



science & innovation

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA



National  
Research  
Foundation

AfAS  
African Astronomical Society

XXXII IAU GENERAL ASSEMBLY

CAPE TOWN, SOUTH AFRICA, 2024

### IAU SIDE EVENTS

DATE	TIME	EVENT NAME	DESCRIPTION	VENUE
4 August 5 August	09:00 – 18:00 09:00 – 16:00	ASTRO ACCEL Summit	Closed event, by invitation only.	Room 2.40
4 August 5 August	09:00 – 17:00 09:00 – 17:00	Towards New Horizons in Computational Astrophysics: From Space Weather to Black Holes	<p>The pre-GA ‘hacks’ will take place on the 4th - 5th August 2024 at the CTICC. They will focus on training young researchers (PhD students and young postdocs) in state-of-the-art topics and techniques:</p> <ul style="list-style-type: none"> <li>• Magnetohydrodynamics with the PLUTO code – lead: Bhargav Vaidya</li> <li>• A first taste of MESA – an open source tool box for experiments in stellar astrophysics – lead: Lieke van Son</li> <li>• ALeRCE Community Broker for the Vera C. Rubin Observatory – lead: Francisco Forster and Guillermo Cabrera</li> <li>• Black hole modelling and imaging with EHT data – lead: Iniyan Natarajan</li> </ul> <p>Participants will not only learn invaluable computational skills, but also have the opportunity to interact and connect with peers and leading researchers from around the globe. Computing resources will be provided by IDIA, e.g., cloud-based servers with the necessary software pre-installed. The main requirement is that participants must have some experience using Python and Jupyter Notebooks. Additional resources will be provided prior to the GA to help participants prepare.</p>	Room 2.60

			For more information see: <a href="https://idia.ac.za/bdh2024-hackathons/">https://idia.ac.za/bdh2024-hackathons/</a>	
5 August 6 August	08:00 – 17:00 08:00 – 10:00	LITU meeting	The 2-day Life in the Universe meeting is a multi-disciplinary exposition centered around the presence and evolution of life in the universe: it covers the search for technosignatures and biosignatures using telescopes, space missions searching for life in the solar system, prebiotic chemistry in the universe and in the laboratory, the earliest life forms on Earth, genetics, mass extinctions, the coevolution of technology and intelligence and the future of humanity and the planet. Previous events in the series have followed a chronological narrative, from the formation of complex molecules in the universe through our earliest common ancestors to the appearance of advanced cognition and the possible future evolution of life on Earth. The event emphasizes that we all derive from an earliest common ancestor and that we may not be unique in the universe, given the recent discovery of thousands of habitable planets in our Milky Way galaxy alone.	Room 1.40
5 August	17:30 – 19:30	Cosmic Echoes Exhibition	<p>To mark the 10th anniversary of its Shared Sky Indigenous astronomy art exhibition, the SKA Observatory (SKAO) is excited to launch a new phase of the exhibition at the IAU General Assembly in Cape Town.</p> <p>Cosmic Echoes stems from the SKAO's vision to bring together under one sky South African and Aboriginal Australian artists in a collaborative exhibition celebrating humanity's ancient cultural wisdom. This vision embodies the spirit of the international science and engineering collaboration that is the SKA project itself, bringing together many nations around two sites in Australia and South Africa to study the same sky.</p> <p>It reflects the richness of the artist's' ancestors' understanding of the world developed across countless generations observing the movements of the night sky. Cosmic Echoes explores how this sophisticated understanding of celestial mechanics resonates in the work of living artists that are sharing their insights with scientists working to unlock the secrets of the Universe. The original artworks have been touring the globe since 2014.</p> <p>The new exhibition blends visual art, poetry, video and soundscapes to build upon the original Shared Sky concept. The pieces have been created by artists in South Africa's Northern Cape, where the SKA-Mid telescope is under construction, and by artists from the Wajarri Yamaji community, Traditional Owners and native title holders of Inyarrimanha Ilgari</p>	Clivia Conservatory

			<p>Bundara, the CSIRO Murchison Radio-astronomy Observatory, where the SKA Low telescope is being built in Western Australia.</p> <p>Cosmic Echoes will be launched on 5 August 2024, in the Clivia Conservatory in a ceremony that is open to all delegates on a first-come-first-serve basis, subject to the number of people the venue can hold. The exhibition will be open to all delegates for the duration of the IAU General Assembly.</p> <p><i>The SKAO recognises and acknowledges the Indigenous people and cultures that have traditionally lived on the lands on which our facilities are located.</i></p>	
7 August	08:00 – 10:00	AI/ML safety workshop	<p>This workshop provides an introductory overview to the nature of AI risk, its relevance, and some of the key concepts in the field. It consists of a series of short and interactive talks, followed by group exercises. The talks include an overview on the current state of AI risk, a dive into mechanistic interpretability (a promising research agenda in AI Safety), and a brief description of governance approaches to AI. We will then do a guided paper reading, where we will read and discuss a mechanistic interpretability paper as a group. This talk is aimed at those with a solid understanding of ML concepts, and the latter part of the workshop will be quite technical, but ML novices may find the workshop interesting and worthwhile regardless.</p> <p>Register:  <a href="https://airtable.com/appR0NwXFE9nxfDKA/pag5QLnIOtraFqfLT/form">https://airtable.com/appR0NwXFE9nxfDKA/pag5QLnIOtraFqfLT/form</a></p>	Room 1.61 – 1.62
7 August	09:00 – 17:00	Open Access Encounters: The Good, the Bad and the Ugly	Offsite event	SAAO Auditorium (offsite)
7 August	12:00 – 13:30	MeerKAT/SARAO Side event	<p>SARAO has built a track record of driving innovation in the key instrumentation that makes up a radio telescope. This allowed SARAO to design and develop for the Observatory of the Future. We have managed to build a strong reputation internationally as is evident in our CASPER involvement where we became a principal contributor and driver, enabling instrumentation and science around the planet. The session will be focused on sharing the R&amp;D / innovation work we are doing along the signal chain of the radio telescope, from receivers to the science user products. Specifically, focusing on the major components we specialise as detailed below:</p>	Room 2.61 – 2.63

			<p>Receivers &amp; Digitizers:  Low-noise receivers for radio astronomy.  High speed and high dynamic range digitisation of RF signals.  Real-time digital signal processing systems for astronomy instruments, including the CASPER collaboration.  New RFI mitigation methodologies  Software &amp; data systems  High-performance compute platforms and algorithms for radio astronomy science data processing.  Monitoring and control software and hardware for astronomical telescopes. Including intelligent observatory tools  Low-cost storage systems for high-performance computing use cases  RFI: Measurement and mitigation of RFI in radio astronomy systems. RFI products  Structures (Maybe): Design and analysis of mechanical structures for astronomy instruments.</p>	
8 August	07:00 – 12:00	GA Special event (breakfast)	Closed event, by invitation only.	Nerina & Protea CTICC 2
8 August	08:00 – 09:30	Global Coalition for Dark Skies		Room 2.61 – 2.63
8 August	08:00 – 10:00	Working Group on Cartographic Coordinates and Rotational Elements (WGCCRE)	For IAU participants. public meeting of the Working Group on Cartographic Coordinates and Rotational Elements (WGCCRE). In the past, Commission and Working Group meetings have usually been coordinated by Division representatives. Since the WGCCRE is under Division A and F, I've contacted the Division Presidents (Daniel Hestroffer and Antonella Barucci respectively), but they have said that for this General Assembly they are not arranging such meetings.	Room 2.64 – 2.66
8 August	14:00 – 17:00	Event Horizon Telescope (EHT) science session	<p>This session will be a 3-hour meeting on the latest results, the technology and software involved, the future trajectory of EHT projects, and their potential impact on astronomical research in Africa. In addition to the comprehensive EHT discussions, we plan to integrate one or two talks from the EHT to provide a broader perspective on VLBI applications and opportunities in Africa.</p> <p>For the program see: <a href="https://astronomy2024.org/eht-session/">https://astronomy2024.org/eht-session/</a></p>	Nerina & Protea CTICC 2
9 August	08:00 – 10:00	AI/ML safety workshop	This workshop provides an introductory overview to the nature of AI risk, its relevance, and some of the key concepts in the field. It consists of a series of short and interactive talks, followed by group exercises. The talks include an overview on the current state of AI risk, a dive into mechanistic interpretability (a promising research agenda in AI Safety), and a brief	Room 1.61 – 1.62

			<p>description of governance approaches to AI. We will then do a guided paper reading, where we will read and discuss a mechanistic interpretability paper as a group. This talk is aimed at those with a solid understanding of ML concepts, and the latter part of the workshop will be quite technical, but ML novices may find the workshop interesting and worthwhile regardless.</p> <p>Register:  <a href="https://airtable.com/appR0NwXFE9nxfdKA/pag5QLniOtraFqfLT/form">https://airtable.com/appR0NwXFE9nxfdKA/pag5QLniOtraFqfLT/form</a></p>	
9 August	09:30 – 17:00	SKA Observatory: exploring a Universe of opportunities	<p>IAU General Assembly delegates are invited to attend a special, day-long event on Friday 9 August to hear the latest updates from the SKA Observatory (SKAO), the next-generation radio astronomy facility. In collaboration with international partners, the SKAO is building two revolutionary new radio telescopes, one hosted in South Africa’s Northern Cape and one in Western Australia, which will undoubtedly transform our understanding of the Universe.</p> <p>During the day-long event coinciding with Women’s Day in South Africa and International Day of the World’s Indigenous Peoples, members of Team SKA will reveal the latest construction progress at both telescope sites and showcase how we are building partnerships with local and Indigenous communities to create long-term benefits for our local neighbours. We will also detail how the science community can already get involved as we prepare for science verification and early operations. This includes information on science timelines, what users can expect in areas such as telescope capabilities and access, the current tools available for the community, and updates on the development of the SKA Regional Centre network where users will access Observatory data products.</p> <p>The packed day of talks and panel discussions will also encompass the current preparations for SKA science including an update on the Science Data Challenges; sustainability as a foundation for our activities; and opportunities to work for the SKAO.</p> <p>Day: Friday 9 August  Time: 09:30 – 17:00  Venue: Nerina and Protea, CTICC 2  Full event program: See <a href="https://www.skao.int/en/events/550/skao-event-iau-general-assembly">https://www.skao.int/en/events/550/skao-event-iau-general-assembly</a>.</p>	Nerina & Protea CTICC 2

			<p>This event is open to all delegates, please register <a href="#">here</a>.</p> <p><b>Attendees will need to display their IAU General Assembly conference pass to access the event.</b></p> <p><i>We recognise and acknowledge the Indigenous peoples and cultures that have traditionally lived on the lands on which our facilities are located. In Australia, we acknowledge the Wajarri Yamaji as the Traditional Owners and native title holders of Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory, the site where the SKA-Low telescope is being built.</i></p>	
9 August	10:00 – 17:00	IAUS319 JWST Hands on Workshop		Meeting Pod
12 August 13 August	08:00 – 10:00 08:00 – 10:00	K-band AstroGeo VLBI Project	<p>The requested session at the IAU General Assembly will convene members of the K-band AstroGeo VLBI Project to present recent advancements in high-frequency, multi-wavelength astrometric and geodetic VLBI findings, as well as to strategize future initiatives. The primary objective of the K-band AstroGeo VLBI Project is to refine the precision and accuracy the the celestial reference frame at K-band frequencies (24 GHz) and beyond through continuous astrometric and geodetic observations. This mission is realized through ongoing enhancements in observation techniques and analytical methodologies, ensuring the reliability and precision of resultant data products. Moreover, the project is dedicated to promoting accessibility to K-band VLBI data, fostering collaborative endeavors, and catalyzing scientific innovation across diverse domains. <a href="https://sites.google.com/sarao.ac.za/k-bandastrogeovlbi/home">https://sites.google.com/sarao.ac.za/k-bandastrogeovlbi/home</a></p>	Room 2.61 – 2.63
12 August	09:00 – 17:00	Astronomy Education Hack Day	<p>The IAU Office of Astronomy for Education will host an astronomy education hack day on 12 August 2024. We invite astronomers attending the GA to spend about 15-20 minutes reviewing the astronomy education resources developed by the OAE, these include the Multilingual Glossary and images, that are available on our website. This review of the resources is crucial to ensure that scientific accuracy is maintained.</p>	Meeting Pod
12 August	13:30 – 15:00	Multiwavelength Astronomy with AMT in the context of Africa - Intercontinental collaborations	<p>The African continent facilitates an increasing number of multi-messenger astronomy projects. The Africa Millimetre Telescope (AMT) in Namibia will be the newest facility added to a growing number of observatories on the continent. With AMT as the latest addition, the opportunity for closer collaboration between facilities is ready to be explored in more detail. This session aims at bringing all related aspects of African-intercontinental, multi-messenger astronomy projects together. We will explore common research goals, possibilities for collaboration on instrumentation, as well</p>	Nerina & Protea CTICC 2

			as the broader strategic cooperation related to societal impact and funding.	
12 August	15:30 – 17:00	NASA - SSERVI Africa Node		Nerina & Protea CTICC 2
12 August	17:00 – 18:30	IAU Working Group on Multi-waveband ICRF (closed meeting)		Room 2.61 – 2.63
13 August	08:30 – 10:00	Working Group for Astronomy in Culture (WGAC)	The Working Group for Astronomy in Culture (WGAC) will conduct a business and scientific meeting during this session. The business portion of the meeting will recount activity of the past triennium and will discuss future activity for the next three years. The scientific portion of the meeting will feature current research and also activity regarding globally responsible siting for new observatories. Cultural Astronomy will be showcased for all who attend.  Full event program: <a href="https://astronomy2024.org/wgac-commission-c5/">https://astronomy2024.org/wgac-commission-c5/</a>	Room 2.64 – 2.66
13 August	10:20 – 17:00	Private Meeting of SA Vera C. Rubin Observatory Data-Rights Holders (Current & Future)	A discussion meeting involving the South African LSST PIs and their JAs, together with people from Rubin Observatory, and others.	Nerina & Protea CTICC 2
14 August	10:20 – 18:30	VO workshop for African astronomers	A VO workshop for postgrad students, early career researchers and lecturers who want to use VO tools in teaching. This is a closed meeting and all places have been pre-booked.	Nerina & Protea CTICC 2
14 August	19:30 – 20:30	10th Anniversary of SAROAD existence	Southern Africa Regional Office of Astronomy for Development celebrates its 10th anniversary on the 14th of August 2024. The ceremony coincides with the IAUGA2024. In this regard, it will be celebrated in Cape Town on the same date. The ceremony will have a presentation by the SAROAD secretariat reflecting on its 10 years of existence.	Room 2.41 – 2.43 Cocktail on landing of 2.40
15 August	12:00 – 13:30	SKA HI science working group		Audi 1
15 August	14:00 – 16:00	Inclusive Astronomy hands-on workshop	The LightSound device is a tool that converts light to sound as an aid to the blind and low vision. It was designed to be used during solar eclipses but can also be used for teaching and outreach events. Since 2017, over 1000 devices have been distributed across North and South America for eclipse events. There are 3 total solar eclipses that will be visible from Africa in the next decade, with the first of those happening in just 3 years! Preparing communities for this historic event takes years of planning and accessibility should be in the forefront of the discussion. Join us for a workshop to learn how to build and use the LightSound	South African Astronomical Observatory, Cape Town (external venue)

		<p>to make your events more accessible to the blind and low-vision community. No experience needed. We will provide the material and teach you solder! Learn more about the LightSound Project - <a href="https://astrolab.fas.harvard.edu/LightSound.html">https://astrolab.fas.harvard.edu/LightSound.html</a></p>	
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Register: [https://docs.google.com/forms/d/1Sf7-rFHt0DYtBqfTXjj8oCjAPXV-sAq\\_yDeZ21KRw10/](https://docs.google.com/forms/d/1Sf7-rFHt0DYtBqfTXjj8oCjAPXV-sAq_yDeZ21KRw10/)