

25th SAASTEC Annual Conference
25-28 November 2024
South African Astronomical Observatory



science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



SAAO
South African
Astronomical Observatory



SAASTA
South African Agency for Science
and Technology Advancement

Pre-conference activities					
Monday - 25 November 2024					
Venue	Cape Town Science Centre				
13:30					
13:45					
14:00					
14:15	Exhibit building workshop- Hyperbolic slot exhibit Stuart Hopwood, Sci-Bono Discovery Centre (14 pax)	Pilot program for Astronomy in Mental Health Dominic Vertue IAU Office for Astronomy Development (SAAO) (30 pax)	Using the Virtual GEAR robotics competition to advance robotics education where you are Members of the Unisa SEC team (Patricia, Kabelo, Tumelo and Andzani) UNISA Science Engagement Centre (30 pax)	Foundations Of Biotech Tools Zibusiso Nyoni Sci-Bono Discovery Centre (30 pax)	
14:30			Engaging hands-on workshops with learners of all grades - space science and sustainability Judi Sandrock MaxIQ Space (30 pax)		
14:45					
15:00					
15:15					
15:30					
15:45					
16:00	Tour of Cape Town Science Centre				
17:00	Registration opens @ SAAO observatory				
18:00	Ice Breaker Evening				
	Venue: SAAO - Khoisan dance/Nam dans & Tour of Telescope and star gazing and Story telling				

Day 1			
Tuesday - 26 November 2024			
Plenary			
	Chair: Prof Mfanelo Ntsobi	Venue: SAAO- Marquee	
08:00-08:30	Registration		
09:00-09:15	Welcoming remarks	Dr Rosalind Skelton	SAAO- Acting MD
09:15-09:45	DSTI Minister opening address	Ms Nomalungelo Gina	DSTI Minister / Premier
09:45-10:05	Chairman address	Prof Rufus Wesi	SAASTEC Chair
10:05-10:30	Message of support by SAASTA	Dr Mamoeletsi Mosia	MD - NRF- SAASTA
10:30-11:00	Tea break		
Plenary			
	Chair: Prof Rufus Wesi	Venue: SAAO- Marquee	
11:00-11:45	Key note address: The Value of Science Centre and Museum Experiences	Dr John H Falk	Institute for Learning Innovation, USA
11:45-11:55	Q & A		
11:55-12:30	Science Show Demonstrations show off's (round 1)		
	Logistics		
12:30-13:30	Lunch Break		
Break away			
Venue	SAAO- Marquee	SAAO - Auditorium	Office of Astronomy for Development (OAD)
Chair:	Chair: Pumza Tshebe	Chair: Kabelo Pheeha	Chair: Daniel Motsapi
13:30-13:45	Why camels are not horses designed by a committee	Enhancing Learning Through Project-Based AI Education: An Exploration of Implementation Challenges and Recommendations for Integration into the Gauteng School	Water Quality Indices(Water quality Monitoring)- case study of the St Marks Area: Involvement of the community, schools in water monitoring.
	Mike Burton, Formula D	Anele Davids, Sci-Bono Discovery Centre	Athi Bavuma, Luvo Kewuti and Okuhle Gwadiso, Thumeka Tiwani, Albertina Nontsikelelo Sisulu Science Centre
13:45-14:00	STEM PARK TANGA: IGNITING A PASSION FOR ASTRONOMY IN TANZANIA	Innovative Science Engagement at the UFS Sci-Ed Science Education Centre.	Users vs developers of technology: Africa Perspective
	ANTONIAH MAVOA, PROJEKT INSPIRE	Dr Cobus van Breda, Sci-Ed Science Education Centre, UFS	Sakhile Masango, ArcelorMittal Science Centre, Newcastle
14:00-14:15	Engaging public curiosity through astronomy	Outreach for blind and visually impaired learners: A journey to "see" Earth and space differently	Why Hazyview Centre for Mathematics science and Technology was established
	Mrs Mariette Erwee, Sci-Ed Science Education Centre	Dr Tanja Reinhardt, STEC@UKZN	Doctor Manzini, Hazyview Centre for Mathematics and Technology
14:15-14:30	Bridging Science and Society: Engaging Communities Through Astronomy and STEM	Understanding your immediate community through research	Developing an Intelligent Homework Assistance System: Analysing the Impact of AI-Driven Tools on Student Productivity and Stress Management in a Science Centre

	Dudzile Kubheka, South African Astronomical Observatory	Sandile Rikhotso, University of Limpopo Science Centre	Malwande Mdzobo, Nelson Mandela Bay Science and Technology center
14:30-14:45	A new consultancy service offered by formula D_ to the southern African science centre community	'Riding the Science Diplomacy wave: leveraging science communication for increased impact'	Future Robotics: "Transforming Ideas into Reality"
	Sidley Du Preez, Formula D	Bhamini Kamudu Applasawmy, Rajiv Gandhi Science Centre	Mr. Lebogang Seabelo, Mr. Mogomotsi Moeng, Ms. Lerato Molebatsi, North-West University Science Centre - Potchefstroom
14:45-15:00	Q & A	Q & A	Q & A
15:00-15:30	Tea break		
	Plenary		
	Chair: Sivuyile Manxoyi		Venue: SAAO- Marquee
15:30-15:50	The 'Great South African Inventions' travelling exhibition: its origin, achievements and future'	Mike Burton & Shadrack Mkansi	Formula D & SAASTA
15:50-16:10	The IAU Office of Astronomy for Development and opportunities for the SAASTEC community	Kevin Govendar	IAU Office of Astronomy for Development
16:10-16:25	Bridging The Gap Between Science and Society: Learnings for Science Centers from the Science Shop Model	Mfanelo Ntsohi	Sci-Bono Discovery Centre
16:25-16:30	Q & A / Evening Logistics		
Excursion & Dinner			
iThemba LABS			

Day 2			
Wednesday - 27 November 2024			
Plenary			
Chair: Tebogo Habedi		Venue: SAAO- Marquee	
09:00-09:20	The South African Public Relationship with Science	Dr Vijay Reddy and Isaac Ramovha.	DSTI
09:20-09:40	Fantastic Ocean Robots	Dr. Tammy Morris	South African Environmental Observation Network(NRF-SAEON)
09:40-09:45	Q & A		
09:45-10:45	Poster Sessions		
10:30-11:00	Tea break (Posters)		
11:00 - 13:00	Break away Sessions		
Venue	SAAO- Marquee	SAAO - Auditorium	Office of Astronomy for Development (OAD)
Chair:	Chair : Shadrack Mkansi	Chair: Mrs Mariette Erwee	Chair: Duduzile Kubheka
11:00-11:15		The Sedibeng Science Fair: The Step Ladder for Science in the Vaal	Bridging the gap through career guidance and providing psychological services to learners and societies
		Tebogo Kgatitsoe, Arcelor Mittal Science Centre (Sebokeng)	Zonke Nyoni, Sci-Bono Discovery centre

11:15-11:30	Science Centre Managers' meeting with DSTI	Small grains, high nutrition and a better life	The potential of a Career Development Information Centre within Sci-Enza
		Mthobisi Mhoni, ArcelorMittal Science Centre - Newcastle	Tshepiso Maroga , Sci-Enza Science Centre, University of Pretoria
11:30-11:45		Science in Action: Engaging Youth to Tackle Food Security and Climate Change through Sustainable Agriculture	The Science of Science communication
		Janet Kariuki ,Kenneth Monjero, Peter Wanuthi, Kenya Agricultural and livestock Research Organization	Michael Wolf, formula D_
11:45-12:00		The Cape Town Science Centre Camera Obscura Tour and the wonders of light	Evaluating the Effectiveness of the Essential Skills Life Science Resource: Insights and Recommendations
	Umr Chippendale, Cape Town Science Centre	Diloshni Chetty, Unizulu science centre	
12:00-12:15	The Impact of ROMPCO, Sasol and Osizweni Science Centre in Grade 12 learners passing Mathematics and Physical Sciences in eManzana supported Schools.	Illuminating the Path: Science Communication studies - Where Research Meets Public Engagement	
	Zwelakhe Madonsela, Osizweni Science Centre	Johanna Tsholofelo Mabitsela and Marvin Mantlebeku Masemola, Necsa	
12:15-12:30		Q & A	Q & A
12:30-13:30	Lunch Break		
	Break away		
Venue	SAAO- Marquee	SAAO - Auditorium	Office of Astronomy for Development (OAD)
Chair:	Chair: Umr Chippendale	Chair: Busisiwe Hadebe-Ziqubu	Chair: Buzani Khumalo
13:30-13:45	Illuminating the Electromagnetic Spectrum: A Focus on Visible Light	The impact of Mobile Science Lab activities on learners' attitude towards science	CAN SCIENCE SHOWS BE INNOVATIVE ENOUGH TO BRIDGE THE GAP BETWEEN SCIENCE & SOCIETY?
	Anda Makalala, Cape Town Science Centre	Prof Rufus Wesi, Osizweni Science Centre	Hlanganisa Madonsela, Sci-Bono Discovery Centre
13:45-14:00	Scientifically literate society through Science Engagement	Lab comparison: Grade 12 activity AI versus Hands on	The Dolos as a symbol of 25 years of collective tenacity in proving science engagement to hundreds of thousands of visitors.
	Pumza Tshebe, Nelson Mandela Bay Science and Technology Centre	Peter Horszowski	Steven Sack, Cape Town Science Centre
14:00-14:15	Empowering Future Generations: An inquiry into learners' ability to make career choices	Enviro Science Fair Competition: Learning and winning through research based environmental science projects and programmes	The Awareness of Online Resources for the Advancement of Robotics Education Using Online Questionnaires at Science Events in South Africa
	Mlungisi Nyamane, Osizweni Science Centre	Sinah Magolo & Moliehi Moonyane, Johannesburg City Parks & Zoo	Tumelo Nhlapo, UNISA Science Engagement Centre
14:15-14:30	Utilising Science Teachers professional development as powerful learning environment for Student Educators	Science Centres as incubators for innovation: A Southern African Perspective	Engaging Minds: Enhancing Science Education through Prescribed Experiments for Grades 10-12 at the Science Centre

	G.M Nthoba, Science Education Centre (Sci-Ed)	Mr. Akash Dusrath & Dr. Bhamini Kamudu Applasawmy	Nsikelelo Allison Malinga, UNIZULU Science Centre
14:30-14:45	Online teaching: Challenges, opportunities, and new horizons	Undercover Science Communication- New Possibilities	Redefining Science Centres In The 21st Century
	Sandile Vilane, Osizweni Science Centre	Nadine Nortier, Inkubeko Youth and Science Centre	Thabiso Sibiyi, SCI-ENZA, University of Pretoria
14:45-15:00	Q & A	Q & A	Q & A
15:00-15:30	Tea break (Posters)		
	Plenary		
	Chair: Sandile Rikhotso		Venue: SAAO- Marquee
15:30-15:50	Science Centres' Contribution To STEMI Education – Preparing Learners For The Future World Of Work	Mr Moloko Matlala	STEMI Education, NRF-SAASTA
15:50-16:10	Space Science at the South African National Space Agency (SS@SANSA)	Prof Martin Snow	SARChI Research, SANSA
16:10-16:25	Design-based research:- specially suited for Science Centres!	Derek Fish	Unizulu Science Centre
16:25-16:30	Q & A / Evening Logistics		
	Gala evening		
	Formal Event		

Day 3			
Thursday - 28 November 2024			
Plenary			
Chair: Nsikelelo Malinga		Venue: SAAO- Marquee	
09:00-09:20	From dark skies to bright futures: the evolution of astronomy in Africa	Dr. Charles Takalana	SAAO, AfAS
09:20-09:40	Climate Change Education through Structured Debates: Fostering Critical Thinking and Informed Advocacy	Dr. Bhamini Kamudu Applasawmy	Rajiv Gandhi Science Centre
09:40-10:45	Q & A		
09:45-10:30	What Research Tells Us About How Science Centres and Museums Can Effectively Engage Communities in STEM	Dr. Lynn D. Dierking	Institute for Learning Innovation, USA
10:30-11:00	Tea break		
11:00-13:00	Break away sessions		
Venue			
Chair:	Chair: Prof Rufus Wesi	Venue: SAAO- Marquee	
11:00-11:15	Annual General Meeting		
11:15-11:30			
11:30-11:45			
11:45-12:00			
12:00-12:15			
12:15-12:30			
12:30-13:30	Lunch Break		
	Break away		

Venue	SAAO - Auditorium	Office of Astronomy for Development (OAD)	
Chair:	Chair: Lulama Ntshaba	Chair: Sinah Magolo	
13:30-13:45	Intentional Interdisciplinary approach as a science engagement strategy	Robotics education resources for South Africa – A language focus to reduce the gap between science and society	
	Amahle Mtuti, Nelson Mandela Bay Science and Technology Centre	Dr PM Gouws, Unisa Science Engagement Centre	
13:45-14:00	The Impact of Additional Math Tutoring on Learners' Understanding of Math Threshold Concepts	Bridging Oceans and Algorithms: Empowering Learners with 21st Century Skills through coding with Oceanic Robots	
	Emmanuel Jakoba Makae, Osizweni Science Centre	Thomas Mtontsi, Apiwe Mtetandaba, NRF-SAEON	
14:00-14:15	Science Engagement through Art at the UFS Sci-Ed Science Education Centre.	VR application in education	
	Ms Amaria Reynders, Sci-Ed Science Education Centre, UFS	Cecil Manzini, Sci-Bono	
14:15-14:30	Nurturing young minds for an innovative future	Existence of digital divide in quintile one schools	
	Busisiwe Hadebe-Ziqubu, Sci-Enza, University of Pretoria	Ms Mbali pridy Mbonani and Dr Samuel Dumazi khoza, Tshwane University of Technology	
14:30-14:45	Umjikelezo We-Science – Taking science to the community	Digital Literacy training as a tool to bridging the gap between the science and society	
	Dr. Tanja Renhardt, Silindile Mthembu and Nomfundo Nzuza	Thabile Mthiyane, Nelson Mandela Bay Science and Technology Centre	
14:45-15:00	Q & A	Q & A	
15:00-15:30	Tea break		
	Plenary		
	Chair: Sandile Rikhotso &	Venue: SAAO- Marquee	
15:30-15:50	Science Show Demonstrations show off's (Round 2)		
15:50-16:00	Closing Remarks	Prof Rufus Wesi	SAASTEC Chair
	Free Evening - Optional tours lift - for personal expiernces @ own costs		