

2nd Faculty of Natural and Agricultural Sciences RESEARCH CONFERENCE

22 to 24 June 2026

NAS2026 PROGRAMME



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*Inspiring excellence,
transforming lives
through quality,
impact, and care.*



NATURAL AND
AGRICULTURAL SCIENCES



UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

W E L C O M E

Following the successful launch of the inaugural NAS Research Conference in 2025, we are delighted to welcome delegates, researchers, students, industry partners, government representatives, and collaborators. What began as a platform to showcase research excellence and foster interdisciplinary collaboration has rapidly evolved into a vibrant forum for scientific engagement, innovation, and partnership.

The Faculty of Natural and Agricultural Sciences continues to strengthen its position as a leading contributor to research, innovation, and societal impact. During the past year, the Faculty has experienced notable growth in postgraduate enrolments, research outputs, strategic partnerships, and externally funded research initiatives. The continued expansion of our research ecosystem reflects our commitment to addressing complex challenges through science that is relevant, impactful, and responsive to the needs of society.

Over the past year, initiatives such as the Green Futures Hub and Complex Systems Hub have further strengthened multidisciplinary collaboration across the natural sciences, agricultural sciences, engineering sciences, and the built environment. Together with emerging areas such as ecological engineering, climate-smart agriculture, agrivoltaics, environmental rehabilitation, and circular economy systems, these platforms are shaping innovative responses to challenges relating to food security, climate resilience, environmental sustainability, and human well-being.

The Faculty has further strengthened its national and international standing through the growth of its research chair portfolio, major infrastructure investments, expanding global collaborations, and the establishment of new strategic initiatives. These include advances in ecological engineering, environmental rehabilitation sciences, climate-smart agriculture, agrivoltaics, sustainable food systems, and the continued development of future-focused initiatives such as Veterinary Sciences and One Health research.

The theme of NAS2026, *Integrating Science for Sustainable Futures*, reflects our belief that the most pressing challenges of our time cannot be addressed by individual disciplines working in isolation. Meaningful progress requires collaboration across fields, institutions, sectors, and national boundaries. This conference provides an opportunity to share knowledge, showcase achievements, stimulate new ideas, and build the partnerships that will shape the future of science and innovation.

I extend my sincere appreciation to the organising and scientific committees, review panellists, presenters, sponsors, exhibitors, and delegates whose support and participation make this conference possible. I encourage all participants to engage fully in the discussions, explore opportunities for collaboration, and contribute to the collective pursuit of scientific excellence and societal impact.

May NAS2026 inspire new partnerships, new discoveries, and a renewed commitment to creating sustainable futures through integrated science.



Prof Paul Oberholster
Dean: Faculty of Natural and Agricultural Science

Stephen Amoo

Professor Stephen Amoo is currently a Principal Researcher at the Agricultural Research Council - Vegetables, Industrial and Medicinal Plants in South Africa, and an Extraordinary Professor in the Unit for Environmental Sciences and Management, North-West University. He has been leading the Medicinal Plant Research at the Agricultural Research Council in South Africa since 2014. As an indication of his scientific productivity, he has authored/co-authored over 100

peer-reviewed articles with close to 3000 citations on google scholar. He has also mentored/supervised several postdoctoral fellows, PhD and MSc students to completion. In addition to serving as an Associate Editor for the South African Journal of Botany, he serves on the editorial boards of several other international journals and regularly conducts peer-review for several journals. Prof Amoo is rated as an Established Scientist by the National Research Foundation (NRF).



Robert Bragg

Robert Bragg obtained his BSc, BSc (Hons) and MSc degrees from the University of the Witwatersrand, and his PhD from the University of Pretoria. He worked at the Veterinary Research Institute, Onderstepoort and later the Department of Poultry Diseases in the Faculty of Veterinary Science at Onderstepoort. In July 1998 he moved to the UFS Department of Microbial, Biochemical and Food Biotechnology, where he led the Veterinary Biotechnology Research Group. He is now an Emeritus Professor. He has published a total of 95 peer-reviewed

articles and 9 book chapters. Apart from his ongoing work on infectious coryza, he also has an active research interest in disease control options in a post antibiotic era. This work is on improved biosecurity in animal production with a focus on resistance to disinfectants.



Jonathan Noble

Professor Jonathan Noble, Head of the UFS Department of Architecture, lectures in creative research and architectural design and convenes the 'PhD in Architecture with Specialisation in Design', a practice-based research program at the University of the Free State. Jonathan holds a BArch (professional) and a MArch by independent research (both from Wits), a PhD from the Bartlett School of Architecture, University College London, and is author of the books: *African Identity in Post-Apartheid Public Architecture: White Skin, Black Masks*, published by Ashgate (2011), and *The Architecture of Peter Rich: Conversations with Africa*, published by Lund Humphries (2020).



Monday, 22 June 2026

Official Conference Opening
New Education Auditorium

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12:00	Conference registration opens	
13:00	Refreshments and light snacks	
13:30	Welcome	Prof Daryl Codron NAS2026 Chair
13:40	Welcome by the Vice-Chancellor and Principal	Prof Hester C Klopper UFS Vice-Chancellor & Principal
13:55	Research at the UFS	Prof Vasu Reddy UFS Deputy Vice-Chancellor: Research & Innovation
14:15	Proudly NAS Research	Prof Paul Oberholster Dean of Natural and Agricultural Sciences
14:35	Keynote Address <i>Showcasing the power of collaboration: The ARC/DoA/UFS Chairs</i>	Prof Stephen Amoo ARC Vegetables, Industrial and Medicinal Plants
15:20	Showcasing innovative ideas	
	• <i>Stable light isotope ratio mass spectrometry lab</i>	Dr Dumisani Kama & Dr Christo van Staden Department of Chemistry
	• <i>Instrumentation and Electronics</i>	Ines Basson Division of Electronics and Instrumentation
	• <i>Leica LMD6 laser microdissection microscope system</i>	Prof Ed Netherlands Department of Zoology & Entomology
	• <i>Centre for Global Change</i>	Prof Patrick Voua Otomo Department of Zoology & Entomology (Qwaqwa)
16:45	Refreshments	

Tuesday, 23 June 2026

Opening Plenary Session: Education Auditorium

PROGRAMME - Short	08:00	Conference registration						
	08:30	Welcome to Day 2				Prof Alba du Toit NAS2026 Vice-Chair		
	08:35	Welcome by the Chancellor				Prof Bonang Mohale UFS Chancellor		
	08:50	Keynote Address <i>Design Research</i>				Prof Jonathan Noble UFS Department of Architecture		
	09:35	Industry Presentation: Diagnostech <i>From Sample to Success</i>				Carina Jooste Diagnostech		
	09:40	Move to Parallel Sessions						
		MODLEC AA1	MODLEC A1	MODLEC A2	MODLEC AA2	MODLEC A3	MODLEC AA3	Education Auditorium
	09:45	Crop Production	Animal Health: Welfare	Water Resources	Sustainable Communities	Advanced Materials	Human Health	Environmental Health
	11:00	Refreshments - MODLEC Foyer						
	11:45	Crop Production	Animal Health: Conservation	Water Resources	Sustainable Communities	Advanced Materials	Human Health Microbial Resistance	Environmental Health
	13:00	Lunch - MODLEC Foyer						
	14:00	Crop Production Crop Pests & Diseases	Animal Health: Conservation	Water Resources Water Quality	Sustainable Communities	Advanced Materials	Microbial Resistance	Wastewater
	16:15	Poster Session & Refreshments MODLEC Foyer						
	18:00	Conference Dinner Reitz Hall, Centenary Complex						

Wednesday, 24 June 2026

Opening Plenary Session : Education Auditorium

PROGRAMME - Short	08:00	Conference registration					
	08:30	Welcome to Day 3			Prof Rudo Ngara Co-Chair: NAS2024 Scientific Committee		
	08:35	Welcome by the Qwaqwa Campus Principal			Prof Prince Ngobeni UFS Qwaqwa Campus Principal		
	08:50	Keynote Address <i>Planetary Health – How it all connects</i>			Prof Robert Bragg UFS Centre for Mineral Biogeochemistry		
	09:35	Industry Presentation: Inqaba Biotech			Dewald Serfontein Inqaba Biotech		
	09:40	Move to Parallel Sessions					
		MODLEC AA1	MODLEC A1	MODLEC A2	MODLEC AA2	MODLEC A3	MODLEC AA3
	09:45	Crop Pests & Diseases	Animal Health: Breeding	Bioprospecting & Biocontrol	Sustainable Communities	Complex Systems, Simulations & Modelling	Human Health: Treatment
	11:00	Refreshments - MODLEC Foyer					
	11:45	Climate Change	Animal Health: Breeding Land Use & Rehabilitation	Bioprospecting & Biocontrol	Sustainable Communities	Complex Systems, Simulations & Modelling	Human Health: Treatment
	13:00	Lunch - MODLEC Foyer					
	14:00	Climate Change	Land Use & Rehabilitation	Nutrition	Sustainable Communities	Large Data, Machine Learning & AI	Human Health: Treatment
	16:00	Closing Events: Education Auditorium					
	16:15	Celebrating Exceptional Achievers			Prof Vasu Reddy Deputy Vice-Chancellor: Research and Innovation		
16:25	Student Awards			Prof Mahlako Makgahlela NAS Vice-Dean: Research & Postgraduate Students			
16:25	NAS Wrap up and Closure			Prof Mahlako Makgahlela NAS Vice-Dean: Research & Postgraduate Students			

FACULTY OF NATURAL AND AGRICULTURAL SCIENCES			
2 nd Annual Research Conference			
Day 1 – Monday, 22 June 2026			
Official Conference Opening			
Chair: Prof Daryl Codron			
P R O G R A M M E	12:00	Conference Registration Opens	
	13:00	Refreshments and Light Snacks	
	13:30	Welcome	Prof Darryl Codron
	13:40	Welcome by the Vice Chancellor	Prof Hester Klopper
	13:55	Research at the UFS	Prof Vasu Reddy
	14:15	Proudly NAS Research	Prof Paul Oberholster
	14:35	Keynote Address: <i>Showcasing the power of collaboration: The ARC/DoA/UFS Chairs</i>	Prof Stephen Amoo
	15:20	Showcasing Innovative ideas	
		<ul style="list-style-type: none"> Stable light isotope ratio mass spectrometry lab 	Dr Dumisani Kama & Dr Christo van Staden
		<ul style="list-style-type: none"> Instrumentation and Electronics 	Ines Basson
		<ul style="list-style-type: none"> Leica LMD6 laser microdissection microscope system 	Prof Ed Netherlands
		<ul style="list-style-type: none"> Centre for Global Change 	Prof Patrick Voua Otomo
16:15	Refreshments		

Day 2 – Tuesday, 23 June 2026			
Day 2 Opening Plenary Session Education Auditorium Chair: Prof Alba du Toit			
P R O G R A M M E - D A Y 2	08:00	Registration continues	
	08:30	Day2: Welcome and Introductions	Prof Alba du Toit
	08:35	Welcome by the Chancellor	Prof Bonang Mohale
	08:50	Keynote Address: <i>Design Research</i>	Prof Jonathan Noble
	09:35	Industry Presentation (Diagnostech): <i>From Sample to Success</i>	Carina Jooste
	09:40	Move to Parallel Sessions	
	Crop Production		MODLEC AA1
	Chair: Dr Angeline Jacoby		
	09:45	Mafa, Mpho (Oral)	Insights into a-amylase, invertase, and amyloglucosidase functions in resistant wheat cultivar oligosaccharide osmoprotectants production in response to sorbitol and mannitol-induced osmotic stress
	10:05	Khoza, Bongiwe (Oral)	Cysteine derivatives regulate photosynthesis and antioxidant capacity to enhance yield in drought-stressed edamame
	10:25	Hlahla, Jeremiah (Oral)	Morpho-physio-biochemical responses of uncharacterised vegetable-type soybean (<i>Glycine max L.</i>) breeding lines under drought stress
	10:45	Manzini, Sonya (Oral)	Optimizing water and radiation use efficiency of pigeon pea in wemi-arid conditions
	11:05	Refreshments	
	Crop Production		MODLEC AA1
	Chair: Dr Lintle Mohase		
	11:45	Sondela, Lindiwe (Oral)	The physiological responses of four pigeon pea genotypes to drought stress
	12:05	Sekhurwane, Masego (Oral)	Soil-applied selenium differentially regulates leaf and seed antioxidant responses and yield in a cultivar-dependent manner in drought-stressed vegetable soybean
	12:25	Manyolo, Simamkele (Oral)	Identification of physiological, biochemical and yield traits that can be used to discriminate among tolerant and susceptible cowpea genotypes and that can be used as breeding selection criteria
	12:45	Mhlomi, Yanga (Oral)	Unravelling morphological and oxidative stress responses and adaptation of bread-making wheat cultivars to sorbitol-induced osmotic stress
	13:05	Lunch	
Crop Production, and Crop Pests & Diseases		MODLEC AA1	
Chair: Dr Yanga Mhlomi			
14:00	Mambudzha, Wanga (Poster talk - PP9)	Spatio-temporal effects of management practices on soil quality indicators in selected South African agro-ecosystems	
14:05	Chiradza, Tatenda (Poster talk – PP8)	Uncovering phenotypic diversity in founder parents of a cowpea MAGIC population	

PROGRAMME - DAY 2 continued	14:10	Shiferaw, Habtamu (Oral)	Plant-parasitic nematodes in chickpea in Ethiopia: Damage potential of <i>Meloidogyne spp.</i> and identification of resistant cultivars
	14:30	Mkhize, Nonkululeko (Oral)	Functional characterisation and biocontrol efficacy of rhizosphere and geocaulosphere-associated bacteria against soil-borne potato pathogens
	14:50	Khawula, Thubelihle (Oral)	In silico analysis of wheat infecting <i>Puccinia spp.</i> mannanases/mannosidases: Towards understanding their functions as pathogenic proteins
	15:10	Ntjabane, Alfred (Oral)	Integrated enzymatic and proteomic analysis of CAZymes involved in cell wall degradation and hexose sugar acquisition during wheat- <i>Puccinia triticina</i> interactions
	15:30	Sabisa, Ntsoaki (Poster talk – PP7)	Evaluating the insecticidal potential of <i>Chromolaena Odorate</i> (Asteraceae) against the locomotion developmental tie of <i>Spodoptera frugiperda</i> (Lepidoptera: Noctuidae)
	15:35	Mehlomakulu, Sakhile (Poster talk – PP5)	Genetic characterisation and pathogenicity of <i>Colletotrichum coccodes</i> associated with black dot of potato tubers
	16:15	Refreshments and Poster Session (Honours students and others)	
	Animal Health: Welfare		MODLEC A1
	Chair: TBC		
	09:45	Janecke, Beanelri (Oral)	Green energy, birds and the skies we share – impact of wind and solar energy facilities
	10:05	Blayi, Leah (Oral)	Modelling the potential suitable habitats for blue ticks in the Free State Province, South Africa
	10:25	Molony, Elizna (Oral)	Investigating patterns of Rhipicephalus tick infestations in commercial cattle herds in the Free State, South Africa
	10:45	Scheepers, Muller (Poster talk – AH6)	Towards the development of a giraffe (<i>Giraffa spp.</i>) specific whole blood cell-mediated Interferon gamma release assay (IGRA)
	10:50	Zungu, Owami (Poster talk – AH7)	Development of a multi-strain probiotic consortium with functional traits for the cattle industry
	10:55	De Andrade Mello, Raquel (Poster talk- AH2)	Predicting thermal vulnerability in giraffes under climate change: A proposed integrated biophysical and physiological approach
	11:00	Refreshments	
	Animal Health: Conservation		MODLEC A1
	Chair: Dr Beanelri Janecke		
	11:45	Ramoejane, Mpho (Oral)	On the conflict between science and ethics: the case of the moggel, <i>Labeo umbratus</i> (Teleostei: Cyprinidae) from South Africa
	12:05	Grobler, Paul (Oral)	Assessing genetic diversity and parentage to inform management of private White Rhino (<i>Ceratotherium simum</i>) populations in South Africa
12:25	Van der Merwe, Runè (Oral)	Area size as a driver of dietary niche structure in sympatric large mammalian herbivores	
12:45	Viljoen, Johanco (Oral)	The contribution of inselbergs to diversity in the grassland of central southern Africa	
13:05	Lunch		

P R O G R A M M E - D A Y 2 c o n t d	Animal Health: Conservation		MODLEC A1
	Chair: Prof Paul Grobler		
	14:00	Deacon, Francois (Oral)	From capture to conservation: Two decades of advancing giraffe physiology, management, and survival in Africa
	14:20	Grobbelaar, Adri (Oral)	Advancing wildlife monitoring: Application of faecal NIRS to predict nutritional indicators in free-ranging southern giraffe (<i>Giraffa giraffa</i>)
	14:40	Lategan, Chanel (Oral)	How capnograph data can assist in the wellbeing and monitoring of giraffes (<i>Giraffa camelopardalis</i>) during captures and immobilisation procedures
	14:45	Paterson, Sabrina (Poster talk – AH5)	The underlying threat and reality of habitat fragmentation: an analysis of resource utilisation of extralimital giraffe (<i>Giraffa camelopardalis</i>) in enclosed systems.
	15:50	Bopheka, Luthando (Poster talk – AH1)	Morphology and molecular analysis of trypanosomes from catfish species, Orange-Vaal River system, Free State Province
	15:55	Magoai, Jarmaine (Poster talk – AH4)	Diversity and taxonomy of <i>Atherigona</i> (Diptera:Muscadae) in the Northern Cape, South Africa
	16:15	Refreshments and Poster Session (Honours and others)	
	Water Resources		MODLEC A2
	Chair: Prof Modreck Gomo		
	09:45	Lourens, Paul (Oral)	The influence of a shear zone on borehole yield and groundwater occurrence in the Archaean Basement Granites of the Johannesburg Dome, South Africa
	10:05	Minnie, Lurgasho (Oral)	The stochastic nature of river conductivity: A Fokker-Planck approach
	10:25	Dube, Washington (Oral)	The Water-Energy-Food Nexus as a framework for preventing and resolving transboundary water conflicts: A systematic review
	11:00	Refreshments	
	Water Resources		MODLEC A2
	Chair: TBC		
	11:45	Gomo, Modreck (Oral)	Investigating the capability of the Telluric Electric Frequency Selection Method geophysical approach to delineate the depth of confined aquifers
	12:05	Sujee, Imtiyaz (Oral)	Composites of hydrogels and nano-MOFs for atmospheric water harvesting.
	12:25	Morakaladi, Makosha (Oral)	Modelling groundwater recharge under climate variability: Integrating vadose zone processes and nonlocal recharge dynamics
13:00	Lunch		
Water Resources and Water Quality		MODLEC A2	
Chair: Prof Paul Lourens			
14:00	Mbah, Hans (Oral)	The Caprock Transmission Number: A dimensionless screening criterion for groundwater vulnerability to CO ₂ storage pressure transmission	
14:20	Mutshaine, Lutendo (Oral)	Influence of mineralogical composition on groundwater geophysical exploration	
14:40	Sehlabaka, Likeleko (Oral)	Investigating lateral hydraulic connectivity of aquifers at the University of the Free State, Bloemfontein, South Africa	
15:00	Mncwabe, Asanda (Oral)	High-resolution multi-sensor modelling of chlorophyll-a dynamics and bloom risk in the Gariep and Kalkfontein Reservoirs, South Africa	

PROGRAMME - DAY 2 continued	15:20	Atangana, Ernestine (Poster talk- WQ1)	Forecasting the pollution and eutrophic status of the upper Crocodile West catchment, South Africa by a random forest regression-based machine learning approach	
	15:25	Xelelo, Zukile (Poster talk – WQ3)	Assessing the relationship between turbidity and selected water quality parameters in the Modder River	
	15:30	Ramoso, Thutho (Poster talk – WQ2)	Occurrence, fate and ecological risk of azithromycin, a COVID-19 drug in the aquatic ecosystem of the Orange-Senqu River Transboundary Basin	
	16:15	Refreshments and Poster Session (Honours and others)		
	Sustainable Communities: Urban, Services, Housing, Buildings & Business			MODLEC AA2
	Chair: Dr Regis Musavenga			
	09:45	Harper, Natalie (Oral)	Blurring the colonial threshold: Regenerative regionalism as an ecological precinct response in Bloemfontein’s CDB edge at the Mangaung transport facility and Buitesig railway district	
	10:05	Mashanye, Erica (Oral)	Framing nature-based solutions for flood adaptation in urban Africa: Theoretical and conceptual reflections	
	10:25	Matamanda, Abraham (Oral)	Doing urban and regional planning research in contested spaces: Reflections from a decade of fieldwork in southern Africa	
	10:45	Matseo, Karabo (Oral)	Proposed Bloemfontein shrubland: A Naval Hill perspective	
	11:05	Refreshments		
	Sustainable Communities: Urban, Services, Housing, Buildings & Business			MODLEC AA2
	Chair: Prof Jonathan Noble			
	11:45	Rammile, Siphokazi (Oral)	Sustainable urban futures: exploring the nexus between planning and lived experiences in Urban green spaces in Louis Trichardt (Makhado)	
	12:05	Matooane, Leemisa (Oral)	Navigating place, positionality, and access in conducting urban planning research in low-income neighbourhoods	
	12:25	Mabaso, Simphiwe (Oral)	Mapping spatial injustice for a sustainable and inclusive future: GIS hotspot analysis and student lived experiences of service delivery in the Global South.	
	12:45	Pudumo, Pulane (Poster talk – SC3)	The integration of GIS and remote sensing techniques and multi-criteria decision analysis for optimal landfill site selection: The case of Maluti a Phofung Municipality	
	12:50	Ayob, Fatima (Oral)	Land use planning for sustainable densification: Managing the growth of informal rental housing, the case of Ha Tsolo Maseru, Lesotho	
	13:10	Lunch		
	Sustainable Communities: Urban, Services, Housing, Buildings & Business			MODLEC AA2
Chair: Dr Kgosi Mocwagae				
14:00	Basson, Charlize (Oral)	The painted skin of architecture: A personal phenomenology of Korean ornamentation		
14:20	Ludidi, Fezeka (Poster talk – SC2)	Cooperative housing models as an innovative, inclusive and sustainable student housing solution in South African universities		
14:25	Ayob, Fatima (Poster talk – SC1)	Spatial governance and investment in small-scale rental housing in Maseru, Lesotho		

PROGRAMME - DAY 2 continued	14:30	Okello, Tom (Oral)	Transitioning to Eco Industrial Paradigms: A Multi Cadre Framework for Resilient Transformation in Phuthaditjhaba and Tshiame
	14:50	Musavenga, Regis (Oral)	Short-term rentals in southern Africa: Digital game changer for (tourism) housing regulation and neighbourhood planning?
	15:10	Mphanya, Amos (Oral)	Statistical Quantification of the COVID-19 Pandemic's Continuing Lingering Effect on Economic Losses in the Tourism Sector
	16:15	Refreshments and Poster Session (Honours and others)	
	Advanced Materials: Nanomaterials		MODLEC A3
	Chair: Dr Matin Naghizadeh		
	09:45	Sifunda, Vuyani (Oral)	Biosynthesis of gold nanoparticles (AuNPs) and their applications
	10:05	Mokoena, Tiisetso (Oral)	Preparation and characterisation of melt mixed PLA/PCL/APTES-TiO ₂ nanocomposites, to explore the effect of APTES-TiO ₂ on the morphology, thermal, and mechanical properties of the polymers, for potential application in personal hygiene
	10:25	Khumalo, Theo (Oral)	Synthesis and Analysis of Porphyrin Hybrid Nanocomposites as Photo-Catalysts for Wastewater Treatment
	10:45	Maebana, Lekgolo (Poster talk – CS7)	Structural, Optical, and Gas Sensing Characteristics of Rare Earth-Doped CuO/ZrO ₂ Heterostructures for NO ₂ Detection
	10:50	Mateyise, Nandi (Poster talk – CS9)	Investigating Structure-Property Relationships in Osmium(II) Terpyridine Complexes via Synthesis, Electrochemical Characterization, and DFT Studies
	11:00	Refreshments	
	Advanced Materials: Nanomaterials		MODLEC A3
	Chair: Dr Nandi Mateyise		
	11:45	Lemena, Jodinio (Oral)	Low temperature detection of VOCs using W18O49-WO ₃ nanostructures
	12:05	Mzinjani, Viwe (Oral)	Cyclodextrin functionalized magnetite nanoparticles for preconcentration and adsorptive removal of lead from river water samples
	12:25	Akeredolu, Bunmi (Oral)	Influence of Centrifugation Speed on the Morphology, Structural, Vibrational, and Optical Properties of Liquid-Phase Exfoliated MoS ₂ Nanosheets
	12:45	Marole, Mbali (Poster talk – CS8)	Nanostructured Electrodes and Intelligent Testing Platforms for Next Generation Energy Devices
	12:50	Khambule, Samkelisiwe (Poster talk – CS6)	Structural and optical properties of Dy ³⁺ doped ZnAl ₂ O ₄ -CuO nanomaterials as UV-antiaging agents
	12:55	Mathapo, Katleho (Poster talk – CS10)	Biosynthesis of gold nanoparticles (AuNPs) and their applications
13:00	Lunch		
Advanced Materials: Polymers and Photovoltaics		MODLEC A3	
Chair: Dr Kamohela Tshabalala			
14:00	Maphakisa, Metshidiso (Oral)	Design and tailored biodegradable polymer composites for possible application in 3D printing of disposable medical devices	
14:20	Mokoena, Tshepiso (Oral)	Structure and thermal properties of PLA/PCL/EVA ternary blends system for environmentally friendly flame-resistant composites	

PROGRAMME - DAY 2 continued	14:40	Masiu, Lethabile (Oral)	Integrating persistent luminescent SrAl ₂ O ₄ :Eu ²⁺ , Dy ³⁺ phosphors for sustainable night-time road safety applications
	15:00	Mohapi, Tshepo (Oral)	Optimization of the pH levels with improved properties of the electrodeposited CdZrS thin films for photovoltaic devices
	15:20	Van Wyk, Caitlin (Poster talk – CS11)	Optimisation of bismuth doped strontium borates for enhanced NIR emission
	15:25	Kheswa, Nosipho (Poster talk – CS12)	From polyethylene degradation to next-generation bioplastics: Harnessing indigenous fungi for enhanced PLA breakdown
	16:00	Refreshments and Poster Session (Honours students and others)	
	Human Health		MODLEC AA3
	Chair: Dr Gerda Marx		
	09:45	Belle, Gladys (Oral)	Pharmaceuticals of Emerging Concern within a Transboundary River Basin: Spatial, Ecological Risks Patterns and Human Health Risks Assessments
	10:05	Barron, Nikita (Oral)	Cross-Kingdom Interactions Between <i>Candida albicans</i> and Rotavirus in an In Vitro Co-infection Model
	10:25	Bisschoff, Jana (Oral)	The production of sapienic acid by recombinant enzymes from photosynthetic organisms
	10:45	Setsiba, Karabo (Poster talk – HH5)	The effect of FTH2 deletion on lipids of <i>Candida albicans</i>
	10:50	Müller, Joni (Poster talk – HH4)	Comparison of plasmid-based and synthetic gRNA CRISPR–Cas9 strategies for efficient genome editing in <i>Candidozyma auris</i>
	11:00	Refreshments	
	Human Health, and Microbial Resistance		MODLEC AA3
	Chair: Prof Marieka Gryzenhout		
	11:45	Beneke, Carl (Oral)	<i>Candidozyma auris</i> stress tolerance and role of the HOG pathway
	12:05	Coertzen, Azil (Oral) <i>Presented by Bragg, R</i>	Responding to infectious coryza outbreaks in Morocco through the isolation and culturing of <i>Avibacterium paragallinarum</i> to support vaccine development
	12:25	Bolsenbroek, Armand (Oral)	Investigating the role of drug efflux pumps (CDR1, CDR4, SNQ2 AND ROA1) in disinfectant resistance and potential cross-resistance in <i>Candidozyma auris</i>
	12:45	Botes, Moné (Poster talk – HH7)	Production, purification, and preliminary antimicrobial screening of the lantibiotics Pinensin and Jabonensin from the gram-negative <i>Chitinophaga spp.</i>
	12:50	Jalali, Elham (Poster talk – HH8)	Waste-Derived Copper Ion-Impregnated Cotton and Gauze Textiles: A Sustainable Approach to Antimicrobial Fabric Development
12:55	Van den Heever, Gaby (Poster talk – HH6)	Genome Mining and Heterologous Expression of Venezuelan-Like Class IV Lanthipeptides with Potential Metabolic and Antimicrobial Activity	
13:00	Lunch		
Human Health, and Microbial Resistance		MODLEC AA3	
Chair: Dr Elham Jalali			
14:00	Swart, Wanja (Oral)	Misuse of disinfectants cause antibiotic resistance in significant species bacteria	
14:20	Koboekae, Maki (Oral)	Evaluation of Phytochemical, and Antimicrobial Properties of <i>Pyracantha angustifolia</i>	
14:40	Manyeruke, Meloddy (Oral)	Synthesis and Antibacterial activity of novel Benzyloxy Schiff bases	

P R O G R A M M E - D A Y 2 c o n t d	16:15	Refreshments and Poster Session (Honours and others)	
	Environmental Health		Education
	Chair: TBA		Auditorium
	09:45	Codron, Ethan (Oral)	Niche restructuring of non-neutral environmentally stressed ecological communities
	10:05	Machida, Taku (Oral)	Comparative Analysis of Convolutional Neural Networks and Vision Transformers for Pollen Grain Identification in South African Asteraceae
	10:25	Nombewu, Nomatile (Oral) <i>Presented by Van Aardt, A</i>	Vegetation ecology of Commando Drift Nature Reserve, Eastern Cape, South Africa
	10:45	Magqabi, Felicia (Poster talk – EH1)	Community structure and temporal dynamics of nectarivorous microbiota across selected Cape Protea species
	11:00	Refreshments	
	Environmental Health		Education
	Chair: Dr Habtamu Shiferaw		Auditorium
	11:45	Mngomezulu, Nomcebo (Oral)	Biogeographic structuring of halophytic plant communities across coastal salt marshes and inland salt pans in South Africa
	12:05	Sithole, Jubilant (Oral)	Post-Fire community composition of Drakensberg Amathole-Afromontane Fynbos (Gd6): A comparative study of Gd6 before and after the 2023 fires
	12:25	Mokgakala, Kgothatso (Poster talk – EH2)	First checklist of macrofungi from the Gauteng province, South Africa
	12:30	Maseko, Jabulile (Oral)	What goes around comes around: The effect of initial population density and resource level of population fluctuations of German cockroaches
	13:00	Lunch	
	Wastewater		Education
	Chair: TBC		Auditorium
	14:00	Solomon, Solomon (Oral)	Effect of Acid Mine Drainage Water Hardness on the Adsorption Behaviour of Heavy Metals: Comparison with Softened Acid Mine Drainage Water
	14:20	Myburgh, Aden (Oral)	A practical first-order framework for assessing wastewater bio-pond performance in infrastructure-limited rural systems
	14:40	Seromo, Lebohang (Oral)	GO/ZrP as an effective adsorbent for Pb(II) ions removal from water: preparation, adsorption behaviour, and equilibrium studies
15:00	Mochochoko, Tanki (Poster talk – WW3)	Invasive plant biomass-derived biochar composites for sustainable water remediation: A critical review	
15:05	Kuzhanga, Zanele (Poster talk – WW1)	A comparative evaluation of sewage sludge management of two wastewater treatment plants, Mbombela, South Africa	
15:10	Makondo, Themba (Poster talk – WW2)	Porphyrin-functionalized magnetic nanocomposites for wastewater treatment: The synthesis and comparison of two functionalization strategies	
15:15	<i>Sibiya, Lindelani (pending)</i>	<i>Efficacy valuation of the Darvill Wastewater treatment works water re-use demonstration plant</i>	
16:15	Refreshments and Poster Session (Honours and others)		

Day 3 – Wednesday, 24 June 2026			
Day 3 Opening Plenary Session Education Auditorium Chair: Prof Rudo Ngara			
PROGRAMME - DAY 3	08:00	Registration continues	
	08:30	Day3: Welcome and Introductions	Prof Rudo Ngara
	08:35	Welcome by the Qwaqwa Campus Principal	Prof Prince Ngobeni
	08:50	Keynote Address: <i>Planetary Health – How it all connects</i>	Prof Robert Bragg
	09:35	Industry Presentation (Inqaba Biotec)	Dewald Serfontein
	09:40	Move to Parallel Sessions	
	Crop Pests & Diseases		MODLEC AA1
	Chair: Dr Jeremiah Hlahla		
	09:45	Edwards, Gary (Oral)	Ecological aspects of Lepidopteran borers in citrus and pecan orchards in the Vaalharts region
	10:05	Binto Amahle (Oral)	Tracking emerging insecticide resistance in grain aphid populations across wheat production areas of South Africa
	10:25	Moloi, Nomvula (Poster talk – PP6)	Identification of fungal pathogens associated with grain sorghum in South Africa
	10:30	Maposa, Dumz (Poster talk – PP4)	Mapping the prevalence and occurrence of soybean diseases across cultivars in South Africa During the 2025/2026 Season
	10:35	Masisi, Thapiso (Oral)	Sorghum disease phenotyping under natural infection across three south African environments
	11:00	Refreshments	
	Climate Change		MODLEC AA1
	Chair: Dr Adriaan van der Watt		
	11:45	Grové, Bennie (Oral)	Integrating Science for Climate-Resilient Irrigation Futures: An Interdisciplinary Water-Energy-Food Nexus Framework for Irrigation Policy and Resource Management
	12:05	Mncube, Zandile (Oral)	Automatic weather stations (AWS) in the Maloti-Drakensburg Mountains: Spatial distribution, applications, and early climate trends
	12:25	Nyaki, Stephen (Oral)	Farmers' Adaptation to Climate Variability: A Behavioural and Socioeconomic Analysis of Smallholder and Commercial Irrigated Maize farming Business
	12:45	Ramakoloi, Mantsoi (Poster talk – CC1)	Integrating Early Warning Systems (EWS) into Climate Change Adaptation (CCA) within South Africa's National Disaster Management System
13:00	Lunch		
Climate Change		MODLEC AA1	
Chair: Dr Stephen Nyaki			
14:00	Van der Walt, Adriaan (Oral)	Statistical classification of South African seasonal divisions on the basis of daily temperature data	
14:20	Tshikovhi, Kaylne (Oral)	Reconstructing Hourly Temperatures from Daily Extremes in Bloemfontein	
14:40	Franke, Linus (Oral)	Soil carbon sequestration: A nature-based solution to climate change?	
15:00	Mohoje, Keitumetse (Oral)	Understanding barriers to Climate Change Adaptation across National Government entities in South Africa	
15:20	Okolie, Collins (Oral)	Nature-Based Solutions for Climate Change and Disaster Risk Reduction: Perception-Based Empirical Evidence from Smallholder Farmers in the Free State	

PROGRAMME - DAY 3 continued	15:40	Veldkornet, Dmitri (Oral)	Projected range contraction and conservation implications for the endangered medicinal plant <i>Alepidea cordifolia</i> under climate change in southern Africa	
	16:00	Loader, Nicolle (Poster talk – CC2)	Above-normal extended summer temperatures in South Africa: indices, reanalysis evaluation, and links to the Botswana High	
	16:15	Closing events		Education Auditorium
	Animal Health: Breeding Chair: Dr Kgaogelo Mafolo			MODLEC A1
	09:45	Mohlamme, Tshegofatso (Oral)	Genetic Diversity and Population Structure of South African and European Dexter Cattle	
	10:05	Ledwaba, Mahlatsana (Oral)	Interactive Effects of Vitrification and Oocyte Maturity on Fertilization Success and Embryo Cleavage in Cattle	
	10:25	Mabuza, Winsome (Poster talk – AH8)	Case-control Genome-wide Association Analysis of Dermatosparaxis in South African Drakensberger Cattle	
	10:30	Kholoane, Moeketsi (Oral)	Effect of service methods (artificial insemination or natural service) on sow reproductive efficiency	
	10:50	Mosala, Gamolema (Poster talk – AH9)	Recombinant production of porcine follicle stimulating hormone	
	11:00	Refreshments		
	Animal Health: Breeding, and Land use & Rehabilitation Chair: Dr Cowan McLean			MODLEC A1
	11:45	Qankase, Temba (Oral)	Meat Quality and Fatty Acid Composition of Dorper Sheep Ewes: A Comparative Study of Grassveld, Karoo, and Feedlot Production Systems	
	12:05	Clark, Martin (Oral)	Li/REE Pegmatite Prospectivity in the Orange River Pegmatite Belt of South Africa	
	12:25	Mogapi, Omphile (Oral)	Carbon Stocks in the Mokala National Park	
	12:45	Morake, Lefa (Poster talk – LU3)	Combining SWAT hydrological modelling with UAV technology for optimal placement of control measures in large gully networks	
	13:00	Lunch		
	Land use & Rehabilitation Chair: Dr Emmanuel Cele			MODLEC A1
	14:00	Mamanyuha, Lucky (Poster talk – LU2)	Linking Invasion Ecology to Land Capability: A Framework for Sustainable Rehabilitation of Platinum Mining Landscapes in South Africa's Bushveld Igneous Complex	
	14:05	Korie, Dintle (Oral)	Reframing Mine Rehabilitation: A Systematic Review of Adaptive Ecological Restoration, with special reference to the implications for South Africa's Mining Industry	
	14:25	Kotze, Jaco (Oral)	Machine Learning Modelling of Surface Soil Moisture Using Satellite and In-Situ Data for Landslide Assessment in the Eastern Cape, South Africa	
14:45	Mahrai, Makda (Poster talk – LU1)	Microclimatic impacts of Agrivoltaic systems in the rehabilitation strategy of degraded and post-mining lands of South Africa		
14:50	McLean, Cowan (Oral)	Soil Microbial Community Functioning as an Indicator of Alpine Soil Health in the Northern Maloti-Drakensberg, South Africa		
15:10	Von Maltitz, Lindie (Oral)	Compensation for Irreversible Agricultural Land Loss: Institutional Gaps under State Mineral Custodianship		

PROGRAMME - DAY 3 content	15:30	Mabaso, Sinenhlanhla (Oral)	Spatio-temporal analysis of land degradation in Thabo Mofutsanyane District, South Africa, using multi-temporal remote sensing	
	16:15	Closing events		
	Bioprospecting & Biocontrol			MODLEC A2
	Chair: Prof Robert Bragg			
	09:45	Mashweu, Adelaide (Oral)	Versatility of Amino acids as Building Blocks for Functional Peptides and Hydrogels	
	10:05	Ziqubu, Ngobile (Oral)	Identification and characterisation of endophytic microorganisms as biological agents for mitigating drought stress in soybean (<i>Glycine max</i>)	
	10:25	Dhladla, Bonke (Oral)	Investigation of the efficacy of four non-chemical treatments on egg hatch rate and larval mortality of <i>Meloidogyne spp.</i> root-knot nematodes	
	10:45	Laubscher, Saré (Poster talk- BB3)	Evaluating the bioactivity of a commercial South African <i>Cordyceps militaris</i> strain	
	11:00	Refreshments		
	Bioprospecting & Biocontrol			MODLEC A2
	Chair: Dr Mpho Mafa			
	11:45	Dlamini, Nduduzo (Oral)	Functional Characterisation of Potato Rhizosphere Bacteria for Trait-Based Assembly of Synthetic Microbial Communities	
	12:05	Marais, Isabella (Oral)	Tomato Rhizosphere-Associated <i>Lentilactobacillus buchneri</i> : A Plant Probiotic with Biofertilisation, Biostimulation and Biocontrol Potential	
	12:25	Sikhakhane, Lungelo (Poster talk – BB4)	From Single Isolates to Synthetic Consortia: Enhancing Biocontrol of <i>Macrophomina phaseolina</i> in <i>Phaseolus vulgaris</i> L.	
	12:30	Heymans, Hendre (Poster talk – BB2)	Isolation, identification and antimicrobial activity screening of potential probiotic <i>Bacillus spp.</i> from the rhizosphere soil of avocados and tomatoes	
	12:35	Cedras, Britney (Poster talk – BB1)	Sequential synergy of C1184 xylanase and feruloyl esterases converts Beechwood xylan into highly antioxidative xylo-oligosaccharides	
	13:00	Lunch		
	Nutrition			MODLEC A2
	Chair: Prof Alba du Toit			
	14:00	Nematshema, Khezwo (Poster talk – NU2)	Exploring the rheological properties of plant-based soy yoghurt-like product	
14:05	Langa, Zenande (Oral)	Effect of nixtamalization on the nutritional properties of Bambara groundnuts		
14:25	Sivhada, Ridokunda (Poster talk – NU3)	From landraces to nutrition security: Uncovering grain composition and mineral bioavailability in the Watkins Wheat Collection		
14:30	Shezi, Lwandile (Oral)	Nixtamalization as a feasible processing strategy to improve the nutritional and mineral quality of cowpea in South Africa		
14:50	Jacoby, Angeline (Oral)	Biofortification of staple crops for improved human nutrition and food security		
15:10	Nematshema, Khezwo (Poster talk – NU1)	Transforming waste into nutrition: Textural properties of magwinya enriched with okara, a soybean by-product		
16:15	Closing events		Education Auditorium	

PROGRAMME - DAY 3 continued	Sustainable Communities: Governance, Rural & Peri-Urban		MODLEC AA2	
	Chair: Dr Shamiso Mafuku			
	09:45	Mgwele-Hlazo, Abongile (Oral)	Nexus between Insurgent spatial governance, Power, Peri-urban informality and Lived experiences	
	10:05	Cimi, Anelisiwe (Oral) <i>Presented by Mgwele-Hlazo, A</i>	Spatial transformation as a nexus between active spatial processes and governance dynamics in Peri-urban areas	
	10:25	Motlou, Retshepile (Oral)	Institutional fragmentation, urban informality, and critical water infrastructure vulnerability: Towards a Multi-Level Risk Governance Framework for South African Metropolitan Municipalities	
	10:45	Mshelia, Zachariah (Oral)	Multiscale Geographically Weighted Regression of Road Traffic Crashes in Nigeria: Uncovering Spatially Varying Crash Determinants at the State Level	
	11:05	Refreshments		
	Sustainable Communities: Governance, Rural & Peri-Urban		MODLEC AA2	
	Chair: Prof Hendrik Auret			
	11:45	Mocwagae, Kgosi (Oral)	Reflections and Contributions of a Multi-Stage Sampling Technique for Quantitative Data Collection in Urban Planning	
	12:05	Moreki, Mpho (Poster talk – SC6)	The Impact of Occupational Health and Safety Act Regulations on Construction Accidents in Free State Province, South Africa	
	12:10	Dlamini, Linette (Poster talk – SC4)	The role of consumer awareness in green energy adoption within the policy context of Maluti-a-Phofung Municipality	
	12:15	Mafuku, Shamiso (Oral)	Navigating Land Tenure Dynamics for Climate-Resilient Water and Sanitation in Harare's Peri-Urban Zones	
	13:00	Lunch		
	Sustainable Communities: Governance, Rural & Peri-Urban		MODLEC AA2	
	Chair: Dr Zachariah Mshelia			
	14:00	Pherane, Moleboheng (Oral)	Navigating unfamiliar environments: Methodological reflections on rapid ethnographic fieldwork among the Venda community in Limpopo, South Africa	
	14:20	Matanga, Fholisani (Oral)	Flood Risk Assessment of Rural Settlement Expansion and Changes in Climatic Conditions: A Case Study of Vhembe District Municipality, Limpopo, South Africa	
	14:40	Mbhalati, Buhle (Oral)	Investigating the Long-Term Impact of a Digital Literacy Service-Learning Intervention on Marginalised Communities in South Africa: A Phenomenological Study	
	15:00	Mude, Irene (Poster talk – SC7)	Safeguarding Indigenous Earth Construction: The Impact of a Wall Decoration Contest in Zimbabwe	
	15:05	Itholeng, Sebabaco (Poster talk – SC5)	Investigating the role of education in promoting social justice and equity in the former homeland of Qwaqwa	
	16:15	Closing events		Education Auditorium
	Complex Systems, Simulations & Modelling		MODLEC A3	
	Chair: Dr Jacques Maritz			
	09:45	Van Soelen, Brian (Oral)	Spectro-Polarimetric Observations of TeV Sources (SPOTS): First results	
	10:05	Van der Merwe, Sean (Oral)	Robust Bayesian statistical modelling for reliable inference and prediction with uncertainty	
	12:25	Mahlangu, Lerato (Oral)	Stochastic Aspects of the Market Risk under Different Basel Accord Regimes	

PROGRAMME - DAY 3 continued	10:45	Dlamini, Sthembiso (Poster talk – DM4)	Comparative Analysis of Tail Risk in Emerging and Developed Markets: An Extreme Value Theory Perspective
	11:00	Refreshments	
	Complex Systems, Simulations & Modelling		MODLEC A3
	Chair: Sandile Shongwe		
	11:45	Fourie, Francois (Oral)	Model studies of non-uniqueness in the inverse models from two-dimensional electrical resistivity tomography surveys
	12:05	Mofolo, Pepenene (Oral)	Dynamic prices and volatility linkages across sectoral stock markets in South Africa: A cointegration & GARCH-based approach
	12:25	Mokhatholane, Moses (Oral)	A Cointegration–EVT–Copula Framework for Modelling Long-Run Equilibrium and Tail Risk in Equity Markets
	12:50	Hussain, Zoha (Poster talk – DM5)	Improving the Detection Ability of Binary CUSUM Risk-Adjusted Control Charts with Run Rules
	12:45	Masena, Thabiso (Poster talk – DM7)	Investigating the strengths and weaknesses of the SARIMAX intervention model in time series intervention analysis
	13:00	Lunch	
	Large Data, Machine Learning & Artificial Intelligence		MODLEC A3
	Chair: TBC		
	14:00	Alum, Hope (Poster talk – DM1)	Through-the-Cycle to Point-in-Time Probability of Default Conversion under IFRS 9: Integrating Macroeconomic Variables into Credit Risk Models
	14:05	Rasupu, Keneuoe (Poster talk – DM3)	Investigating the Dependence Structure between Capital Adequacy and Lending Capacity in Basel III vs Basel IV
	14:10	Monteiro, Markus (Poster talk DM8)	Market Efficiency and Predictability in South African Summer Grain Spot Markets
	14:15	Oriola, Oluwafemi (Oral)	An Interpretable Artificial Intelligence Approach for Social Media Forensics Based on Topic Models
	14:35	Smith, Jocelyne (Oral)	Evaluating Large Language Models for Automated Assessment and Formative Feedback in Introductory Web Development Education
	14:55	Matlhoko, Ketshepileone (Poster talk - DM2)	Exploring the Consumption of Generative Artificial Intelligence as a Digital Product in Higher Education: A Mixed-Methods Study
	15:00	Blomerus, Jan (Oral)	SamplingForML: An Integrated Web-Based Platform for Structured Data Preparation and Deep Neural Network Regression
	15:20	Khohlakala, Themba (Oral)	AI techniques for risk analysis in banking sector
15:40	Stumpfe, Edrich (Oral)	Revisiting Tabular Model Selection: Advanced Optimisation and Deep Learning Architectures Across Structured Dataset Regimes	
16:15	Closing events		Education Auditorium

PROGRAMME - DAY 3 c o n t d	Human Health: Treatment MODLEC AA3		
	Chair: Dr Meloddy Manyeruke		
	09:45	Smit, Jireh (Oral)	Novel three-step telescoped synthesis of neoflav-3-enes utilizing the palladium catalyzed Heck reaction
	10:05	Belter, Bernadette (Oral)	Production of Leishmania species Δ 24-Sterol methyltransferases for the development of antiparasitic therapies
	10:25	Issahaku, Rachid (Oral)	Bridging African Population Genomics and Structure-Based Drug Discovery in Alzheimer's Disease
	10:45	Chukwuma, Maria (Poster talk – HH9)	Phytochemical investigation into GABAergic activity of extracts and isolated compounds from <i>Pseudogaltonia clavata</i> : An in vitro and in silico approach
	10:50	McQuire, Colleen (Poster talk – HH13)	The importance of melanisation in protecting cryptococcal cells against antimicrobial agents
	10:55	Louw, Mart-Louise (Poster talk – HH11)	Supplementation of MA104 cells with omega-6 and omega-9 fatty acids increases rotavirus replication
	11:00	Refreshments	
	Human Health: Treatment MODLEC AA3		
	Chair: TBC		
	11:45	Leodi, Tlalane (Oral)	Medicinal Plants and Sustainable Cancer Management
	12:05	Mogashoa, Madimetja (Oral)	Rethinking the design of ligands for Radium: the expansion of macrocyclic frameworks for application in targeted alpha therapy (TAT)
	12:25	Murray, Zurika (Oral)	Unpacking the Entourage Effect of Psilocybin-Containing Mushrooms on the Brain Using Computational Modelling and Molecular Dynamics
	12:45	Matumbura, Tinotenda (Poster talk – HH12)	Potential of topical sapienic acid-rich lipids to prevent skin colonisation by <i>Candida auris</i>
	12:50	Gumbo, Amantle (Poster talk)	Genome mining and heterologous expression of Staphylococcal lantibiotics
	12:55	Van Baalen, Casey (Poster talk – HH16)	Development of a gene manipulation tool for <i>Candidozyma auris</i>
	13:00	Lunch	
	Human Health: Treatment MODLEC AA3		
	Chair: Dr Rashid Issahaku		
	14:00	Wilhelm, Anke (Oral)	Zebrafish as a Predictive Model for Early-Stage Toxicity Evaluation - a service at the UFS for the UFS
	14:20	Mostert, Mareli (Poster talk – HH14)	Medicinal Mushrooms as Nutraceuticals: Species Identity and Bioactivity of a Commercial Reishi Product from South Africa
	14:25	Sekandi, Peter (Poster talk – HH15)	The antibacterial, antioxidant, and sun protection potential of a benzophenone from <i>Dolichopentas decora</i> (S. Moore)
	14:30	Ngoasheng, Matjepe (Oral)	Heterologous production of sterol c-24 methyltransferases from <i>Aspergillus fumigatus</i> and <i>Cryptococcus neoformans</i> as novel antifungal drug targets
16:15	Closing events		
		Education Auditorium	

POSTER SESSION (Honours Students and others)

Day 2, Tuesday, 23 June 2026 (16:15)

Venue: MODLEC Foyer

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Presenter	Title	Poster #
Baloyi, Bontlanyane	Climate Risk and Socio-Spatial Vulnerability: A Comparative Review of Phuthaditjhaba and Tshiame Industrial Parks	H13
Coetzee, Estie	Fungi associated with overall decline in pecan orchards in the Northern Cape and pathogenicity on pecan seedlings	PP3
De Koker, Divan	Blood parasites in Muridae from the Nama and Succulent Karoo, Fynbos, and Grassland biomes of South Africa	H1
Gouws, Xandi	Evaluation of the efficacy of disinfectants to degrade cell-free DNA	HH3
Hlatshwayo, Khanyisile	Investigating the temporal variation of groundwater pH in a typical Karoo aquifer in Thaba Nchu, Free State Province, South Africa	H11
Hough, M	Sexual reproduction potential of <i>Cladosporium cladosporioides</i> , the causative agent of pecan scab in South Africa	PP1
Jacobs, Francois	Exploring metal protein interactions: A study in crystallography for future medicinal drug development	HH1
Kubeka, Philasande	From Waste to Resource: Reviewing Wastewater Valorisation Opportunities in South Africa's Township Industrial Parks	H14
Lakaje, Asand	Effect of annealing temperature on structure, morphology, and optical properties of La ₂ ZnTiO ₆	CS5
Lengoabala, Teboho	Multispectral Sentinel-2 based Mapping of <i>Themeda triandra</i> to Support Grassland Management in Golden Gate Highlands National Park	H2
Magwindiri, Rutendo	Application of Artificial Intelligence in Actuarial Science	H4
Mateyise, Nandi	Investigating Structure-Property Relationships in Osmium(II) Terpyridine Complexes via Synthesis, Electrochemical Characterization, and DFT Studies.	CS3
Mathapo, Katileho	Biosynthesis of gold nanoparticles (AuNPs) and their applications	CS4
Mkwayi, Xolile	Spatial Distribution and Movement Patterns of Black-backed Jackals in Relation to Environmental and Anthropogenic Factors in Golden Gate Highlands National Park	H12
Mnana, Emihle	Spatial Analysis of Seriphium plumosum Encroachment and Its Impact on Grass Species Diversity: Golden Gate Grasslands Using Remote Sensing	H18
Mofokeng, Nthabeleng	Synergistic use of Sentinel-1 and Landsat-9 for improved Land Use and Land Cover mapping in the Mountainous Landscape: a case study of QwaQwa, Free State	H3
Mofokeng, Nthabiseng	Quantifying the success of Ponding and Brush Packing Rangeland Restoration Interventions Using Remote Sensing Approaches	H5
Mofokeng, Tahleho	Optimization of Binary phase ZnO-CuO nanoparticles synthesized by chemical bath deposition method for application in optoelectronic coatings.	CS1

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Mokoena, Nokuthula	Analysis of Statistical, Deep Learning and Hybrid Models for Forecasting Exchange Rates	H15
Molitle, Palesa	Geospatial assessment of topographic influence on Biomass-Diversity Relationship in mesic Montane Grassland: Golden Gate Highlands National Park	H19
Mosese, Setjhaba	Crystallographic And Mechanistic Investigation of Rhodium Tropolone Complexes for Catalytic Model Reactions	CS2
Naghizadeh, Matin	Fixed-Bed Column Removal of Atrazine from Water Using Pine Sawdust-Derived Biochar	W1
Ndlangisa, Fikelephi	The Impact of Climate Variation on Small-Scale Farming in Bergville and Its Effects on Rural Livelihoods	H6
Ngcobo, Lungelo	Governance Pathways and Institutional Barriers: A Review of Township Industrial Parks in Phuthaditjhaba and Tshiame	H7
Ngema, Nonhuthuko	Spatial Justice and Eco-Industrial Transformation: Reviewing Inequalities in Phuthaditjhaba's Afromontane Landscape	H8
Noel, Charlotte	Modelling the extreme movement of Brent and WTI crude oil: A comparison of five GARCH-EVT distributions	H16
Noreljaleel, Anwar	Design and Synthesis of Glycosylated Reduced Chalcones: Structural Characterization and In Silico Evaluation for Potential Antidiabetic Target Modulation	HH2
Ntuli, Nondumiso	Assessing the Impact of Small-Scale Livestock Farming on the sustainability of rural livelihoods: a case of Ngoba village, Bergville, KwaZulu-Natal, South Africa	H9
Sabela, Kwanela	Occurrence of Sunflower Diseases in South African Production Regions During the 2026 Growing Season	PP2
Tau, Katleho	Assessment of Meteorological and Hydrological Drought in Maluti-a-Phofung Local Municipality based on Multi-Source Indices using the Google Earth Engine cloud-based- platform	H17
Zikalala, Wandile	The influence of coal mining-driven industrialization on rural livelihoods in Dundee	H10

Local Organising Committee

Prof Daryl Codron, Department of Zoology & Entomology (NAS2026 Chair)
 Prof Alba du Toit, Department of Sustainable Food Systems & Development (NAS2026 Vice-Chair)
 Prof Christian Budde, Department of Mathematics and Applied Mathematics
 Dr Chrisna Steyn, Department of Plant Sciences
 Dr Kamohelo Tshabalala, Department of Physics (Qwaqwa)
 Dr Jana Vermaas, Department of Sustainable Food Systems & Development

Scientific and Programme Committee

Dr Gerda Marx, Department of Genetics (Co-Chair)
 Prof Rudo Ngara, Department of Plant Sciences (Qwaqwa) (Co-Chair)

Scientific Review Panel

We are very appreciative of all the reviewers who so ably and unselfishly supported the conference in this way and ensured that a high-level programme could be compiled, in reviewing over 240 abstracts received.

Dr Mazen Abdulghani, Department of Microbiology & Biochemistry

Dr Efosa Adagbasa, Research Fellow: Department of Geography (Qwaqwa)

Dr Opeoluwa Akinradewo, Department of Quantity Surveying & Construction Management

Dr Chris Amoah, Department of Quantity Surveying & Construction Management

Dr Ernestine Atangana, Centre for Environmental Management

Prof Hendrik Auret, Department of Architecture

Dr Marinda Avenant, Centre for Environmental Management

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Prof Peter Chatanga, Department of Plant Sciences / NUL

Prof Kudzai Chatiza, Department of Geography

Prof Delson Chikobvu, Department of Mathematical Statistics & Actuarial Science

Dr Martin Clark, Department of Geology

Prof Ralph Clark, Afromontane Research Unit

Prof Liza Coetzee-Hugo, Department of Physics

Taylor Colbert, Department of Sustainable Food Systems & Development

Dr Marianne Conradie-Bekker, Department of Chemistry

Dr Boke Moloi, Department of Plant Sciences

Dr Karabo Moloi, Department of Plant Sciences (Qwaqwa)

Dr Sellwane Moloi, Department of Plant Sciences (Qwaqwa)

Prof Lyudmila Moskaleva, Department of Chemistry

Prof David Motaung, Department of Physics

Dr Zachariah Mshelia, DiMTEC

Dr Kholeka Mtshali, Department of Geography

Dr Eleanor Muller, Department of Chemistry

Dr Regis Musavengane, Department of Geography

Dr Norman Muzhinji, Department of Plant Sciences

Dr Abdolhossein Naghizadeh, Department of Engineering Sciences

Prof Alice Ncube, DiMTEC

Dr Luyanda Ndlela, Department of Engineering Sciences

Prof Liezel Nel, Department of Computer Science & Informatics

Prof Frikkie Nesor, Department of Animal Science

Prof Ed Netherlands, Department of Zoology & Entomology

Dr Bimo Nkhata, Centre for Environmental Management

Prof Jonathan Noble, Department of Architecture

Dr Anwar Noreljaleel, Department of Chemistry

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Prof Tom Okello, Department of Geography (Qwaqwa)

Prof Shola Ololade, Centre for Environmental Management

Prof Adri O'Neill, Department of Animal Science

Dr Frans O'Neill, Department of Microbiology & Biochemistry

Dr Oluwafemi Oriola, Department of Computer Science & Informatics

Dr Ronel Pienaar, Department of Zoology & Entomology / ARC

Siphokazi Rammile, Department of Urban & Regional Planning

Prof Fabio Correa, Department of Mathematical Statistics & Actuarial Science
Dr Shaun Cronje, Department of Physics
Dr Liza da Silva, Department of Mathematical Statistics & Actuarial Science
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Conference Secretariat

Cheryl and Anton Lombard, The Peaks Foundation

Conference Dinner

Tuesday, 23 June (18:00 for 18:30)

Reitz Hall, Centenary Complex, Bloemfontein Campus

Numbers are limited, but there is still space on a first-come-first-helped basis. If you would like to attend and did not indicate on your registration, please get in touch with Cheryl in the Conference Secretariat office

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