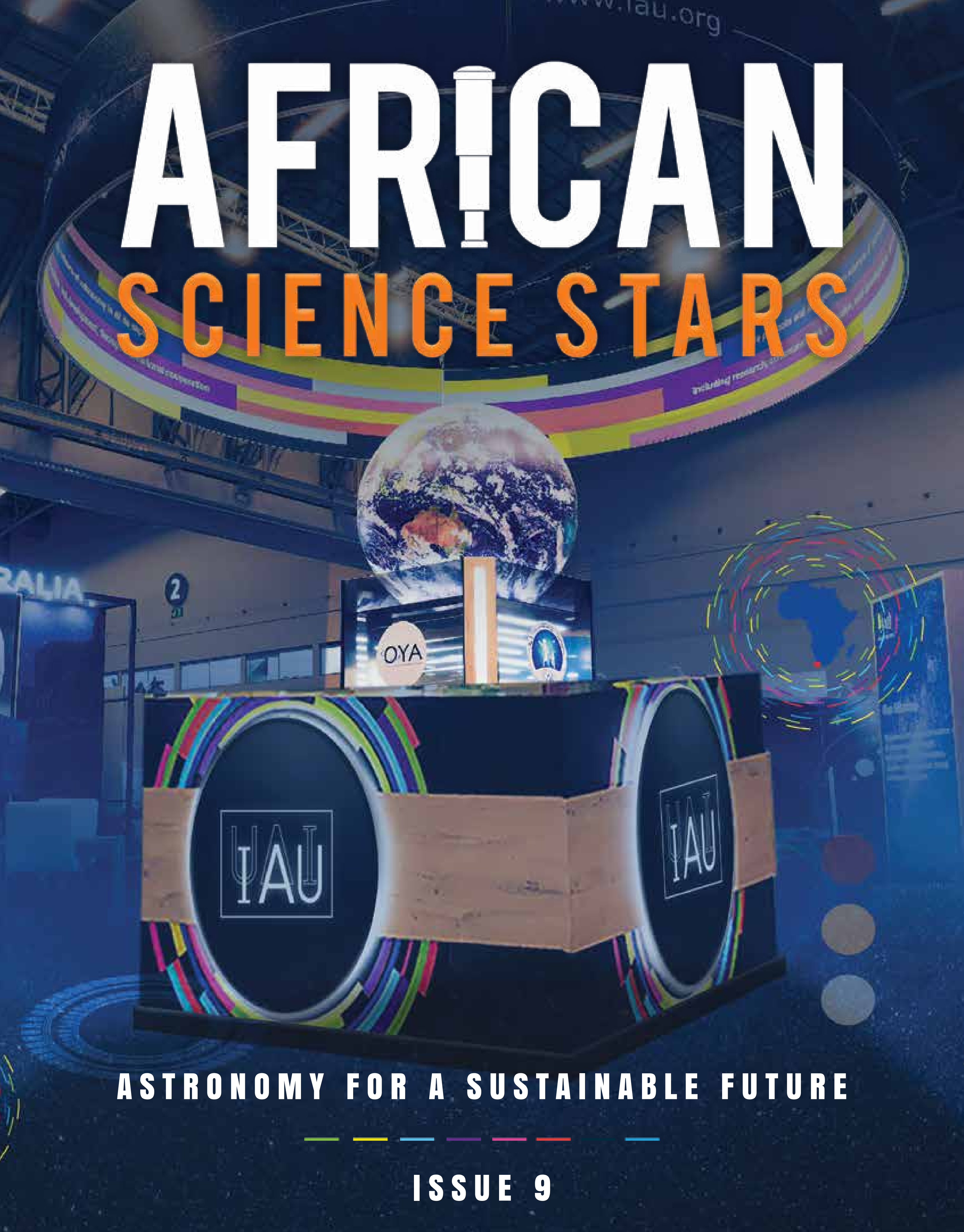
AFRICAN SCIENCE STARS



ASTRONOMY FOR A SUSTAINABLE FUTURE

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AFRICAN SCIENCE STARS

LETTER FROM THE EDITOR

ASTRONOMY FOR A SUSTAINABLE FUTURE

Dear Readers,
I welcome you with great excitement to the post-GA edition of African Science Stars under the theme "Astronomy for a Sustainable Future".

This edition is a big celebration as we look back at the first International Astronomical Union General Assembly held on our continent. It covers success stories, celebrations, cultural exchanges, and reflections. Africa is a growing impact and strong voice in astronomy and space science, and it is a pleasure for us at African Science Stars to bring out the stories to you, our valuable readers.

August 2024 will be remembered as the month in which Africa achieved a milestone by hosting the GA on its soil. I had the pleasure of attending the event, and the energy and impact were truly remarkable. It was a joyous celebration of astronomical success, showcasing groundbreaking research and innovative technologies from around the globe.

Cape Town, South Africa, was the perfect place for this important event. The country's richness in history and its deep-rooted astronomical influence made it significant to represent the continent as a whole. Cape Town's unique blend of urban planning and natural beauty made it a captivating location for visitors.

In this edition, I'm thrilled to share stories from Africa's perspective about this significant event. We'll look at the best moments and what they mean for Africa's future in science. You'll meet some amazing African scientists leading the way and making a big difference. Additionally, we'll explore partnerships and projects like the African Astronomical Association and the SKAO MOU, which aim to bring innovation and excellence to science across Africa.

However, the edition is not limited to the GA; we also have articles covering big events across Africa, from PASEA 2024 in Tunisia to outreach programs in Algeria. This edition aims to provide a comprehensive view of the scientific endeavours and achievements across the continent.

Looking ahead, I extend a sincere thank you to our readers for your continued support. Your enthusiasm and support are the driving force behind our work. Let's continue to support each other to propel the next wave of African Science Stars. Together, we can ensure that our scientific community not only addresses challenges at home but also makes a global impact. Thanks for tuning in, and happy reading!

Lillian Assefa

Editor, African Science Stars

A Historic Moment for Astronomy in Africa:

the legacy of the first International Astronomical Union (IAU) General Assembly in Africa

By Dr Charles Takalana and Mr Kevin Govender

Never again can we say that the International Astronomical Union (IAU) General Assembly (GA) has not graced African soil! The XXXII IAU GA, hosted by the South African National Research Foundation (NRF), with support from the Department of Science, Technology, and Innovation (DSTI) and the African Astronomical Society (AfAS), from 6 to 15 August 2024 at the Cape Town International Convention Centre (CTICC), marked a historic occasion, not just for the global scientific community but for the continent of Africa itself. The IAU GA 2024 brought together 2,648 participants from 107 countries, including attendees from 28 African nations. Among these, 647 were students (500 in-person and 147 virtual), with a total of 911 grants awarded, ensuring substantial participation from all over the world and the African continent in particular. This assembly was more than a scientific conference—it was an unprecedented fusion of science, culture, and collaboration, symbolising Africa's growing contributions to astronomy.

The XXXII IAU GA marked several firsts, setting new standards in accessibility and hybrid engagement. It was the first ever open-access IAU GA, with live-streamed sessions on YouTube, which remain publicly available, reaching 20,200 views and 374 subscribers. A dedicated Spatial VR platform, attracting over 4,200 views, allowed attendees to explore the event in an immersive format, further connecting a global audience. Participants actively engaged on Slack, with approximately 21,733 messages exchanged by the event's conclusion. This digital ecosystem exemplified how accessible technology can bridge geographical divides, fostering a truly global scientific dialogue.

One notable innovation the National Organising Committee (NOC) is particularly proud of was the IAU GA 2024 hybrid poster sessions, enabling presenters to engage online or in person. Following the event, poster abstracts were also made accessible via direct links on NASA's Astrophysics Data System (ADS), amplifying visibility and ensuring long-term accessibility. These innovations reflect IAU GA 2024's commitment to inclusivity, bringing the global astronomy community closer together.

What set the GA apart was not only its scientific depth but also its dedication to celebrating the humanity of science. The atmosphere of camaraderie and respect was palpable as astronomers engaged, shared, and collaborated. South Africa's warm hospitality was on full display through local cultural experiences, an African craft market, and musical performances from groups like the Ithemba Youth Choir and the University of Pretoria (UP) Ovuwa Cultural Ensemble. These cultural interludes reinforced the event's ethos: celebrating people first. This perspective resonated deeply, with participants noting that the GA fostered connections grounded in kindness, humility, and mutual respect—qualities essential to collaborative, impactful science.

The event also featured historic highlights, including a live link on 9 August between Cape Town learners at the CTICC and a NASA astronaut on the International Space Station, providing a rare opportunity for school learners to engage directly with science and space exploration. Other highlights included Dr Sian Proctor, the first African American woman to pilot a commercial spacecraft, who inspired learners and the public with her experiences in commercial space missions, and esteemed Astrophysicist Dr Brian Schmidt, 2011 Nobel Prize laureate for the discovery of the accelerating universe, who was announced as the President-elect of the IAU. The impact of the IAU GA 2024 extended well beyond research, reaching around 28,000 school learners, 85 educators and around 3,800 general public through extensive outreach efforts. Public events at the CTICC featured renowned figures like Mae Jemison, the first African American woman in space, who inspired audiences with her experiences. These initiatives

aimed to bring astronomy and space sciences to all levels of society, inspiring the next generation of African scientists and educators.

The South African government reinforced its commitment to becoming a global astronomy hub, evidenced by a keynote from Science Minister Dr Blade Nzimande. He highlighted the nation's contributions, from the Southern African Large Telescope to the MeerKAT radio telescope, the latter being a precursor to the transformative Square Kilometre Array (SKA)

currently under construction in South Africa and Australia. The IAU GA 2024 was a testament to Africa's potential in advancing astronomical research and positioned the continent as a crucial player in the field, echoed by the Minister's words: "It ain't science unless it is truly global."

The scientific sessions are the heart of an IAU General Assembly, and this meeting was no exception. They covered various advancements across astronomy, including updates on the James Webb Space Telescope (JWST), an instrument with unmatched sensitivity and resolution, revolutionising our understanding of the universe and its history. Discussions at the GA focused on JWST's recent discoveries, exploring the formation of the first galaxies and stars, and providing new insights into the origins of structures and physical processes that shape the universe. The search for planets beyond our solar system was a prominent topic, as astronomers shared findings and techniques for detecting potentially habitable worlds. JWST's exoplanet studies promise to answer age-old questions about the possibility of life on planets orbiting distant stars. Since their first detection in 2015, gravitational waves have transformed our view of the universe, with one symposium showcasing research in gravitational wave astronomy and highlighting how these "ripples" in space-time reveal events like black hole mergers. Science from the MeerKAT telescope's observations was also discussed, emphasising how radio astronomy reshapes our understanding of our local universe. This research promises to map the structure and evolution of galaxies on an unprecedented scale. A special focus meeting addressed the urgent need to combat light pollution, a critical issue threatening astronomical observations. Initiatives for dark sky preservation were shared, highlighting the environmental and scientific value of maintaining pristine night skies.

The IAU GA 2024 will undoubtedly leave a lasting legacy. This event has changed how the world views astronomy and, more broadly, science in Africa, echoing a spirit of unity in the pursuit of knowledge. The organising team, composed largely of volunteers, demonstrated extraordinary passion and resilience, ensuring the event's success. They tackled challenges with a steadfast dedication that embodied the GA's values of accessibility, impact and sustainability. As feedback from participants continue to flow in, one sentiment remains clear: the GA in Cape Town was more than a conference. It was a celebration of humanity's collaborative potential in science and a powerful reminder that, together, we can break new ground.

As we look to the future, the hope is that this spirit of kindness, respect, and scientific curiosity will continue to thrive, driving stronger collaborations and leading to new discoveries. For participants and organisers alike, this IAU GA stands as a testament to what can be achieved when science is truly global, inclusive, and humane. The IAU General Assembly 2024 has not only been a historic event for Africa but a profound inspiration to diverse communities, reinforcing the message that science knows no borders and that, in the pursuit of understanding our universe, we are united.

Minister Nzimande Hails IAU General Assembly as **Major Milestone for Africa**

By Siphokazi Vuso

Minister of Science, Technology, and Innovation, Blade Nzimande has hailed this year's General Assembly, held for the first time in Africa, as a significant milestone in marking the continent's growing influence in the global astronomical community.

Minister Nzimande made the remarks while delivering the opening address at the 32nd General Assembly of the International Astronomy Union (IAU), held in Cape Town from 6 to 15 August. The meeting, held every three years, brought together astronomers and experts from around the world. Nzimande said the hosting of this first-ever IAU General Assembly on African soil was a great privilege not only for the country but for the entire continent.

Further highlighting the trailblazing radio astronomy work that began in South Africa in Hartebeeshoek in 1961, in a partnership with NASA. "Radio astronomy began in South Africa with a 26-metre dish built by NASA and placed in Hartebeesthoek in 1961 as a deep-space ground station used to get data from and send commands to many unmanned US space probes going beyond the Earth's orbit. This was later converted into a radio telescope that led to the establishment of the Hartebeesthoek Radio Astronomical Observatory, which is now part of the South African Radio Astronomy Observatory.

Dr Laeticia Jacobs, Deputy Director of Tourism Integration in the Department of Tourism, said, "The Department of Tourism and the Department of Science, Technology and Innovation are thrilled to have launched the National Astro-Tourism Strategy on World Tourism Day, which took place on 27 September 2024. We hope this collaborative effort among the departments, the private and public sectors, and the astronomy and tourism sectors will lead to economic growth and heightened awareness of the uniqueness of our African dark night sky."

"During the democratic era, the MeerKAT was built in Carnarvon as a precursor to the SKA project. The MeerKAT is another amazing achievement on the global science stage, and we wish to thank our international partners, Germany, Italy, and China,

Prof Blade Nzimande, Minister of Science, Technology, and Innovation, delivered the keynote address and welcomed the delegates

for their contribution to this project," the minister said. He added that these strategic interventions had enabled the exponential growth of South African astronomers from 60 (only five of whom were radio astronomers) to about 300 over the last 30 years.

Nzimande also announced the launch of a new Presidential PhD programme, which aims to send successive cohorts of students abroad to pursue full-time and split-side PhD studies in reputable, world-class knowledge and innovation institutions targeted at developing critical skills in areas like artificial intelligence (AI) research, advanced biotechnology, fuel cell development, batteries and other storage, and next-generation mining.

He thanked the IAU for entrusting South Africa with hosting the General Assembly. "I wish to thank the IAU for entrusting South Africa with hosting this prestigious gathering and all the teams, which contributed to the organization. This gathering reflects the global astronomy community's commitment to advancing research, fostering collaboration, and addressing contemporary challenges in astronomy and those faced by humanity.

We also see the Assembly as an opportunity for raising awareness of the IAU within the African science community and encouraging the emergence and professional development of the next generation of African scientists," the minister said.

South Africa Shines as a Global Astronomy Hub at the IAU General Assembly 2024

South African government has long realised that astronomy has the power to drive economic growth, advance science and technology, foster global partnerships, improve education, and enhance social development. As a result, South Africa has emerged as a critical hub for astronomical research and development in recent years, thanks to various high-profile projects such as the MeerKAT radio telescope, which is part of the global Square Kilometre Array (SKA) and the Southern Africa Large Telescope (SALT) which are located in the Northern Cape. Recently, the country launched an Astro-Tourism Strategy to draw more visitors to the Karoo (for more information, please refer to page 11). The strategy will also be used to create more awareness about the importance of preserving the dark skies and radio silence which are required for astronomical observations.

South Africa's impressive astronomical credentials were further highlighted when it hosted the 32nd International Astronomical Union (IAU) General Assembly in Cape Town from August 6 to 15. The event, held every three years, is the world's largest international assembly of astronomers. Its purpose is to promote and safeguard the science of astronomy in all aspects, including research, communication, teaching, and development, through international collaboration.

Prof Blade Nzimande, South Africa's Minister of Science, Technology, and Innovation, formally opened the prestigious event. Among other things, the Minister thanked the IAU for giving South Africa a chance to host the General Assembly, a first for Africa. He also discussed the importance of indigenous astronomy in South Africa's astronomy projects. Alluding to the inherently collaborative nature of astronomy, the Minister also emphasised the pioneering radio astronomy research that began in Hartebeeshoek, South Africa, in 1961, in collaboration with NASA. "This gathering reflects the global astronomy community's commitment to advancing research, fostering collaboration, and addressing contemporary challenges in astronomy and those faced by humanity," the Minister said.

The Deputy Minister of Science, Technology, and Innovation, Honourable Nomalungelo Gina, addressed the gala dinner and appreciated Women's Day activities held during the gathering of astronomers.

A significant gathering

This year's IAU General Assembly was quite significant and exciting for all participants. High-profile speakers at the event included Prof Brian Schmidt, a Nobel Prize-winning astrophysicist, Dr Mae Jemison, the first African American woman in space, and Dr Sian Proctor, the first African American woman to pilot a spacecraft.

To ensure greater public engagement, this year's conference streamed its proceedings for the first time, using online channels such as YouTube, as well as social media. This gathering also featured a commemoration of South Africa's Women Month, with numerous public engagement activities for the youth and the public.

Yet another first was the establishment of a craft market within the venue itself, engaging local small business and allowing participants to meet and support South African entrepreneurs. These small businesses included indigenous knowledge product distributers who are supported by the Department of Science, Technology, and Innovation (DSTI).

The value for South Africa

South Africa derived massive value from hosting this year's General Assembly. Firstly, it gave significant prestige and respect on South Africa, affirming that the country was on the right track with its astronomical investments. "Hosting the largest and most prestigious global gathering of astronomers, positioned Africa, specifically South Africa, on the world stage, recognising the continent's growing role in the global scientific community," says Takalani Nemaungani, Chief Director:

The Deputy Minister addressed the gala dinner and appreciated Women's Day activities held during the event.

Astronomy at the DSTI. "The event is akin to a World Cup of astronomy."

Secondly, according to Nemaungani, the event was important in showcasing Africa's astronomical growth as shown by South Africa's substantial investments in astronomy projects such as the SALT, the MeerKAT, and collaborations across the continent.

Thirdly, the gathering left a significant socioeconomic influence and legacy. The arrival in Cape Town of more than 2 000 global delegates boosted the local tourism industry. Furthermore, the worldwide activities at the event created new prospects and connections while also leaving a lasting scientific and educational legacy. "It inspired young Africans to pursue careers in science, technology, engineering, and mathematics (STEM), promoted public interest and participation in astronomy and related fields," says Nemaungani.

Lastly, the event succeeded in promoting inclusivity and science governance through creating a platform for broader participation from African countries in global science governance.

Boosting interest in astronomy

While impressive investments have been made in astronomy in recent years, more work lies ahead. For this reason, South African government, through the DSTI, actively encourages the youth and students to pursue careers in astronomy. "The

Takalani Nemaungani delivered the closing remarks and thanked all delegates for coming to SA.

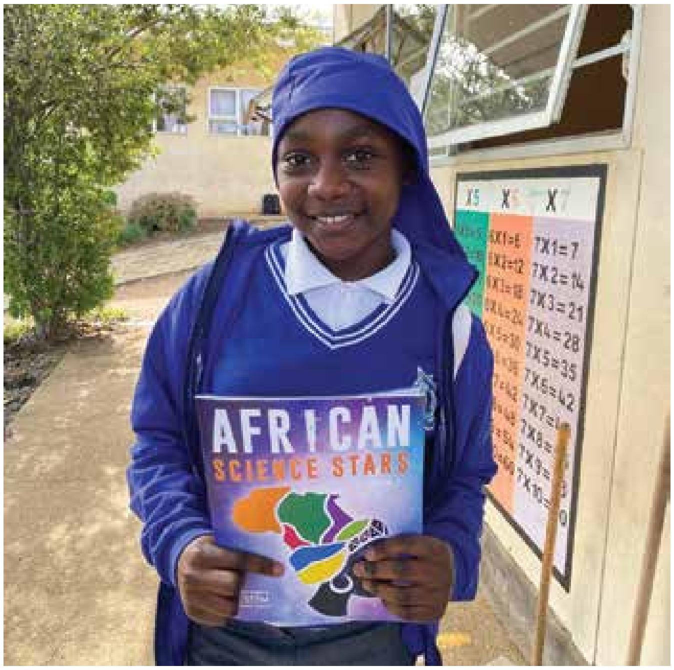
DSTI provides funding to institutions like the South African Astronomical Observatory and the South African Radio Astronomy Observatory to engage with schools and the public through its outreach and education programmes, including school visits, public talks, and community engagement to raise awareness of astronomy as a career option," says Nemaungani.

Furthermore, the DSTI, through the National Research Foundation, supports various bursary/grants programmes to provide funding for tertiary students pursuing degrees in astronomy and related fields. In collaboration with the Department of Tourism, the DSTI is developing astro-tourism projects to inspire young South Africans to explore astronomy through tourism-linked educational programmes and facilities. "There is still more work to be done, but the transformation in astronomy is slowly bearing fruit," says Nemaungani.

The next IAU General Assembly will be held in Italy in 2027.

Outreach programmes at IAU GA 2024:
Fostering Interest in STEM

By Cailyn Scheepers



The IAU General Assembly 2024 marks a significant milestone as it is the first major astronomy conference held on the African continent. The event aimed to create a sustainable and lasting impact on astronomy outreach and education across Africa. To achieve these ambitious goals, projects such as community astronomy days, science fairs, and teacher training workshops were initiated before, during, and after the assembly, providing delegates with opportunities to engage in hands-on educational initiatives and outreach programmes that promote community development.

Key to this initiative are workshops and experiments focused on STEM (science, technology, engineering and mathematics), astronomy, and space science. These programmes were aimed to ignite learners' interest in these fields, potentially guiding them toward choosing relevant subjects and pursuing careers in STEM. The outreach team visited a diverse range of schools, including Tygerberg High School, Umnqophiso Primary School, and Rhenish Girls High School, among others. These visits enabled direct interaction with students, inspiring them through engaging activities and practical experiences.

By connecting with schools such as Heideveld Secondary and Curro Brackenfell, the outreach programmes aimed to create a ripple effect in the communities, encouraging a culture of curiosity and exploration in science. The legacy of IAU GA 2024 will extend beyond the conference as these initiatives empower the next generation of scientists and thinkers across the continent. By fostering a passion for astronomy and STEM education, the IAU GA 2024 laid a strong foundation for future advancements in science in Africa, ensuring that the impact of the assembly resonates for years to come.

Outreach Efforts during the General Assembly (GA) and beyond

By Zodwa Tiki and Duduzile Kubheka

The 2024 International Astronomical Union General Assembly was more than just a gathering of astronomers. It also served as a platform for impactful outreach activities aimed at engaging communities and promoting astronomy education and awareness. With a clear objective to ensure societal benefits through sustainable and meaningful programmes, the Outreach Committee carried out activities that reached approximately 28,000 school learners, 85 educators, and around 3,800 members of the general public.

At the heart of the outreach programmes were visits to over 70 schools across the Western Cape province, covering several districts including disadvantaged communities, understanding that many learners there may have limited exposure to astronomy and related fields. Teams of passionate delegates, consisting of astronomers and other professionals, visited schools to talk about astronomy and other STEM-related (science, technology, engineering and mathematics) fields. These visits gave students a unique opportunity to engage with scientists in person, sparking their curiosity and encouraging them to dream big.

By reaching out to these areas, the aim was to give them a glimpse of the possibilities within science and technology and inspire them to explore careers in STEM. These efforts contribute to the broader goal of addressing disparities in education and creating a more inclusive scientific community. Some schools were invited to visit the conference venue itself, where students had the chance to interact directly with the delegates and explore hands-on exhibits.

Another key component of the outreach efforts was the virtual teacher training sessions. Recognising the pivotal role that educators play in nurturing scientific curiosity, the outreach committee, with the invaluable partnership of the Primary Science Programme (PSP), organised various sessions – at least 45 teachers attended. These sessions focused on equipping educators with the tools and knowledge to teach

astronomy in creative and engaging ways. The teachers represented 37 schools and have the potential to reach 3,900 learners this year. By empowering teachers, the committee and PSP ensured that the benefits of the outreach activities would be sustained long after the IAU-GA has concluded.

Among the standout events was a talent show, where conference participants displayed their fun, creative sides, connecting with the public in a light-hearted manner. The Cultural Exchange Evening was another memorable highlight, celebrating the rich diversity of cultures through poetry, dancing, storytelling, and music. The key performers at this evening were the Ithemba Youth Choir, a Khayelitsha-based musical group of young individuals, and the UP Ovuwa Cultural Ensemble, comprised of students from the University of Pretoria. In addition, there were contributions by various conference participants across Africa who showcased various art forms from their own cultures, turning the evening into a profound exchange of knowledge and deepening of human connections.

Another standout moment of the outreach activities was the Public Women's Day event, where the public had the chance to hear inspiring talks from several women astronomers. A special highlight was a presentation by Dr Mae Jemison, the first woman in space, which was followed by a live link to the International Space Station (ISS). During this link, 10 learners had the unique opportunity to speak with an astronaut aboard the ISS, who on this occasion was Dr Sunita Williams. Also in attendance was astronaut Dr Sian Proctor.

Numerous other engagements offered the public the chance to visit the conference venue and participate in activities. These included public talks by renowned astronomers and special sessions for learners, where they had the opportunity to explore the exhibition area and interact with the various organisations present.

The success of the outreach activities was made possible by the dedication of countless volunteers and delegates. These individuals took time out of their busy schedules to visit schools, give talks, and engage with communities, embodying the spirit of collaboration and passion that underpins the field of astronomy.

As we reflect on the outreach efforts during the IAU GA 2024, it becomes clear that these activities were about much more than just astronomy. They were about inspiring a new generation, building bridges between communities, and ensuring that the wonder of science reaches everyone, regardless of their background. With the help of committed volunteers and partners, these efforts will continue to leave a lasting impact, building a brighter future for both South Africa and the global scientific community.

WOMEN IN ASTRONOMY LUNCH

By Dr Joyful Mdhluli

The Women in Astronomy lunch that took place on the South African National Women's Day, 9 August 2024, during the 32nd IAU General Assembly 2024 was a powerful demonstration of the growing momentum behind gender equality in astronomy. The event saw an overwhelming response, with over 500 individuals signing up to attend the lunch. This remarkable oversubscription reflects the increasing interest and support for initiatives that promote gender equity within the astronomical community, as well as the recognition of the critical role women play in advancing the field.

In 2003, during the 25th IAU General Assembly that took place in Australia, the IAU's Executive Committee Working Group on Women in Astronomy (WiA) was established. The mandate of the working group is to collect information, propose measures, and initiate actions in support of or to advance equality of opportunity for achievement between women and men in astronomy, in the IAU, and in the world at large. The Working Group acts as a federation of national Women in Astronomy organisations, creating links and facilitating information exchanges worldwide.

The sheer number of attendees underscores the importance of creating spaces where women astronomers can connect, share experiences, and collectively advocate for change. It also highlights the broader desire within the community beyond the official membership of the IAU Women in Astronomy Working Group to engage in discussions about equity and inclusivity. The overwhelming response to the lunch reflects the shared commitment across the astronomical community, from early-career researchers to senior scientists, and across genders to advancing gender equality in the field.

The main aim of the lunch was to provide a dedicated session during the IAU General Assembly that gives women in astronomy an opportunity to network with each other and create space for mentoring to take place. To maximise the available time, the session featured a limited number of speakers. The session began with a welcome address by Dr Vanessa McBride, co-chair of the National Organising Committee and Science Director at the International Science Council (ISC). Following her, past IAU President Prof. Debra Elmegreen provided an insightful overview of the Women in Astronomy Working Group, outlining its mission, progress, and ongoing journey toward achieving gender equality in astronomy. She noted the significant increase in the number of women in the field over the years and warmly welcomed the male colleagues in attendance, emphasising the importance of their support in such gatherings.

The current Chair of WiA, Dr Mamta Pommier, attended the General Assembly virtually but since the lunch was in-person only, she pre-recorded a message for the event to address the participants. The lunch also provided an opportunity for the African Network of Women in Astronomy (AfNWA) to officially launch the storytelling book on professional female astronomers in Africa. The aim of the book is twofold: to create more visibility for women astronomers in Africa, including their research and life stories; the other is to inspire and empower young people and society at large through the stories of each astronomer. The book launch was presented by Prof. Mirjana Pović and Dr Priscilla Muheki, members of the AfNWA Board. To conclude the formalities of the lunch, Prof. Priya Hasan, past co-chair of WiA, gave closing remarks before attendees transitioned to the networking session.

This overwhelming participation is a testament to the impact that events like the Women in Astronomy lunch have in fostering a sense of community, solidarity, and purpose. It amplifies the voices of women astronomers and creates greater visibility for their contributions, while also encouraging a collective responsibility toward addressing the gender imbalances that persist in STEM fields. As the event exceeded expectations, it served as a clear signal to the IAU and the broader astronomical community that continued investment in and expansion of such initiatives are essential for advancing the global effort toward gender equality in astronomy.

To further this cause, we encourage all those passionate about advancing equality and promoting diversity in the field to join the IAU Women in Astronomy Working Group (WiA) and/or the African Network of Women in Astronomy (AfNWA). By becoming a member of these networks, you can stay informed about initiatives, participate in mentoring programmes, and contribute to global efforts that seek to create a more inclusive and equitable astronomical community. Whether you are an early-career researcher or a senior scientist, your involvement can make a difference. Sign up today and help shape the future of astronomy.

For more information and to register, visit the IAU WiA webpage or the AfNWA website.

NASA Scientists Attend Historic International Astronomical Union General Assembly in Africa

By Siphokazi Vuso

Leading scientists from the National Aeronautics and Space Administration (NASA) recently participated in the International Astronomical Union (IAU) General Assembly, marking the first time this prestigious event was held in Africa.

They were among over 200 professional astronomers from 22 other African countries who presented their groundbreaking work in astronomy research, communication, education, and development at the General Assembly.

The General Assembly, which is held every three years, is the world's largest international gathering of astronomers, aimed at advancing astronomical sciences through global collaboration.

During this year's assembly, experts from NASA's Science Mission Directorate showcased groundbreaking projects that are shaping the future of space exploration.

One of the highlights was a briefing on the Nancy Grace Roman Space Telescope, a mission poised to transform our understanding of dark energy, exoplanets, and the large-scale structure of the universe.

The event also featured a special 10-minute live radio link with NASA astronaut and Boeing Starliner Crew Flight Test Pilot, Dr Sunitha Williams, who shared real-time insights from space, captivating the audience with her unique perspective.

Experts from NASA's Science Mission Directorate highlighted key developments in their work, including progress on the Nancy Grace Roman Space Telescope, which is expected to transform our understanding of dark energy and exoplanets.

The Directorate also showcased missions focused on discovering and studying planets outside our solar system, expanding knowledge of the cosmos. NASA's experts presented the agency's strategic efforts to protect Earth from potentially hazardous asteroids and comets, emphasising the importance of planetary defense in ensuring the planet's safety.

The assembly also featured appearances by Dr Mae Jemison, the first African American woman in space and former NASA astronaut, who continues to make her mark with her pioneering legacy. Jemison made history in 1992 as the first African-American woman to travel into space aboard the Space Shuttle Endeavour.

Dr Knicole Colón, an exoplanet scientist at NASA specialising in the study of planets orbiting distant stars, was also in attendance.

"I study exoplanets, which are planets around other stars. I have been doing this for a while now. What I do is find new exoplanets that have yet to be discovered.

"The exciting part about studying exoplanets is that most of them are very different and exotic. I come from a physics background where I was one of the few women in my college, but the statistics have improved in astronomy. Exoplanets is a relatively young field in astronomy, and we've attracted good gender diversity, which is great. I do what I can to support that," she said.

The IAU General Assembly served as a platform for celebrating advancements in astronomical research while promoting international collaboration and inspiring future scientists to reach for the stars. It also fostered collaboration and inspiration among scientists from around the globe, setting the stage for future discoveries in space exploration.

Inside AfNWA:
A chronicle of Empowerment

By Dr Priscilla Muheki

The African Network of Women in Astronomy (AfNWA) is not only a committee of the African Astronomical Society but an embodiment of empowerment and growth for women in astronomy in Africa. Established in 2020 by a small but focused and enthusiastic group of women: Professor Mirjana Povic (who dedicated her Inspiring Science award from Nature to start the initiative and was an ardent advocate for equality and equity in science), Professor Vanessa McBride (at the time deputy director of the Office of Astronomy for Development and who is so passionate about the value that science and astronomy can bring to Africa), the late Professor Carolina Odman Govender (then at the University of the Western Cape and who was a tireless champion of astronomy and humanity), Professor Somaya Saad (who is very passionate about mentoring girls and women into astronomy and science through outreach activities in Egypt), Professor Nana Ama Browne-Klutse (a Ghanaian climatologist and a promoter of science careers among girls in Ghana) and myself as a PhD student at the time, but a great enthusiast of promoting science careers among girls and women in Uganda. Along the way, we adopted more hands and minds to better our service and drive further the efforts of achieving the aims of the initiative. These were Ms Salma Sylla Mbaye from Senegal, Dr Naome Asabre Frimpong from Ghana, and Dr Meryem Guennoun from Morocco.

Since the inception of this great community, a lot has been done, including organising training for students and other community members on different concepts, producing videos that can be used during outreach, supporting outreach activities with seed grants, recognising excellent women in astronomy in Africa through the AfNWA awards, not to mention a few, and now more recently, the AfNWA story book.

At the mere sight of this book, I can't help but be proud of how far we have come! A collection of original, beautiful, diverse, yet relatable experiences, the AfNWA storybook is a beacon of hope to the reader. This iconic piece of work was intentionally launched at the XXXII International Astronomical Union (IAU) General Assembly (GA) 2024, the first GA to be hosted in Africa in the 100 years of existence of the IAU. We wanted to show to the whole world that Africa has great, intelligent, resilient, and inspirational astronomers who have stood the test of time, as expressed in the stories and experiences shared, and emerged successful. These women bring colour to astronomy through their significant contributions to discoveries and science, mentorship, community service and development, teaching, and training the next generation of great astronomers and scientists. In addition, we thought these stories would act as a source of inspiration and empowerment to the younger generations and society as a whole, not only in Africa but to the whole world. We at AfNWA believe like Ruth Bader Ginsburg – that as society sees what women can be and do, and as girls and women see what women can be and do, there will be more women out there doing things, and we will all be better off for it.

As the main editor of this inaugural edition, I couldn't be more inspired and humbled to see this dream come to reality. Of course, it did not come without challenges, but as always, we didn't let them ruin our moment to shine because we are women and nothing can bring us down!

This, we hope, will not be the only edition to be produced because there were many great professional female astronomers unable to share their stories this time due to several reasons but are willing to contribute to the future. We also have other upcoming astronomers from whom we would love to learn and show to the world. For these reasons, watch out for the next epic edition of the AfNWA storybook.

AfAS signs an MOU with the SKAO at the IAU GA 2024

By Thembela Mantungwa

The African Astronomical Society (AfAS) signed a memorandum of understanding with the Square Kilometre Array Observatory (SKAO) during the International Astronomical Union General Assembly in Cape Town. This five-year agreement between AfAS and the SKAO establishes a cooperative relationship that builds on AfAS's human capacity within the continent to realise the SKAO's desire to not only deliver science but to have a societal impact. Building on the South African Radio Astronomical Observatory's astronomy footprint, which extends across many countries, it is easy to imagine that the five-year agreement is poised for success owing to the already existing capacity.

The MOU (memorandum of understanding) will create programmes promoting radio astronomy, multi-wavelength, and multi-messenger astronomy linked to research in the continent. These activities are meant to drive social change and economic development. The collaboration between AfAS and SKAO is not new; SKAO provides sponsorship for the annual AfAS conference, assisting the AfAS in advancing astronomy within the continent and its ongoing objective of developing human capacity.

At the signing of the MOU, the AfAS president, Professor Thebe Medupe said, "Astronomy is about two things: knowledge and people; this combination creates a synergy between AfAS and the SKAO. It is, therefore, in the best interest of SKAO to make sure we are doing the science, especially within the continent, because of the astronomy infrastructure we have already. Our outlook is long-term." This is particularly the case for a continent with so many people yet so few astronomers. As such, AfAS hopes that MOU will ensure the events of the IAU GA 2024 yield far-reaching benefits for African astronomy development, he added.

The continent hosts excellent astronomy facilities. It is, therefore, appropriate to expect that they do not only produce data but also scientific knowledge and professional astronomers. This aspiration might be realised through the MOU, as SKAO director-general Professor Philip Diamond explained, "It is the people who make science happen. One of the SKAO's ambitions and strategies is to work with African partners to tap into the tremendous human capital potential that exists in Africa. We are lucky to support that growth across the continent, and this MOU with AfAS has a key element of that."

The event was attended by a huge African Astronomical Society delegation, as well as the Department of Science, Technology and Innovation, who witnessed the signing of the important agreement between the two organisations.

Highlights of African Countries at the IAU General Assembly

By Lillian Assefa

For the first time in over a century, the International Astronomical Union (IAU) General Assembly was held in Africa, marking a monumental occasion for the continent. From August 6th to 15th, 2024, the Cape Town International Convention Centre (CTICC) was buzzing with excitement as more than 2,000 delegates from over 100 countries gathered for the 31st IAU General Assembly. The theme, "**It's Time for Africa!**", set a vibrant tone for the event, celebrating not only astronomical advancements but also the rich cultural heritage and scientific achievements of African nations.

The IAU General Assembly is a prestigious event that unites astronomers and scientists worldwide to discuss the latest developments and discoveries in astronomy. The robust participation of African countries at the 2024 assembly underscored a unified vision for the continent's pivotal role in global astronomy. Many African nations actively participated, showcasing their dedication to advancing astronomy and space research. The theme resonated throughout the assembly, reflecting the optimism and determination of African countries to make significant contributions to the field. The success of the event is a testament to the continent's potential and the collaborative spirit among its nations. While this article highlights few African countries, many others also played significant roles in the success of the General Assembly.

South Africa's Stellar Role at the IAU General Assembly

South Africa played a pivotal role as the host of the IAU General Assembly, marking an extraordinary milestone for both the country and the continent. With a rich history of astronomical achievements, South Africa utilised this platform to highlight its status as home to some of the world's most advanced telescopes and observatories. A key highlight was the **Square Kilometre Array (SKA)**, one of the most ambitious scientific projects globally, underscoring the nation's commitment to advancing scientific discovery.

The National Organising Committee (NOC), led by Chairperson **Kevin Govender** and Vice-Chairs **Vanessa McBride** and **Charles Takalani**, structured the General Assembly around three core pillars: **Accessibility, Impact, and Sustainability**. Their visionary leadership set a new standard for inclusivity and innovation in future IAU gatherings. With support from South Africa's **Department of Science**, **Technology and Innovation (DSTI)** and the **National Research Foundation**, the event highlighted the nation's dedication to astronomical sciences.

During the opening ceremony, **Dr Blade Nzimande**, Minister of Science, Technology, and Innovation, emphasised South Africa's rich astronomical heritage and its pivotal role in global

astronomy, reinforcing a global commitment to advancing the field across the continent. **Takalani Nemaungani**, Head of Astronomy at the DSTI, further highlighted the socio-economic benefits of investing in astronomy, citing facilities like the **MeerKAT radio telescope** as catalysts for scientific research, economic growth, job creation, and human capital development. This solidified South Africa's leadership in astronomy both regionally and globally.

The opening and closing ceremonies were vibrant showcases of South African culture, featuring captivating performances of traditional dances that infused the event with a dynamic and festive atmosphere. Energetic **Zulu and Xhosa dances**, along with the rhythmic beats of local music, symbolised the harmonious blend of science and culture. These ceremonies left a lasting impression on attendees, who were immersed in the country's rich heritage and its role as a bridge between scientific innovation and cultural celebration. This extraordinary convergence of minds and cultures truly embodied South Africa's stellar role at the IAU General Assembly, setting the stage for a brighter future in global astronomy.

Ethiopia Shines on the Global Stage

Ethiopia, a nation steeped in ancient history and a profound connection to the stars, made a significant impact at the General Assembly. Representatives from leading Ethiopian institutions and research organizations presented groundbreaking work, showcasing the country's burgeoning expertise in astronomy. Their contributions spanned from research presentations on cutting-edge astronomical phenomena to collaborative initiatives aimed at building capacity for astronomy within Ethiopia and across Africa. One of the most memorable moments was "**Ethiopian Day**," a celebration prepared by the participants that highlighted the country's rich cultural heritage and its contributions to astronomy. Dressed in stunning traditional attire, Ethiopian delegates created a vibrant and colourful spectacle as they engaged in cultural exchanges with guests from around the world. In a heartwarming gesture, they distributed beautiful gifts prepared by the **Space Science Society of Ethiopia (SSGI)**.

The Managing Director of the Ethiopian Space Science Society shared his enthusiasm for the progress and collaboration showcased at the event, stating:

"Ethiopia's participation in the 32nd IAU General Assembly, held in Cape Town, South Africa, highlighted the country's growing role in global astronomy, focusing on education, outreach, and international collaboration. The Ethiopian Space Science Society (ESSS) showcased its achievements in engaging the public with space science and shared the progress of the Ethiopian amateur astronomy community, despite resource limitations. Ethiopia's involvement through the National Outreach Coordinator (NOC) for Ethiopia within the IAU Office for Astronomy Outreach (OAO) and its collaboration with the East African Regional Office of Astronomy for Development (EA-ROAD) demonstrated its commitment to leveraging astronomy for regional development. Notably, the country's engagement with the IAU Office of Astronomy for Education (OAE) emphasised its focus on enhancing local education through teacher training programmes aimed at incorporating astronomy into the curriculum. Participation in BRICS Astronomy presented new opportunities for future collaborations, while discussions with international organisations such as NASA's SSERVI, INAF, ESA, and others opened avenues for partnerships. Additionally, connections were made with global outreach and public science communication professionals, further positioning Ethiopia to strengthen its international presence in astronomy and advance its future in space exploration."

Morocco's Astronomical Leadership

As reported by our ambassador Kaoutar Saadi, Morocco's participation in the IAU General Assembly was particularly noteworthy due to its leading role in organising several major scientific events. With a delegation of 24 participants and 30 scientific presentations, Morocco was the primary organiser of the symposium **"Planetary Science and Exoplanets in the Era of the James Webb Space Telescope" (IAUS393)**. This symposium attracted renowned researchers from around the world and opened new opportunities for collaboration between African and international institutions in planetary astronomy.

Moroccan researchers also co-chaired two significant Focus Meetings: **FM1**, focusing on "Harnessing ground-based optical telescopes: an opportunity for emerging astronomy in Africa," and FM10, titled "Teaching capacity of remote observing facilities for universities and high schools." These sessions emphasised Africa's potential to become a central player in global astronomy by utilising local infrastructure and fostering international collaboration to enhance education and research.

These efforts greatly enhanced the presence and influence of the Moroccan scientific community on the international stage. This growing leadership was recognised by Morocco's promotion to full IAU membership (Category I), marking a historic milestone in the country's commitment to advancing astronomy. The General Assembly also provided a platform for Morocco to showcase its prior achievements, such as hosting the **African Astronomical Society (AfAS) conference** in April 2024 in Marrakech, and to announce the upcoming **"RR Lyrae and Cepheid 2024"** international conference featuring Nobel laureate **Adam Riess**.

These initiatives highlight not only Morocco's increasing prominence in global astronomy but also its commitment to making science accessible, inclusive, and environmentally responsible. The General Assembly paved the way for future scientific and cultural collaborations, underscoring Morocco's dedication to advancing astronomy both on the continent and globally.

A Student's Perspective: Kenya at the IAU General Assembly

The IAU General Assembly also provided a platform for emerging astronomers to share their experiences and insights. **Moses Langa**, a postgraduate student from the **Technical University of Kenya**, shared his first-time experience at the GA:

"Attending the IAU General Assembly in Cape Town was an incredibly exciting and unique experience for me. Being my first time at both the GA and in Cape Town, I had the opportunity to meet scholars, scientists, and astronomers from around the world. Presenting my poster on 'Large Scale Triggered Star Formation in the Milky Way' was thrilling, and sharing my research with such esteemed minds was truly delightful. I also gained a wealth of knowledge from exhibitions showcasing groundbreaking scientific innovations and discovered several research opportunities.

Kenya, as a partner country of the Square Kilometre Array (SKA), played a significant role at the GA. Our delegation included over 15 members, comprising postgraduate students, young astronomers, scholars, and IAU members. Many of us participated by presenting our research through posters or oral presentations, while others volunteered to support GA activities and engaged in outreach to promote astronomy awareness in local communities and schools.

I am sincerely grateful to the (AfAS) for the IAU-AfAS grant that covered my flights and registration. I also extend my gratitude to the Development in Africa with Radio Astronomy (DARA) for providing accommodation and subsistence support. Many thanks to the IAU GA2024 organisers for an exceptional event. I believe, as the IAU GA theme stated, that 'It is Time for Africa.' I look forward to the next IAU GA in Rome, Italy."

Moses' experience reflects the opportunities that the General Assembly provided for young scientists and highlights Kenya's active involvement in the global astronomical community. His story illustrates the personal and professional growth that such international events foster among emerging astronomers in Africa.

The 2024 IAU General Assembly in Cape Town was more than just a conference; it was a celebration of Africa's rich past, dynamic present, and promising future in astronomy. By bringing together scientists, educators, policymakers, and the public, the event fostered a spirit of collaboration and set the stage for astronomical advancements that will benefit not only Africa but the entire world.

AfricaLookUp Cultural Exchange Evening

By Cailyn Scheepers

On the evening of August 13th, 2024, we celebrated the Cultural Exchange Evening at the IAU General Assembly. Participants were invited to join this cultural showcase, highlighting the diverse connections between various cultures and astronomy. Through storytelling, song, dance, and other creative expressions, the night embarked on a journey of discovery and connection.

The evening began with a powerful performance by the iThemba Youth Choir and renowned storyteller Mam Ncina Mhlope, who set the tone with songs that celebrated South Africa's heritage. Representing South Africa, the choir transported us through traditional stories, immersing the audience in the magic of unity. Later, the University of Pretoria Ovuwa Cultural Ensemble delivered an emotional performance that showcased the beauty of diversity.

Ghanaians, dressed in vibrant traditional cloth, emphasised communal values such as family and respect through a spirited cultural dance. Dressed in vibrant kente cloth, they performed an energetic cultural dance, inviting the audience to join in the fun.

The culture of Madagascar is a blend of diverse traditions from its multi-ethnic population, reflecting the origins of the Malagasy people while sharing notable similarities with Southeast Asian and East African cultures. They performed a traditional song and dance that left the audience eager to learn more about their rich heritage.

Mozambican society celebrates a wide array of cultures, stemming from its history of Bantu, Swahili, and Portuguese influences. Amirah Luna Izidine captivated the audience with a stunning poem titled "The African Starry Sky," exploring the cosmos through vivid imagery and heartfelt expression, celebrating the beauty and wonder of Africa's night sky. Ethiopia's unique history is rooted in communal gatherings where people share stories, music, and dance. Their performance encouraged audience participation, creating an interactive experience that filled the room with joy.

With thousands of years of recorded history, ancient Egypt was one of the earliest civilisations in the world. The cultural evening featured an incredible story about astronomy, highlighting how they cataloged stars, mapped constellations, tracked the movements of celestial bodies like the sun and moon, and developed the catalogued concept of a 365-day calendar.

Throughout the night, there were many other remarkable performances, including a beautiful poem from the United States and a vibrant cultural dance by a Zimbabwean Zulu man, along with several extraordinary acts that highlighted the richness of global traditions. Each performance brought unique stories and perspectives, creating a tapestry of cultures that celebrated our shared humanity. As we reflected on the evening, it became clear that these diverse expressions not only enrich our understanding of one another but also deepen our connection to the cosmos. It is essential to encourage one another and celebrate diversity, as we all share one sky. Together, we can foster a spirit of unity and collaboration, paving the way for future generations to explore the wonders of the universe with a broader worldview.

SCIENCE AND DISCOVERIES AT THE GA

By Hanane Essamlali

The 2024 IAU General Assembly in Cape Town showcased a wealth of scientific knowledge through its diverse symposia, reflecting the forefront of astronomical research. Researchers and scholars from around the globe gathered to discuss groundbreaking topics, highlighting significant advancements in various fields of astrophysics and astronomy.

One of the prominent sessions, "Gravitational Wave Astrophysics," examined the implications of recent detections on our understanding of cosmic events and the formation of black holes. As gravitational wave observatories continue to enhance their sensitivity, this field promises to unveil new chapters in the narrative of the universe's most violent phenomena.

The symposium on "A Multi-Point View of the Sun: Advances in Solar Observations and Space Weather Understanding" delved into the complexities of solar dynamics, emphasising the need for comprehensive observation strategies. Discussions revolved around how improved solar observation techniques can mitigate the impacts of space weather on Earth, a crucial consideration for satellite operations and communication systems.

The James Webb Space Telescope (JWST) was a focal point in multiple symposia, including "The First Chapters of Our Cosmic History with JWST" and "Planetary Science and Exoplanets in the Era of James Webb Space Telescope." These sessions showcased how the JWST is revolutionising our understanding of the early universe and the potential for discovering habitable environments around distant stars, pushing the boundaries of planetary science and exoplanet exploration.

Another critical topic was "Neutral Hydrogen in and Around Galaxies in the SKA Era," which explored the role of neutral hydrogen in galaxy formation and evolution. The Square Kilometre Array (SKA) promises to provide unprecedented insights into the distribution and behaviour of neutral hydrogen, enabling astronomers to probe the conditions in the early universe.

The symposium titled "Harnessing Ground-Based Optical Telescopes: An Opportunity for Emerging Astronomy in Africa" highlighted the potential of local facilities in fostering scientific growth on the continent. By leveraging ground-based resources, African countries can enhance their contributions to global astronomical research, promoting collaboration and innovation.

Additionally, sessions like "A Coherent View of Atomic and Molecular Gas from Infrared to Radio Wavelengths" and "Measures of Luminous and Dark Matter in Galaxies Across Time" presented new findings that bridge different wavelengths, enriching our understanding of cosmic structures.

The assembly also addressed practical aspects of astronomy education with discussions on the "Teaching Capacity of Remote Observing Facilities for Universities and High Schools," emphasising the importance of training the next generation of astronomers.

As the assembly concluded, the breadth of discussions—from the intricacies of solar and stellar dynamos to the challenges posed by an increasingly crowded spectrum for radio astronomy—illustrated the vibrant and collaborative spirit driving the field forward. The insights gained from these symposia will undoubtedly shape the future of astronomical research, paving the way for discoveries and innovations in our understanding of the universe.

Join the SAMRC advancing life

Shaping the Future of Medical Research in South Africa

As we celebrate 30 years since the dawn of democracy in South Africa, the South African Medical Research Council (SAMRC) stands tall as a beacon of progress, dedicated to tackling the pressing health challenges facing our nation and the African continent.

Since its inception, the SAMRC has been at the forefront of medical research, ethics, integrity, and governance. Our journey has been marked by a steadfast commitment to advancing healthcare through cutting-edge research and fostering a culture of inclusivity and equity.

Who are we?

We conduct responsive research as well as fund scientific studies that look into the 10 most important health problems in South Africa. Under the leadership of the National Department of Health, the SAMRC aims to help strengthen the health system of the country, advancing life for all.

At the SAMRC, our mission is clear: to advance the nation's health and quality of life and address inequity by conducting and funding relevant and responsive health research, capacity development, innovation and research translation.

The aim is to address the quadruple burden of disease facing South Africa – maternal, newborn, and child health, HIV/AIDS and TB, non-communicable diseases, and interpersonal violence. Through rigorous research, collaboration, and innovation, we strive to improve health outcomes and enhance the quality of life for all South Africans.

With our state-of-the-art laboratories and world-renowned scientists, our research projects include Tuberculosis, HIV/AIDS, Non-Communicable diseases such as Diabetes and Hypertension, Gender and Health issues, as well as Alcohol, Tobacco and other drug abuse. Our work is aimed at understanding the extent of a particular problem, thereby creating the necessary evidence for data-driven solutions that can inform policy and decision-makers on the implementation of health guidelines.

Our strategic initiatives encompass a wide range of critical areas:

1. **Research Excellence:** Conducting groundbreaking research to understand and combat the complex health challenges facing our nation.

2. **Ethical Framework:** Fostering research within a legal and ethical framework, ensuring integrity and accountability.

3. **Diversity and Transformation:** Championing diversity and transformation within our organization and across the research landscape.

4. **Translation into Policy:** Translating research findings into actionable policies and practices to drive real-world impact.

5. **Fiscal Responsibility:** Upholding excellence in fiscal discipline and corporate governance, as evidenced by our multiyear clean audits.

A Transformative Journey

The SAMRC embarked on a transformative journey to promote diversity and equity within our organisation. Through targeted actions and initiatives, we have made significant strides in increasing representation and opportunities for historically disadvantaged groups.

From 2014 to 2024, we saw a remarkable increase in the percentage of research grant funding awarded to Black African health scientists, rising from 30% to 63%. Similarly, the proportion of Black Africans receiving SAMRC scholarships surged from 39% to 72%. These achievements reflect our unwavering commitment to creating a level playing field for all aspiring researchers.

Join Us in Shaping the Future

By joining the SAMRC, you will be part of a dynamic community dedicated to driving positive change and advancing medical research for the benefit of all. Whether you're a learner interested in medical research, a seasoned scientist or a budding researcher, there's a place for you at our table.

As we navigate the challenges of the COVID-19 pandemic and an increasingly complex global landscape, the SAMRC remains agile, innovative, and resilient. From pioneering vaccine trials to implementing cutting-edge surveillance systems, we are leading the charge in the fight against COVID-19 and preparing for future health crises.

Generation Science (Gen S)

The SAMRC hosts the Generation Science (Gen S) job shadowing programme annually, an initiative that started in 2022. GenS aims to motivate and empower students to become the next generation of scientists by actively involving them in the day-to-day activities of SAMRC laboratory work.

As an organisation, the SAMRC seeks to give back to the local communities it serves. Through capacity building and ensuring that future generations are well-equipped for a career in health science research, The Gen S Programme is one such manner of achieving this, where Grade 11/12 learners interested in science, health and mathematical fields have an opportunity to gain first-hand practical experience in the careers available through the SAMRC that strives to create a better life for all South Africans.

This programme was recently endorsed by the Western Cape Department of Education. Gen S takes place at all SAMRC o ces - Cape Town, Durban and Pretoria – in June as part of Yo uth Month commemoration.

Why Choose the SAMRC?

1. Impactful Research: Make a tangible difference in the lives of millions by conducting research that addresses pressing health challenges.

2. Inclusive Culture: Join a diverse and supportive community that values equity, inclusion, and collaboration.

3. Professional Development: Access unparalleled opportunities for growth and development as you work alongside top experts in the field.

4. Social Responsibility: Contribute to the greater good by translating research findings into policies and practices that improve health outcomes nationwide.

5. Resilience and Innovation: Thrive in a dynamic environment where innovation, creativity, and resilience are celebrated and encouraged.

Join the SAMRC Today

As we look ahead to the future, we invite you to join us on our mission to advance health for all. Together, we can shape a brighter, healthier future for South Africa and
beyond. Discover the possibilities at the SAMRC – where excellence meets impact, and innovation knows no bounds.

To learn more and explore career opportunities, visit our website - www.samrc.ac.za or contact us directly. You can also follow us on social media:

- @SA Medical Research Council
- South African Medical Research Council
- @MRCza

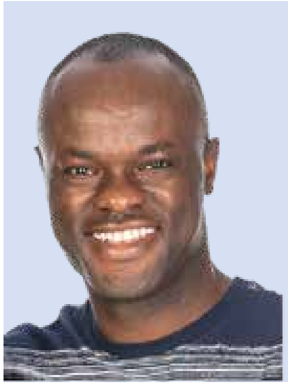
Together, let's make history and transform the landscape of medical research in South Africa.

Did you know?

The SAMRC has several health promotion activities that aim to understand the risk factors associated with poor health outcomes, whether it is smoking and heavy alcohol consumption, or obesity, physical inactivity and sedentary lifestyles, risky sexual behaviour, which lead to the development of illness and disease. Many young people are at greater risk of being exposed to sexually transmitted infections (STIs) and HIV, because of their carefree behaviour and lifestyle choices when combined too with alcohol abuse. Also, it is known that several non-communicable diseases can be prevented, by taking control of your health and adopting healthy lifestyle practices.

Congratulating Professor Chibueze for joining the IAU Executive Committee

By Mutshidzi Mclloyd Nelwamondo



We are excited to congratulate Professor James Okwe Chibueze on his recent appointment as Vice President of the International Astronomical Union (IAU) as a Vice President. This prestigious role not only recognises Professor Chibueze's outstanding contributions to the field of astronomy but also highlights the growing influence of African scientists on the global stage.

Professor Chibueze is a Distinguished Professor at the College of Science, Engineering, and Technology (CSET) of the University of South Africa and holds an Extraordinary Professor position at the Centre for Space Research at North-West University (NWU). He completed his academic journey with a BSc and MSc from the University of Nigeria and earned his PhD from Kagoshima University, Japan in 2013. His research focuses on the intricacies of massive star formation, employing high-resolution interferometric observational techniques to unravel the mysteries of the cosmos. Notably, his work has led to significant discoveries, including a 100 au compact bipolar outflow in the young massive star Cepheus A, identified through extensive observations of water masers. In recent times, he has used the MeerKAT telescope to unveil evidence of an interaction between jets of a radio galaxy and the intra-cluster magnetic field. This result is published in Nature with Professor Chibueze as the lead author.

His recent participation in the IAU General Assembly (GA) 2024 further showcased his commitment to advancing astronomical education. At the conference, he presented the educational use of the NWU 4-Element Radio Interferometer, contributing valuable insights into the teaching capacity of remote observing facilities for universities and high schools. This presentation underlines his dedication to nurturing the next generation of astronomers, particularly in Africa.

Professor Chibueze's new position at the IAU places him at the forefront of global astronomical discussions. As a member of the executive committee, he will play a crucial role in shaping the future of astronomy, ensuring that African perspectives and contributions are recognised and integrated into international projects. His involvement is expected to have a significant impact on the astronomy community across the continent, as he advocates for increased collaboration and support for African astronomers.

In addition to his role at the IAU, Professor Chibueze servces as Chair of the science committee of the African Astronomical Society (AfAS). His leadership within AfAS demonstrates his commitment to building a robust network of astronomers in Africa. He aims to foster the development of a critical mass of professionals who can effectively utilise the numerous astronomical facilities being established across the continent, such as the MeerKAT telescope.

As the African astronomical community continues to grow, Professor Chibueze's contributions will undoubtedly inspire and empower future generations of scientists. His efforts in promoting educational opportunities and research in astronomy are essential for the advancement of the field in Africa. By engaging with international bodies like the IAU, he enhances the visibility of African astronomy, paving the way for collaborative projects and funding opportunities that can propel the field forward.

Professor James Okwe Chibueze's appointment as Vice President to the IAU's executive committee marks a significant milestone not only in his career but also for the African astronomy community. His expertise and dedication will be instrumental in driving initiatives that benefit both local and global audiences. We commend him for this achievement and look forward to witnessing the positive impact of his work at the IAU and beyond.

Congratulations, Professor Chibueze! Your journey continues to inspire us all.

Poster Presentations at the GA: A Canvas of Creativity and Innovation

By Lillian Assefa

The International Astronomical Union (IAU) General Assembly (GA) is more than a congregation of astronomers and scientists from around the globe; it is a vibrant tapestry woven with threads of curiosity, collaboration, and groundbreaking discoveries. Amidst the bustling sessions and enlightening lectures, poster presentations emerge as dynamic showcases that breathe life into the conference, fostering an environment ripe for creativity and innovation.

Imagine entering a grand hall adorned with an array of colourful posters, each one a window into a different facet of astronomical science. The air is electric with anticipation as researchers, educators, and students navigate through the exhibits, engaging in animated discussions and exchanging ideas. This is the essence of the poster sessions at the GA, a melting pot where diverse minds converge, sparking creativity and igniting innovative thoughts that propel the field forward.

One such participant, Miss Barivure Love Popnwin, a Master's student at North West University in Potchefstroom, encapsulates the transformative power of these sessions. She shares her firsthand experience:

"The poster session at the IAU General Assembly was an exciting hub of collaboration, bringing together researchers and educators to share their work on various topics. It was my first time attending the prestigious conference, and I was thrilled to present my outreach programme through a poster titled "Astronomy Outreach in Nigerian High Schools." This programme featured interactive workshops that included hands-on activities like constructing and launching water rockets and night sky observations using a telescope. These engaging experiences were effective in igniting students' curiosity and fostered a passion for STEM careers. The atmosphere was vibrant, with attendees exchanging ideas and experiences. Engaging with some of the participants allowed me to gather valuable feedback, which I believe will enhance future outreach initiatives. I also connected with fellow scientists who shared my passion for making complex astronomical concepts accessible to high school students.

The poster session was significant not only for my personal growth but also for the IAU General Assembly and the broader science community. It attracted a diverse audience, including educators, researchers, and students, all eager to explore ways to enhance science education. As a vital platform for sharing innovative ideas, the poster session promoted collaboration and strengthened communication among scientists and educators. Ultimately, it reinforces a collective commitment to inspiring future generations and ensures a deeper public understanding of the universe."

Barivure's journey highlights how poster presentations serve as a bridge between research and education. Her innovative approach to making astronomy accessible through interactive workshops not only captivated her audience but also inspired fellow educators to adopt similar methods. The vibrant exchange of ideas during her session exemplifies how creativity flourishes in such collaborative environments, leading to meaningful advancements in science education.

Hanane Essamlali, a recent graduate in physics with a focus on astrophysics, from Cadi Ayyad University.

"The poster session at the IAU General Assembly was a fantastic opportunity to showcase Morocco's role in the

popularizing of the exoplanetary science and engage with experts in the field. I presented my interest in astrophysics and highlighted the efforts of the Moroccan astronomical community and the observatory in sharing space sciences with the public. The experience was incredibly rewarding, and I had insightful discussions with international scientists, which enriched my understanding and opened new opportunities for collaboration. I believe the poster sessions were an excellent idea, especially since not all participants of the general assembly were experts. The posters served as a great way to break the ice among attendees, facilitating meaningful interactions and discussions. They allowed everyone, regardless of their level of expertise, to engage with the research and connect with one another in a more approachable setting"

Hanane's experience underscores the inclusive nature of poster presentations. By providing a platform where researchers from diverse backgrounds can present their work, posters democratize scientific discourse, making it accessible to both experts and novices alike. This inclusivity not only broadens the reach of scientific knowledge but also fosters international collaborations, enriching the collective understanding and driving innovation across borders.

The true magic of the GA poster sessions lies in their ability to foster a sense of community and shared purpose. As attendees move from one poster to another, they are not merely absorbing information; they are participating in a collective dialogue that transcends individual projects. Each poster is a piece of a larger puzzle, contributing to the ever-evolving narrative of astronomical science. This interconnectedness cultivates an environment where ideas are continuously refined and expanded through collaborative efforts.

Moreover, the immediate feedback garnered during these sessions plays a pivotal role in driving innovation. Presenters like Barivure and Hanane receive diverse perspectives and constructive critiques that help refine their work, pushing the boundaries of their research further. This dynamic interplay of ideas fosters a culture of continuous improvement and intellectual growth, essential ingredients for scientific advancement.

The poster presentations also serve as a testament to the GA's commitment to inspiring future generations. By showcasing a wide array of projects and initiatives, these sessions highlight the multifaceted approaches being employed to educate and engage young minds. Barivure's outreach programmes, for instance, not only demonstrates innovative educational methods but also reinforces the importance of making complex scientific concepts accessible and exciting for students. Similarly, Hanane's efforts in popularising exoplanetary science reflects a broader mission to make space sciences relatable and intriguing to the public.

In conclusion, poster presentations at the IAU General Assembly are much more than visual aids; they are epicentres of creativity and innovation. They empower researchers and educators to share their visions, ignite curiosity, and build bridges across disciplines and borders. Through the vibrant exchange of ideas and the fostering of a collaborative spirit, these poster sessions play an indispensable role in advancing astronomical science and inspiring the next generation of explorers and thinkers. As the stars continue to captivate and inspire, so too will the poster presentations at the GA, illuminating the path forward with creativity and innovation.

African Science Stars - Reflections on the IAU General Assembly in Cape Town

By Debra Elmegreen, outgoing IAU President

Africa, you did it! What a remarkable two weeks we had in Cape Town, celebrating the first-ever General Assembly on the African continent! The world was able to witness firsthand the vibrant astronomical community as we gathered to share astronomy with each other and the public. Through 6 years of preparation, including through the pandemic, the National Organizing Committee was hard at work. We've now seen firsthand the fruits of their labors, with a General Assembly filled with outstanding presentations, discussions, networking, and joy as it exceeded our high expectations.

Of course, this historic and memorable General Assembly could not have been a success without the contributions of all of our participants. These numbered about 2000 in-person (including 800 from Africa) who came from 107 countries, plus about 600 virtual participants and several thousand listening online in this first-ever fully open-access General Assembly!

The many sessions reflected our mission of promoting and advancing astronomy in all its aspects. Presentations and panels covered new science results spanning the range of astronomical fields as well as discussions on global coordination of research efforts, science for society, inclusivity, training of early career astronomers, using the tools and techniques of astronomy for development in local economies, and using astronomy as a gateway to STEM education. We held mentoring and networking luncheons for Women in Astronomy and for Young Astronomers. We heard lectures from international prize laureates and awarded IAU prizes on Outreach, Development, and Education, PhD prizes from our scientific divisions, and postdoctoral fellowships.

The high energy level throughout the convention continued all week, including dancing by professionals at the Opening and Closing ceremonies, by participants at a gala dinner, and at a very lively talent show by IAU participants. Local craftsmen set up booths, local artists presented beautiful art reflecting indigenous roots in astronomy, and schoolchildren came to hear public presentations by female astronauts Sian Proctor and Mae Jamison and Nobel Laureate Brian Schmidt. Individual Members passed resolutions for the IAU to add the protection of the dark and quiet sky to its key priorities and to establish lunar time standards. We welcomed 4 National Members as Observers: Maldives, Nepal, North Korea, and Vietnam. We admitted 536 new members, including 307 Individual Members and 229 Junior Members. We also announced 15 Honorary Members, nominated from around the globe by their National Members. These are individuals who, though not astronomers, have worked tirelessly to bring astronomy to the world through their efforts. Among the remarkable honorees is former U.S. Senator Barbara Mikulski, who helped procure funding for the Hubble and James Webb Space Telescopes and support astronomical infrastructure, and Dr Mohammed Hussein Al-Amoudi from Ethiopia, a businessman who helped with funding for space and astronomy initiatives.

New members of our Executive Committee were elected: President-elect Brian Schmidt from Australia, Assistant General Secretary Laura Ferrarese from Canada, and three new Vice Presidents: James Chibueze from South Africa, Grazina Tautvaisiene from Lithuania, and Monica Rubio from Chile. Willy Benz and Diana Worrall became President and General Secretary at the conclusion of the General Assembly.

Santiago, Chile was selected as the location of the XXXIVth General Assembly in 2030, for the first time. It will be the third time for a General Assembly to be held in South America. The flag handover to Rome at the Closing Ceremony launched the countdown to the XXXIIIrd General Assembly in 2027.

We all return home carrying fond memories of beautiful Cape Town and our indelible connections, which are the essence of our General Assemblies. With everyone's help, we'll keep striving to achieve the goals of our IAU Strategic Plan, bringing astronomy to all. Let's all continue to work together as we share one sky, using astronomy for a better world.

African Astronomy Outreach: Inspiring the Next Generation

Univ. of Constantine1 & CERIST, Algeria; AfAS's First President

Bamako University with my colleagues from the Physics department.

Astronomy, with its capacity to spark curiosity and wonder, has an unparalleled power to inspire people of all ages. Yet, in many African countries, this science remains largely absent from the academic landscape. For many, the starry night sky is simply a beautiful but distant canopy. Over the past few years, however, this narrative has begun to change. Driven by the Global Outreach (GO) initiative of the African Astronomy Society (AfAS), astronomy is being introduced in countries that have had little or no exposure to it. The results are already remarkable: a growing interest in the field among educators, students, and the general public.

In this paper, I will recount the outreach missions we participated in across five African countries—Niger, Chad, Mali, Guinea, and the Democratic Republic of Congo (DRC)—and explore how these efforts could inspire the next generation of African scientists. More importantly, I will discuss the importance of the Pan-African dimension of this work and why bold, sustained follow-up is essential for transforming African astronomy from a dream into reality.

A Shared Passion for the Stars

One of the most striking observations during our outreach missions has been the enthusiasm of the local communities. Despite the significant challenges many African nations face—ranging from poverty to political instability—the passion for science, particularly astronomy, is palpable. The people of Niger, Chad, and Mali, for example, have shown that while their countries may lack established astronomy programmes, their human potential is immense. Physicists in these nations are eager to incorporate astronomy into their academic offerings, and the public is excited to learn more about the universe. Yet the socio-economic situation is dire.

In Niger, our outreach mission involved lectures and discussions with faculty members and students at the University of Niamey. It became clear that, despite limited resources, the institution had a strong desire to build an astronomy programme. Public events, including lectures at high schools, demonstrated that students were hungry for knowledge about the cosmos. Niger's engagement with astronomy provides a blueprint for how grassroots astronomy programmes can be nurtured across the continent.

Similarly, in Chad, we visited the cities of N'Djamena, two universities in the city and Mongo (Polytechnic University of Mongo), conducting a total of 18 activities, including public lectures, meetings with university faculty, and national TV and

With the students of the High School of Excellence at Niamey, Niger

Talks at various High Schools in the Bamako area

radio appearances. These activities sparked discussions about the role of astronomy in education and how it can be a gateway to other sciences. Students and educators expressed their excitement about bringing astronomy into the classroom and using the night sky as a tool for learning.

Rekindling Astronomy in Mali and Guinea

Mali and Guinea present a unique case in the Pan-African outreach effort. In both countries, the academic landscape for astronomy is at a nascent stage, but the desire to introduce it into the curriculum is strong. During our visit to Mali in February, we conducted presentations at five institutions of higher learning, including the Faculty of Science and Techniques at Bamako University. What was particularly encouraging was the presence of faculty members with advanced degrees in astrophysics and space sciences.

These educators, many of whom had studied abroad, were eager to reintroduce astronomy into the university's curriculum to revive astronomy courses that had been discontinued and to establish astronomy as an optional subject in the LMD (Licence-Master-Doctorate) system. This would not only offer students a chance to explore the universe but also open doors to new career opportunities in science and technology. Discussions with government officials at the Ministry of Higher Education further explored how to integrate astronomy into the national education system.

Guinea, too, displayed an impressive willingness to embrace astronomy. Despite political instability and ongoing socio-economic difficulties, we managed to hold productive meetings at the Gamal Abdel Nasser University in Conakry. Faculty members there showed a strong interest in incorporating astronomy into their physics program and developing small student-led astronomy projects. In fact we just learned at the end of September that it was decided to introduce a course in astronomy in the new physics program starting next year. The key takeaway from both Mali and Guinea is that the enthusiasm exists—it simply needs the right resources and support to thrive. It obviously needs to stabilize its economy and governance after decades of mismanagement and the damaging effects of repeated coups.

The Democratic Republic of Congo: African Astronomy's Sleeping Giant?

The Democratic Republic of Congo (DRC) holds immense potential for African astronomy. As Africa's second-largest country, with nearly 100 million inhabitants, the DRC represents a significant opportunity to establish astronomy on a large scale. During our outreach visit in 2023, we participated in the 'Semaine de la Science' (Science Week), the largest public scientific event in Francophone Africa. The event provided a platform to engage with students, educators, and government officials about the importance of astronomy in education.

At the University of Kinshasa (UNIKIN), our discussions with faculty members and students revealed a deep interest in developing astronomy programs. We met with physicists and geophysicists who were eager to explore how astronomy could complement their current research and teaching.

However, it became clear that the DRC must break free from the grip of Francophonie, whose exclusivity and limited horizons stifle progress. The global scientific landscape, particularly in Africa, is conducted in English, and finding almost no senior faculty members, aside from junior staff, with even a basic command of the language there, was a stark and troubling revelation. For the DRC to fully embrace its potential, fluency in English is essential to connect with the broader scientific community and unlock wider opportunities for growth. Our outreach in Kinshasa and beyond in close coordination with the local NAEC team, including visits to high schools and other educational institutions, has hopefully set the stage for the DRC to take its place in African astronomy. Yet, it faces

Outreach to various Schools and Universities in DRC.

significant challenges on the social front and widespread underdevelopment, despite some bright spots. Additionally, the protracted civil war in the Kivu region, fueled by interference from neighboring countries, continues to exacerbate the situation.

A Pan-African Vision for Astronomy

What connects these diverse countries—Niger, Chad, Mali, Guinea, and the DRC—is a shared desire to unlock the mysteries of the universe and bring astronomy to the people. The Global Outreach (GO) initiative emphasizes the importance of bringing astronomy to all the African countries with no one left behind, bonded together in a larger Pan-African dynamics through possibly AfAS (The African Astronomical Society), where countries work together to build astronomy programs and share resources. South African thanks to its remarkable achievements in astronomy with world class facilities and a remarkable human potential, should play the role of a locomotive. This is not just about promoting science; it is about fostering a sense of unity and collaboration across borders.

Astronomy is uniquely positioned to achieve this. The stars, after all, belong to everyone. By working together, African nations can create a sustainable future for astronomy, ensuring that it becomes part of the educational fabric across the continent. The Pan-African dimension of our work is essential. It recognizes that while individual efforts are valuable, the real impact will come from a coordinated approach that brings together governments, academic institutions, and the general public.

The Need for Bold Follow-Up

While the initial outreach missions have been successful in generating interest, they must be followed up with bold, sustained action. The enthusiasm we encountered cannot be left to fade. African governments, the broader astronomical community, and international partners must commit to long-term investments in astronomy education. This includes providing scholarships for students to pursue advanced studies in astronomy, supporting the development of university-level courses, and equipping institutions with the necessary tools—such as telescopes, planetariums, and access to international collaborations.

At the grassroots level, we must continue to engage with the public through workshops, science fairs, and public lectures. Schools and universities need to be empowered to create astronomy clubs, and students must have access to hands-on learning opportunities. The potential is immense, but without sustained follow-up, the progress we have made risks being undone.

Looking Ahead: Africa's Role in Global Astronomy

Africa's night sky is as vast and full of promise as the continent itself. The outreach missions we have undertaken in Niger, Chad, Mali, Guinea, and the DRC should be just the beginning. Though these countries may be seen as the weakest links in view of their chronic underdevelopment, their true importance lies in instilling a sense of shared destiny and demonstrating that Africa cares for all its constituents. Similar global action should extend to Lusophone countries. With the right support and investment, African astronomy in the middle run can become a global force, contributing to scientific discovery and education on an unprecedented scale.

Future Actions

We propose launching additional astronomy awareness campaigns, both academically and within society, targeting a group of predominantly French-speaking countries that are largely absent from the astronomy landscape. These could include:

- The Republic of the Congo (Brazzaville), Central African Republic, Cameroon, Benin and Burundi.
- Another potential group includes South Sudan, Somalia, and Somaliland,.
- Lastly, there is West Africa, with countries like Sierra Leone, Guinea-Bissau, Gambia, Liberia, and Togo.

In summary, the key to success lies in inspiring the next generation. By giving students the tools to explore the universe, we are opening doors to new careers, new ideas, and new possibilities. Astronomy offers a way for young Africans to dream big and see beyond their immediate surroundings and sometime difficult socio-economical situation. It is a science that fosters creativity, critical thinking, and curiosity—all essential qualities for building a brighter future.

As we look ahead, we must remain optimistic. The stars may be far away, but the path to understanding them starts here on Earth, with the students, educators, and communities we are engaging across Africa. Together, we can ensure that Africa takes its place among the stars. The stars, after all, are not just for scientists—they are for everyone.

PASEA 2024
A Milestone in African Astronomy Education

By Kaoutar Saadi

The Pan-African School for Emerging Astronomers (PASEA) has become a crucial programme for advancing astronomy across Africa. As a leading educational initiative, the school focuses on nurturing and supporting young astronomers through extensive training and collaborative opportunities. PASEA 2024 for the first time in North Africa, which was hosted by the Science Palace in Monastir, Tunisia - from September 2 to 6, represented a major achievement. This year's event not only highlighted Africa's growing influence in the scientific community but also showcased the commitment of North African participants to fostering talent and innovation in astronomy. By bringing together emerging scholars and experienced professionals, PASEA 2024 has enhanced Africa's contribution to global astronomical research and education.

PASEA: Broadening the Scope of African Astronomy

The Pan-African School for Emerging Astronomers (PASEA) was co-founded in 2013 by Dr Bonaventure Okere from Nigeria and Dr Linda Strubbe from Canada/USA. Originally launched as WAISSYA, the West African International Summer School for Young Astronomers, the programme initially focused on West Africa. Its inaugural session took place in Abuja, Nigeria, followed by successful editions in Nsukka (2015), Accra (2017), and a return to Abuja in 2019. Recognizing the potential for a wider impact, the founders transitioned WAISSYA into a comprehensive Pan-African initiative. This transformation culminated in the first Pan-African session held in Livingstone, Zambia, in 2022, and the programme's historic debut in North Africa, which took place in Tunisia in 2024.

PASEA's curriculum, designed by Dr Strubbe and her team at the University of Toronto, emphasizes an inquiry-based, hands-on learning approach that effectively integrates theoretical concepts with practical application. In 2015, the program expanded to include training for local instructors and postgraduate students, enriching the overall educational experience. Initiatives such as the Women in Science lunch, introduced in 2017, further enhance inclusivity and diversity within the program. Leadership has been strengthened by the appointments of Dr Jielai Zhang in 2018 and Dr James Chibueze in 2022 as co-directors. Notably, Dr Strubbe and Dr Okere received the IAU Astronomy Education Award 2024 in recognition of their exceptional contributions to PASEA, celebrated at the IAU General Assembly in Cape Town in August 2024. Currently, PASEA features a diverse team of over 20 astronomers from Africa, North America, Europe, Asia, and Australia, significantly broadening its global impact.

The African Astronomical Society (AfAS) has been essential to PASEA's success, providing crucial partial funding for both PASEA 2022 in Livingstone, Zambia, and PASEA 2024 in Tunisia. This support has greatly enhanced the programmes capacity to promote collaboration and learning among emerging astronomers. We also extend our gratitude to the Office of Astronomy for Development, which has played a vital role by offering partial funding for WAISSYA sessions in 2015, 2017, and 2019, as well as for PASEA in 2022 and 2024. Their dedication to advancing astronomy education in Africa is deeply appreciated and vital for the continuous development of the scientific community across the continent.

This year, PASEA marked a significant achievement by bringing together young scientists from Morocco, Libya, Tunisia, Algeria, and Nigeria, fostering a collaborative spirit across the region. The program offered a rich and interactive learning experience, featuring a diverse range of workshops, hands-on training sessions, and in-depth discussions led by seasoned professionals in the field. Participants engaged in practical activities that enhanced their understanding of astronomical concepts while developing critical skills through real-world applications.

The trainers excelled in creating an inclusive atmosphere, ensuring that each participant felt both welcomed and valued. This emphasis on inclusivity not only elevated individual competencies but also cultivated a strong sense of community and teamwork among the attendees. By promoting peer interactions and collaborative research initiatives, PASEA played a crucial role in advancing the development of emerging astronomers and strengthening scientific connections across the African continent.

The goals of PASEA include contributing to building a critical mass of astronomers across Africa, fostering community among African scientists, and sharing ideas about teaching and learning between Africa and abroad. Through these objectives, PASEA is committed to enhancing the impact of astronomy education and research throughout the continent.

PASEA has emerged as a pivotal force in advancing astronomy education across Africa, fostering a sense of community and collaboration among young scientists. By transitioning from its initial focus on West Africa to a comprehensive Pan-African initiative, PASEA has successfully created an inclusive environment that nurtures talent and innovation. The programmes emphasis on interactive learning and practical training equips participants with essential skills, empowering them to make meaningful contributions to the field of astronomy. Supported by the African Astronomical Society (AfAS), PASEA is well-positioned to continue its impactful journey. As it inspires and cultivates the next generation of astronomers, PASEA is not only enriching individual careers but also enhancing Africa's standing in the global scientific community.

SKAO Council Update: Highlights from the Latest Meeting in Kimberley

Location

The latest SKAO Council meeting was held in Kimberley, Northern Cape province, South Africa, at Sol Plaatje University. The venue was chosen as Kimberley is the capital of the province where the SKA-Mid telescope is being constructed. This provided an opportunity for SKAO leadership and Council delegations to engage with local authorities and stakeholders. The university, known for its modern facilities and ambitions aligned with SKAO's goals in human capital development and community upskilling, has opened doors for exciting collaboration ideas.

New Chairperson

Dr Filippo Zerbi has been appointed as the next chairperson of the SKAO Council, effective February 2025. A long-serving Council member and representative of Italy, Dr Zerbi will succeed Dr Catherine Cesarsky, who has held the position since 2017. Inmaculada Figueroa Rojas, Spain's representative on the Council, has been appointed vice-chairperson. Congratulations were extended to both Filippo and Inmaculada, along with heartfelt thanks to Catherine for her leadership during a transformative period for the Observatory.

Funding Discussions

Securing the additional €158 million needed to reach the construction milestone was a key focus of the Council meeting. Members provided updates on their domestic funding situations, with overall positive indications. Formal commitments from other countries are now critical, with more clarity expected by the next Council meeting in March. Early updates will help with planning from a communications perspective, and any additional insights from members' respective systems would be valuable.

Success in Communications

During the Council meeting, a case study on SKAO's involvement in the IAU GA, held in Cape Town in August, was presented. This first-ever GA on the African continent marked a significant milestone, especially with South Africa as one of SKAO's host countries.

SKAO's participation aimed to strengthen its reputation as a global leader in astronomy, a trusted partner, and an inspiring employer of choice. Other goals included reinforcing partnerships, demonstrating values, and motivating the next generation. Feedback from the Council was highly positive, with achievements across all objectives.

Special recognition was given to SARAO and CSIRO for their support, notably in the success of the new Indigenous astronomy exhibition, Cosmic Echoes. Their contributions were instrumental, and their efforts were deeply appreciated.

Looking Ahead

With the year coming to a close, SKAO has several exciting projects in the pipeline. Wishing everyone a successful end of the year and a joyful festive season, the team remains optimistic about the future.

This information was supplied by SKAO

Bridging Gaps in Geodesy: Supporting Africa's 2.5 Billion Population by 2050

By Zakiyah Ebrahim

When two locations are nearby, measuring the distance and direction between them is straightforward. But things become far more complex when locations are far apart. "How does a pilot navigate over vast oceans without an accurate global positioning and timing system? How do we establish the precise boundaries between countries? These questions can be answered with geodesy – the science of accurately measuring the Earth's shape, gravity field, and rotation over time. Geodesy gives us the infrastructure and critical data for accurate positioning, navigation, and timing, forming the backbone of many essential systems in our daily lives.

Closely linked to geodesy are the essential services provided by satellites and Earth Observation (EO). Countries worldwide rely on satellite data for economic growth, infrastructure, and national defense, by offering positioning, navigation, timing, telecommunications, and Earth Observation (EO) services.

Earth Observation (EO) involves gathering data about Earth's systems and the changes they undergo, using imaging and remote sensing technology to monitor the surface and atmosphere. Instruments like ground sensors, buoys, drones, and especially satellites play a crucial role, with satellites scanning large areas consistently over time. This data enables experts to track environmental changes, manage natural resources, plan urban infrastructure, respond to natural disasters, support sustainable development efforts, and protect the environment.

However, for satellites to operate accurately and reliably, their positions in space, as well as Earth's position in space, must be continuously monitored. This precise observation is made possible only by the global geodesy supply chain. Imagine a world without accurate maps, where disaster response teams are unable to navigate efficiently, or where climate scientists lack precise data to predict and mitigate the impacts of global warming. Geodesy, often known as the 'science behind the science,' that is essential for many aspects of modern life and is the essential backbone supporting the accuracy of Earth Observation and the many services it provides.

Global progress in Earth Observation

Today, hundreds of EO satellites provide essential data to manage our world. The World Economic Forum (WEF) reports that over 1 000 satellites orbit the planet, with their numbers rapidly increasing in the past decade. However, while EO has advanced significantly globally, Africa is still building its capacity in this area.

Africa's geodesy challenges and growing needs

Geodetic data forms the foundation for applications like navigation, surveying, and infrastructure development, noted Albert Anoubon Momo, Founder and CEO of GeoDEV International, during this year's UN Science Summit Day on Geodesy. He emphasised that inaccurate or outdated geodetic data can pose huge safety risks, including navigation errors causing accidents, economic losses, and environmental impacts like pollution and habitat destruction.

By 2050, Africa's population is expected to double to 2.5 billion people. This will place immense pressure on existing infrastructure and, according to the African Development Bank, the continent faces an infrastructure funding gap of $68–$108 billion annually. Africa, therefore, needs geodetically informed infrastructure. Without this, sustainable development will be unattainable and risk economic growth as well as the future of communities across Africa.

'The global geodesy supply chain needs Africa'

Africa is currently facing several challenges, including lack of geodetic infrastructure, limited access to and outdated geodetic data, and funding and resource constraints. Moreover, there is a lack of awareness of geodesy as a career and less formal geodesy training options in universities. Investing in African geodetic infrastructure will not only strengthen the geodesy global supply chain but also address many local issues in Africa, explained Dr Aletha de Witt, Director: Radio Astronomy Projects, Department of Science, Technology and Innovation (DSTI), South Africa in her presentation at the GGOS (the Global Geodetic Observing System) Days 2024 conference. "The global geodesy supply chain needs Africa," added de Witt.

De Witt explained that work is underway to establish a GGOS affiliate for Africa (that will be called GGOS Africa) by 2025. GGOS is a component of the International Association of Geodesy (IAG) – the organisation responsible for the advancement of Geodesy and contribution to EO.

Africa also has a strong need for geodetic data for climate change, environmental monitoring, and disaster response. De Witt explained that many African countries are vulnerable to rising sea levels. For instance, in parts of Africa, large portions of the population live near the coast, yet few of these countries have climate change adaptation plans in place.

Partnerships and collaboration

For de Witt, the biggest challenge is collaboration and partnerships between African countries. The only geodetic site on the entire African continent is the SARAO Hartebeesthoek site in South Africa.

In working towards GGOS Africa, de Witt added there was a need for a Pan-African institute or organisation for geodesy to coordinate their efforts, which would be GGOS Africa. "We've started with South Africa because we have the only fundamental geodetic station in Africa," but there is also a geodesy committee established in South Africa, led by the DSTI, which is in progress, she said.
"Collaboration with key mega-projects like the SKA is essential for advancing GGOS Africa," said de Witt. The Square Kilometre Array (SKA) project, which is set to become the largest radio telescope in the world, is currently under construction in South Africa. Its network of outer stations will extend across eight African countries: Namibia, Botswana, Zambia, Mozambique, Kenya, Madagascar, Mauritius, and Ghana.

This collaboration presents unique opportunities to integrate geodesy into Africa's scientific landscape. By co-locating geodetic instruments, such as GPS stations and radio telescopes used for geodesy, alongside SKA infrastructure, we can significantly strengthen Africa's geodetic network. Integrating geodetic and astronomical infrastructure not only advances both these scientific fields but also builds a foundation for sustainable development that serves both regional and global needs.

Securing geodesy funding

In addition to the above, funding and resource constraints are another hindrance. However, in August 2024, an Africa-UK Physics Partnership application for funding was submitted. If the funding is secured, the plan is to use it to assess the situation in Africa – identifying gaps, determining where more instruments are needed, and pinpointing organisations involved in geodesy. This funding would also serve as seed capital for implementing GGOS Africa.

"Africa is at a critical juncture and … has immense potential to contribute to global science," said de Witt, adding: "I believe that a GGOS Africa will bring us together in Africa and help us to address some of these issues in a coordinated way."

Capacity Building in Strengthening Intra-African and International Space Cooperation

By Etim Offiong

In 2010, the African Union recognized the strategic importance of outer space and began promoting cooperation in space technologies to accelerate Africa's development. At the 15th Assembly of the African Union (AU) held that year, African Heads of State and Governments:

(1) called on African countries to "develop bilateral and multilateral cooperation in the area of space technologies in order to speed up their development."
(2) endorsed South Africa's bid to host the SKA in partnership with eight other African countries, namely: Botswana, Ghana, Namibia, Madagascar, Mauritius, Mozambique, Kenya, and Zambia. (South Africa eventually won the hosting of a major part of the SKA, while a minor part was given to Australia.)
(3) urged Southern Africa to choose a country within the region to host the PAU Institute for Space Science. (South Africa was eventually chosen to host the Institute.)

In addition, the African Union (AU) has designated the African Outer Space Programme as one of the flagship projects of Agenda 2063. The African Space Policy and Strategy was adopted by African Heads of State and Governments in 2016; the African Space Agency was established in 2018, with headquarters in Cairo, Egypt; and the African Space Council was constituted in 2024. Several other African countries have also developed national space policies and associated national space programs.

Furthermore, the attention of the international community has turned towards Africa. In 2011, South Africa hosted the International Astronautical Congress (IAC)—the global gathering of space policymakers, industry, and professionals—the first time in Africa it would be held in Africa since the first edition in 1950. In the same vein, South Africa hosted the General Assembly of the International Astronomical Union (IAU-GA) in 2024, the first time in Africa since its founding in 1919.

Given the role that space plays in the international scene, including serving as a tool for peace and security, AU Member States need to leverage space cooperation and diplomacy to advance their internal and international interests. To this end, the African Space Leadership Institute (ASLI), in partnership with the Nigerian Embassy in Addis Ababa and the Ethiopian Space Science and Geospatial Institute (SSGI), organised a one-week course on maximizing international space cooperation from 30th September to 4th October 2024. The course aimed to equip professionals, policymakers, and representatives with essential skills in international relations theory, space geopolitics, and UN space treaties, crucial for advancing Africa's role in space cooperation. It also provided an opportunity for participants to gain knowledge in formulating policy and governance frameworks to promote responsible, sustainable, and inclusive participation in space activities. By empowering Africa's next generation of space leaders, initiatives like these not only shape our continent's future but also inspire young Africans to dream big and reach for the stars.

There were eleven participants from Ethiopia, Kenya, Nigeria, and Rwanda. Ten facilitators from different parts of the world facilitated different lectures, including the benefits and applications of space exploration; international relations theory and applications to outer space; Space geopolitics; UN space treaties and principles; and the African outer space program. As a flagship initiative of Agenda 2063, Africa's development blueprint, the African Outer Space Programme aims to leverage space technologies to drive economic growth and sustainable development across the continent.

Addis Ababa, home to the African Union and many international organizations, was chosen for its potential to become the 'Space Diplomacy Capital for Africa,' centralizing African efforts in global space diploma." Addis Ababa hosts the headquarters of the African Union and its secretariat, the African Union Commission. Nearly all 55 African countries have embassies in Addis Ababa; the heads of these missions form the Permanent Representative Council (PRC), an organization that is one of the organs of the AU. Addis Ababa also hosts the regional offices of the World Meteorological Organization, the World Telecommunications Organization, and the Office of Astronomy for Development's East African region.

With the support of international partners and the growing commitment of African nations, the continent is set to further its influence in global space diplomacy. The next edition of the course, scheduled for 6-10 October 2025, will continue building on this momentum, ensuring that Africa remains at the forefront of responsible and sustainable space exploration.

The RR LYRAE and CEPHEID meeting MORROCO 2024

By Kaoutar Saadi

The 5th edition of this prestigious conference will be held in Marrakesh, Morocco, from November 23 to 30, 2024, marking the first time the event has been hosted on the African continent. This represents a significant moment in the conference's history, reflecting Africa's growing role in the global scientific landscape. Previous editions have taken place in Visegrad, Hungary (2015), Niepolomice, Poland (2017), Cloudcroft, USA (2019), and La Palma, Spain (2022), each contributing to the advancement of astronomical research and international collaboration. This conference will bring together leading scientists and researchers to discuss the latest advancements in the study of Cepheid and RR Lyrae stars. It will offer a platform for presenting new research, sharing innovative techniques, and fostering interdisciplinary collaborations. Attendees will engage in discussions about observational strategies, theoretical models, and technological advancements, all aimed at pushing the boundaries of our knowledge about these key stellar phenomena. By focusing on these stars, the conference seeks to drive forward new discoveries and enhance our understanding of the universe.

Significance of Cepheid and RR Lyrae Stars:

Cepheid and RR Lyrae stars are cornerstones in the study of the cosmos, providing critical insights into the universe's structure and evolution. Cepheid variables, with their well-established period-luminosity relationship, have revolutionised our ability to measure cosmic distances. This fundamental relationship allows astronomers to calculate the intrinsic brightness of these stars based on their pulsation periods, thereby enabling accurate distance measurements to distant galaxies and contributing to our understanding of the universe's expansion. Meanwhile, RR Lyrae stars, characterised by their stable pulsation cycles, offer valuable data on the age and composition of stellar populations in globular clusters and the Milky Way's halo.

Recent advancements in observational technology have deepened our understanding of these variable stars. Satellite missions such as CoRoT, Kepler, and TESS, along with extensive photometric campaigns like OGLE and MACHO, have generated vast amounts of data on these stars. This surge in information presents both a challenge and an opportunity for the scientific community. The need for effective data processing and analysis has never been greater, highlighting the importance of international collaboration in developing sophisticated digital tools and techniques. By leveraging these advancements, astronomers are poised to further our understanding of Cepheid and RR Lyrae stars, ultimately enhancing our broader comprehension of the cosmos.

Key Topics:

The field of astronomy in Africa has made significant strides, becoming an Increasingly important player in global research efforts. This progress is largely due to the deployment of advanced instruments and telescopes, supported by the African Astronomical Society (AfAS), which has established a robust framework for research and support across the continent. Observatories such as the Oukaimeden Observatory in Morocco, equipped with smaller yet highly effective instruments, are proving essential for the study of RR Lyrae stars and other celestial objects requiring long-term observations.

The upcoming conference will cover a range of critical topics, including:

- Space photometry of classical pulsators
- Classical pulsators in large-scale photometric surveys
- Spectroscopy and interferometry of classical pulsators
- Nonradial modes in Cepheids and RR Lyrae stars

- The Blazhko effect
- Classical pulsators in binary systems
- Period-Luminosity-Colour relation
- RR Lyrae stars and Cepheids in stellar systems
- Classical pulsators in the era of Gaia
- Pulsations and evolution
- Numerical modelling
- Theory and pulsation models
- Future instrumentation, projects, and data analysis techniques

These topics will be pivotal to the discussions, focusing on the latest developments and challenges in the study of RR Lyrae and Cepheid variable stars. The conference will provide a platform for researchers from Africa to showcase their recent work, exchange insights, and discuss new advancements. By highlighting Africa's expanding role in astronomical research and fostering international collaboration, the event aims to position the continent as a key contributor to the exploration and understanding of these complex stellar phenomena.

Scientific Contributions:

The conference is poised to make significant scientific contributions to the study of variable stars through several impactful avenues:

1. **Refining Pulsation Models:** Improving understanding of stellar pulsation through topics like the Blazhko effect and non-radial modes in Cepheids and RR Lyrae stars.

2. **Integrating Observational Data:** Enhancing analyses by combining recent advancements in space photometry and large-scale surveys.

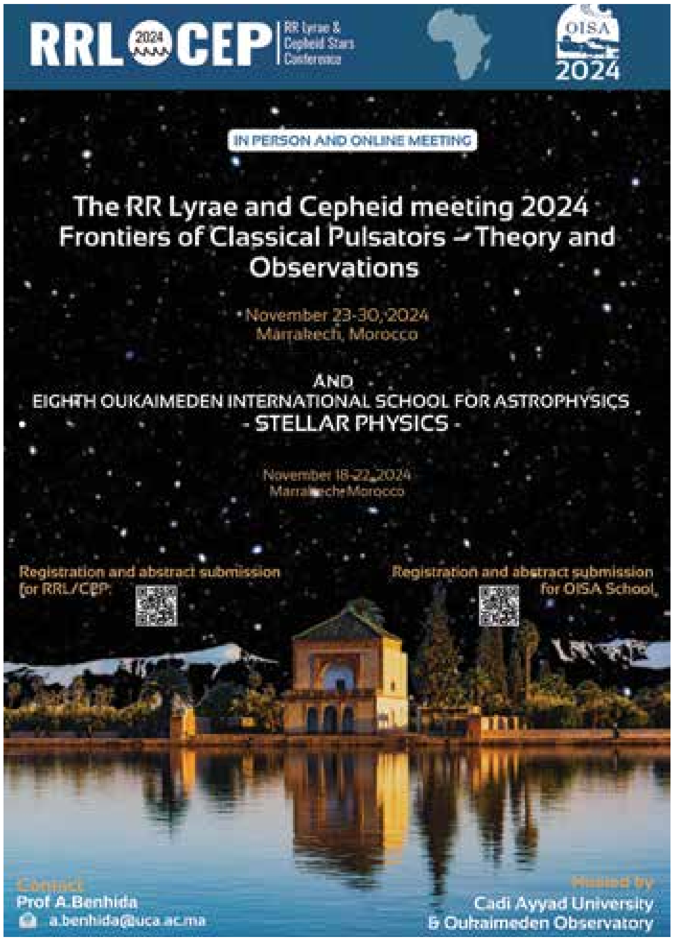
3. **Advancing Spectroscopy and Interferometry:** Providing new insights into the atmospheric and structural properties of classical pulsators.

4. **Understanding Stellar Systems:** Exploring relationships like the Period-Luminosity-Colour relation and the role of pulsators in binary systems.

5. **Showcasing Future Techniques:** Introducing new instrumentation and data analysis methods to enable more precise future research.

6. **Fostering Global Collaboration:** Promoting international cooperation and knowledge exchange among researchers.

These efforts will improve theoretical models, data integration, analytical techniques, and global research collaboration,



significantly impacting our understanding of Cepheids and RR Lyrae stars. In parallel, from November 18 to 22, 2024, the 8th Oukaimeden International School of Astrophysics (OISA 2024) will be held, focusing on stellar physics. This educational event will host 30 international students, offering them a comprehensive curriculum centered around the latest developments in stellar physics. African students may receive sponsorship from the African Astronomical Society (AfAS), which aims to support their participation and foster their involvement in advanced astrophysical research. OISA 2024 will provide a valuable platform for emerging astrophysicists to gain hands-on experience, engage with leading experts, and contribute to the ongoing discourse in the field.

The upcoming conference in Marrakesh (November 23-30, 2024) on Cepheid and RR Lyrae stars will focus on significant topics, including the Blazhko effect and advancements in photometry. It aims to advance scientific knowledge and foster international collaboration. Additionally, the 8th Oukaimeden International School of Astrophysics (OISA 2024) will provide education and support for emerging astrophysicists. These events will enhance our understanding of variable stars, improve data analysis methods, and strengthen Africa's role in global astronomy.

South African National Space Conference 2024

Integrating space science and technology to create a sustainable future for Africa

By Phenyo Mathapo

The second National Space Conference (NSC) was held at the Council for Scientific and Industrial Research (CSIR) International Convention Centre, in Pretoria, from the 28–30 August 2024. The conference, supported by the Department of Science, Technology and Innovation (DSTI), centered around the theme “Space Science and Innovation for Sustainability” and was jointly organized by the South African National Space Agency (SANSA), the National Earth Observation and Space Secretariat (NEOSS), and the South African Air Force (SAAF).

This event highlighted the role that space science and technology play in promoting sustainable development across the three core pillars: society, the economy, and the environment. It featured speakers from different organizations, including SANSA, CSIR, Space Commercial Services (SCS), Agricultural Research Council, Clyde Space Africa, Swift Geospatial, Dragonfly Aerospace, Human Sciences Research Council, University of KwaZulu-Natal and Dragonfly Aerospace, among others. International delegates from countries such as Ghana, Angola, Kenya, the Democratic Republic of Congo, Gabon, and Egypt were present and gave remarks, showcasing the commitment to advance space science and innovation on the African continent through means of collaboration and connectivity.

The NSC offered platforms for networking and showcasing groundbreaking innovations through panel discussions, a space and science exhibition, networking sessions, and keynote addresses. Lieutenant General Wiseman Mbambo and the CEO of SANSA, Mr Humbulani Mudau delivered keynote addresses. They discussed the critical role space technologies take in enhancing aviation efficiency and safety, and the celebration of a decade of SANSA’s impact on space and innovation. The launch of the Precision Agriculture Information System (PAIS) by CSIR’s Advanced Agriculture and Food Division, which aims to utilise space technology to promote sustainable agricultural practices, was announced. Such highlights emphasize the diverse applications of space technologies in fostering innovation, supporting sustainable development, and improving safety. With an emphasis on passion, research, and education and a brief discussion of integrating space science into high school curricula to inspire the youth, the conference hosted special events that promoted equality, diversity, inclusion, and access (EDIA) within the space community.

Discussions were focused on how space science can help Africa, the importance of collaboration within the African space economy, and the role of space in infrastructure development, climate change mitigation and job creation on the continent. Each day presented key topics surrounding the benefits of space science for social equity, the economic impact and innovation potential of space technologies as well as environmental applications of space technology for sustainability.

The themes highlighted in these discussions aligned with sustainability goals and the presentations covered the scientific, technical and policy aspects of global challenges such as food insecurity, energy crisis, environmental disasters and water scarcity. Through integrating space science and technology, decision-making processes regarding societal, economic and environmental progress were of importance regarding African development.

Utilising and discussing space science and astronomy in Africa reveals just how capable the continent is at creating a sustainable livelihood that is created by Africans, for Africans in Africa. The significance of the NSC also highlights how the exchange of ideas and collaborations between engineers, researchers, stakeholders, businesses, NGOs, academics, science journalists, data suppliers, public servants and consultants contributes to the strategy discussions of creating a sustainable African space economy.

The event presented interesting and beneficial topics such as the use of satellite and remote sensing technologies for continuous environmental monitoring, the importance of resilient satellite communication and navigation systems for disaster management, infrastructure resilience and national security, and how multilateral cooperation can steer shared economic and social development for international collaborations in achieving Sustainable Development Goals (SDGs). Through public and private partnerships, the future of space science and astronomy in Africa continues to become a global success.

African Space agencies visit SANSA
A step towards continental collaboration

By Phenyo Mathapo

In a significant move to strengthen Africa's space economy, the South African National Space Agency (SANSA) recently showed South Africa's space capability and opportunities to heads of space agencies across Africa to encourage regional and international collaboration. The visit, a week-long tour of facilities in Gauteng and the Western Cape, coincided with the National Space Conference (NSC).

SANSA was established to promote the use of space and reinforce cooperation in space-related activities while cultivating research in space science, enhancing scientific engineering through developing human capital, and supporting industrial development in space technologies. The visit resulted in a collaboration with the Gabonese Agency for Space Studies and Observations (AGEOS) and allowed 11 representatives from other African space agencies to tour SANSA's facilities.

Following the NSC, representatives from Ghana, Angola, Egypt, Malawi, South Sudan, Zambia, Namibia, the Democratic Republic of Congo, Kenya, and Gabon were impressed with South Africa's achievements. They are also interested in establishing partnerships to benefit from shared skills, capabilities, and knowledge. Gabon has already agreed to partner with South Africa in developing its ground station capabilities.

The collaboration with AGEOS aligns with the vision SANSA has regarding the development of an integrated national space capability that responds to wider African socio-economic challenges on the continent by 2030. These two space agencies share significant geographical advantages regarding ground station location and resources, which could improve access to global business for the rest of Africa. This collaboration aims to develop advanced ground infrastructure in Gabon, strengthening Africa's presence in the global space industry. It will also contribute to sustainable development by providing Earth observation and capabilities.

Partnerships and collaborations within the African space community contribute to the continent becoming more self-reliant. Sharing knowledge across the continent also helps us step towards unity and connectivity in Africa as we seek more sustainable ways of living through the use of what space has to offer.

Images provided by SANSA (South African National Space Agency)

Exploring Exciting
Job Opportunities at SARAO

By Odirile Mamba

If you have a passion for science, technology, and astronomy, the South African Radio Astronomy Observatory (SARAO) offers an exceptional opportunity to contribute to cutting-edge research and projects. SARAO leads South Africa's radio astronomy initiatives, including the renowned MeerKAT and Square Kilometre Array (SKA) telescopes. Based in Cape Town, SARAO fosters scientific innovation and collaboration while upholding values like excellence, integrity, and a people-centered approach.

Job Opportunities at SARAO

SARAO is seeking skilled professionals to join its diverse team. Key roles include:

1. **Radio Astronomy Engineers**
   Engineers specialising in radio astronomy are needed to design and maintain advanced instrumentation. Ideal candidates should have expertise in electrical/electronic engineering, digital signal processing, or radio frequency engineering.

2. **Astrophysicists and Researchers**
   Researchers with expertise in galaxy formation, pulsar studies, or cosmic magnetism can engage in groundbreaking research using data from world-class facilities like MeerKAT and SKA.

3. **Software Developers**
   Software engineers are needed to develop innovative solutions for data processing and algorithm development, with proficiency in Python, C++, or Java, and high-performance computing.

4. **Project Managers**
   SARAO seeks experienced project managers to oversee large-scale operations and collaborate with international teams.

5. **Graduate Development Programmes**
   SARAO offers hands-on experience, mentorship, and training for recent graduates in fields like engineering, data science, and astronomy.

Current Opportunities

Current roles at the SARAO vacancies page include Logistics Engineers, RF Engineer, Mechanics Engineer, Junior and senior CNC Machinist Programmer, Handymen, SKA Mid-Office Administrators, Finance Interns, Procurement Assistants, Project Planners, Level 2 Project Managers, and Contract Specialists. These positions provide a unique chance to work on groundbreaking radio astronomy projects.

Why Work at SARAO? SARAO offers a stimulating environment, collaboration with top professionals, and opportunities for career advancement. Be part of innovative projects like MeerKAT and SKA and enjoy continuous learning and growth.

How to Apply? Visit the SARAO Vacancies page (https://www.sarao.ac.za/vacancies/) for job openings and application details. Apply at the NRF recruitment portal (https://ess.nrf.ac.za/Account/Recruitment) by registering an account.

Don't miss the chance to join one of the most exciting astronomy projects in the world.

Join SARAO and Reach for the Stars!

Whether you're a seasoned professional or a fresh graduate, SARAO offers a unique opportunity to shape the future of astronomy.

African Science Stars on the move

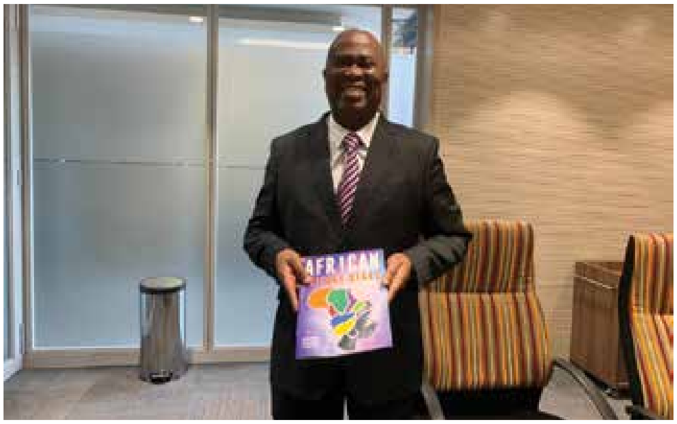
Ethiopia's skies came alive with wonder as African Science Stars joined the 100 Hours of Astronomy event, a global initiative bringing stargazing to communities worldwide. Our Ambassador Lillian Assefa, along with local educators, guided attendees through a journey of celestial exploration, explaining the magic of the night sky and the science behind it. This event exemplifies our dedication to bringing knowledge and inspiration to communities, fostering a love for astronomy that knows no boundaries.

At the prestigious International Astronomical Union General Assembly, African Science Stars made a powerful statement. Representing the vibrancy and potential of Africa's scientific community, our team shared stories, collaborated with global leaders, and reinforced the presence of African voices in astronomy. This pivotal gathering provided a unique platform to spotlight Africa's commitment to exploring the cosmos, opening new doors for future astronomers on the continent.

During Focus Week, the African Science Stars team engaged with students who eagerly explored our latest magazine editions. It was inspiring to see young minds captivated by stories of science and innovation, sparking curiosity and ambition for future careers in STEM.

At the National Space Conference, African Science Stars presented our magazine editions, sharing insights into Africa's role in space and inspiring future scientists.

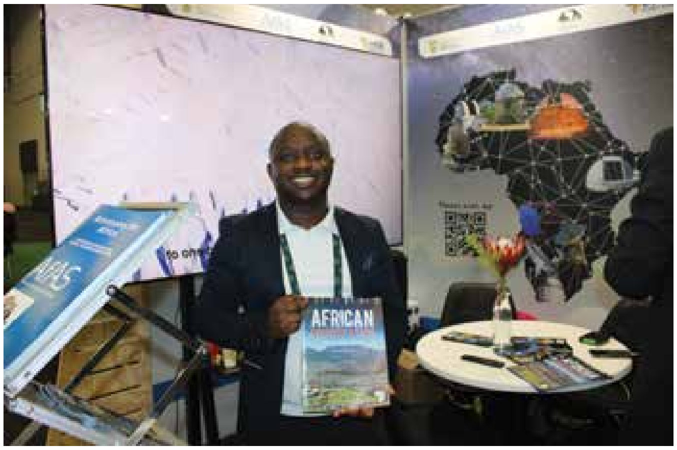
During National Space Week, African Science Stars distributed its latest magazine editions in South Africa, inspiring curious minds to explore the universe.



The team interviewed Dr Phil Mjwara, who shared valuable insights on Africa's growing role in science and innovation.

The African Science Stars team exhibited at AAD, Africa's largest and most prominent event showcasing air, land, and sea technologies, combining a trade exhibition with a public air show. The event, held from 17 to 21 September 2024 in Tshwane, South Africa.

Our African Science Stars Ambassador Kaoutar Saadi in Morocco captivated young minds at the 'Les Étoiles du PetitPrince' event held at Mohamed VI High School in Essaouira.



In a brief but impactful encounter, African Science Stars had a chance to connect with prominent dignitaries, sharing our vision for advancing science education and outreach across Africa.

The African Science Stars team collaborated with BRICS Astronomy at the General Assembly, working together to promote Africa's role in global astronomy.