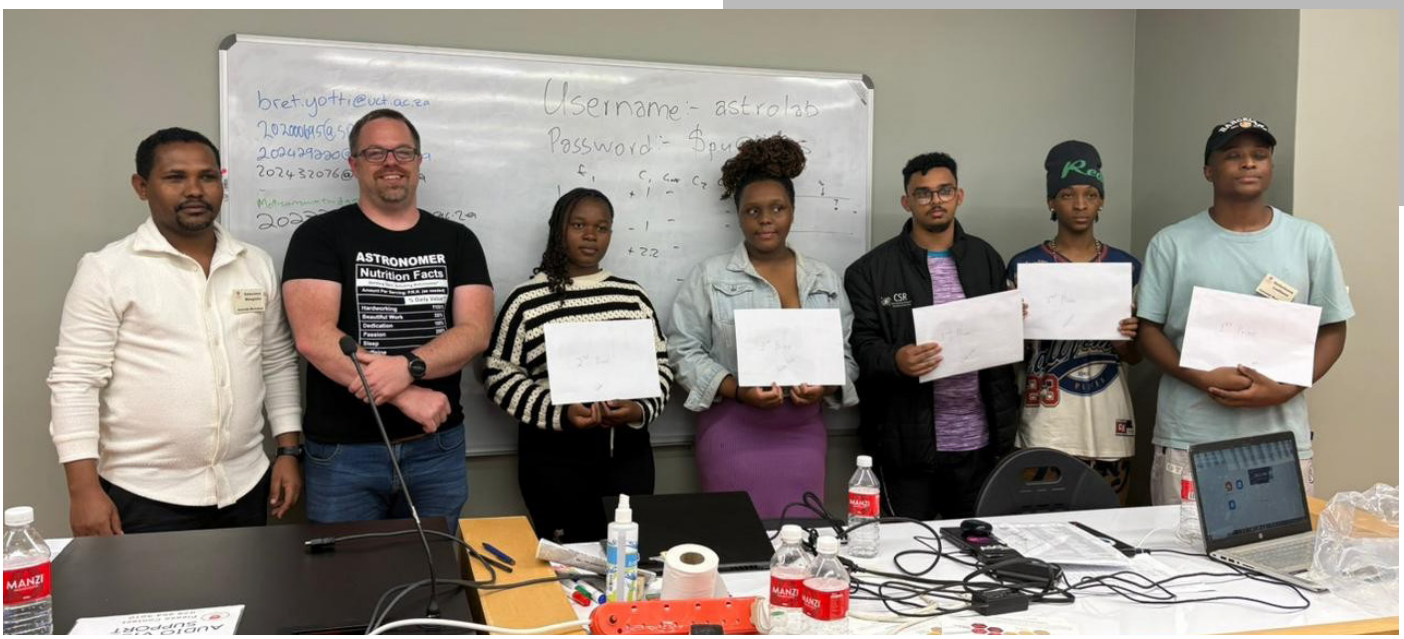
By Prof Amare Abebe

The growth of astronomy in Africa depends not only on world-class infrastructure but also on the development of people - the skills, confidence, and opportunities that enable young scientists to participate meaningfully in global research. In this context, the Astrolab initiative has emerged as a transformative model for training, capacity building, and community engagement.

Astrolab was first developed in 2013 by Jean-Pierre De Greve (Vrije Universiteit Brussel, Belgium) and Michèle Gerbaldi (Institut d'Astrophysique de Paris, France), with support from the International Astronomical Union's Office of Astronomy for Development (IAU-OAD). Designed as an inquiry-based learning programme, it provides students with direct experience of working with real astronomical data through accessible tools. At its core, Astrolab develops and implements research tutorials for universities lacking astronomy infrastructure and curricula, enabling undergraduate science students to carry out real-time observations with remote telescopes and turn those observations into scientific results. Over the past decade, this approach has been adopted and adapted across multiple countries, lowering barriers to hands-on research and opening pathways into astronomy for new generations of students.

In Africa, Astrolab has been especially impactful at historically disadvantaged universities - institutions that for decades had little or no astronomy presence. Since 2016, workshops have been hosted at the Copperbelt University in Zambia, the National University of Science and Technology in Zimbabwe (2017), the University of Zululand (2018), and the University of Venda (2019). In every case, Astrolab has acted as a catalyst, sparking the introduction of astronomy into curricula where none previously existed. Today, each of these institutions offers some form of astronomy training or programme - a direct and lasting legacy of the Astrolab initiative.

Most recently, in August 2025, the Astrolab team hosted a highly successful Astrolab workshop at Sol Plaatje University in Kimberley, South Africa. The workshop provided undergraduate and postgraduate students with opportunities to analyse observational data, build research skills, and engage with mentors in a collaborative environment. For many, it was their first direct experience of working with authentic astronomical data - a powerful introduction to the practices of modern science.



The Kimberley workshop has set the stage for an even more ambitious roll-out. Astrolab workshops are now being planned as regular side-events at AfAS annual conferences, beginning with AfAS2026 in Botswana, ensuring they remain embedded in the continent's broader scientific ecosystem and connected to emerging research frontiers. This way we ensure the initiative expands across multiple African countries, creating a network of training hubs that can serve as entry points into astronomy for students from diverse backgrounds.

In parallel, AfAS has formalised a partnership with the Pan-African Citizen Science e-Lab (PACS e-Lab), now operating as a special project under AfAS. PACS e-Lab focuses on citizen science approaches that bring astronomy into schools, communities, and underrepresented groups. The synergies between PACS e-Lab and Astrolab are significant: while Astrolab provides rigorous training in research methods for students, PACS e-Lab extends opportunities for broader participation in astronomy through community-based projects. Together, they create a continuum from grassroots engagement to advanced scientific training.

The long-term vision is clear. By scaling up Astrolab, embedding it within AfAS programmes, and linking them with citizen science initiatives, we are laying the groundwork for a resilient and globally competitive African astronomy ecosystem. This vision is not only about producing skilled astronomers - it is about cultivating problem-solvers, data scientists, and critical thinkers who can contribute to science, technology, and society more broadly.

AfAS invites institutions, educators, and partners across the continent to join in this effort. Together, we can ensure that every young African with curiosity about the universe has a pathway into astronomy - whether through a classroom, a laptop, or a citizen science project.

Shaping the future of African Astronomy: Reflections from the AfAS Early-Career Science Sub-committee Chair

BY Dr. Sthabile Kolwa (Senior Lecturer at UNISA)

Over the past three years, I have had the privilege of serving as the chair of the early-career science sub-committee (ECSS) of AfAS. Following in the wake of the previous chair, Dr. Zara Randriamanakoto, I took on the task of shaping the next cohort of the AfAS ECSS. From a pool of several applicants with African nationalities, our selection of ECSS members was narrowed down to five individuals, Keletso Dichaba , Botswana International University of Science and Technology (BIUST), Ahmed Moursi , National Research Institute of Astronomy in Egypt (NRIAG), Lerato Baidoo University of Toronto in Canada, Youssef Moulane Auburn University in the U.S. and Keegan Trehaeven Rhodes University in South Africa who have served the committee faithfully since mid-2022.

ECSS operates as a sub-committee under the AfAS Science Committee. Its main mission is to foster the professional development of early career astronomers in their careers. Additionally, it aims to promote scientific engagement between African researchers across the continent and at institutions around the world. A specific focus on early-career scientists (within seven years of obtaining their PhD) is considered crucial given the vulnerable nature of this stage of a scientist's career. Without sufficient and proper mentoring, guidance, and support, a young scientist with tremendous potential, and discipline may flounder in the competitive global research environment. In ECSS, we therefore aim to deliver as much support to astronomers at this level for them to reach their highest potential.

One of the ways in which we have implemented such a support system is through the AfAS-funded grant programs specifically available to early-career (EC) astronomers. The AfAS seed grant is one such program and is open to EC astronomers based at an institution in an African country and completing their PhDs. A total of three research grants are given every year with a total value of 1,200 EUR of cash awarded directly to each recipient. The AfAS Student Prizes are available to both MSc and PhD students who are African nationals. Each year, four MSc and four PhD students.

Over our last two AfAS ECSS grant calls, we have made every effort to ensure that our reviewing process is fair and transparent. We have highlighted the importance of diversity by enforcing a sound geographic spread within the pool of awarded candidates as well as good gender balance. This has resulted in awardees from every region in Africa over 2023 and 2024.

As the current chair of AfAS ECSS for three years, I will be stepping down soon. I am pleased to have served as the chair through many milestones and events including three AfAS annual conferences and the International Astronomical Union (IAU) XXXII General Assembly in Cape Town. The current ECSS will elect a chair and select a new member in the final quarter of this year. In the coming years, the ECSS will continue with the grant program as well as make plans for workshops, hackathons, and summer schools for African astronomers in the early phases of their careers. It will be delightful to see what bright ideas will emerge from the AfAS ECSS in the coming years which will be very exciting and occurring in tandem with the development and commissioning of our next generation of astronomy observatories such as the Square Kilometer Array, the Nancy Grace Roman Telescope, the Vera Rubin Observatory, Athena, and ESO's Extremely Large Telescope.

Changing the Narrative for Africa and Its Scientists with Hack4dev

By Eslam Hussein

When development and Africa are mentioned together, the image too often painted is one of poverty and need, Africans waiting to be uplifted, skilled, and approved by the so-called "developed world." This narrative has been pushed for decades, positioning Africans as receivers rather than creators, and limiting our own belief in what is possible.

Hack4dev started with similar limitations. Development programmes using hackathons in Africa were often framed only as exposure or training opportunities, never as platforms for real innovation. And because Hack4dev was initiated in South Africa, it was often assumed that its focus should remain confined to Africa rather than evolve into a global player.

The global order is changing, and so is Africa's story. From dependency to leadership and contribution, Hack4dev's recent Data Science Hackathon Programme reflects this shift. In October 2025, Hack4dev trained and supported local organising teams to coordinate 13 hackathons across 12 regions. All tackled the same challenge: designing a fast, accurate machine learning pipeline for CubeSats, small satellites with limited computing power. Over 150 participants built data science skills while solving a real-world problem. Together, they submitted 48 models, with 20 outperforming a published scientific baseline. The winning model, from Madagascar, achieved similar accuracy but ran over 100 times faster.

This was more than a technical breakthrough. It marked Hack4dev's first steps in showing how hackathons can be used as a tool for global change through transdisciplinary work and research. The success of teams, including the winning solution from Madagascar, demonstrated that African scientists are already innovating and leading, just as history reflects.

But as we grow, we should never forget our shared humanity. Now that Hack4dev has become a global platform, our message is for people everywhere. Humanity faces many challenges, and we must unite to address them. Each of us is unique and has something to contribute. Let us use that to shape a better future for all. Hack4dev will always do its best to uplift people wherever they are, and so can you.

To know more about Hack4dev, please visit our website: Hack4dev – Accelerating global development through hackathons.

Reflections on Receiving the 2024 AfAS PhD Prize

By Dr. Sambatriniana

Completing a PhD is a defining milestone in any academic journey. I am truly honoured that my PhD research has been recognized as one of the recipients of the 2024 African Astronomical Society (AfAS) PhD prize, a deeply meaningful acknowledgment of years of perseverance, growth, and the many challenges I overcame along the way. My PhD journey was far from straightforward, marked by the disruptions of the Covid-19 pandemic and, at one point, the loss of a large portion of my calibrated dataset. Yet, with persistence, support, and guidance, I was able to push through. I am profoundly grateful to my supervisors, Prof. Renée Kraan-Korteweg and Dr. Bradley Frank, and for the privilege of working with Prof. D. J. Pisano and Prof. Claude Carignan. Their mentorship and direct support, including funding and involvement in my projects, were invaluable. I would not be where I am today without them. I also gratefully acknowledge the financial support I received from the NRF-SARAO SARChI bursaries, which made my research and stay in South Africa possible. Receiving this award holds great significance to me on many levels. From a research perspective, I am proud that, by using MeerKAT — the most

powerful African-based radio telescope before the completion of the SKA — we were able to reveal previously hidden galaxies and large-scale structures behind the Milky Way plane, adding valuable knowledge from Africa to the global scientific community. On a personal level, this award is a powerful reminder of how far I have come—from my beginnings in Madagascar—and of the resilience and determination that continue to push me forward, no matter how hard the challenges may be.

Building on the wonderful years I spent at the University of Cape Town, I recently joined the Astronomical Observatory of Cagliari in Italy as a postdoctoral researcher, continuing my work on understanding the evolution of galaxies in dense environments through their neutral hydrogen content. My goal is to grow into an independent researcher and build stronger collaborations across the global astronomy community. Alongside research, I remain committed to motivating and uplifting others — especially women and girls across Africa — to pursue STEM fields.

If there is one message I would share again and again, it is this: dare to dream big, and do not be afraid to step out of your comfort zone. The road may be steep and uncertain, but perseverance will carry you forward.

Impact of the AfAS Student Prize on My Research

By Victória da Graça Gilberto Samboco

I was deeply honoured and grateful to have been awarded the AfAS student Master's Prize during the 2025 AfAS General Assembly. The same work was awarded the category of Best Master's Prize during the 2024 AfAS General Assembly in Morocco. This award, which recognized my Master's project and provided a grant of €400, represents more than just a financial boost; it is an honour and a show of trust that has motivated me to continue advancing my research and contributing to the growth of a vibrant African astronomy community.

With the prize, I invested in an iPad, which has quickly become an essential companion for my academic work. I had previously relied mostly on printing research articles to read, highlight, and annotate them. The iPad has streamlined this process, allowing me to do everything digitally in an organized and efficient way. It has made my work significantly more mobile and flexible, especially when I travel or attend conferences, as I no longer need to carry papers, and I can also use it as an extra screen. The iPad is also a practical tool during events, enabling me to take notes, synchronize with my computer, and share information more dynamically in discussions and workshops. Ultimately, this investment has improved my productivity and mobility while also reducing paper use.

The work that earned me this prize was the SolarKAT (https://ascl.net/2401.013) pipeline project, with the title "SolarKAT: Solar Imaging Pipeline for MeerKAT". My work focused on creating a tool to image and mitigate solar radio interference in MeerKAT observations, as radio telescopes can often be affected by the Sun's strong radio emissions during daytime observations. Since its public release, this pipeline has been used by various research groups and students to address this very issue, and there is interest from solar physicists to use the solar images produced for their own research. The novelty and contribution of this work also earned me a Master's degree with distinction from Rhodes University.

My doctoral research builds directly on my MSc foundation. The project focuses on the design and optimization of a data-processing pipeline for the blind detection of transient and variable radio sources in On-The-Fly (OTF) scanning data from the MeerKAT telescope, within the framework of the MeerKLASS survey. In parallel with this recent recognition, my ongoing work has led to some very exciting opportunities, including a research stay at the Max Planck Institute for Astronomy in Heidelberg, where I will further work on my project in collaboration with the experts there. I will also be attending the ADASS conference in Görlitz to present my work. I am sincerely grateful to AfAS for this incredible support. Beyond the financial assistance, the prize represents encouragement and trust, inspiring me to continue my research and to contribute to building a vibrant astronomy community across Africa. I am also thankful to my supervisors, Prof. Oleg Smirnov and Prof. Ian Heywood, for their continuous guidance.

Advancing My Research with the AfAS Seed Grant

By Kawtar El Bouzaidi

The AfAS Seed Grant has been instrumental in supporting both my research and my academic development. With this funding, I was able to acquire essential tools, including a laptop, an iPad, and academic books that are critical for my work on quantum information approaches to neutrino oscillations. These resources have enhanced my ability to perform simulations, manage data, and stay up to date with the latest scientific literature.

In addition, part of the grant also went to the purchase of an electric scooter, which has significantly improved my daily commute to the university, ensuring more time and energy dedicated to research. Importantly, the funding also partially covered expenses for participating in an international school, where I had the chance to present my work and engage with a global community of researchers.

Looking ahead, I plan to expand my research on the interplay between quantum coherence and neutrino oscillations and to further integrate quantum information tools into high-energy physics problems. I am also committed to sharing this knowledge with my peers and students in Morocco through seminars and outreach activities, amplifying the impact of AfAS's support. The AfAS Seed Grant has truly empowered my academic journey, making my research more effective, participation in international collaborations possible, and my aspirations as a young African scientist more tangible. I am deeply grateful for this support.

Reflections on receiving the 2024 AfAS PhD

By Mohamed Farouk Aboushelib

I am deeply honoured and grateful for receiving the African Astronomical Society (AfAS) PhD Prize of 2024. I would like to express my sincere appreciation to the AfAS grant committee for their support and recognition of my work. This acknowledgment is a validation of the importance of the growing light pollution threat that has been underrepresented despite its relevance to many aspects, including astronomy, human health, environment and sustainable development. Receiving such a prestigious award was a great experience, and enabled me to significantly advance my research and pursue the next steps of my research project. It strengthened my motivation to continue developing innovative methods to study the night sky brightness and the growing impact of artificial light. In addition, the visibility brought by the AfAS prize connected my work to a broader community of Africa and international astronomers, fostering collaborations that enriched both my own work and the regional scientific research.

A key component of my work involves collecting ground and space-based photometric data to quantify light pollution at different sites. By combining satellite observations with on-site measurements, it is possible to validate the data and identify local impacts on sky brightness. The grant will support field trips to different locations, enabling me to collect data for a comparison between dark and urban sites. These field trips will also provide opportunities to engage with local communities, to raise awareness about the importance of protecting the night sky. This financial support will considerably accelerate the timeline of the project and make it feasible.

Ultimately, the findings will provide valuable insights into light pollution mapping for astronomical observations, policymakers, urban planners, and environmental agencies seeking to mitigate the environmental impact of artificial lighting. By offering recommendations, my research aims to contribute to the protection of natural dark skies. This award is therefore not only an investment in my academic journey but also a step towards preserving Africa's night skies for future generations.

AfAS Seed Grant Journey: Empowering Early-Career Researchers

By Dr. Dejene Zewdie Woldeyes, Postdoctoral Research Fellow, Centre for Space Research, North- West University

Pursuing a career in astronomy as an early-career researcher in Africa comes with great opportunities and significant challenges, especially when it comes to resources. As an early-career researcher, one of the biggest challenges I have faced is accessing personal research equipment outside of institutional hours. My productivity was often limited to work or office availability. The AfAS Early Career Seed Grant allowed me to purchase a personal laptop, a small change with a big impact.

Currently, I am conducting research in two exciting areas of extragalactic astronomy. The first project focuses on studying the environments of high redshift, luminous quasars such as hot-dust-cured Galaxies (Hot DOGs) and Extremely Red Quasars (ERQs). These heavily dust-obscured quasars are believed to represent a transitional phase in quasar evolution. Looking into them provides valuable insights into galaxy clustering, the growth of supermassive black holes, and their influence on galaxy evolution.

The second project is multiwavelength studies of HI-detected galaxies in the Fornax Cluster. This research combines deep radio observations from MeerKAT with optical spectroscopy from the Southern African Large Telescope (SALT) and Multi-Unit Spectroscopic Explorer (MUSE), with a particular focus on tracing the ionised and cold gas properties to understand how the cluster environment influences galaxy evolution.

Both projects require the handling of large datasets, advanced data reduction and analysis processes, which have been made more manageable thanks to the support of the AfAS Seed Grant. This year, we published a paper titled **"Overdensity of Lyman-break galaxy candidates around hotdust- obscured galaxies",** finding that they reside in quite overdense environments. I am currently working on searching for LBG candidates around three ERQs and other high-redshift quasars. In the future, I have a plan to expand this work by studying a large sample of hyper-luminous obscured quasars and their surrounding environments. I also plan to confirm the redshifts of the identified LBGs through spectroscopic follow-up and explore their clustering properties. To achieve this, I will use the current and upcoming instruments.

Having a personal laptop has greatly improved my productivity, allowing me to work on weekends and while travelling. More importantly, winning the grant had a significant impact, boosted my confidence in pursuing competitive funding, affirmed my path towards becoming an independent researcher, and motivated me to seek more grants.

To fellow early-career researchers in Africa: the AfAS grant programme offers more than just funding; you gain confidence, open new opportunities, and develop grant writing skills. I highly encourage you to apply, not only to win the grant, but also to grow in skills, vision, and self-belief.
I am truly grateful to AfAS for supporting early-career researchers like myself. The Seed Grant Programme is helping shape the next generation of African astronomers. I am proud to be part of that journey.

Advancing astronomy research in Ethiopia through the AfAS Student Prize By Bereket Assefa

I am deeply grateful for the AfAS Student Prize, which has been absolutely crucial in advancing my research project. The funding served as a critical lifeline to address major logistical challenges, including disrupted communication and transportation due to regional instability. The funding provided me with the means to maintain project continuity, helping me overcome hurdles that would have otherwise halted my work. This support was essential for my academic success. Moreover, this recognition encourages me to persevere and excel in astronomy, demonstrating to other young women that they, too, can overcome the unique obstacles faced by female scientists in Ethiopia. The AfAS Student Prize is not just an individual achievement; it is a significant step towards transforming negative social perceptions and strengthening the foundation for astronomy in Ethiopia.

I plan to continue excelling in my career and start a PhD in astronomy. Beyond that, I am determined to leverage this accomplishment to drive change. I plan to dedicate myself to excelling in astrophysics research while simultaneously expanding my role as a motivational and professional advisor to the youths of Ethiopia and Africa at large. As a woman in STEM, I will use my position to actively challenge and help change the cultural and social norms that frequently discourage women from pursuing higher education in my community.

Official Establishment of the Astronomical Society of Ethiopia (ASE)

By Dr. Dejene Zewdie, President of ASE

Ethiopian astronomy and astrophysics students and researchers have been striving for a long time to establish and work together under a unified national body for astronomy. We are therefore delighted to announce that our efforts have borne fruit — the Astronomical Society of Ethiopia (ASE) is officially recognised as a professional association by the Civil Society Organizations Authority on 15 August 2017. ASE was founded by Ethiopian students, researchers, and professionals in the field of Astronomy and Astrophysics, with the aim of promoting scientific research, supporting education, fostering international collaboration, and engaging in public outreach.

We appreciate the African Astronomical Society (AfAS) for its steadfast commitment to advancing astronomy across Africa through research, education, outreach, and continental collaboration. AfAS plays a vital role in capacity building, public engagement, and fostering strategic partnerships that elevate Africa's contribution to global astronomical science.

As a newly established society, ASE currently seeks support in both material and financial terms as we work to expand research, training and outreach activities in Ethiopia. We are also planning to host our first general assembly and capacity building program in 2026, which we hope will mark a significant step forward in our initiatives in advancing astronomy in Ethiopia and Africa. AfAS support and partnership are highly valued and will be instrumental to our success.

We strongly believe that partnership between ASE and AfAS can play a transformative role in advancing scientific research and promoting astronomy in Ethiopia and across Africa, and strengthening the continent's presence in the global astronomical community.

Let us connect, communicate and explore the Universe together.

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