

Cape Biotechnology Forum 2010

24 - 26 March 2010, Lord Charles Hotel

WEDNESDAY 24 MARCH

16.00		Registration		
16.40		Welcome		
16.45	PL01	TIA's Vision and Perspective	<i>Dr N Msomi</i>	<i>Acting CEO, Technology Innovation Agency</i>
17.30	PL02	Overview of Biotechnology in South Africa	<i>Dr. Antonio Llobell Dr Carl Montague Dr Dale Gyure</i>	
		Agro-Biotech :		
		Health Biotech: Industrial Biotech:		
18.15	Cocktail Party : Lord Charles Hotel			

THURSDAY 25 MARCH

Please note: All SP presentations are 7 minutes and include a poster presentation

SESSION 1		SYSTEMS BIOLOGY & MICROBIAL STRUCTURE		
08.30	KN01	Discovering and developing drugs in South Africa: challenges and opportunities	<i>K Chibale</i>	<i>Univ Cape Town, IIDMM</i>
09.10	OR01	Making sense of omics data: computational tools for systems biology	<i>JM Rohwer</i>	<i>Univ Stellenbosch, Biochemistry</i>
09.20	OR02	Cell Wall-Omics - Tracking the careers of grape and wine polymers using biotechnology and systems biology	<i>J Moore</i>	<i>Univ Stellenbosch, Wine Institute</i>
09.50	OR03	Cell walls and plant defense: using microscopical and analytical techniques to elucidate resistance phenotypes	<i>E Nguema-Ona</i>	<i>Univ Stellenbosch, Wine Institute</i>
10.10	OR04	Investigating the mechanical properties of yeast cells: effect of generation age	<i>J Stenson</i>	<i>Univ Cape Town, CeBER</i>

10.30 TEA				THURSDAY 25 MARCH					
SESSION 2A		BIOPROCESS (parallel with 2B)		SESSION 2B		METABOLISM & METABOLOMICS (parallel with 2A)			
11.00	OR05	Simulation based life cycle assessment and capital cost estimation to guide sustainable bioprocess development: substrate comparison in citric acid production as a case study	<i>Adrian de Beer</i>	<i>Univ Cape Town, CeBER</i>	11.00	OR09	Re-examining microarray probes to improve downstream analysis	<i>E Alexandersson</i>	<i>Univ Stellenbosch, Wine Institute</i>
11.20	OR06	Evaluation of techniques to quantify sessile populations in bioleach heaps	<i>C Bryan</i>	<i>Univ Cape Town, CeBER</i>	11.20	OR10	Carnitine supplementation has protective and detrimental effects in <i>Saccharomyces cerevisiae</i> that are genetically mediated	<i>J Franken</i>	<i>Univ Stellenbosch, Wine Institute</i>
11.40	OR07	KLa behaviour in aerated multiphase hydrocarbon-aqueous-solid systems.	<i>M Manyuchi</i>	<i>Univ Stellenbosch, Process Engineering</i>	11.40	OR11	Metabolic profiling of photosynthetic pigments in transgenic grapevine	<i>J Lashbrooke</i>	<i>Univ Stellenbosch, Wine Institute</i>
12.00	OR08	Recovery of antioxidants and process waster from table olive brines using membrane separation and chromatography	<i>C Garcin</i>	<i>Univ Cape Town, CeBER</i>	12.00	OR12	Metagenomic sequencing and gene discovery	<i>D Anderson</i>	<i>Univ Western Cape, IMBM</i>
12.20	SP01	The effect of temperature on the attachment of <i>Metallosphaera sedula</i> to a copper sulphide concentrate with application to heap bioleaching	<i>L Bromfield</i>	<i>Univ Cape Town, CeBER</i>	12.20	OR13	Uptake and metabolism of luteolin-containing <i>Artemisia afra</i> aqueous-extract in Caco-2 cells	<i>J Mukinda</i>	<i>Discipline of Pharmacology, UWC</i>
12.27	SP02	Production of surfactin, an antimicrobial biosurfactant produced by <i>Bacillus subtilis</i> ATCC 21332	<i>K Bence</i>	<i>Univ Stellenbosch, Process Engineering</i>	12.40	SP05	Metabolomic comparison of two commercial wine yeast strains	<i>AH van den Dool</i>	<i>Univ Stellenbosch, Wine Institute</i>
12.34	SP03	Optimising microalgal lipid productivity for biodiesel production – direct transesterification as an assay for total fatty acid content	<i>M Griffiths</i>	<i>Univ Cape Town, CeBER</i>	12.47	SP06	Metabolic profiling of volatiles produced during MLF fermentation: application of SPME GC-MS	<i>A Tredoux</i>	<i>Univ Stellenbosch, Wine Institute</i>
12.41	SP04	Selecting a location for an algal biorefinery in South Africa	<i>C Richardson</i>	<i>Univ Cape Town, CeBER</i>					
13.00	LUNCH			13.00	LUNCH				
SESSION 3		GENERAL							
14.00	KN02	Partnering to Develop a Tuberculosis Drug Pipeline for South Africa: The Drug Discovery Strategy of the CBT/DST TB	<i>P Terblanche</i>	<i>Medical Research Council</i>					
14.40	OR14	A new Master of Biotechnology proposed by CB-UEM (Mozambique) aimed at the sub-region.	<i>E Boulange</i>	<i>Universidade Eduardo Mondlane, Maputo</i>					

15.00	OR15	Setup and verification of a laser based immuno nephelometric assay to quantify <i>Pneumococcal polysaccharide</i> with reference to the vaccine manufacturing process	<i>N Swart</i>	<i>Biovac</i>
15.21	SP07	Investigating the Molecular and Morphological Response to Process Stress mediated through the presence of Particulate phase using <i>Saccharomyces cerevisiae</i> as Model system	<i>PY Hsu</i>	<i>Univ Cape Town, CeBER</i>
15.28	SP08	The impact of irrigation conditions on the development of microbial colonies in bioheaps	<i>R Chiume</i>	<i>Univ Cape Town, CeBER</i>
15.33	SP09	Actinobacterial populations inhabiting the Antarctic Dry Valleys mineral soils – a potential source of novel antimicrobial compounds.	<i>B Kirby</i>	<i>Univ Western Cape, IMBM</i>
15.40	SP10	Isolation and characterisation of actinobacteria from a Zambian hot spring	<i>N Mavengere</i>	<i>Univ Western Cape, IMBM</i>
15.47	SP11	The use of laccase for the production of beneficial novel antioxidant polymers	<i>A Parker</i>	<i>Cape Peninsula University of Technology</i>
15.54	SP12	'Deserted' or in 'hot soup': the search for thermotolerant Actinobacterial tyrosinases	<i>W Mavengere</i>	<i>Univ Western Cape, IMBM</i>
16.01	SP13	Genomic and morphological characterisation of a novel Antarctic prophage	<i>T Meiring</i>	<i>Univ Western Cape, IMBM</i>
16.08	SP14	Expression of rotavirus capsid proteins in <i>N. benthamiana</i> plant leaves	<i>DL Mutepfa</i>	<i>Molecular & Cell Biology, Univ Cape Town</i>
16.15	SP15	A critical evaluation of CO2 supplementation to algal systems by direct injection	<i>N Langley</i>	<i>Univ Cape Town, CeBER</i>
16.22		POSTER SESSION with tea and drinks		

19.30

MOYO

FRIDAY 26 MARCH					FRIDAY 26 MARCH				
SESSION 4A		ENVIRONMENTAL BIOPROCESS (parallel with 4B)			SESSION 4B		PROTEOMICS (parallel with 4A)		
08.30	OR16	Production of Industrially Important Peroxidases from <i>Actinobacteria</i> isolated from various environments	<i>N Khan</i>	<i>Cape Peninsula University of Technology</i>	08.30	KN03	Atomic Details of Infectious Diseases	<i>Wolf-Dieter Schubert</i>	<i>Univ Western Cape</i>
08.50	OR17	Biokinetic investigation of the integrated management mineral sulfide ore waste	<i>A Hesketh</i>	<i>Univ Cape Town, CeBER</i>	09.10	OR22	Monitoring vaccine responses in clinical trails using protein array technologies	<i>J Blackburn</i>	<i>Univ Cape Town IIDMM</i>

09.10	OR18	Optimisation of the biological sulphate reduction: investigating the effect of reactor configuration	<i>O Oyekola</i>	<i>Univ Cape Town, CeBER</i>	09.30	OR23	Optimising a proteomics approach to evaluate grapevine berry suspension cultures	<i>R Govind</i>	<i>Univ Stellenbosch, Wine Institute</i>
09.20	OR19	Bioremediation of Metal Contamination in the Plankenburg River, Western Cape, South Africa	<i>V Jackson</i>	<i>Cape Peninsula University of Technology</i>	09.50	OR24	Oxidative enzymes from actinomycetes: A focus on new tyrosinases with industrial potential	<i>M Le-Roes Hill</i>	<i>Cape Peninsula University of Technology</i>
09.50	OR20	Biotech in Sanitation: Polymers from Wastewater	<i>B Verster</i>	<i>Univ Cape Town, CeBER</i>	10.10	SP16	Crystal Structure of the Large Glutamine Synthetase from	<i>J van Rooyen</i>	<i>Univ Cape Town, Molecular & Cell</i>
10.10	OR21	Molecular survey of constructed wetland microbial communities impacted by winery-effluents	<i>J-B Ramond</i>	<i>Univ Western Cape, IMBM</i>	10.17	SP17	Exploring structure-function relationships in p450 enzymes: en route to <i>in silico</i> predictions of the effect of polymorphic variation on drug metabolism	<i>L Coulson</i>	<i>Univ Cape Town IIDMM</i>
					10.24	SP18	Sequencing and partial characterisation of a lipolytic enzyme from an estuarine metagenomic library	<i>T Nyman</i>	<i>Univ Western Cape, IMBM</i>
10.30		TEA and Poster Session			10.30		TEA and Poster Session		
SESSION 5A		BIOINFORMATICS parallel with 5B			SESSION 5B		PROTEIN EXPRESSION parallel with 5A		
11.00	KN04	South Africa's National Bioinformatics Initiatives: Can we deliver in this post-genomic era?	<i>A Christoffels</i>	SANBI	11.00	OR29	Lignocellulose conversion to fuel: Taking a high-throughput shortcut across the metagenomic highway	<i>C Ohlhoff</i>	<i>Univ Western Cape, IMBM</i>
					11.20	OR30	Expression and optimisation of Human papillomavirus type 16 (HPV 16) chimaera candidate vaccines in <i>Nicotiana benthamiana</i>	<i>C Pineo</i>	<i>Univ Cape Town, Molecular & Cell Biology</i>
11.40	OR25	Comparing the transcriptomes of wine yeast strains: towards understanding the interaction between environment and transcriptome during fermentation.	<i>D Rossouw</i>	<i>Univ Stellenbosch, Wine Institute</i>	11.40	OR31	Intein-mediated expression allows for the production of biologically active plant defensin peptides in <i>Escherichia coli</i>	<i>Abré de Beer</i>	<i>Univ Stellenbosch, Wine Institute</i>
12.00	OR26	Genetic strategies to control cell adhesion of <i>Saccharomyces cerevisiae</i>	<i>M Bester</i>	<i>Univ Stellenbosch, Wine Institute</i>	12.00	OR32	Discovery of two novel cold-active esterases from Antarctic soil Using Metagenomics	<i>XP Hu</i>	<i>Univ Western Cape, IMBM</i>
12.20	OR27	Bioinformatics capacity at the CPGR	<i>Judit Kumuthini.</i>	<i>Centre for Proteomic and Genomic Research</i>	12.20	OR33	Production of industrially relevant heterologous proteins in yeasts and filamentous fungi.	<i>R den Haan</i>	<i>Univ Stellenbosch, Microbiology</i>
12.40	OR28	Genomics of Quantitative Disease Resistance in African Maize Varieties	<i>S Murray</i>	<i>Centre for Proteomic and Genomic Research</i>	12.40	OR34	Heterologous expression of cytochrome P450 monooxygenases in <i>E. coli</i> and yeasts	<i>M Smit</i>	<i>University of the Free State</i>
13.00		LUNCH					LUNCH		
SESSION 6		BIOPROCESS and BIOTRANSFORMATIONS							

14.00	OR35	Effects of site-directed mutagenesis on the substrate specificity of a thermostable nitrile hydratase	<i>P Griffiths</i>	<i>Cape Peninsula University of Technology</i>
14.20	OR36	Real-time bioprocess monitoring of alcoholic fermentation: application of Fourier transform mid infrared (FTIR) spectroscopy	<i>H Nieuwoudt</i>	<i>Univ Stellenbosch, Wine Institute</i>
14.40	OR37	Development of an assay system for external carbonic anhydrase activity in whole cell algal systems	<i>Rob van Hille</i>	<i>Univ Cape Town, CeBER</i>
15.00	OR38	New natural antioxidants and in vivo demonstration of their protective effects on health	<i>S Burton</i>	<i>Cape Peninsula University of Technology</i>
15.20	PL03	White Biotechnology and Biocatalysis: New routes to chemicals from biomass?	<i>C Sylдатk</i>	<i>Karlsruhe Institute of Technology, Germany</i>

POSTER PRESENTATIONS

PP01	Characterization of Fluconazole-Resistant and -Susceptible Oral Candida Isolates from HIV-Positive Patients Using SDS-PAGE	<i>PA Abrantes</i>	<i>Univ Western Cape, Medical Bioscience</i>
PP02	Chromium tolerance and reduction potential of <i>Staphylococci</i> species isolated from a fly ash dumping site in South Africa	<i>C Kouadjo</i>	<i>Univ Western Cape, IMBM</i>
PP03	Energy recovery from biodiesel residues by anaerobic digestion	<i>A Inglesby</i>	<i>Univ Cape Town, CeBER</i>
PP04	Characterization of enzymes involved in 2,3 Butanediol pathways	<i>L Adonis</i>	<i>Univ Western Cape, IMBM</i>
PP05	The uniqueness of Mycothiol in <i>M. tuberculosis</i> . Is it really necessary for intracellular survival?	<i>J Mazorodze</i>	<i>Univ Cape Town, Molecular & Cell Biology</i>
PP06	The isolation and characterisation of thermophilic esterases from <i>Actinomycetes</i> for application in lignocellulose digestion	<i>M Oldale</i>	<i>Univ Western Cape, IMBM</i>
PP07	Screening for α -L-arabinofuranosidases from thermophilic <i>Actinomycetes</i> for the digestion of lignocellulosic feedstocks for biofuel production	<i>LA Matthews</i>	<i>Univ Western Cape, IMBM</i>

PP08	The identification and characterization of thermophilic lignin degrading peroxidases from <i>Actinomyces</i> for use in biofuel production	<i>R Crisp</i>	<i>Univ Western Cape, IMBM</i>
PP09	Isolation and Morphological diversity of bacteriophages from Antarctic cold desert environments	<i>K Lukusa</i>	<i>Univ Western Cape, IMBM</i>
PP10	Role of water availability in Antarctic desert microbial community structure and function	<i>D Booyesen</i>	<i>Univ Western Cape, IMBM</i>
PP11	Screening for Lignocellulosic Enzymes using a Metagenomic Approach	<i>T January</i>	<i>Univ Western Cape, IMBM</i>
PP12	Identification of sorghum secretome using proteomics tools	<i>R Ngara</i>	<i>UWC/Biotechnology</i>
PP13	Comparative proteome analysis of wild type and codA transgenic <i>Arabidopsis</i> plants	<i>N Ndabambi</i>	<i>UWC/Biotechnology</i>
PP14	Molecular screening of wine lactic acid bacteria enzymes using gene-specific primers	<i>PSMtshali</i>	<i>Univ Stellenbosch, Wine Institute</i>
PP15	Yeast protein release and haze formation during aging in model wine	<i>T Ndlovu</i>	<i>Univ Stellenbosch, Wine Institute</i>
PP16	Production and immunogenicity of a prophylactic and therapeutic vaccine to protect against multiple human papillomavirus types	<i>M Burger</i>	<i>Univ Cape Town, Molecular & Cell Biology</i>
PP17	A simple method for high throughput analysis of volatiles in wine	<i>A Tredoux</i>	<i>Univ Stellenbosch, Wine Institute</i>
PP18	High throughput screening of wine metabolites using Fourier transform infrared spectroscopy in attenuated total reflection mode (FTIR-ATR)	<i>HH Nieuwoudt</i>	<i>Univ Stellenbosch, Wine Institute</i>
PP19	The expression of fungal enzymes in <i>Saccharomyces cerevisiae</i> for raw starch degradation.	<i>M Viktor</i>	<i>Univ Stellenbosch, Microbiology</i>
PP20	Microbial population changes in response to amendment with winery wastewater and ethanol in pilot-scale constructed wetlands	<i>P Welz</i>	<i>Cape Peninsula University of Technology</i>
PP21	Development and Optimisation of a Bioreactor System to Reduce the Level of Bacterial Contaminants in the Plankenburg River in the Western Cape	<i>AN Paulse</i>	<i>Cape Peninsula University of Technology</i>

PP22	Isolation of a Novel Cytosolic Malate Dehydrogenase (MDH) in <i>Lupinus angustifolius</i> .	<i>M le Roux</i>	<i>Cape Peninsula University of Technology</i>
PP23	Detection and Isolation of Pathogenic bacteria from River Water	<i>MR Manesen</i>	<i>Cape Peninsula University of Technology</i>
PP24	Comparison of Two Techniques for the Qualitative Detection of Adenoviral Contamination in Two Rivers in the Western Cape, South Africa	<i>M Saayman</i>	<i>Cape Peninsula University of Technology</i>
PP25	Beneficiation of Citrus and Deciduous Fruit Wastes	<i>K Horne</i>	<i>Cape Peninsula University of Technology</i>
PP26	Modeling airlift photobioreactors for algae cultivation	<i>M Fraser</i>	<i>Univ Cape Town, CeBER</i>
PP27	Investigating Anthocyanin Production In Two Phenotypes of 'Bon Rouge' <i>Pyrus communis</i> , L. by High Throughput Transcriptome Sequencing.	<i>M du Preez</i>	<i>Univ Western Cape, Biotechnology</i>
PP28	Characterisation and screening of a novel actinobacterial Isolated for thermophilic lignocellulosic enzymes	<i>Yu Gao</i>	<i>Univ Western Cape, IMBM</i>
SP01	The effect of temperature on the attachment of metallosphaera sedula to a copper sulphide concentrate with application to heap bioleaching	<i>L Bromfield</i>	<i>Univ Cape Town, CeBER</i>
SP02	Production of surfactin, an antimicrobial biosurfactant produced by <i>Bacillus subtilis</i> ATCC 21332	<i>K Bence</i>	<i>Univ Stellenbosch, Process Engineering</i>
SP03	Optimising microalgal lipid productivity for biodiesel production – direct transesterification as an assay for total fatty acid content	<i>M Griffiths</i>	<i>Univ Cape Town, CeBER</i>
SP04	Selecting a location for an Algal Biorefinery in South Africa	<i>C Richardson</i>	<i>Univ Cape Town, CeBER</i>
SP05	Metabolomic comparison of two commercial wine yeast strains	<i>AH van den Dool</i>	<i>Univ Stellenbosch, Wine Institute</i>
SP06	Metabolic profiling of volatiles produced during MLF fermentation: application of SPME GC-MS	<i>A Tredoux</i>	<i>Univ Stellenbosch, Wine Institute</i>

SP07	Investigating the Molecular and Morphological Response to Process Stress mediated through the presence of Particulate phase using <i>Saccharomyces cerevisiae</i> as Model system	<i>PY Hsu</i>	<i>Univ Cape Town, CeBER</i>
SP08	The impact of irrigation conditions on the development of microbial colonies in bioheaps	<i>R Chiume</i>	<i>Univ Cape Town, CeBER</i>
SP09	Actinobacterial populations inhabiting the Antarctic Dry Valleys mineral soils – a potential source of novel antimicrobial compounds.	<i>B Kirby</i>	<i>Univ Western Cape, IMBM</i>
SP10	Isolation and characterisation of actinobacteria from a Zambian hot spring	<i>N Mavengere</i>	<i>Univ Western Cape, IMBM</i>
SP11	The use of laccase for the production of beneficial novel antioxidant polymers	<i>A Parker</i>	<i>Cape Peninsula University of Technology</i>
SP12	'Deserted' or in 'hot soup': The search for thermotolerant Actinobacterial tyrosinases	<i>W Mavengere</i>	<i>Univ Western Cape, IMBM</i>
SP13	Genomic and morphological characterisation of a novel Antarctic prophage	<i>T Meiring</i>	<i>Univ Western Cape, IMBM</i>
SP14	Expression of rotavirus capsid proteins in <i>N. benthamiana</i> plant leaves	<i>DL Mutepefa</i>	<i>Molecular & Cell Biology, Univ Cape Town</i>
SP15	A critical evaluation of CO ₂ supplementation to algal systems by direct injection	<i>N Langley</i>	<i>Univ Cape Town, CeBER</i>
SP16	Crystal Structure of the Large Glutamine Synthetase from <i>Bacteroides fragilis</i>	<i>J van Rooyen</i>	<i>Univ Cape Town, Molecular & Cell Biology</i>
SP17	Exploring structure-function relationships in p450 enzymes: en route to <i>in silico</i> predictions of the effect of polymorphic variation on drug metabolism	<i>L Coulson</i>	<i>Univ Cape Town IIDMM</i>
SP18	Sequencing and partial characterisation of a lipolytic enzyme from an estuarine metagenomic Library	<i>T Nyman</i>	<i>Univ Western Cape, IMBM</i>

