



## PROGRAMME

## SUNDAY 24 APRIL

16:00 - 18:00	Welcome Reception (STIAS) Registration, canapés, red & white wine, soft drinks
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## DAY 1 | MONDAY 25 APRIL

07:30 - 08:45	Registration (STIAS foyer)
08:45	Welcome & Presidential Address SAGS/SASBi (Clint Rhode, Gerard Tromp, Sanushka Naidoo)
09:15 - 10:30	JOINT PLENARY SESSION (Auditorium 1 & 2)   Chair: Dr Clint Rhode
09:15 - 10:00	Invited Plenary Speaker: <b>Prof Chandra Verma</b>   Bioinformatics Institute, The Agency for Science, Technology and Research, Singapore <b>Translating biomolecular modelling to industry and the clinic</b>
10:00 - 10:30	Invited Keynote Speaker (Biomedical Sciences): <b>Prof Soraya Bardien</b>   Division of Molecular Biology & Human Genetics, Stellenbosch University <b>Parkinson's disease: a genetic conundrum</b>
10:30 - 11:00	TEA
11:00 - 12:45	JOINT SESSION: Biomedical Sciences (Auditorium 1 & 2)   Chair: Prof Helena Kuivaniemi
11:00 - 11:15	<b>Moela Pontsho</b>   Retinoblastoma Binding Protein 6 (RBBP6) expression elicits the sensitization of cervical cancer cells to cisplatin treatment
11:15 - 11:30	<b>Bolu Oladunjoye</b>   Structure-based virtual screening of selected malaria box compounds against falstatin, a multi-staged protein in <i>Plasmodium falciparum</i>
11:30 - 11:45	<b>Adebowale Emmanuel Aladejana</b>   In vitro evaluation of the anti-diabetic potential of Helichrysum petiolare Hilliard & B.L. Burt using HepG2 and L6 cell lines
11:45 - 12:00	<b>Kathryn Step</b>   Parkinson's disease, plink, and putative disease susceptibility variants
12:00 - 12:15	<b>Fourie Joubert</b>   Germline sequence variants contributing to cancer susceptibility in South African breast cancer patients of African ancestry
12:15 - 12:30	<b>Graeme Ford</b>   Pharmacogenetics of CYP2a6, CYP2b6 and ugt2b7: relevance to HIV treatment in African populations
12:30 - 12:45	<b>Natasha Kitchin</b>   The gut microbiota in foetal alcohol spectrum disorders
12:45 - 14:00	LUNCH
14:00 - 15:45	JOINT SESSION: Bio-Economy, Industries & Technologies (Auditorium 1 & 2)   Chair: Willem Botes
14:00 - 14:15	Gold Sponsor presentation - DIPLOMICS
14:15 - 14:30	<b>Oleg Reva</b>   Genomic and epigenetic comparison of <i>Bacillus strains</i> suitable for plant protection
14:30 - 14:45	<b>Dave Berger</b>   RNAi "vaccines" for plants: grey leaf spot disease control in maize
14:45 - 15:00	<b>Demissew Teshome</b>   Transcriptional re-programming during recovery from short term drought stress in <i>Eucalyptus grandis</i>
15:00 - 15:15	<b>Anneri Lotter</b>   Phased genome assembly and haplogenome comparison in an F1 hybrid of <i>Eucalyptus urophylla</i> and <i>E. grandis</i>
15:15 - 15:30	<b>Nanette Christie</b>   Data driven molecular breeding of tropical pines
15:30 - 15:45	<b>Masethabela Maphatsoe</b>   Exploring the role of microbial cars as potential biocatalysts, and its potential contribution to South Africa's bioeconomy
15:45 - 16:15	TEA
16:15 - 17:00	JOINT SESSION: Poster Flash Presentations (Auditorium 1 & 2)
17:00 - 17:45	SASBi AGM

# DAY 2 | TUESDAY 26 APRIL

07:30 - 08:45	Registration (STIAS foyer)	
08:45	Welcome & housekeeping (Clint Rhode, Gerard Tromp)	
09:00 - 10:20	JOINT KEYNOTE SESSION: Ecology & Evolution (Auditorium 1 & 2)   Chair: Dr Ruben Cloete	
09:00 - 09:35	Invited Keynote Speaker (Ecology and Evolution): Peter van Heusden   South African National Bioinformatics Institute Realising the potential for pathogen genomics in advancing public health in Africa	
09:35 - 09:50	Olga Bochkareva   Detection of genome rearrangements responsible for bacterial phenotype switching	
09:50 - 10:05	Michal Slupski   Phylogenetic analysis of circadian clock genes in <i>Chrysosporthe</i> species	
10:05 - 10:20	Cassandra Bianca Schoeman   The <i>Encephalartos natalensis</i> -cyanobacterial coralloid root partnership for nitrogen acquisition	
10:20 - 11:00	TEA	
11:00 - 12:45	PARALLEL SESSION: Ecology & Evolution (Auditorium 1 & 2)   Chair: Prof Irene Barnes	PARALLEL SESSION: Biomedical Sciences (Manor House)   Chair: Dr Rencia Van Der Sluis
11:00 - 11:15	Sumari Venter   Multi-omics approaches to studying host-pathogen interactions between the forest pest, <i>Sirex noctilio</i> and its biocontrol agent, <i>Deladenus siricidicola noctilio</i>	Bonginkosi Shabangu   Genomic characterisation of <i>Acinetobacter baumannii</i> associated with neonatal sepsis and stillbirths in a South African population
11:15 - 11:30	Tanya Welgemoed   Pangenome of African populations of the maize fungal pathogen <i>Cercospora zeina</i>	Souiai Oussema   Longitudinal and comparative analysis of Tunisian newborns gut microbiota according to delivery mode
11:30 - 11:45	Khajamohiddin Syed   Impact of lifestyle on cytochrome p450 monooxygenase evolution is clearly evident in bacteria	Sikozile Ncembu   Scalable production of h22(scfv)-eta' targeting cd64 in acute myeloid leukemia (AML)
11:45 - 12:00	Leandri Klynsmith   Tissue- and sex-specific odour coding for ecological niche adaptation in the forest pest, <i>Sirex noctilio</i>	Nikita Simone Pillay   Novel Gene Discovery in a Xhosa Family with Parkinson's Disease
12:00 - 12:15	Shannon Bennet   <i>Fusarium</i> soil survey from the Kalahari	Chrystal Steyl   Host genetic factors contributing to susceptibility to Covid-19
12:15 - 12:30	Shailesh Joshi   Evaluation of gene flow from commercial sugarcane hybrids to compatible wild relatives	Caitlin Uren   The Northern Cape tuberculosis case-control consortium (NCTBC3)
12:30 - 12:45	Lindokuhle Emmanuel   Interaction of <i>Paraburkholderia</i> species with different agricultural and acacia legumes in South Africa	Kili James   Identification of Genetic Variants in Human-Mouse Orthologous Genes in Patients Diagnosed with Non-syndromic Hearing Impairment
12:45 - 13:45	LUNCH	
13:45 - 15:05	JOINT SESSION: Functional Biology (Auditorium 1 & 2)   Chair: Dr Marlon le Roux	
13:45 - 14:20	Invited Keynote Speaker: Prof Sanjib Kumar Panda   Department of Biochemistry, Central University of Rajasthan Functional genomics for abiotic stress tolerance in crops	
14:20 - 14:35	Julia Candotti   Towards haplotype and structural variant based genetic dissection of complex traits in <i>Eucalyptus</i> hybrids	
14:35 - 14:50	Medha Sood   The ultrastructure and role of plastids in carbon partitioning during <i>xylogenesis</i> in VND7-inducible <i>Arabidopsis</i>	
14:50 - 15:05	Robyn Jacob   Comparing the resistant and susceptible defense response of sugarcane challenged with <i>Eldana saccharina</i>	
15:05 - 15:30	TEA	
15:30 - 16:30	JOINT SESSION: Functional Biology (Auditorium 1 & 2)   Chair: Dr Cedric Werely	
15:30 - 15:45	Kelvin Hull   Functional genomic processes of early domestication and artificial selection in black soldier fly colonies	
15:45 - 16:00	Deborah Narh Mensah   NRPS-dependent siderophore synthetase gene clusters and characteristics of NRPS siderophore synthetase genes in <i>Armillaria</i> and other species in the <i>Physalacriaceae</i>	
16:00 - 16:15	Tassin Jackson   Draft genome assembly and annotation of <i>Argyrosomus japonicus</i> in South Africa, provides insight into the evolutionary characteristics of this species	
16:15 - 16:30	Darisia Moonsamy   Expression profiling of interferon-stimulated genes in peripheral blood mononuclear cells from healthy and SARS-COV-2 infected individuals	
16:30 - 17:00	JOINT SESSION: Poster Flash Presentations (Auditorium 1 & 2)	
17:00 - 17:45	SAGS AGM	
19:00	Wine Pairing Social Event at Lanzerac Wine Estate	

# DAY 3 | WEDNESDAY 27 APRIL

07:30 - 08:45	Registration (STIAS foyer)		
08:45	Welcome & housekeeping (Clint Rhode, Gerard Tromp)		
09:00 - 10:30	JOINT KEYNOTE SESSION: Statistical & Computational Methods (Auditorium 1 & 2)   Chair: Prof Gerard Tromp		
09:00 - 09:45	Invited Keynote Speaker: <b>Prof Fyodor Kondrashov</b>   Evolutionary Genomics, Institute of Science and Technology Austria (IST Austria)		
09:45 - 10:00	<b>Ozlem Tastan Bishop</b>   Role of variations in modern drug research and development – Way forward via dynamic residue networks		
10:00 - 10:15	<b>Shae Swanepoel</b>   The in planta expression of <i>Austropuccinia psidii</i> in resistant and susceptible <i>Eucalyptus grandis</i>		
10:15 - 10:30	<b>Hannes Strydom</b>   Modelling the population dynamics of CRISP-CAS9 gene drive systems in <i>Sirex noctilio</i>		
10:30 - 11:00	TEA		
11:00 - 12:30	PARALLEL SESSION: Statistical & Computational Methods (Auditorium 1 & 2)   Chair: Dr Alisa Postma	11:00 - 12:30	PARALLEL SESSION: Conservation & Environmental Sustainability (Manor House)   Chair: Prof Aletta van der Merwe
11:00 - 11:15	<b>Tiego Mohlaba</b>   Development of comprehensive single-cell RNA sequencing pipeline: pre-processing, quality control and identification of outliers	11:00 - 11:30	Keynote address: <b>Dr Simo Maduna</b>   (NIBIO, Norway) <b>Genetic monitoring for biodiversity conservation and environmental sustainability – Examples from the Norwegian Barents Region</b>
11:15 - 11:30	<b>Ruben Cloete</b>   Molecular docking of zinc database natural compounds to SARS-COV-2 coronavirus proteins to identify novel inhibitors with antiviral activity	11:30 - 11:45	<b>Emma Hubble</b>   Population dynamics of two endemic catshark species inferred from molecular and tag-recapture data
11:30 - 11:45	<b>Matthew Adeleke</b>   Designing t- cell epitope-based vaccine against <i>Eimeria</i> from microneme protein 2 (MIC2) antigen using immunoinformatics approach	11:45 - 12:00	<b>Mondi Xaba</b>   Long read de novo assembly of the <i>Acacia mearnsii</i> genome
11:45 - 12:00	<b>Keaghan Brown</b>   Automated computational workflow to prioritize potential resistance variants identified in HIV Integrase Subtype C and CRF02_AG <sup>o</sup>	12:00 - 12:15	<b>Mia Groeneveld</b>   Towards resolving genetic differences and population distributions of rhino rays from the Southwest Indian Ocean region
12:00 - 12:15	<b>Carla Louw</b>   Wastewater-based epidemiology as a viable minimum data strategy for antimicrobial resistance surveillance in a peri-urban setting	12:15 - 12:30	<b>Anandi Bierman</b>   Phylogeography of the invasive <i>Ambrosia</i> beetle, <i>Euwallacea fornicatus</i> - a prequel to fine-scale landscape genomics for understanding invasiveness
12:15 - 12:30	<b>Shailesh Joshi</b>   Evaluation of gene flow from commercial sugarcane hybrids to compatible wild relatives		
12:30 - 13:45	LUNCH		
13:45 - 15:15	JOINT SESSION: Functional Biology (Auditorium 1 & 2)   Chair: Prof Sanushka Naidoo		
13:45 - 14:00	<b>Bulelani Sizani</b>   Structural and functional characterization of NLR proteins differentially expressed in Cassava plant Infected with SACMV		
14:00 - 14:15	<b>Lazarus Takawira</b>   Inferring R2R3-MYB family transcription factor gene targets in <i>Eucalyptus grandis</i> using DNA Affinity Purification sequencing and machine learning		
14:15 - 14:30	<b>Carla Buitendag</b>   The maize fungal pathogen <i>Cercospora zeina</i> ecp2 virulence effector causes necrosis in tobacco		
14:30 - 14:45	<b>Tendo Stanley Tshilate</b>   Genome comparison in abalone species to provides insights into growth related genes		
14:45 - 15:00	<b>Rencia van der Sluis</b>   Critical analyses of the literature: In isovaleryl acidemia, is isovalerylglycine a product fromed by glycine-n acyltransferase?		
15:00 - 15:15	<b>Kelda Perumal</b>   Differences and commonalities induced by pma and 1,25(OH)2d3 in THP-1 cells during monocyte-to-macrophage differentiation		
15:15 - 16:00	TEA		
16:00 - 16:30	JOINT SESSION: E-posters Presentations (Auditorium 1 & 2)		
19:00	Gala Dinner at STIAS		



Arranged by

