

SCIENTIFIC PROGRAMME – OVERVIEW

Physical Sciences	Plant Sciences	Medical and Zoological	Microbiological	Technical forum
Monday 5th			Tuesday 6th	
08:00 - 08:30	Registration		Registration	
08:30 - 09:00	Welcome and opening - Hitachi lecture theatre		08:50 - 09:00	Conference announcements
09:00 - 10:00	21st Boris Balinsky Lecture		28th John Matthews Memorial Lecture	
10:00 - 10:30	TEA		TEA	
Venue	C1	C2	Hitachi	
10:30 - 10:50	Dhlamini	Du Rand	Carelse	
10:50 - 11:10	Danaviah	Visser	Nxumalo	
11:10 - 11:30	Williams	Weldon	Witcomb	
11:30 - 11:50	Gerber	Sivparsad	Nzula	
11:50 - 12:10	Chapman	van Wyk	Süss	
12:10 - 12:30	Frouws	Janecke	Coetzee	
12:30 - 13:30	LUNCH (& MSSA EXCO MEETING)		LUNCH	
Venue	Hitachi		Foyer	Hitachi
13:30 - 13:40	Grossman		Adlem	Mc Dowall
13:40 - 13:50				Snyman
13:50 - 14:00			Adlem	Kimaro
14:00 - 14:10				Kimaro
14:10 - 14:20	Bruton		Lee	Ozegbe
14:20 - 14:30	Harmsen			Elias
14:30 - 14:40			Rossouw	Green
14:40 - 14:50				Pinchuck
14:50 - 15:10	Lee			Jain
15:10 - 15:40	TEA		TEA	
15:40 - 16:00	Taylor	Roberts	MSSA AGM (Hitachi Lecture Theatre)	
16:00 - 16:20	Taylor	Roberts		
16:20 - 16:40	Wesley-Smith	Spicer		
16:40 - 17:00	Zbonak	Rex		
19:00 - late	ALS/JEOL spitbraai and barndance		Student evening/Musical evening	

Wednesday 7th			
10:00 - 10:30	TEA		
Venue	C1	C2	Hitachi
10:30 - 10:50	Stokes	Jordaan	Coetzee
10:50 - 11:10	Soley	van der Merwe	Joubert
11:10 - 11:30	Kimaro	W. Du Plooy	August
11:30 - 11:50	Chawanji	Subbiah	Roberts
11:50 - 12:10	Green		Andrews
12:10 - 12:30	Lyle		Westraad
12:30 - 14:00	LUNCH		
Venue	Foyer	Foyer	Hitachi
14:00 - 14:10	Kriel	Meincken	Yarwood
14:10 - 14:20	Naidoo	Tuling	
14:20 - 14:30	Goveia	Wesley-Smith	Xin
14:30 - 14:40	Naidoo		
14:40 - 14:50	Xuma		Xin
14:50 - 15:00	Whitaker		
15:00 - 15:10	Asanzi		
15:10 - 16:00	TEA		
19:00 - late	Conference Dinner and Prizegiving - Ascot Inn - sponsored by FEI		

Programme: Sunday afternoon, 4th December

16:00 - 18:00	Registration	Denison Residence
18:00 - 21:00	Anaspec KwaZulu-Natal Welcoming Reception Indian food and cultural entertainment	Hexagon Theatre annex

Programme: Monday morning, 5th December

08:00 - 08:30	Registration	Foyer-Conference Venue
08:30 - 09:00	Welcome and Opening	
	Welcome: Candy Lang, President, MSSA Official opening: Prof. Ahmed Bawa, Deputy Vice-Chancellor (Research, Knowledge production and Partnerships), University of KwaZulu-Natal. Conference announcements: Tony Bruton, Conference Convener	Hitachi Lecture Theatre
09:00 - 10:00	21st Boris Balinsky Lecture Chair: Elly Grossman Boris Ivanovich Balinsky - gifted researcher, author and teacher B.C. Fabian	
10:00 - 10:30	TEA	



Monday morning, 5th December

	Lecture theatre C1	Lecture theatre C2	Hitachi Lecture Theatre
Papers	Medical and Zoological Sciences Chair: Edith Elliott	Microbiology Chair: Terry Aveling	Physical Sciences Chair: Mike Witcomb
10:30 - 10:50	Role of antibiotics in the attachment characteristics of <i>Listeria monocytogenes</i> to caco-2 cells <u>L.A. Dhlamini</u> , J.B. Weyers and C.M. Leonard	Insecticidal crystal proteins of unknown subspecies of <i>Bacillus thuringiensis</i> effective against species of Coleoptera <u>N. Du Rand</u> , V.H. Bandu and M.D. Laing	Ordering transformation in a platinum copper jewellery alloy <u>M. Carelse</u> and C.I. Lang
10:50 - 11:10	An evaluation of HIV- and HIV+ spinal tuberculous granulomas - relevance to viral compartmentalisation <u>S. Danaviah</u> , T. Naicker, S. Govender, T. De Oliveira, M. Gordon, V. Dorsamy, and S. Cassol	Microscopy studies of <i>Phakopsora pachyrhizi</i> and <i>Sclerotinia sclerotiorum</i> : Two important yield limiting soybean diseases <u>D.D. Visser</u> , A. Nunkumar and P.M Caldwell	A study of the thermodynamic stability of the Pt ₈ V ordered phase <u>S. Nxumalo</u> and C.I. Lang
11:10 - 11:30	High fat diet induced changes in rat pancreatic beta cell function <u>K. Williams</u> , J. Louw, C. Woodroof and C. Chapman	Examination of the amphibian chytrid fungus, <i>Batrachochytrium dendrobatidis</i> , using confocal microscopy <u>C. Weldon</u> , A. Grobler, D. Elgar and L.H. du Preez	A study of ternary invariant reactions in AS-cast Al-Ru-Y alloys L.A. Cornish and <u>M.J. Witcomb</u>
11:30 - 11:50	The influence of a high fat diet on pancreatic cell proliferation in the rat <u>U. Gerber</u> , C. Chapman, K. Williams, J. Louw and C. Woodroof	Electron microscopy studies of a tomato spotted wilt virus (TSWV) isolate from KwaZulu-Natal <u>B.J. Sivparsad</u> and A. Gubba	Solidification and hardness studies in selected Cr-Ni-Pt alloys <u>M. Nzula</u> and L.A. Cornish
11:50 - 12:10	Changes in pancreatic islet morphology in rats fed a high fat diet <u>C. Chapman</u> , K. Williams, J. Louw and C. Woodroof	Macro-messages in a micro-bottle <u>P.W.J. van Wyk</u> , J.L.F. Kock, A. van Heerden, C.J. Strauss, C.H. Pohl, S.W. Schoombie and S. Nigam	Possible changes to the Cr-Pt binary phase diagram <u>R. Süß</u> and L.A. Cornish
12:10 - 12:30	Structure of the core histone octamer solved by iterative helical real-space reconstruction <u>T.D. Frouws</u> , H.G. Patterson and B.T. Sewell	Ecology of a clay pot: Process of uncovering secrets of a microbial biofilm <u>B.B. Janecke</u> , O.J. Habimana, P.W.J. van Wyk and B.C. Viljoen	Comparison of AS-cast results of Ni-Ru-Y with a 600°C isothermal section <u>S.H. Coetzee</u> , L.A. Cornish, M.J. Witcomb and P.K. Jain
12:30 - 13:30	LUNCH MSSA EXCO MEETING		
	Staff club Meeting room C5		

Programme: Monday afternoon, 5th December

	Technical forum Chair: Malcolm Roberts
	Hitachi Lecture Theatre
13:30 - 14:10	The “do’s” and “don’ts” of oral presentations E.S. Grossman
14:10 - 14:30	On charging for EM services T. Bruton
14:30 - 14:50	Improvements to my microscopy knowledge for 2005. A quick overview. L. Harmsen
14:50 - 15:10	ISO/TC 202 Activities: 2005 Report <u>M. Lee</u> , L.H Adlem and S.N Prins
15:10 - 15:40	TEA

	Techniques in microscopy and analysis	
Venue	Lecture Theatre C1	Lecture Theatre C2
Papers	Plant Sciences Chair: Yogis Naidoo	Technical forum Chair: Miranda Waldron
15:40 - 16:00	Light Microscopy: An essential tool for diatom ecological studies <u>J.C. Taylor</u> and L. Van Rensberg	SHRIMP - a microbeam delicacy for the discerning Earth Scientist <u>M.P. Roberts</u>
16:00 - 16:20	The use of confocal microscopy for examining diatoms <u>J.C. Taylor</u> , A. Grobler, D. Elgar and L. Van Rensberg	The machinery behind the wizardry of geothermobarometry - estimating pressure and temperature of rock forming events <u>M.P. Roberts</u>
16:20 - 16:40	Preparation of artefact-free wood pulp fibres for microscopy <u>J. Wesley-Smith</u>	Solvent free microwave extraction of essential oils M.E. Lucchesi, F. Chemat and <u>E. Spicer</u>
16:40 - 17:00	Characterisation of fibre properties of three <i>Eucalyptus</i> species using fluorescence microscopy and SEM <u>A. Zbonak</u> and J. Wesley-Smith	Electron crystallography through the application of precession on transmission electron microscopes <u>G. Rex</u>
19:00 - late	ALS/JEOL Spit braai and Barn dance with ‘The Bandits’ venue : Hexagon Theatre annex	

Programme: Tuesday morning, 6th December

08:50 – 09:00	Conference Announcements – Conference Convener	
09:00 - 10:00	28th John Matthews Lecture Chair: Candy Lang The cutting edge: materials characterisation & nano-fabrication using focused ion beam scanning electron microscopy (FIB SEM) D.J. Stokes	Hitachi Lecture Theatre
10:00 - 10:30	TEA	

Venue	Lecture theatre C1	Lecture theatre C2	Hitachi Lecture Theatre
Papers	Technical Forum Chair: Tony Bruton	Medical and Zoological Sciences Chair: Clive Dennison	Physical Sciences Chair: Jan Neethling
10:30 - 10:50	Application of cryo-FEGTEM to problems in structural biology <u>B.T. Sewell</u>	The micromorphological specialisations of the sucking louse <i>Linognathus euchore</i> from the sprinkbok <i>Antidorcus marsupialis</i> <u>E.D. Green</u> and M.L. Turner	Ultrastructural investigation of Au/polymer composite nanofibres <u>A. Douglas</u> , M.C. Raphulu, C. Claassens, C. van der Merwe and D.N. Compton
10:50 - 11:10	The method of iterative helical real space reconstruction (IHRSR) in three-dimensional reconstruction of helical macromolecular assemblies. <u>M.P.Scheffer</u>	Some introduced fish and their parasites, a threat in Tasmania, Australia <u>L. Basson</u>	Types of filter paper and their application in EDS and sample preparation S.H. Coetzee, A. Jordaan and <u>G. Rabalone</u>
11:10 - 11:30	Nuclear microprobe analysis of human hair cross sections <u>C.A. Pineda-Vargas</u> and M.E. Eisa	Digenetic trematodes collected from six fish families in the Okavango River and Delta, Botswana <u>C. Jansen van Rensburg</u> , P.H. King and J.G. Van As	Surface analysis of ultrafiltration membranes using atomic force microscopy <u>M. Meincken</u> and S.P. Roux
11:30 - 11:50	Cleaning objective lenses - a search for the perfect method <u>M.E. Waldron</u>	Phylogeny of the Branchiura according to morphological characters using scanning electron microscopy <u>E. Jansen van Rensburg</u> and J.G. Van As	Elucidation of thermal insulating materials by microscopy <u>T.F. Meletse</u> and K. Marcus
11:50 - 12:10		The quaternary structure of <i>Rhodococcus rhodochrous</i> J1 nitrilase as revealed by negative staining <u>R.N. Thuku</u> and B.T. Sewell	Microscopic investigation of laser surface melted spheroidal graphite ductile iron after corrosion testing <u>T.S. Seleka</u> and S.L. Pityana
12:10 - 12:30			Characterisation of microstructural changes induced by laser surface remelting of martensitic M300 tool steel <u>T.S. Seleka</u> , S.L. Pityana, M. Ulbrich and K. Labuschagne
12:30 - 13:30	LUNCH		Staff club

Programme: Tuesday afternoon, 6th December

	Posters - Foyer	Papers - Hitachi Lecture Theatre	Papers – C1
	Medical and Zoological Sciences Chair: Linda Basson	Physical Sciences Chair: Alistair Douglas	Technical forum Chair: Mike Lee
13:30 - 13:40	Macrophage granule characterisation <u>J.A. Mc Dowall</u> and E. Elliott	Failure investigation of soldered stainless steel orthodontic joints exposed to artificial saliva: a microstructural analysis A. Vahed, <u>N. Lachman</u> and R.D Knutsen	Proficiency schemes: beneficial to the operator or “the big stick” for management? M.E. Lee and <u>L.H. Adlem</u>
13:40 - 13:50	Quantitation of mature cathepsin B in normal- and ras-transfected breast epithelial cells <u>C. Snyman</u> , C. Dennison, B. Sloane and E. Elliott		
13:50 - 14:00	The ultrastructure of gland cells in the ovary of the sexually immature ostrich <u>W.H. Kimaro</u> and M-C. Madekurozwa	The effect of surface modification of an alloy to carburization <u>M. Marekwa</u> and K. Marcus	EDX proficiency scheme - round one results <u>L.H. Adlem</u> and M.E. Lee
14:00 - 14:10	An immunohistochemical study of the innervation of the ovary in the sexually immature ostrich <u>W.H. Kimaro</u> and M-C. Madekurozwa		
14:10 - 14:20	The efferent ductules of the testis of the ostrich (<i>Struthio camelus</i>) <u>P.C. Ozegbe</u> , T.A. Aire and J.T. Soley	HRTEM investigation of ZnO layers grown on GaAs by MOCVD <u>J.H. Neethling</u> , H. Kirmse, W. Neumann, C. Weichsel, P.R. Berndt and A.W.R. Leitch	Incomplete charge collection (ICC), ice, noise and other gremlins which “spoil” the quality of an EDX spectrum <u>M.E. Lee</u>
14:20 - 14:30	The microvasculature of the testis, epididymus and proximal ductus deferens of the ostrich (<i>Struthio camelus</i>) as revealed by India ink injection <u>M.Z.J. Elias</u> , T.A. Aire and J.T. Soley		
14:30 - 14:40	The external micromorphology of the lava of the greater wax moth <i>Galleria mellonella</i> <u>E.D. Green</u>	The influence of sintering in a nitrogen atmosphere on the microstructure of a WC-VC-TiC-Co hardmetal <u>N.G. Hashe</u> , J.H. Neethling, H-O. Andrén, G. Östberg, P.R. Berndt	EDX analysis of alloy phases - when are the results acceptable? <u>M.H. Rossouw</u> and M.E. Lee
14:40 - 14: 50	Morphology of the female reproductive tract in a cicada, <i>Azanicada zuluensis</i> (Hemiptera: Cicadidae) A.S. Chawanji, <u>S.C. Pinchuck</u> , A.N. Hodgson and M.H. Villet		
14:50 - 15:10		Microstructure of Botswana agates <u>P.K. Jain</u> , S.H. Coetzee, W.S. Downey and T. Moxon	
15:10 - 15:40	TEA		
15:40 - 17:00	MSSA AGM		Hitachi Lecture Theatre
19:00 – late	DIATOME/ANALYTICAL SCIENCES - STUDENTS EVENING HITACHI High-Technologies and Rick Loveland & Ass. - SUPPER THEATRE		Students Union Hexagon Theatre

Programme: Wednesday morning, 7th December

10:00 – 10:30	TEA		
Venue	Lecture Theatre C1	Lecture Theatre C2	Hitachi Lecture Theatre
Papers	Medical and Zoological Sciences Chair: Keith Williams	Plant Sciences Chair : James Wesley-Smith	Physical Sciences Chair: Kashif Marcus
10:30 - 10:50	New approaches to the study of biological specimens using focused ion beam scanning electron microscopy (FIB SEM) and environmental SEM (ESEM). <u>D J Stokes</u>	Development and functional significance of the seed coat of Devil's Claw (<i>Harpagophytum procumbens</i>) <u>A. Jordaan</u> , D.D. Shushu and H. Krüger	SEM view of world's most significant dust cloud sampled at Chicha, The Chad, Bodele depression, Sahara F.D. Eckardt, <u>S.H. Coetzee</u> and R. Washington
10:50 - 11:10	The morphology of the seminiferous tubules in three-day-old ostrich chicks <u>J.T. Soley</u> , E. van Wilpe, T.A. Aire and P.C. Ozegbe	Ultrastructure of the plant cuticle - wax removal <u>C. van der Merwe</u> and W. Du Plooy	Effect of the <i>HfC/TiC</i> ratio on the structure and properties of (<i>Hf</i> , <i>Ti</i>) <i>C</i> <u>C. Joubert</u> , M. Herrmann, I. Sigalas and J.H. Neethling
11:10 - 11:30	Ultrastructural features of healthy and atretic ovarian follicles in the sexually immature ostrich <u>W.H. Kimaro</u> and M-C. Madekurozwa	Localisation of extractable oil and antioxidants from <i>Sclerocarya birrea</i> (marula) nuts <u>W. Du Plooy</u> , B. Botha, C. van der Merwe and C. Lowane	Mineralogy of the chromium-bearing heavy minerals of the Sibaya formation, northern KwaZulu-Natal L.Mahabeer, J.N. Dunlevey and <u>R.B. August</u>
11:30 - 11:50	Spermiogenesis in the cicadas <i>Kongota punctigera</i> (Cicadinae: Platypleurini) and <i>Monomotapa matoposa</i> (Tibicininae: Taphurini) <u>A.S. Chawanji</u> , A.N. Hodgson and M.H. Villet	A study of intra-organellar putative skeletal structures in <i>Azadirachta indica</i> <u>A. Subbiah</u> , P. Berjak and V. Merhar	Application of Zr solubility in rutile thermometry to aid pressure-temperature estimations on granulite-facies metamorphic rocks <u>M.P. Roberts</u> , G.H. Grantham, R.B. August, S. Azevedo and A. Walliser
11:50 - 12:10	The functional micromorphology of the head of the worker of the Cape honeybee <i>Apis mellifera capensis</i> <u>E.D. Green</u>		Texture variation with lime content in cast anglo platinum furnace slag <u>L. Andrews</u> , W. Armstrong and K. van der Merwe
12:10 - 12:30	Cusp morphology as a tool in systematics of Afrotropical Tracheline sac spiders (Araneae: Corinnidae) <u>R. Lyle</u> and C.R. Haddad		Processing and characterisation of heat resistant polycrystalline diamond with calcium carbonate as sintering aid <u>J. E. Westraad</u> , J.H. Neethling, N. Dubrovinskaia and I. Sigalas
12:30 - 14:00	LUNCH		Staff Club

Programme: Wednesday afternoon, 7th December

	Posters - Foyer	Posters - Foyer	Papers - Hitachi Lecture Theatre
	Plant Sciences Chair: Trevor Sewell	Physical Sciences Chair: Vijay Bandu	Technical forum: Promoting microscopy Chair: Luc Harmsen
14:00 – 14:10	Morphology and taxonomy of diatoms in an urban stream <u>G.P. Kriel</u> , J.C. Taylor and L. Van Rensburg	The effect of different dyeing colours on wool fibres investigated with atomic force microscopy A. Abdullah, A. Gericke and <u>M. Meincken</u>	Remote electron microscopy; fact or fiction? <u>A. Yarwood</u>
14:10 – 14:20	Effect of dehydration and cryopreservation on the cytoskeletal integrity of <i>Amaryllis belladonna</i> embryonic axes <u>S. Naidoo</u> , V. Merhar, P. Berjak, and N.W. Pammenter	A TEM study of precipitation of AIN during roughing of low C-B steel <u>A.S. Tuling</u> and K.M. Banks	
14:20 – 14:30	Reactive oxygen species associated with wounding may preclude shoot formation in excised embryonic axes <u>M. Goveia</u> , J.I. Kioko and P. Berjak	Solving the enigma of “enigma”: measuring ink penetration into paper samples <u>J. Wesley-Smith</u>	Listserver reflected China EM/ED market <u>R. Xin</u>
14:30 - 14:40	Preliminary investigation of secretory activity of the leaves of <i>Harpagophytum procumbens</i> <u>Y. Naidoo</u> , T. Xuma and A. Jordaan		
14:40 – 14:50	Further investigation of leaf secretory activity of <i>Xerophyta viscosa</i> <u>T. Xuma</u> , Y. Naidoo and G. Naidoo		On-site ED detector reconditioning <u>R. Xin</u>
14:50 - 15:00	Observations of the infection of <i>Welwitschia mirabilis</i> seeds by <i>Aspergillus niger</i> <u>A. Whitaker</u> and P. Berjak		
15:00 – 15:10	Comparison of mineral and phytate contents of embryo and endosperm in two maize cultivars. <u>N.M. Asanzi</u> , A.T. Modi, B.J. White and V.H. Bandu		
15:10 – 16:00	TEA		
19:00 – late	CONFERENCE DINNER and PRIZEGIVING (Sponsored by FEI) Buses leave the residence for Ascot Inn at 18:45, return at 23:45		