

UMnyele weZulu

EDITION 6: 13 AUGUST 2024 XXXII IAU GENERAL ASSEMBLY CAPE TOWN, SOUTH AFRICA

CAP Conference Past, present & future

By Kelly Blumenthal and Avivah Yamani - Pg 3

Spotlight on African students and researchers

Pg 5

Looking out for early-career astronomers

Working Group of IAU Junior members - Pg 10

Mapping the heavens - Pg 8

Tidal dwarf galaxies in a merger. Image courtesy of NASA, ESA and the Hubble Heritage Team (STScI/AURA).



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Table of Contents

Welcome to the penultimate issue of Umnyele weZulu. While things are starting to wrap up, there are still many important, informational and fun events going on in and around IAU-GA2024. Tonight at 19:00 is the Cosmic Savannah, a free live show featuring Nobel laureate, Prof Brian Schmidt, and Jim Buckee Fellow, Dr Nicole Thomas. **BOOK YOUR TICKETS HERE**. If you haven't already, check out the Cosmic Echoes Art Exhibition in the Clivia Conservatory

03 CAP Conference: Past, Present and Future

05 Spotlight on African students and researchers at IAU-GA2024

08 Mapping the heavens

09 DEI in astronomy

10 Looking out for early-career astronomers

11 Question of the Day

13 IAU Offices plenary with Prof Brian Schmidt

14 Plenary IAUS 392: Neutral hydrogen in and around galaxies in the SKA era



Upcoming Events

Cosmic Echoes art exhibition
06 to 15 Aug

IAUS 393: Planetary Science
and Exoplanets in the Era of
James Webb Space Telescope
14 Aug

Voting sessions for General
Assembly Resolutions
14 Aug

The Cosmic Savannah
14 Aug

Young Astronomers Lunch
14 Aug

Public Talk: Insights from
Nature and Space
14 Aug

Executive WG on Dark and Quiet
Sky Protection
15 Aug

Closing Ceremony Handover
15 Aug

The "Sombbrero" galaxy. Image courtesy of NASA, ESA and the Hubble Heritage Team (STScI/AURA).



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XXXII IAU GENERAL ASSEMBLY

CAPE TOWN, SOUTH AFRICA, 2024

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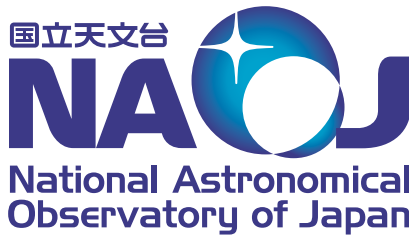


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CAP Conference: Past, Present and Future

By Kelly Blumenthal and Avivah Yamani

Online and hybrid conferencing has increased the accessibility of CAP events



(Top) The brightly coloured Gum 3 nebula as seen with the VLT Survey Telescope (VST). Image: ESO/VPHAS+ team Ack.: CASU

This June, the Office for Astronomy Outreach and the IAU Commission C2 – Communicating Astronomy with the Public, in collaboration with Cité de l'espace, organised the Communicating Astronomy with the Public Conference online and in Toulouse, France. This conference series traces its roots back more than two decades and has evolved in response to the needs of the community and the changing health and safety landscape worldwide. Though the COVID-19 pandemic isolated us, it also brought us together through rapid advancements in online meeting technology. Most notably, in 2021, we held the first completely virtual online CAP Conference, and in 2022, we held the first

hybrid CAP Conference online and in Sydney, Australia, demonstrating that hybrid conferences are an important part of how we move forward as a community.

In 2024, we held our second hybrid CAP Conference. Based on our learnings from the 2022 hybrid CAP Conference, the Local Organising Committee opted for a solution that provided a dedicated online platform for the conference participants. Through that platform, all participants—both in person and online—could watch the presentations, ask questions, engage in discussions, browse posters, and have one-on-one networking discussions.



(Above) Three generations of IAU National Outreach Coordinators were able to gather together at CAP Conference 2024.

In addition, this year we initiated a Discord server as a space to build a CAP community of practice to share, discuss, and build collaborations to span between and beyond individual CAP Conferences. In the CAP Discord server, we hosted many channels that aligned with topics of interest for our participants. We also held several activities on the platform, including a series of pre-conference networking sessions, a virtual of the asteroid Ryugu, and much more. **We invite everyone to join our CAP community by clicking on this link.**

While online conferences are important for safety and accessibility, the in-person component can be greatly beneficial, and this CAP Conference was no exception. The onsite venue itself was a sprawling space and astronomy centre featuring buildings of fascinating exhibits and demonstrations and broadly recognised as a leader in science education. The state-of-the-art planetarium

was a particular draw, as this CAP Conference took place during the years in which we celebrated the 100-year anniversary of the planetarium. In-person participants were also lucky enough to have access to onsite experiences and talks, including the museum's LuneXplorer immersive experience demonstrating what it might feel like to be an astronaut en route to the Moon.

However, the most significant aspect of an in-person conference is the opportunity to connect with peers. The CAP Conference provided a rare chance for the completely online network of the IAU National Outreach Coordinators to gather in person. This event brought together over 20 past, present, and future NOCs, fostering valuable connections and collaborations.

We hope you'll consider joining us for the next CAP Conference. Please keep a lookout for an announcement stating the location and hosts for CAP 2026 before the end of this year!

(Top) Avivah Yamani.

(Below) Kelly Blumenthal.



IAUS 393: Plenary Talks

Planetary Science and Exoplanets in the Era of James Webb Space Telescope



A new era in solar system astronomy with JWST

Geronimo Villanueva
(NASA Goddard Space Flight Center)



Searching for Evidence of Life Beyond the Solar System with the GMT-Consortium Large Earth Finder (G-CLEF) at the Dawn of the ELT/NWO Era

Andrew Szentgyorgyi
(Center for Astrophysics | Harvard + Smithsonian)



IAUS 393

08:30-10:00
Wednesday, 14 August
CTICC Audi 1



XXXII IAU GENERAL ASSEMBLY

CAPE TOWN, SOUTH AFRICA, 2024

Spotlight on African students and researchers at IAU-GA2024



By Shirley Aoko

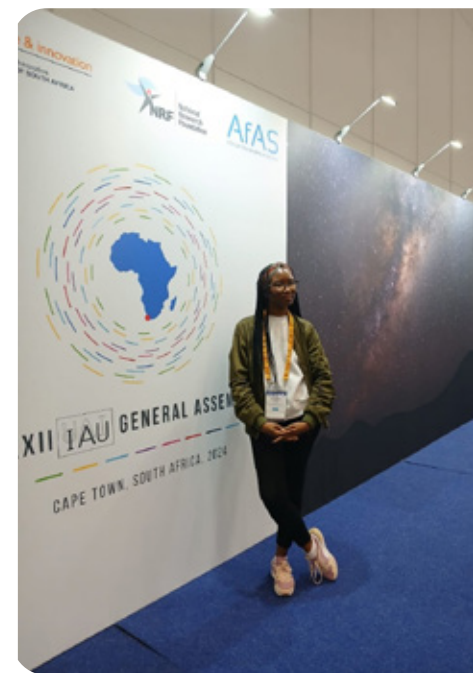
We gather the perspectives of African Astronomers, students and educators who have contributed to the success of this iconic event



Eslam Elhosseiny, an Egyptian researcher at the National Research Institute of Astronomy and Geophysics, was left in awe by the IAU General Assembly, which far exceeded his expectations. As an early-career researcher, he anticipated meeting many professional astronomers, but the sheer scale of expertise and participation took him by surprise. “I am truly amazed by the organisers’ impressive ability to seamlessly host such a vast array of exhibitions, talks, presentations and other numerous activities here at the GA”. His poster presentation on the *Variability of Blazar OJ 287*, a research he has been working on, was one of the contributions he has made. Attending the GA has opened his eyes to see a more comprehensive picture of astronomy around the world. He marveled at the immense participation from the African astronomers, commending AfAS and the other organisations for supporting a large number of students and professionals from within the continent. “Hosting the GA in Africa is a powerful catalyst for

growth in astronomy research and innovation and marks a new era for astronomy research in the continent,” he adds.

Boitumelo Gaolape, a Botswana student studying at Botswana International University of Science and Technology, gave a poster presentation on her current research. She marveled at the immense exposure she has received from different research opportunities. She has been inspired to dream big and is now even more motivated to do her PhD. “The experience has given me confidence in presenting my work to an international audience, a crucial growth as a researcher,” she said. Attending the GA has been instrumental in expanding her professional network and connecting with other researchers and students. Sharing her views on Africa’s first hosting of the GA, Boitumelo remarked on the lasting impact that the event has made and continues to make on the development of science and technology in Africa, encouraging investment in education, infrastructure and research.



(Above Left) Eslam Elhosseiny. (Above Right) Boitumelo Gaolape.



Eli Djomekou, a Ghanaian Erasmus Mundus Master's student in Planetary Geoscience at the Università degli Studi "Gabriele d'Annunzio", has taken on a vital role as an online volunteer at the IAU-GA 2024. Tasked with guiding and moderating discussions on the Spatial virtual platform and Slack channel, Eli has

made significant contributions to the event, including a scheduled presentation, entitled *Describing the main features of the Sun and the Moon*, that he will deliver as part of the ongoing PSP, AfAS & IAU-GA 2024 Teacher Training Workshop on 16 August. Despite participating online, Eli is eager to forge collaborations with leading experts in astronomy, particularly in planetary science. "Through my volunteer roles, I have networked with world-class researchers and renowned academics," he adds, expressing his gratitude and congratulations to the organisers.

(Above Left) Eli Djomekou.

(Above Right) Tabitha Alango.

Tabitha Alango, a Kenyan Project Manager for Elimisha Msichana Elimisha Jamii na Astronimia (EMEJA), delivered a compelling presentation on the OAE *Teacher Training Programme – Astro-STEM Workshop and Mentorship for High School Teachers in Kenya*. As part of the volunteering team that facilitated the local school visits outreach programs, she found her first GA experience to be overwhelmingly positive.

"Presenting the work we do at the Astro-STEM workshops was incredibly rewarding, sparking engaging discussions and potential collaborations," she shared. "Furthermore, the outreach activities I was involved in were impactful. I was able to bring the wonders of astronomy to South African students beyond the conference walls," she added. She believes the GA 2024 will significantly boost visibility of astronomy research across the continent, attracting international collaborations and funding for African researchers and students. Tabitha also commended the organisers on their wonderful work.





IAU General Assembly Session WG6:

Executive WG on Dark & Quiet Sky Protection

12 & 15 August 2024



Session:
12 August (10:00 – 17:00)

Commission B7 Business Meeting:
15 August (13:00 – 15:00)

(South Africa Standard Time = GMT + 2h)



**Cape Town International
Convention Centre**

in Cape Town, South Africa

In-person and online



noirlab.edu/science/events/websites/iauga24wg6



#wg6-dark-quiet-skies for the WG6 session

Mapping the heavens

By Christopher Jacobs

New technology allows us to map the Universe as never before



Multi-wavelength Astrometry	
14 August	15 August
Meeting Room 2.61 - 2.63	Meeting Room 2.41 - 2.43
FM11-1 10:30-12:00	FM11-4 10:30-12:00
FM11-2 13:30-15:00	FM11-5 13:30-15:00
FM11-3 15:30-17:00	FM11-6 15:30-17:00

When navigating around a new place with the help of my phone, I am often struck by the impressive accuracy with which humans have mapped the terrain of our home planet. Yet astronomers are setting their sights even higher, with the aim of precisely mapping the heavens. It's a tall order. Not only does the sky harbour many more celestial objects over much greater distances compared with Earthly features, but would-be cartographers must also contend with the challenge of a third dimension in a way that they don't need to on a planetary surface.

Nevertheless, astronomers are making impressive strides towards their goal, which will be discussed during Focus Meeting 11 Multi-Wavelength Astrometry, to take place on 14 and 15 August. In particular, the ESA Gaia Observatory is measuring the positions of almost two billion objects with part per billion accuracy – equivalent to being able to see a Euro coin from the distance of the Earth's diameter. Furthermore, by measuring data on the stars' velocities, Gaia is allowing astronomers to extrapolate backwards, running the "movie" of the formation of the Milky Way in reverse and offering insights into how our galaxy formed and how it has evolved.

The meeting will also discuss plans for a follow-up to the current Gaia mission – Gaia-Near Infrared. The vision

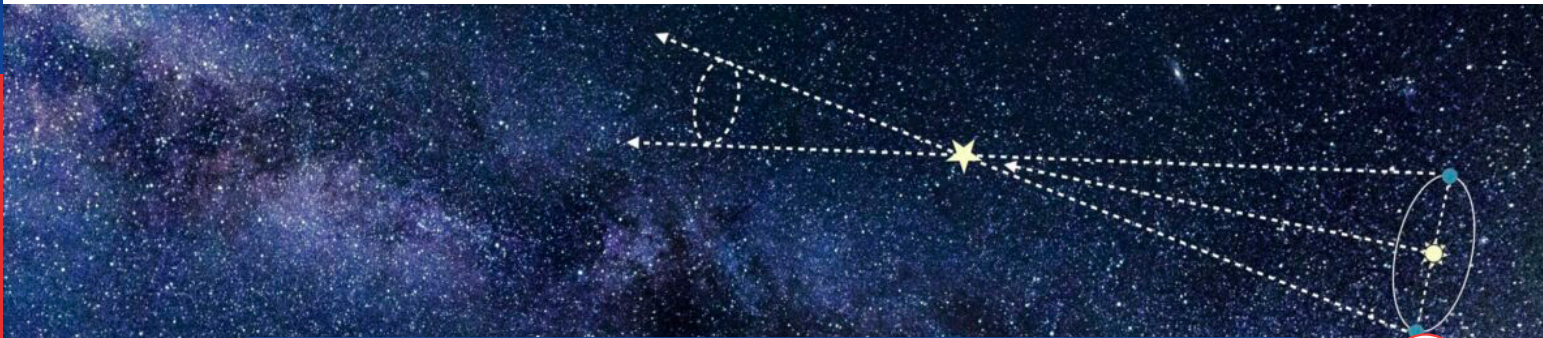
for this next-generation facility is a space telescope to measure even more objects and pierce through dusty areas to see objects that are hidden from the current Gaia optical telescope.

Another theme at FM11 will be the International Celestial Reference Frame – a collaboration between scientists from all over the globe to create a common system of celestial latitude and longitude with state-of-the-art accuracy. It will be realised at several radio wavelengths as well as optical/visible light, thus allowing scientists to compare observations at all these wavelengths very accurately.

Also on the agenda will be discussions around two powerful imaging techniques: optical interferometry, which combines separate telescopes into a super telescope that can study objects in much finer detail than any of the individual telescopes alone, and phase referencing, which involves combining radio telescopes to measure features as small as a part in 10 billion.

Last but certainly not least, FM11 will address the importance of Astrometry in Africa. Dr. Aletha De Witt, Director of Radio Astronomy Projects at the Department of Science and Innovation of South Africa, will highlight how astrometry can benefit greatly from more observations in the southern hemisphere. During the meeting, Dr. de Witt will also become the president of the IAU Commission A1 Astrometry.

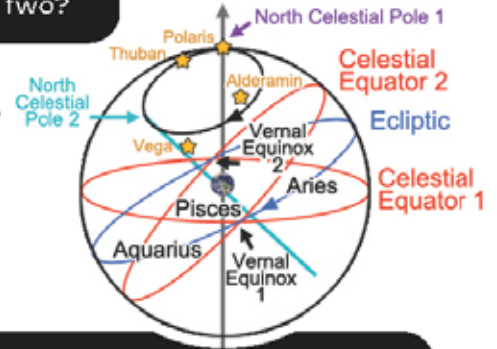
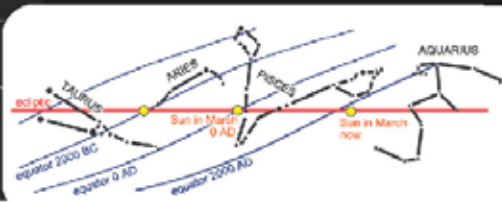
Image: Aletha de Witt



IAU Constellation Boundaries Update for 2100: Science and Society Considerations

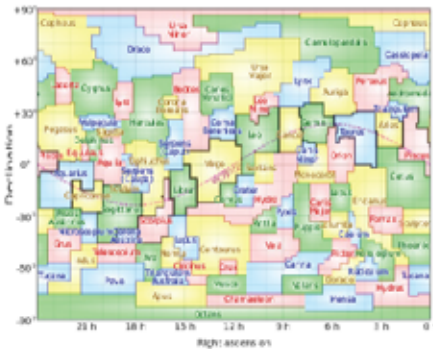


Why, How and Whom would an IAU Constellation Boundaries Update 2100 serve, through this millennium, or two?



Earth Axial / Precession of Equinoxes

E. Delporte 1920s: Celestial Star Map and Earth axial / precession of equinoxes based on 1875 information. The celestial boundaries need a millennial update for precision and precession, and for other revolutionary developments.



20th - 21st Century Forces Impacting Constellation Boundaries Update

Hubble Galaxy Discoveries 1920s:Galacticity, Cepheid variable stars beyond Milky Way, Einstein Special, General Relativity Theories, Space Age Rising 1950s, Moon Missions, Solar System Complete, Multi World Species, Interstellar Realities

Steve Durst, Director, ILOA / Space Age, info@iloa.org +1-808-936-8092

DEI in astronomy

Inclusion, Diversity, and Equity in European Astronomy (IDEEA)

Inclusion, Diversity, and Equity in European Astronomy (IDEEA) was formed online in 2021 as a virtual community space, journal club, and action network with the aim of improving diversity, equity, and inclusion (DEI) within the field of astronomy through the specific historical and cultural lens of Europe. Each monthly meeting starts with a short presentation on a pre-determined topic followed by open discussion. Recent meeting topics include “How Visa Bureaucracy Makes Conferences Inaccessible,” “Closing the Gender Gap in Astronomy,” and “Intersectionality and Hiring: Academia vs. Industry.” All meeting topics, presentation materials, and references can be found on our website [HERE](#).

Members have also undertaken ad-hoc projects such as creating a shareable guide to Diversity, Inclusion, and Mental Health, available [HERE](#) as well as creating an open letter to denounce bullying and harassment in astronomy. Meetings are set to accommodate European time zones, but membership is open to astronomers worldwide. To join, please click [HERE](#).

IDEEA'S GUIDE TO DIVERSITY, INCLUSION & MENTAL HEALTH

Looking out for early-career astronomers

By Dr Camilo Delgado-Correal

IAU Executive Committee Junior Members Working Group Meeting (ECWG 2) Sessions



The Working Group (WG) of IAU Junior Members (JMs) focuses on topics that are crucial to early-career astronomers across the globe. This includes careers, teaching, mobility, wellbeing, financial security, transparency and diversity. JMs represent the majority of active astronomers worldwide, who are the future of the field, and also provide an invaluable influx of skilled workers to all branches of society. For more information about us, we invite you to visit our homepage.

During the present IAU GA 2024, the Junior Members Working Group has prepared a schedule that will cover a range of themes, including improving scientific writing skills, science diplomacy, mental health, time management, work-life balance, and communicating your research to the public.

Specific talks will discuss topics such as *The Transformative Potential of a Network of Networks to Support*

Early Career Researchers Within Astronomy Education, Engagement, Communication, and Culture; Exploring Astronomy as a Tool for Enhancing Mental Health; The Role of Peer Mentoring in Astronomy; and Unlocking Inclusive Outreach: Connecting Minds to Science. There will also be a roundtable with the IAU Office of Astronomy for Education, Office of Astronomy for Development, and Office of Astronomy Outreach.

The organising committee (OC) for 2021-2024, was elected in August 2021 by 191 Junior Members (21.4% turnout). The OC elected Camilo Delgado-Correal

and Hannah Stacey as its co-chairs. The OC meets approximately every two months and has ongoing communication via the OC Slack space. In total, from August 2021 to April 2024, we had 13 meetings. In addition to Slack, we also have Twitter, YouTube and Facebook platforms to facilitate communication with our members and other early-career researchers.

Over the past three years, we have strived to maintain the working group as a connection between IAU Junior Members around the world. We view the Junior Members Working Group as an opportunity to recognise our cultural diversity and raise the voice of early-career astronomers.

This is a platform with which we can discuss sometimes difficult topics such as mental health and financial concerns related to career instability. The Junior Members OC is itself run by early-career astronomers, many of whom share these struggles.



Junior Member
working group



SOC: Camilo Delgado-Correal, Hannah R Stacey, Anupam Bhardwaj, Hongwei Ge, Brianna Marie Smart, Sabine Thater, Jeremy James Tregloan-Reed, Stefan Wallner, Mustafa Kursad Yildiz.

Dr Camilo Delgado-Correal is a Physics and Astronomy Lecturer at the Francisco José de Caldas District University of Bogotá and researcher at IGAC.

Question of the Day

Apart from the fee waiver, what is your motivation for volunteering at the GA? What has been your favourite volunteering task?



More than 200 people have volunteered at this event, not only making sure the sessions run flawlessly, but also participating in outreach events. Some even do this online. Never before have there been more volunteers or more diverse tasks than at this GA.

Tiaan from South Africa has been involved in organizing conferences before and knows how much work this is. "I want that we, as SA, create a good impression to the

rest of the world". Tejuswi from Mauritius has not even received a fee waiver but does volunteer in his home country in ecological projects. "I have been volunteering with tasks even before coming here, I have done f.ex. the maps with restaurants in Cape Town". Munira Hoosain wants to "meet people from over the world". The top two favourite tasks have been the VR booth (a clear number 1!) and the school outreach visits.



Tiaan Benzuidenhout, University of South Africa, working on FRBs and pulsars in radio wavelength.



Tejuswi Rachhordas Vaghjee, working in IT on Mauritius, would like to use astronomy big data methods in other sciences such as ecology.



Munira Hoosain from the University of Cape Town works on HI data from the LEDUMA survey.

Public Talk

●
Insights from Nature and Space
The Dung Beetle and Juno's Journey to Jupiter

Hosted by the Cape Town Science Center

[Book your free tickets here](#)

Social Reminder

●
Young Astronomers Lunch

Yes, today is the day! Don't forget to join your fellow young astronomers if you have registered for this event today.

12:00-13:30, Ballroom East

the cosmic savannah



ICS Live Show

Prof Brian Schmidt
Nobel Laureate



Dr Nicole Thomas
Jim Buckee Fellow

FREE LIVE SHOW !!

CPT INTERNATIONAL CONVENTION CENTRE

14 AUGUST 2024 @ 19:00

OPEN TO THE PUBLIC



Hosted by Drs Jacinta, Daniel & Tshiamiso

thecosmicsavannah.com



Follow us

As part of the IAU GA astronomy2024.org



OPEN TO THE PUBLIC

The Cosmic Savannah podcast showcases Afro-centric astronomy to the public. It is produced and hosted by myself, Dr Tshiamiso Makwela, from IAU OAE/MPIA/UCT, and Dr Daniel Cunnam, the Science Engagement

Astronomer at the South African Astronomical Observatory.

This coming Wednesday 14th Aug we are having a live show at the CTICC at 7pm, as part of the IAU GA. We will be interviewing two special guests:

- Prof Brian Schmidt, winner of the 2011 Nobel Prize in Physics and former vice-Chancellor of the Australian National University.
- Dr Nicole Thomas, a Cape Town-born early-career astronomer and graduate of the South African National Astronomy and Space Science Program.

CLICK HERE
for more information
and to
book your tickets

IAU Offices plenary

with Prof Brian Schmidt

It started with a career talk by a Nobel Prize winner

The format of this plenary was slightly different, starting off with a career talk by Nobel Prize winner, Prof Brian Schmidt on how to make an impactful career in astronomy. This was followed by a panel discussion with representatives from the different IAU offices, such as Joyful Mdhuli from the OAD who was very happy to “be in a panel with Brian Schmidt!”

Prof Schmidt spoke about his life in Montana and Alaska as child of farmers. In surprisingly cosmopolitan Anchorage he was a good but not outstanding student doing theatre, music and some science and he had his first telescope, but used it only to observe sheep. During his university years in Arizona he discovered a love for research and was fortunate to go onto a PhD with “larger-than-life supervisor” Bob Kirchner at Harvard. His social life did not only revolve around science and he appreciated the extended observing runs in Chile. He always enjoyed science but warned not to “let science mess up your life”, which he admits that, at some point, he has also been guilty.

He married an economist he met at Harvard and finished just in plain postdoc crisis - solving the two-body problem proved difficult. He applied to all 37 postdoc offers that year (don't do that at home!) and got two offers, but not in the same place. They decided to put life first and start a family in Boston. He started to collaborate with Mario Hamuy in Chile on using SNe Ia for cosmology. Finally, after obtaining a postdoc in his wife's home country, Australia, he started founded a group and obtained large amounts of observing time early in his career. Fortunate to obtain a position at Mt Stromlo in 1998 after three candidates had turned it down, things fell into place. And yet he still found time to plant a vineyard at the age of 33, which he had always dreamed of doing.

The acceleration of the Universe was the breakthrough of the year in science in 1998, but only in 2000 did he

obtain his first prize. He claimed the Nobel Prize always “comes out of the blue” and he never aspired to obtain one. It was an interesting time to meet interesting people such as the president of the US and Prof Stephen Hawking, but very disruptive to science. After eight years as head of the university, he finally returned to science but “had to relearn science like a grad student”.

His advice for young researchers is to stress quality over quantity, publish or perish is not the way to go. Astronomy is a creative field and you should always do the things you like, not what others tell you to do, and things you are good at.

The following panel discussion got into very diverse topics, even difficult subjects such as toxic environments, for which there are solutions, but it is crucial address it when raised and not dismiss it. Brian Schmidt discussed the skills you need to lead a university which, as he claims, is not much different from leading a group. The crucial thing is to know how and to whom to delegate. He is also a huge advocate of completely open publishing, even suggesting bypassing the publisher system altogether and expand the ArXiv system.



Supernova. Image: NASA

Plenary IAUS 392

Neutral hydrogen in and around galaxies in the SKA era

Three speakers showcased the large advancements in HI observations in the last few years, facilitated by many new telescope arrays with unprecedented sensitivity, even before the advent of SKA. Likewise, advances in simulations have helped to understand the observations we see from a physical perspective.

Kristin Spekkens from Queen's University in Canada advertised HI as the tool to study cold gas over the entire history of the Universe. Despite 50 years of HI observations of galaxies, recently new facilities have made a big step forward in resolution and sensitivity: in nearby galaxies, the resolution is now good enough to resolve individual molecular clouds (down to scales of 10pc). FAST and the MHONGHOSE have been able to detect very low density gas between groups of galaxies, which will get even lower in the future. At low redshifts, sensitivity allows to find very low mass dwarfs as well as gas rich dwarfs at redshifts of 1.3. Even a direct detection of the epoch of reionization is now in reach, current limits are getting close to theoretical predictions and a detection might be only years away. SKA operations are quickly approaching with the first observations to start in 2027.

The second talk by Kyle Oman from Durham University gave some interesting insight into the latest advances in modeling HI. Large scale cosmological simulations directly result in structures that we actually observe, but the tricky part is in the details. Until recently, the smoothing had been done incorrectly so that gas would not cool and collapsing clouds get too dense, producing massive stars and massive supernova feedback, which is not observed. Since this has been accounted for, artificial cut-off for some values is no longer needed. Advances have also been made in astrochemistry with the CHIMES module and how to better model kinematics of real galaxies to account for messy kinematics. Advertising a new database for mock observations, the MARTINI project, he concludes that we finally see the first mildly realistic simulated galaxies and stresses the importance for theory and observations to work

together.

The plenary concludes with presenting the importance of multi-wavelength observations by Michelle Cluver from Swinburn University. HI, H2 and X-ray observations of groups and clusters such as Stephan's Quintett, the Fornax cluster and M81 are crucial in tracing ram pressure stripping and gas heating by interactions between the members of the group. Panchromatic data are also crucial to do spectral energy distribution fits and properly model the star-formation history of individual galaxies. Another showcase is the study of the ISM-IGM interface studying the hydrogen in the sightline with UV spectroscopy and in emission by HI. In the near future, massive surveys such as 4MOST and WAVES will get data of millions of galaxies at VIS/NIR radiation and LSST will allow us to study how dark "dark" galaxies really are.



(Above) Five-hundred-meter Aperture Spherical radio Telescope (FAST Telescope). Image: Absolute Cosmos. Wikimedia
(Top) Eso1524a Artist's impression of CR7, the brightest galaxy in the early Universe. Image: ESO, ICRAR

PROGRAMME WEEK 2

	MON - Aug 12th	TUE - Aug 13th	WED - Aug 14th	THU - Aug 15th
08:30 – 10:00 Morning plenary	Offices plenary	IAUS 392 plenary	IAUS 393 plenary	IAUS 394 plenary
10:00 – 10:30 Morning e-poster & coffee break	Division e-poster	IAUS 392, 393, 394 FM4, FM8, FM9, FM10, WG1, WG2	IAUS 392, 393, 394 FM4, FM8, FM11, FM12, WG3	IAUS 392, 393, 394 FM9, FM10, FM11, FM12, WG6, WG4
10:30 – 12:00 Morning oral session	Parallel Division Oral Sessions	S 392-1 S 393-1 S 394-1 WG1-1 WG2-1	FM4-1 FM8-1 FM9-1 FM10-1	S 392-4 S 393-4 S 394-4 WG1-4 WG3-2
12:00 – 13:30 Lunch			FM4-4 FM8-4 FM11-1 FM12-1	S 392-7 S 393-7 S 394-7 WG6-1 WG4-1
13:30 – 15:00 Afternoon oral session 1	Parallel Division Oral Sessions	Kavli Prize Talk by David Charbonneau	Young Astronomers	FM9-4 FM10-4 FM11-4 FM12-4
15:00 – 15:30 Afternoon e-poster & coffee break	Division e-poster	S 392-2 S 393-2 S 394-2 WG1-2 WG2-2	FM4-2 FM8-2 FM9-2 FM10-2	S 392-5 S 393-5 S 394-5 WG2-3 WG3-3
15:30 – 17:00 Afternoon oral session 2	9 Parallel Division Oral Sessions	IAUS 392, 393, 394 FM4, FM8, FM9, FM10, WG1, WG2	IAUS 392, 393, 394 FM4, FM8, FM11, FM12, WG3	FM4-5 FM8-5 FM11-2 FM12-2
17:15 – 18:30 Afternoon plenary	Gala Dinner	S 392-3 S 393-3 S 394-3 WG1-3 WG3-1	FM4-3 FM8-3 FM9-3 FM10-3	S 392-8 S 393-8 S 394-8 WG6-2 WG4-2
18:30 – 21:30 Various		Invited Discourse: Prof Natalie Batalha	Business 2	FM9-5 FM10-5 FM11-5 FM12-5
		Public Talk: Prof George Ellis 18:15 - 19:15		IAUS 392, 393, 394 FM9, FM10, FM11, FM12, WG6, WG4
		Cultural Evening 19:30 - 21:30	The Cosmic Savannah Guest: Nobel Prize winner Prof Brian Schmidt 19:30 - 21:30	S 392-6 S 393-6 S 394-6 WG2-4 WG3-4
				FM4-6 FM8-6 FM11-3 FM12-3
				S 392-9 S 393-9 S 394-9 WG6-3 WG4-3
				FM9-6 FM10-6 FM11-6 FM12-6
				Closing Ceremony Handover

Background: The Milky Way above the ATCA. Image courtesy of E. Lenc.

Exhibitors



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PERTH



PUBLIC EVENTS

IN PERSON & ONLINE

#astronomy2024

07 /08 Journey into Space with Astronaut Dr. Sian Proctor

08 /08 Evening With NASA

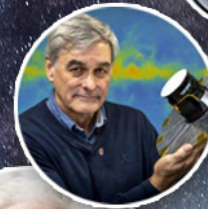
09 /08 Women in Space Science & Astronomy
The Milky Way with Prof Gerry Gilmore
Astronomers Got Talent!

10 /08 Stargazing at V & A Waterfront

13 /08 Nature of the Universe with
Prof George Ellis

13 /08 #AfricaLookUp Cultural Exchange Evening

14 /08 The Cosmic Savannah Live Show
with Nobel Prize Winner Prof Brian Schmidt.



XXXII IAU GENERAL ASSEMBLY

CAPE TOWN, SOUTH AFRICA, 2024

The team behind the design, layout, content writing and editing of the XXXIInd IAU GA newsletter includes Patrick Saunders; Guido Schwarz; Laura Hiscott; Maria Stone; Christina Thöne; Shirley Aoko; Gwen Sanderson; Marcelina Kinyumu; Daniel Cunama; Susan Caras



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