



**UNIVERSITY OF
ZULULAND**

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38th SASM SYMPOSIUM PROGRAMME

The Department of Biochemistry and Microbiology at the University of Zululand (UNIZULU) proudly presents the 38th Regional SASM Conference, taking place at the UNIZULU Science Centre in Richards Bay

**Microbial Frontiers for Sustainable Health and Innovation:
Bridging Research, Biotechnology, and One Health.**

DATE: 20 November 2025

TIME: 07h30 – 17h00

VENUE: UNIZULU Science Centre, Richards Bay Central, Richards Bay, 3900

KEYNOTE SPEAKERS: Mr Prince Msomi | Mrs Busisiwe Moloi



KEYNOTE SPEAKERS



KEYNOTE SPEAKER 1 – Mrs. Busisiwe Moloi

Mrs. Busisiwe Moloi is the co-founder and CEO of Sawubona Mycelium, driving innovation in sustainable bio-based ingredients using mushroom mycelium and fermentation. With a strong academic and industry background, she leads R&D, commercialization, and has earned recognition for advancing biotech in South Africa.

KEYNOTE SPEAKER 2 – Mr. Prince Msomi



Mr. Prince Edward Nkosiyo Kuthula Msomi, Managing Director of Prijap Biolife Biotechnologies (Pty) Ltd, holds a National Diploma in Biotechnology and began developing Prijap Health in 2009. He officially registered the company in 2016 to manufacture and distribute the herbal product, originally developed by his grandfather.



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Programme Director: Dr F Tshabuse

07h30 - 08h30	Arrival and Registration		
08h30 - 08h35	Welcome by FSAE D.D (R&I): Prof I. Moyo		
08h35 - 08h45	Opening Address by FSAE Dean: Prof. K.C. Lehloenya		
08h45 - 09h10	Keynote Speaker 1: Mrs. B. Moloi		
13h00 - 13h25	Keynote Speaker 2: Mr. P. Msomi		
15h30 - 15h40	Closing Plenary Session (Biochem & Microbio HOD): Prof. S.P. Songca		
15h40 - 16h00	Deliberation		
16h00 - 16h30	Prizes: Prof. K.C. Lehloenya		
16h30 - 16h40	Closure and Vote of Thanks (FSAE T&L Dean): Prof. P. Mudali		
09h10 - 09h15	BREAKAWAY ROOMS		
	AUDITORIUM	CLASSROOM	ECD CLASSROOM
09h20 - 09h35	Gxabhu S: Microbiological insights of different craft and traditional South African beers	Van Der Byl T: Assessing the PlasticDegrading Potential of Bacteria Isolated from Industrial Wastewater	Zulu LP: 'Antimicrobial Resistance in <i>Pseudomonas spp.</i> from Amanzimtoti and South Beach: A Public Health Perspective and The Influence of Water Quality
09h35 - 09h50	Govender S: Mechanisms of β -lactam resistance within <i>Vibrio</i> species isolated from wastewater	Shaik N: Endophytic Bacteria and Biosurfactants: Elucidating Anti-biofilm and Enzymatic Activities	Mogashoa L: Evaluation of microbial diversity in spontaneously fermented banana wine using culture-based methods and sanger sequencing
09h50 - 10h05	Pillay J: Isolation and characterization of <i>Pseudomonas aeruginosa</i> from human clinical samples with focus on antibiotic resistance	Mchunu N: Bioremediation Potential of Indigenous Bacteria in Poultry Wastewater: Enzymatic Dynamics and Nutrient Removal Efficiency	Mavundla NZ: Bioprospecting of Marine Actinomycetes for Antibacterial Activity and Exploration of Mechanisms of Action

10h05 - 10h25	Tea Break		
10h30 - 10h45		Poswa NN: Characterization and classification of bacterial isolates with potential capacities for complete denitrification	Premandham: Photocatalytic and Biological Screening of <i>Moringa oleifera</i> synthesised nickel-doped cerium oxide nanoparticles
10h45 - 11h00	Maputla L: A multi-component biofertilizer made from industrial waste	Khuzwayo O: Optimizing Microalgal Removal of Nutrients and Biomass Yield in Poultry Wastewater Treatment	Zwane SN: Genetic Diversity, Virulence and Resistance Pattern of <i>Mycoplasma</i> species from Urines of Symptomatic Patients
11h00 - 11h15	Mofokeng LM: Optogenetically controlled expression of small laccase (SLAC) and its application in dye decolourisation: a dual promoter approach.	Mbambo N: Physiological response and biochemical composition of <i>Chlorella sorokiniana</i> under optimised cultivation conditions	Ebrahim M: Exploring the Antihypertensive Properties of <i>Mangifera indica</i> Using <i>In silico</i> and <i>In vitro</i> Analyses
11h15 - 11h30	Sithole S: Co-valorisation of Polyethylene Terephthalate and Dairy Wastewater for Polyhydroxyalkanoate Production: A Sequential Hydrolysis-Fermentation Approach	Jali L: Phytochemical characterization and in-silico screening of indigenous herbal plants from Northern KwaZulu-Natal for autophagy modulation	Radebe M: Investigating the production of industrially significant enzymes in a South African <i>Aspergillus niger</i> isolate
11h30 - 11h45	Ndlebe D: Extraction, Quantification, and Bioactivity Assessment of Lipopeptides Produced by <i>Bacillus velezensis</i> R16	Hadebe SP: Optimisation of growth parameters to increase chitin-glucan complex production from <i>Pleurotus sajorajau</i> .	Hiraman S: Bioprospection of Fungal Endophytes from <i>Bridelia micrantha</i> for Secondary Metabolite Production
11h45 - 12h00	Nxumalo K: The Isolation and Characterization of a Lytic Bacteriophage against <i>Salmonella typhimurium</i>	Njapha T: Effect of chemical modulators combined with nitrogen stress on the lipid and biomass productivities of <i>Scenedesmus</i> sp.	Makhubela J: Urease production and characterization from Thermophilus bacteria for immobilization on biochar nanoparticles
12h00 - 12h15	Thomo FC: Generative AI-Integrated Response Surface Methodology for Medium Optimization in Bacterial Polyhydroxyalkanoate (PHA) Production	Mpungose AK: Prevalence, Resistance Patterns, and Quantitative Microbial Risk Assessment of Vancomycin-Resistant <i>Enterococcus</i> in Wastewater Treatment Plant	Yegambaram JJ: Isolation and Characterization of a Novel Lytic Bacteriophage Effective Against AmpC-type β -Lactamase-producing <i>Enterobacter hormaechei</i> subsp. <i>steigerwaltii</i>

12h15 - 12h30	Khoza S: Large Language Model–Assisted Response Surface Optimization of Napier Grass Saccharification and Co-Fermentation for Efficient Lignocellulosic Bioethanol Production	Mbambo N: The impact of optimized growth conditions on total chlorophyll and lipid accumulation in microalgae strain	Ngidi NS: Enrichment of ANAMMOX bacteria in a lab-scale up-flow anaerobic sludge blanket
12h30 - 12h45	Mswesive AA: Isolation and identification of endophytes from <i>Helichrysus odoratissimum</i> for their antibacterial properties.	Nxele B: Bioprospecting endophytes in <i>Hypoxis hemerocallidea</i> for their medicinal properties.	Sithole N: Computational and Experimental Evaluation of the Effects of Herbal Immune Boosters (Airmune and Lerumo) on the Hepatic Metabolism of Ethinylestradiol-Based Oral Contraceptives
12h45 - 13h00	Nkosi A: Profiling of Bioactive Compounds, Molecular Docking, and In Vitro Antimicrobial Activity of n-Hexane bark extract from <i>Sclerocroton integerrimus</i>	Shabangu S: Exploration of endophytic Bacteria associated with <i>Tetradenia riparia</i> as a source of bioactive compounds	Nene SK: Generative AI–Enhanced Optimization of Citric Acid Production from Potato Peel Waste Using Response Surface Methodology and Separate Hydrolysis and Fermentation
13h00 - 13h30	Lunch		
13h30 - 13h45	Masuku BS: Ability of selected Pseudomonadota strains exhibiting β -lactamase activity to cross-protect susceptible bacterial strains against β -lactam antibiotics	Msezane S: Isolation and molecular identification of Biofloculant Producing-Microorganism linked to Encephalartos ferox plant	Ndlazi FP: Evaluation of antimicrobial resistance, virulence factors, sequence types, serotypes, and molecular epidemiology characteristics of <i>Escherichia coli</i> from beef using whole genome sequence analysis
13h45 - 14h00	Dlamini PA: Isolation, screening and identification of biofloculant-producing microorganism from uMhlathuze river water	Nkosi NP: Whole genome sequence analysis of antimicrobial resistance, virulence factors and molecular epidemiology characteristics of coagulase negative <i>Staphylococcus</i> from beef	Zikalala M: Phytochemical Profiling, Antimicrobial Activity, and Molecular Docking studies of Methanolic Leaf Extract of <i>Sclerocroton integerrimus</i>

14h00 - 14h15	Zikalala A: Isolating, Screening and Identifying a bioflocculant producing microorganism from <i>Spinacia oleracea</i> (Spinach)	Mzozo AL: Isolation and identification of yeasts in spontaneously fermented banana wine	Mngxathi K: Evaluation of Antimicrobial Resistance, Virulence factors and Molecular Epidemiology of <i>Staphylococcus saprophyticus</i> From Beef using Whole Genome Sequencing
14h15 - 15h00	Lehlogonolo M: Evaluation of microbial diversity in spontaneously fermented banana wine using culture-based methods and Sanger sequencing	Mnyandu Z: Bioactive Analysis, In vitro Antimicrobial Testing and Molecular Docking Studies of Dichloromethane Leaf Extract from <i>Sclerocroton Integerrimus</i>	Mngomezulu H: Isolation, screening and identification of bioflocculant producing microorganism from Richards Bay wastewater treatment plant
15h00 - 15h15	Ngema SK: GC-MS Profiling, Antimicrobial Evaluation and Molecular Docking Studies of <i>Sclerocroton integerrimus</i> Leaf Extracts from n-Hexane Fraction	Khumalo SM: Antimicrobial Resistance Factors and Characteristics of Salmonella in poultry intestines	Ngidi NX: Isolation, screening and identification of a bioflocculant-producing microorganism from chicken eggshells waste
15h15 - 15h30	Xaba S: Isolation, Screening and Identification of a Bioflocculant Producing Microorganisms from Dead Wood Fungi	Buthelezi ML: Isolation, Screening and Identification of a Bioflocculant-Producing Microorganism from Richards Bay Harbour, KwaZulu-Natal	Ntombela SD: Isolation, Screening and Identification of Bioflocculant-Producing Microorganism from <i>Azadirachta indica</i>
15h30 - 15h45	Mahlakwana L: Computational Evaluation of Herb-Drug Interactions: Assessing the Impact of Lerumo™ and Air Immune™ Herbal Immune Boosters on Ethinylestradiol Pharmacokinetics and selected Gut Microbiome Dynamics	Kunene N: Targeting Host Autophagy Pathways: Computational Evaluation of Bioactive Compounds from Northern KwaZulu-Natal Medicinal Plants	
17h00	Closure		



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