



# SASM2023 Stellenbosch

17-20 September  
Culturing Innovation for a Sustainable Future



## Provisional Programme

Sunday, 17 Sep 2023

Welcome function: 18:00 - 21:30

Monday 18 Sep 2023

	Venue 1	Venue 2	Venue 3
08h30-08h45	<b>Conference Opening/Welcoming</b>		
08h45-09h30	<b>Keynote 1</b> <b>Prof Petro Terblanche</b> Leveraging mRNA Technology for Global Health Equity: The Afrigen Biologics Journey		
09h30-09h40	<b>Vendor presentation: Inqaba</b>		
09h40-10h40	<b>POSTER SESSION</b> Refreshment break		
	<b>Parallel Session 1: Environmental Microbiology</b>	<b>Parallel Session 2: Medical Microbiology</b>	<b>Parallel Session 3: Applied Microbiology &amp; Biotechnology</b>
10h45-11h15	<b>Session Plenary</b> <b>R Dorrington (269, RU)</b>  Living stromatolites: harnessing ancient microbial metabolisms to mitigate carbon emissions and respond to climate change	<b>Session Plenary</b> <b>JR Hiscock (University of Kent, UK)</b>  Supramolecular self-associating amphiphiles (SSAs) – a therapeutic technology platform? Plus a surprise...can you stop a bullet with protein?	<b>Session Plenary</b> <b>Hafizah Chenia (UKZN)</b>
11h15-11h30	<b>161 (UFS)</b> Indigenous microorganisms from Phalaborwa mine tailings: the keystone for sustainable bioleaching of REE – <b>Sanelisiwe Mathangana</b>	<b>209 (UFS)</b> Development of phage display-derived antiviral peptides against Newcastle disease virus - <b>Carlo Visser</b>	<b>18 (SUN)</b> Engineered yeast for the efficient hydrolysis of bioplastics - <b>Wessel Myburgh</b>
11h30 -11h45	<b>235 (NWU)</b> The microbiological effects of wastewater derived microplastics in the ocean – <b>Raeesa Bhikhoo</b>	<b>28 (SUN)</b> Exploring polyamine metabolism of the emergent fungal pathogen <i>Emergomyces africanus</i> - <b>Elizaveta Koroleva</b>	<b>72 (UFS)</b> Construction of a single gRNA expression vector to facilitate RNA-guided CRISPR-Cas9 gene editing for <i>Candida auris</i> – <b>Casey van Baalen</b>

11h45-12h00	<b>182 (SUN)</b> Transcriptomic response of <i>Hyphopichia pseudoburtonii</i> to the bunch rot etiological agent, <i>Botrytis cinerea</i> – <b>Evelyn Maluleke</b>	<b>179 (UCT)</b> Development of a BFDV vaccine candidate in <i>N. benthamiana</i> - <b>Goodman Mulondo</b>	<b>56 (UP)</b> Antagonistic Potential of Endophytic Fungal Isolates of Tomato ( <i>Solanum lycopersicum</i> L.) Fruits Against Post-Harvest Disease-Causing Pathogens of Tomatoes: An in vitro Investigation - <b>Phathutshedzo Ramudingana</b>
12h00-12h15	<b>137 (TUT)</b> Identification of predominant faecal contamination sources in water-stressed rural communities of South Africa using host specific Bacteroidales markers - <b>Mulalo Mudau</b>	<b>66 (UFS)</b> Surveillance and Genome Characterization of Bovine Rotavirus in the Western Cape and Free State Provinces of South Africa - <b>Nikita Barron</b>	<b>51 (UWC)</b> Engineering natural isolates of <i>Saccharomyces cerevisiae</i> for consolidated bioprocessing of cellulosic feedstocks - <b>Letitia Minnaar</b>
12h15-12h30	<b>246 (NWU)</b> Impact of contaminants of emerging concern present in irrigation water on soil microbiota and crop growth: The case of North-West smallholder vegetable farms - <b>Fanelesibonge Vilakazi</b>	<b>11 (UP)</b> <i>Helichrysum populifolium</i> extracts and bioactive compounds modulate virulence factors in <i>Neisseria gonorrhoeae</i> - <b>Vhangani Evangeline Mulaudzi</b>	<b>239 (UL)</b> Production of bioflocculant by a bacterium from fishpond and optimisation of its culture conditions - <b>Stanley Mokoboro</b>
12h30-12h45	<b>38 (SUN)</b> <i>Morchella capensis</i> sp. nov., a new species of <i>Morchella</i> from the Cape Floristic Region – <b>Breyten Van der Merwe</b>	<b>121 (UKZN)</b> Broad-spectrum bioactive potential of biosynthesized silver nanoparticles from endophytic bacteria isolated from Kenyan medicinal plant <i>Teclea nobilis</i> - <b>Farzana Mohamed</b>	<b>117 (SUN)</b> Expression and evaluation of alginate lyases and mannitol dehydrogenases for the hydrolysis of major brown macroalgae compounds – <b>Dominique F. Rocher</b>
13h00-14h30	<b>LUNCH</b>		
	<b>Parallel Session 4: Environmental Microbiology</b>	<b>Parallel Session 5: Medical Microbiology</b>	<b>Parallel Session 6: Applied Microbiology &amp; Biotechnology</b>
14h30-14h45	<b>268 (RU)</b> The humble beginnings of microbialites: from keystone species to taxonomically diverse, metabolically complex microbial communities - <b>Luthando Madonsela</b>	<b>172 (UJ)</b> Occurrence of <i>Legionella</i> in High-rise Buildings in Hillbrow Johannesburg - <b>Keletso Buthane</b>	<b>188 (UCT)</b> The development of a universal Influenza A vaccine candidate in <i>Nicotiana benthamiana</i> - <b>Andani Tshiitamune</b>
14h45-15h00	<b>82 (UP)</b> Characterization of <i>Fusarium circinatum</i> biofilm and its matrix's environmental response role - <b>Francinah Ratsoma</b>	<b>60 (UCT)</b> Development of plant-produced African horse sickness virus diagnostic reagents and a candidate mRNA vaccine - <b>Munyaradzi Tinarwo</b>	<b>77 (SUN)</b> New insights into vitamin B3 and NAD(H) metabolism in <i>Saccharomyces cerevisiae</i> during anaerobic fermentation - <b>James Duncan</b>
15h00-15h15	<b>221 (NWU)</b> Quantification of ESKAPE pathogens and antibiotic resistance genes (ARGs) in wastewater treatment plants (WWTPs) and their receiving waters in NW-P & GP – <b>Rifilwe Mabeo</b>	<b>123 (UP)</b> Genomic determinants of colistin resistance in <i>Pseudomonas aeruginosa</i> isolates from cystic fibrosis patients attending two public academic hospitals in Gauteng, South Africa – <b>Thabo Hamiwe</b>	<b>15 (SUN)</b> Heterologous expression of bacteriocins in <i>Saccharomyces cerevisiae</i> - <b>Michelle Rossouw</b>
15h15-16h00	<b>Refreshment break</b>		

16h00-16h15	<b>264 (NWU)</b> Comparative analysis of bacterial endophyte associated with phyllosphere of cabbage, lettuce and spinach and the effects of plant nutrients in their assemblage - <b>Sharon Mokubedi</b>	<b>232 (SUN)</b> Identification and Characterization of a novel <i>Klebsiella</i> virus and its Modified K2- Capsule Specific Depolymerase - <b>Wian Vermeulen</b>	<b>59 (UWC)</b> Surface tethered xylosidase activity improved xylan conversion in engineered strains of <i>Saccharomyces cerevisiae</i> - <b>Francois Kruger</b>
16h15-16h30	<b>106 (SUN)</b> Characterisation of molecular targets of the co-evolution of cooperative behaviour between the microalga <i>Chlorella sorokiniana</i> and the yeast <i>Saccharomyces cerevisiae</i> within a synthetic environment - <b>Jennifer Oosthuizen</b>	<b>99 (UL)</b> Antioxidative, anti-inflammatory and antimycobacterial activities of <i>Artemisia afra</i> extracts against <i>Mycobacterium smegmatis</i> - <b>Precious Matlala</b>	<b>21 (DUT)</b> Computational bioprospection of selected plant metabolites against the main protease and RNA-dependent RNA polymerase of SARS-CoV-2 - <b>Adedayo Ayodeji Lanrewaju</b>
16h30-16h45	<b>164 (UFS)</b> Endophytes in African potato as an alternative source of bioactive compounds - <b>Aoate Oteng Tsimatsima</b>	<b>216 (UFS)</b> Incorrectly used disinfectants may drive resistance development in clinical settings - <b>Wanja Swart</b>	<b>118 (RU)</b> <i>In vitro</i> evaluation of the effect of a xylanase cocktail on broiler chicken feed digestibility - <b>Lebogang Ramatsui</b>
17h00-18h00	<b>POSTER SESSION</b>		
	<b>Free Evening</b>		

<b>Tuesday 19 Sep 2023</b>			
	<b>Venue 1</b>	<b>Venue 2</b>	<b>Venue 3</b>
08h00-08h10	<b>Conference Announcements</b>		
08h10-08h55	<b>Keynote 2</b> <b>Prof Nelesh Govender</b> Tackling the challenges of emerging fungal pathogens and antifungal resistance in South Africa: Innovations in antifungal agents and diagnostic techniques for enhanced fungal infection management		
08h55-09h05	<b>Vendor presentation: Separations</b>		
09h05 - 09h55	<b>POSTER SESSION</b> <b>Refreshment break</b>		
	<b>Parallel Session 7: Environmental Microbiology</b>	<b>Parallel Session 8: Medical Microbiology</b>	<b>Parallel Session 9: Applied Microbiology &amp; Biotechnology</b>
10h00-10h30	<b>Session Plenary</b> <b>Arina Hitzeroth (UWC)</b> <i>Chryseobacterium</i> , a food spoilage contender, or a silent partner	<b>Session Plenary</b> <b>Olihile Sebolai (UFS)</b> Viral and fungal co-infections: the <i>in vitro</i> role of <i>Aspergillus</i> protease(s) in the activation of the SARS-CoV-2 spike protein	<b>Session Plenary</b> <b>Abondance Kalonji Tshisekedi (176, WITS)</b> Nitrogen-Induced Microbial Dynamics in Malting Barley: Insights from Metagenome-Assembled Genomes (MAGs)
10h30-10h45	<b>201 (SUN)</b> Evidence that polyamine production by the soil yeast <i>Papiliotrema laurentii</i> CAB 91 improves the germination of wheat ( <i>Triticum aestivum</i> L.) - <b>Christiaan van den Heever</b>	<b>253 (NWU)</b> Insight into multi-drug resistant <i>Clostridium perfringens</i> : A transcriptome study - <b>Rohan Fourie</b>	<b>255 (SUN)</b> Establishing a South African biofoundry: Technological enabler for biomanufacturing - <b>Kim Trollope</b>

10h45-11h00	<b>143 (SUN)</b> Genetic diversity of <i>Listeria monocytogenes</i> from the fish industry in the Western Cape, South Africa using whole genome sequencing, and comparison to human listeriosis isolates - <b>Karlene Lambrechts</b>	<b>187 (UFS)</b> Generating rotavirus reassortants with spike proteins from human and bovine strains for the development of region-specific vaccine candidates – <b>Martin Visser</b>	<b>95 (UFS)</b> Activation of SARS-CoV-2 Spike protein by a fungal protease(s) – <b>Nozethu Mjokane</b>
11h00-11h15	<b>107 (SUN)</b> <i>Bdellovibrio bacteriovorus</i> control of MDR and XDR <i>Acinetobacter baumannii</i> : investigation into plastic resistance phenotype - <b>Benjamin Havenga</b>	<b>192 (INS, Moz)</b> Description of a rare NSP4-E6 genotype associated with a G9P[4] rotavirus strain detected in Mozambique - <b>Benilde Munlela</b>	<b>79 (DUT)</b> Characterization and safety assessment of lactic acid bacteria isolated from broiler chickens - <b>Nwabisa Happiness Kokwe</b>
	<b>Parallel Session 10: Environmental Microbiology</b>	<b>Parallel Session 11: Medical Microbiology</b>	<b>Parallel Session 12: Applied Microbiology &amp; Biotechnology</b>
11h15-11h30	<b>93 (UL)</b> Isolation and characterisation of phosphate solubilising fungi for use as biofertiliser - <b>Thabo Jayros Moropana</b>	<b>119 (UL)</b> Evaluation of the biological activities of selected indigenous plant species used for management of respiratory tract infections - <b>Talita Mnisi</b>	<b>190 (DUT)</b> <i>In silico</i> and <i>in vitro</i> analysis of bioactive peptides from fish skin collagen - <b>Cherise Elisha</b>
11h30-11h45	<b>219 (NWU)</b> Microplastics in marine outfall effluent and the global antibiotic resistance threat - <b>Carlos Bezuidenhout</b>	<b>XX (SUN)</b> Intestinal microbiota mediate protection against persistent Giardia infection independent of host adaptive immunity - <b>Renay Ngobeni-Nyambi</b>	<b>41 (UP)</b> Characterization of extracellular vesicles (EVs) from <i>Pinus</i> species - <b>Sithembile Kunene</b>
11h45-12h00	<b>254 (NWU)</b> Investigation of <i>Bacillus cereus</i> sensu lato isolates from animals in the anthrax endemic Kruger National Park - <b>Thuto Magome</b>	<b>25 (German Federal Institute for Risk Assessment, Berlin, Germany)</b> A Point Mutation in the Outer Capsid Protein VP4 Improves Rescue of Simian Rotavirus Reassortants Carrying Antigens from Human Rotaviruses Circulating in Africa - <b>Roman Valusenko-Mehrkens</b>	<b>101 (UL)</b> Potential of endophytic fungi from the stems of <i>Kirkia acuminata</i> as sources of industrial enzymes and secondary metabolites with antimicrobial and anticancer activities – <b>Mfundo Magagula</b>
12h00-12h15	<b>202 (UV)</b> Diverse indigenous rhizobial strains associated with effective nodulation and nitrogen fixation in pigeonpea ( <i>Cajanus cajan</i> ) - <b>Francina Lebogang Bopape</b>	<b>138 (UFS)</b> Evaluation of cytokine responses in macrophage-like cells induced by a rotavirus NSP4-VP4 fusion protein - <b>Ayanda X Thusi</b>	<b>157 (SUN)</b> Exploring yeast fermentative metabolic response to varying exogenous supplies of redox cofactor substrates - <b>Viwe Tyibilika</b>
12h15-13h30	<b>LUNCH</b>		
	<b>Parallel Session 13: Environmental Microbiology</b>	<b>Parallel Session 14: Medical Microbiology</b>	<b>Parallel Session 15: Applied Microbiology &amp; Biotechnology</b>
13h30-13h45	<b>273 (UP)</b> Investigation of microbial genomics to understand the cycling of organosulfur compounds in the marine environments - <b>Mayibongwe Buthelezi</b>	<b>48 (UFS)</b> Molecular investigation of prostaglandin E2 production in <i>Candida auris</i> - <b>Armand Bolsenbroek</b>	<b>224 (UP)</b> Expression of the Positive Regulatory Factor A (prfA) Gene by <i>Listeria monocytogenes</i> is Downregulated and its Biofilm Architecture Disrupted in the Presence of Cell Free Supernatants of Lactic Acid Bacteria - <b>Mapitsi Thantsha</b>

13h45-14h00	<b>186</b> A metagenomic analysis of the microbial and functional diversity of the Buhera Soda Pans in Zimbabwe - <b>Ngonidzashe Mangoma</b>	<b>240 (UFS)</b> Analysis of microbially produced Rotavirus VP as a subunit vaccine candidate – <b>Corinne Fourie</b>	<b>274 (UKZN)</b> Quorum sensing and broad-spectrum biofilm inhibitory potential of biosurfactant-mediated nanoparticles generated using marine bacteria - <b>Ryan Naicker</b>
14h00-14h15	<b>166 (UFS)</b> First Insight into the natural attenuation of emerging contaminants using a metagenomic approach from drinking water sources in the Free State. – <b>Avela Mqambalala</b>	<b>31 (UFS)</b> Region-wide molecular based surveillance on porcine circovirus 2 in Nigerian pigs – <b>Kayode Afolabi</b>	<b>265 (UKZN)</b> Mercury Reductase of <i>Paenibacillus</i> sp. D9: Cloning, Purification, Characterization and Molecular Docking Study - <b>Deveshni Govender</b>
14h15-14h30	<b>67 (UWC)</b> The Role of <i>Chryseobacterium</i> in Food Spoilage and Symbiosis with <i>Pseudomonas aeruginosa</i> - <b>Mickayla Zuerina</b>	<b>244 (SMHS, NHLs)</b> Investigation of Bedaquiline-Resistance in <i>Mycobacterium tuberculosis</i> Isolates from Patients with Drug-Resistant Tuberculosis at the Dr. George Mukhari Tertiary Laboratory - <b>Rabelani Mafunise</b>	<b>3 (UKZN)</b> A novel and more efficient biosynthesis approach for human insulin production in <i>Escherichia coli</i> - <b>Kamini Govender</b>
14h30-14h45	<b>102 (TUT)</b> Evaluation, validation, and selection of a robust diagnostic tool for microbial water quality monitoring in rural communities - <b>Arinao Murei</b>	<b>9 (UP)</b> Molecular modelling of SdiA protein by selected flavonoid and terpenes compounds to attenuate virulence in <i>Klebsiella pneumoniae</i> – <b>Idowu Adeosun</b>	<b>27 (UCT)</b> A single cell study of the immunological response of quails infected with Porcine Circovirus-like particles - <b>Lekita Singh</b>
14h45-17h00	<b>REFRESHMENTS &amp; POSTER SESSION</b>		
19h00-23h00	<b>Congress Dinner</b>		

**Wednesday 20 Sep 2023**

	<b>Venue 1</b>	<b>Venue 2</b>	<b>Venue 3</b>
08h00-08h10	<b>Conference Announcements</b>		
08h10-08h55	<b>Keynote 3 Prof. Joana Falcão Salles</b>		
08h55-09h05	<b>Vendor presentation: Merck</b>		
09h15 - 10h10	<b>AGM (Vista venue)</b>		
10h10 - 10h40	<b>Refreshment break</b>		
	<b>Parallel Session 16: Environmental Microbiology</b>	<b>Parallel Session 17: Medical Microbiology</b>	<b>Parallel Session 18: Applied Microbiology &amp; Biotechnology</b>
10h45 - 11h15	<b>Session Plenary Marilize Le Roes-Hill (39, CPU)</b>  Actinobacterial diversity associated with marine sediments and a wetland system, Agulhas, South Africa	<b>Session Plenary Bronwyn Kirby-McCullough (247, UWC)</b>  Investigating the antimicrobial resistance profiles within domestic greywater systems	<b>Session Plenary Marla Trindade (50, UWC)</b>  Genome-guided biodiscovery to deliver biotechnological solutions

11h15-11h30	<p><b>19 (UFS)</b> Biodiversity Biobanks SA Yeast culture collection, UFS: Meeting the needs of researchers – <b>Adepemi Ogundeji</b></p>	<p><b>111 (UL)</b> The effect of liquid-liquid extraction on the anti-bacterial, and anti-biofilm activities of the leaves and stems of <i>Myrothamnus flabellifolius</i> on Gram-negative nosocomial pathogens - <b>Mashilo Matotoka</b></p>	<p><b>225 (CSIR)</b> Synthetic Biology and Precision Medicine Centre Biofoundry Program: Development for first of its kind Biofoundry lab in Africa - <b>Deepak Balaji Thimiri Govindaraj</b></p>
11h30 -11h45	<p><b>207 (CSIR)</b> Development of a multi-mode biobased product capable of enhancing plant growth and disease control in crops – <b>Yrielle Roets-Dlamini</b></p>	<p><b>64 (CPUT)</b> Effect of co-culture on the antimicrobial compounds produced by marine actinobacteria – <b>Jo-Marie Vreulink</b></p>	<p><b>170 (RiverBioscience)</b> The effect of incubation temperatures on virus yield and microbial contamination during in vivo production of Cryptogran - <b>Eben Mundell</b></p>
11h45-12h00	<p><b>217 (CSIR)</b> Development of high-density production processes for two human probiotics, <i>Lactobacillus rhamnosus</i> and <i>Lactobacillus reuteri</i> - <b>Cebeni Langa</b></p>	<p><b>44 (SUN)</b> Towards direct sputum sequencing of <i>Mycobacterium tuberculosis</i>: A selective lysis approach - <b>Brendon Mann</b></p>	<p><b>26 (CSIR)</b> The use of Bio-based coatings for post-harvest pathogen control and prolonged shelf life - <b>Veshara Ramdas</b></p>
12h00-12h15	<p><b>17 (UP)</b> Biofilms in the Balance: Understanding the Impact of Extracellular Matrix on <i>Fusarium circinatum</i> - <b>Thabiso Motaung</b></p>	<p><b>69 (CPUT)</b> Accessing the biodiversity of two distinct South African soil environments: the search for novel oxidative enzymes - <b>Alaric Prins</b></p>	<p><b>160 (ARC)</b> Biological control of <i>Penicillium</i> species using non-<i>Saccharomyces</i> yeasts - <b>Heinrich du Plessis</b></p>
12:20 - 13:45	<b>Lunch and Departure</b>		