

NATIONAL SPACE CONFERENCE 2023

SPACE FOR INCLUSIVE GROWTH

EVENT PROGRAMME

30 August – 01 September 2023

#space4growth



Space for Inclusive Growth

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CSIR International Convention Centre, Tshwane, South Africa

SUMMARY

DAY 1	DAY 2	DAY 3
THEME: Space and Society	THEME: Space and Industry	THEME: Space and the Future
REGISTRATION AND MORNING COFFEE		
OPENING SESSION	SPECIAL LECTURE 1	SPECIAL LECTURE 2
Sharing space benefits <i>(society, economy, environment security and sustainability)</i>	Space entrepreneurship and innovation	Space and sustainability
	PLENARY 1	PLENARY 2
Rocket launch capability demonstration and unveiling	Sharing industry's space infrastructure and operations	Sharing current space education and outreach activities, methods, and techniques
NETWORKING BREAK AND EXHIBITION		
TECHNICAL SESSION 1	TECHNICAL SESSION 2	TECHNICAL SESSION 3
Sharing recent developments in the use of Integrated Applications and Research for societal benefit	Sharing achievements and use cases for space Innovation and services	The advancement of space to harness future technologies (AI, 4iR, SAR, Machine learning)
LUNCH BREAK AND EXHIBITION		
SHOWCASING SESSION 1	SHOWCASING SESSION 2	CLOSING SESSION
Sharing recent developments in building space capabilities	Sharing status of frameworks, programmes and initiatives for coordination regulation, and planning	Highlights and closing remarks
YOUTH SESSION		
EO Monitoring demonstration activity		



TIME	DAY 1 SPACE AND SOCIETY	
08:00 – 08:45	REGISTRATION AND MORNING COFFEE	
09:00 – 11:00	OPENING SESSION	SHARING SPACE BENEFITS <i>(society, economy, environment security and sustainability)</i>
		OPENING PERFORMANCE
		Welcome Remarks Dr Rakeshnie Ramoutar, Deputy Director-General, Technology Innovation, DSI
11:00 – 11:15	OPENING SESSION	Opening Statements <ul style="list-style-type: none"> Lieutenant General Wiseman Simo Mbambo, Chief of the Airforce, SAAF Dr Mmboneni Muofhe, Deputy Director General (DDG) DSI Dr Kaven Naidoo, Group Executive, BE&I, NEOSS, CSIR Mr Humbulani Mudau, Chief Executive Officer (CEO), SANSA
		Opening of the exhibition and rocket launch capability demonstration and unveiling Dr Phil Mjwara, Director General, DSI
11:15 – 11:30	NETWORKING BREAK AND EXHIBITION	
11:30-13:15	TECHNICAL SESSION 1	SHARING RECENT DEVELOPMENTS IN BUILDING SPACE CAPABILITIES Moderator: Dr Moses Cho, Chief Scientist at the CSIR and Research Group Leader of the Precision agriculture group, CSIR
	Presentations	<ul style="list-style-type: none"> Quantifying changes in the extent of South African estuarine habitats to inform targets of the Global Biodiversity Framework (GBF) Dr Heidi van Deventer, Principal Researcher, CSIR Synergetic Use of Sentinel-1 and Sentinel-2 data for Wheat Crop Height Monitoring Using Machine Learning Dr Cilence Munghemezulu, Researcher, ARC Unlocking Earth Observation imagery to provide insight, Business Mr Micheal Breetzke, Development Manager, Swiftgeospatial Wildfire emissions assessed using remotely sensed data: A review Dr Lerato Shikwambana, Senior Scientist, SANSA EO Music and Bands. Optimising Sentinel-2 Feature Space for Improved Crop Biophysical and Biochemical Variables Retrieval Using the Novel Spectral Trait Feature Selection Algorithm Dr Mahlatse Kganyago, Geo-informatics Lecturer/Researcher, UJ Remote Sensing in Assessing Engineering Risk – Using satellite data to detect ground settlement and swelling for planned railway infrastructure extension Ms Ndilisa Didiza, CoP Co -Chair, NEOSS
13:15 – 14:00	LUNCH BREAK AND EXHIBITION	
14:00 – 15:00	SHOWCASING SESSION 1	SHARING RECENT DEVELOPMENTS IN BUILDING SPACE CAPABILITIES Moderator: Ms Fikiswa Majola, Deputy Director, DSI
	Presentations	<ul style="list-style-type: none"> Mission Options for an Indigenously-Developed Small Satellite Launch Vehicle Prof Jean Pitot, Associate Professor, ASrec, UKZN Development and Deployment of Low Earth Orbit Nanosatellites for Maritime Applications Mr Sinamandla Maqina, Mission Engineer, CPUT Geomagnetic jerks observed in geomagnetic observatory data over Southern Africa between 2018 and 2022 Mr Sanele Lionel Khanyile, SANSA BACAR – an affordable test platform Mr Christo Kriek, Portfolio Manager, BACAR Develop of national space capabilities Mr Tebogo Mokgalagadi, Acting Executive: Space Engineering, SANSA
15:00 – 16:00	YOUTH SESSION	EO MONITORING DEMONSTRATION ACTIVITY
16:00 – 18:00	WELCOME RECEPTION: Networking Session Major General Lancelot Mathebula, SAAF	

TIME	DAY 2 SPACE AND INDUSTRY	
08:00 – 08:45	REGISTRATION AND MORNING COFFEE	
09:00 – 11:00	SPECIAL LECTURE 1:	SPACE ENTREPRENEURSHIP AND INNOVATION Bryan Dean, CEO, DragonFly (30 Min)
	PLENARY 1	SHARING INDUSTRY'S SPACE INFRASTRUCTURE AND OPERATIONS Moderator: Ms Jessie Ndaba, CoP Co Chair, NEOSS <ul style="list-style-type: none"> • Mr Eugene Avenant, Chief Engineer at SANSA Space Operations, SANSA • Prof Sias Mostert, Chairman, SCS Aerospace Group, Space Commercial Services (Pty) Ltd • Mr James Barrington-Brown, Chief Executive Officer (CEO), NewSpace Systems • Mr Alex Fortescue, Manager, Africa, Maxar • Mr Kannas Wiid, EOS SAT-1 Spacecraft System Engineer, Dragonfly Aerospace • Dr Rob Van Zyl, Managing Director, AAC -Space Africa
11:00 – 11:30	NETWORKING BREAK AND EXHIBITION	
11:30 – 13:15	TECHNICAL SESSION 2	SHARING ACHIEVEMENTS AND USE CASES FOR SPACE INNOVATION AND SERVICES Moderator: Dr Tinisha Chetty, CoP NEOSS CoP Co-Chair
	Presentations	<ul style="list-style-type: none"> • Mapping waterbodies and wetlands in Digital Earth Africa platform: tools and applications Ms Mpho Sadiki, Earth Observation Data Scientist, DEA • Using the Agrisense Constellation as a tool for building sustainable space programmes Ms Tucia Busakwe, Space Scientist, SCS • Standards for space Mr Rheinhardt Sieberhagen, R&D Metrologist, NMISA • Weed Detection Using Biomass Ms Yoliswa Mkhize, Graduate Intern, CSIR • Impact of Earth Observation in Rural Communities Mr Tswelelo Piet, Abiri Technologies • Mapping the presence of woody invasive alien plants in the Luvuvhu Catchment of South Africa using multispectral Sentinel-2 satellite imagery Mr Liam Cogill, Stellenbosch University. • Detecting woody invasive alien plants using Sentinel-2 imagery in the uMzimvubu Catchment, Eastern Cape Ms Thandeka Skosana, Stellenbosch University
13:15 – 14:00	LUNCH BREAK AND EXHIBITION	
14:00 – 16:00	SHOWCASING SESSION 2	SHARING STATUS OF FRAMEWORKS, PROGRAMMES AND INITIATIVES FOR COORDINATION REGULATION, AND PLANNING Moderator: Adv Lulu Makapela, Manager, NEOSS
	Presentations	<ul style="list-style-type: none"> • National Coordination Mechanisms Mr Ernest Acheampong, Group on Earth Observations (GEO) • National Spatial Information Framework Ms Maroale Mimi Martha Chauke, Director, DALLRD • Space Industry Framework and Action Plan Ms Nomfuneko Majaja, Chief Director, dtic • Status of NEO Frontiers and development of the SAEOS Portal Ms Asanda Ntisanana-Sangoni, Acting Managing Director, EO, SANSA • TrigNet: Status of South Africa's GNSS Base Station Network Mr Patrick Vorster, Professional Land Surveyor, National Geospatial Information Branch: NGMS, DALRRD • Military Aerospace Authority Major General De Villiers, Air Traffic controller, SAAF
16:00 – 18:00	NETWORKING SESSION AND EXHIBITION	

TIME	DAY 3 SPACE AND THE FUTURE	
08:00 – 08:45	REGISTRATION AND MORNING COFFEE	
09:00 – 11:00	SPECIAL LECTURE 2:	<p>SPACE AND SUSTAINABILITY Ms Pontsho Maruping, Managing Director, SARAO (30 Min)</p>
	PLENARY 2	<p>SHARING CURRENT SPACE EDUCATION AND OUTREACH ACTIVITIES, METHODS, AND TECHNIQUES Moderator: Ms Sinesipho Ngamile, Space Education Officer, SANSA</p> <ul style="list-style-type: none"> • Reducing high unemployment through entrepreneurial mindset development in African youth Mr Daniel Matsapola, Science Engagement Manager, SANSA • Using EO and IoT tools to Build and Support Smart Communities Mr David Tabane, Founder, Arose Technologies • Space Generation Advisory Council (SGAC) Mr Muteb Benedict, National Point of Contact, SGAC • Aviation, Aeronautical and Space Sciences Focus School Col Alan James, STEM Developments • Driving Diversity and Inclusion through Technical Challenges Across Africa Mr Zviko Mudimu, DEA
11:00 – 11:30	NETWORKING BREAK AND EXHIBITION	
11:30 – 13:15	TECHNICAL SESSION 3	<p>THE ADVANCEMENT OF SPACE TO HARNESS FUTURE TECHNOLOGIES (AI, 4iR, SAR, MACHINE LEARNING) Moderator: Dr Naeem Agjee, PhD Environmental Science Senior Researcher, Sappi Southern Africa</p>
	Presentations	<ul style="list-style-type: none"> • MicroSTAR – a bistatic radar solution to commoditise SAR Mr Willie Nel, Chief Radar Engineer, CSIR • The business case for Global Visioning Systems – FleetSAR Satellite Constellation Ms Thongwane Namane, SCS • Oscillation-based built-in self-testing: a promising approach for RF systems in orbit Prof Tinus Stander, UP • Integrating active learning and machine learning regression methods for hybrid retrieval of grass biophysical variables in a protected mountainous region using Sentinel-2 data Dr Philemon Tsele, Senior Lecturer, UP • Improving the Efficiency of LoRa IoT Devices with AEM Systems and AI Techniques Ms Yolanda Nxumalo, YaAzi • Development of MHTS Automatic Identification System (AIS) receiver and upgrade to VDES & Blue force Tracking AIS Mr Kgabo Mathapo, CTO, Motseni-Hi-TechSpace
13:15 – 14:00	LUNCH BREAK AND EXHIBITION	
14:00 – 15:00	CLOSING SESSION	HIGHLIGHTS AND CLOSING REMARKS
	Presentations	<ul style="list-style-type: none"> • National Space Conference Highlights Adv Lulu Makapela, Manager, NEOSS • Closing Remarks Mr Itumeleng Makoloi, Acting Chief Director, Space Science and Technology (SS&T), DSI
16:00 – 18:00	NETWORKING SESSION AND EXHIBITION	

EXHIBITION

SUPPORTED BY:



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



LIST OF EXHIBITORS:





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