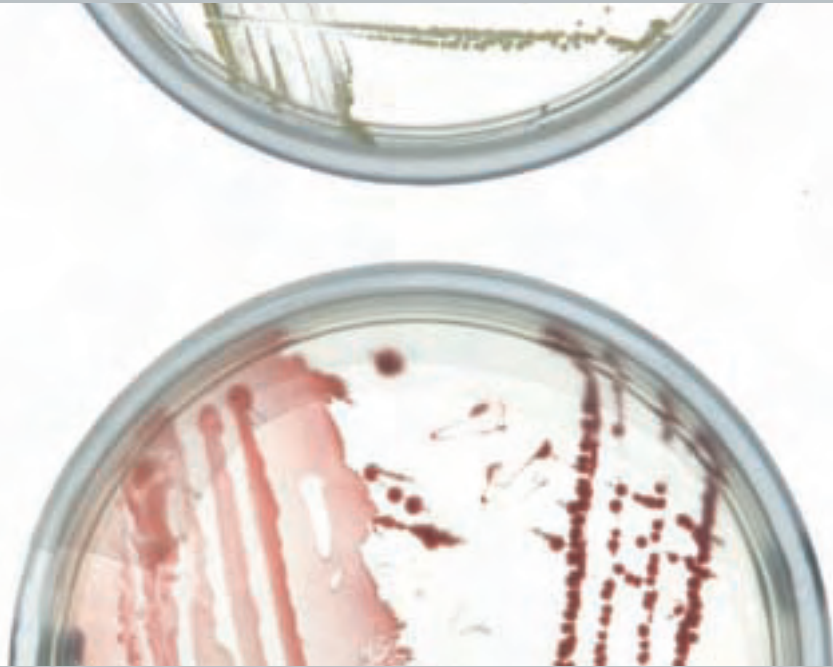






It is our vision to be at the heart of
technology education and innovation in Africa



CONTENTS

From the Vice-Chancellor	2
From the Deputy Vice-Chancellor	3
<i>Research, Technology Innovation & Partnerships</i>	4
From the Director of Research	5
CPUT Research Day	6
Women in Research Association (WIRA)	6
Department of Education subsidised journal articles 2008	7
Research funding	7
FACULTIES	
Faculty of Applied Sciences	8
Faculty of Business	20
Faculty of Education & Social Sciences	32
Faculty of Engineering	42
Faculty of Health & Wellness Sciences	64
Faculty of Informatics & Design	78
Cooperative Education	90
Fundani Centre for Higher Education Development	91
HIV/Aids Unit	95
Library Services	96
Office of International Affairs	97
Research & Technology Promotion	98
Student Affairs: Student Counselling	102
Community Water Supply & Sanitation Unit	102

creating futures

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PROF L VUYISA MAZWI-TANGA

FROM THE VICE-CHANCELLOR

During 2008, the Cape Peninsula University of Technology reaffirmed its research mandate by proposing a restructuring of research at the institution. The appointment of a Deputy Vice-Chancellor: Research, Technology Innovation & Partnerships was the first step in accelerating research at CPUT. A reconfiguration of Research & Technology Promotion, under the new DVC, with three new directorates, was envisaged: the Research Directorate, the Directorate for Technology Transfer, and the Centre for Postgraduate Studies. This took shape during 2009, and will be reported on at greater length in next year's Research Report.

The relatively small corpus of women researchers in South Africa has long been a national concern, and under the aegis of the new Director of Research, Dr Tembeka Mpako-Ntusi, the Women in Research Association (WIRA) was launched in August 2008. This was an auspicious occasion, as it

coincided with the festivities surrounding the installation of CPUT's new Chancellor, Mr Trevor Manuel. It is hoped that WIRA will inspire and motivate women researchers, who, for various reasons, have not in the past contributed as much as their male counterparts.

CPUT has seen a growth in postgraduate student enrolments over the last few years, with a concomitant increase in institutional funding of master's and doctoral students.

I am also happy to report a marked increase in Department of Education (DoE) subsidised publication output by staff. A total of 92.18 units for 2008 were submitted to the DoE in May this year, a substantial increase over previous years.

I should like to take this opportunity to encourage researchers, academics and postgraduate students to avail themselves of the many opportunities to be active in research, and to take advantage of the services provided by the new directorates. Their functions include, amongst others, developing research capacity, increasing research output, promoting postgraduate studies, commercialising research, and sourcing research funding from international, national and industry funders.

	MASTER'S CANDIDATES	DOCTORAL CANDIDATES
2006	585	98
2007	621	89
2008	691	101

DR CHRIS NHLAPO



FROM THE DEPUTY VICE-CHANCELLOR

Research, Technology Innovation & Partnerships

The academic year 2008 was an extraordinary success for the Cape Peninsula University of Technology (CPUT) in many ways on the research front. Initial successes were achieved with regard to the promotion and cultivation of a competitive university research funding (URF) strategy and a world-class research culture. These excellent initiatives had an immediate impact on the number and quality of research outputs far surpassing those of the past three years since the merger. The quality of research outputs and capacity of each entity, department and faculty are reflected in detail in the report.

The emphasis on the importance of producing research output which is of a high quality in our respective niche areas is evident in the significant number of peer-reviewed publications produced in 2008 and submitted to the Department of Education (DoE). Furthermore, the performance of our researchers through the internationally benchmarked process of peer-evaluation and rating, which is carried out by the

National Research Foundation (NRF) and based primarily on the quality of their recent research outputs, is yet again deeply encouraging as we gained three additional ratings.

Once again, CPUT proved its competitiveness in the area of research and innovation performance, including business innovation, knowledge exchange, wider innovation, and intellectual property protection. Technology innovation, and how a region such as the Western Cape may benefit from it, were explored by our playing a major role in the regional innovation systems which support the South African National System of Innovation (SANSI). Cooperation on innovation systems between South Africa and Finland (COFISA) played a major role in catalysing these initiatives. As the production of new knowledge and technology becomes more global, different regions and higher education institutions (HEIs) within South Africa must innovate, as this provides strategic frameworks for regional economic growth and regeneration.

The research and innovation support generally comprised:

- Networking for innovation
- Knowledge transfer partnerships
- Collaborative research and development
- Research development and innovation
- Innovation advice and guidance
- Intellectual property management

A special congratulatory remark goes to all researchers for the wonderful work done in 2008. We shall, as a university of technology (UoT), strive for and play a meaningful role within SANSI. The envisioned technology transfer office (TTO) will, inter alia, support all the researchers at CPUT by creating an enabling environment for bridging the "innovation chasm", cementing strategic partnerships with industry, the National Intellectual Property Management Office (NIPMO) and liaising with funding instruments such as the Technology Innovation Agency (TIA) in search of research and innovation excellence.



DR TEMBEKA MPAKO-NTUSI

FROM THE DIRECTOR OF RESEARCH

As universities of technology continue to define their place and role, the significance of research and research management in these institutions becomes clearer. Perceptions of institutional differentiation along the lines of teaching and research are gradually fading, giving rise to perceptions of differentiation in terms of the use of research for social and economic development.

As one of the UoTs, CPUT also continues to encourage academics to increase their focus on applied research leading to technology transfer and commercialisation. During 2008, the Research Directorate increased momentum on transformation issues, including embracing research as an integral part of academic life, celebrating research excellence, providing incentives for research productivity and increasing support for emerging researchers and disadvantaged groups.

These initiatives are beginning to

show positive results. The number of papers presented by our researchers at peer reviewed conferences has increased substantially, and the number of journal articles has also increased from 62 in 2007 to 89 in 2008. Researchers will be afforded the necessary support to translate conference papers into manuscripts for submission to DoE subsidised journals. It is envisaged that the growth in numbers will be accompanied by growth in the quality of research outputs and their capability to be commercialised. There is a definite indication of development along these lines in some of the research units.

The Research Directorate acknowledges the efforts of researchers, supervisors and postgraduate students who have made the effort to increase the quality and quantity of CPUT research outputs. Without their dedication and commitment, our goals and targets cannot be met.

CPUT RESEARCH DAY

CPUT displayed its research activities on Friday 28 November 2008 in the Auditorium on the Bellville Campus. Diverse issues such as the commercialisation of research (Dr Chris Nhlapo, DVC: Research, Technology Innovation & Partnerships), research as an academic responsibility (Dr Pieter van Breda, Director of Research at Nelson Mandela Metropolitan University), women in research at CPUT (Ms Zena Scholtz, Faculty of Education),

an analysis of research outputs at CPUT (Prof Liz van Aswegen, Research & Technology Promotion), and the Research Development Grant and publication subsidies (Mr Mahlubi Mabizela, Dept of Education) were addressed. The day concluded with the presentation of awards to individuals who had demonstrated research excellence based on work completed between 2005 and 2007, as well as prizes for the best student and staff posters.

STAFF AWARDS

Industry funding generated in excess of R1m

RESEARCHER	FACULTY
Prof O Philander	Engineering
Dr K Swart	Business
Prof N Beute shared with Prof E Uken	Engineering
Mr R Neilson	Engineering
Prof I Masalova	Engineering

Highest number of DoE-subsidised journal and conference proceedings

AWARD	RESEARCHER	FACULTY
Platinum	Prof T Haupt	Engineering
Gold	Prof C Winberg	Fundani CHED
Silver	Prof M Weideman	Informatics & Design
Bronze	Prof R Tzoneva	Engineering

Highest number of completed master's and doctoral theses supervised

AWARD	RESEARCHER	FACULTY
Platinum	Prof A Slabbert	Business
Gold	Prof R Chetty	Education & Social Sciences
Silver	Prof MS Bayat	Business
Bronze	Prof IW Ferreira	Business





WOMEN IN RESEARCH ASSOCIATION (WIRA)

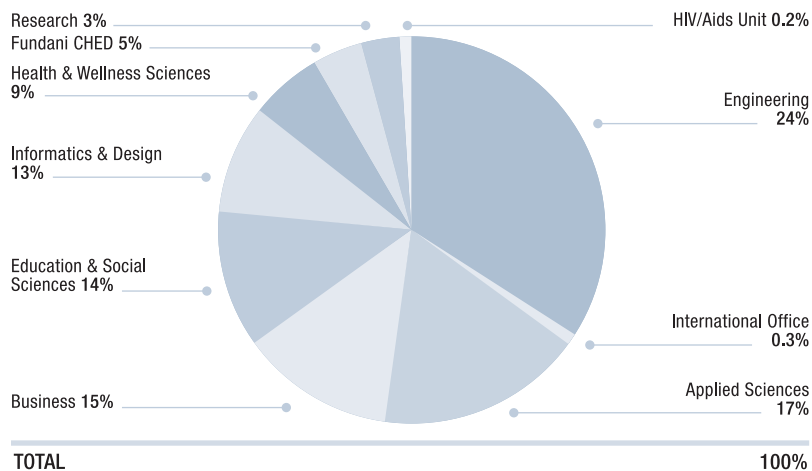
The Women in Research Association (WIRA) was launched to coincide with the week of the installation of the new Chancellor of CPUT, Mr Trevor Manuel. WIRA's inaugural meeting was on 27 August 2008, with guest speakers Prof Cheryl de la Rey, CEO of the Council for Higher Education and Dr Darlene Miller, who holds a joint Human Sciences Research Council (HSRC) and Rhodes University appointment. After a welcoming address by Vice-Chancellor, Prof Mazwi-Tanga, both guest speakers outlined the problems which women face in academic and research careers. Currently, research in South Africa is dominated by men, and Dr Tembeka Mpako-Ntusi, Director of Research at CPUT, in a concluding address, promised that women at CPUT would be provided with the necessary support structures to advance their research activities and careers. It should be emphasised that WIRA also supports men's research on women's issues.

DEPARTMENT OF EDUCATION SUBSIDISED JOURNAL ARTICLES 2008

Publications count for 2008 submitted to the DoE on 15 May 2009

	UNITS
Journal articles (audited and submitted)	61.68
Books/chapters (submitted)	1.15
Conference proceedings (submitted)	29.35
TOTAL	92.18

Percentage units per faculty/unit



RESEARCH FUNDING

University research funding (URF)

Thirty-two staff members were awarded URF funding, totalling R1 559 236.

Postgraduate student bursaries

CPUT BURSARIES

DEGREE	ALLOCATION (rands)
MTech (fulltime)	2 834 000
MTech (part-time)	330 000
DTech (fulltime)	1 620 000
DTech (part-time)	30 000
Total	4 814 000

Mauerberger Foundation scholarships

Eight master's students were awarded scholarships: R400 000 (8 x R50 000)

DAAD

Deutscher Akademischer Austausch Dienst
German Academic Exchange Service

Three renewals and two new scholarships were granted (in the Faculties of Applied Sciences, Business, and Engineering).

Total: R145 150

NRF Block Grants

DEGREE	ALLOCATION (rands)
Honours Innovation	595 000
Honours DoL	1 020 000
NRF Honours	105 000
Total	1 720 000





PROF OLALEKAN FATOKI

FACULTY OF APPLIED SCIENCES

Research continues to grow in the Faculty of Applied Sciences, with an increased number of publications, postgraduate student supervisions and higher throughput. The various faculty research niche areas have been consolidated, with improved research focus areas all aligned to the faculty and university research objectives. The Agrifood Technology Station caters for small-scale entrepreneurs in the food industry and renders valuable and affordable services in the areas of quality control and packaging, to mention a few. During the year 2008, the faculty continued to develop new and important partnerships locally and internationally with industries, NGOs and academic institutions, while nurturing existing ones.

The faculty also performed well in third-stream fund generation, attracting several research grants.

There are some areas that the faculty still needs to improve on to achieve its set research goal. These include substantially increasing the number of journal publications, as well as postgraduate student supervision and throughput. We need to participate more in competitive research programmes and grants such as THRIP, the Innovation Fund, Research Chair Initiative, and European Union Framework. The faculty continues

to work to achieve these objectives by developing and implementing strategies aimed at developing the research capacity of its academic staff, and by making strategic academic staff appointments to build the required critical mass of researchers.

I want to thank my colleagues in the faculty for their valuable contributions to the research agenda of the faculty.

CONFERENCE FUNDING

APPLICANT	ALLOCATION (rands)
Daniels CW	14 800
Jideani V	13 400
Khan W	11 125
Ndakidemi P	7 340
Ramon G	5 800
Snyman R	18 000
Van Wyk J	14 682
TOTAL	85 147

INDUSTRY FUNDING

RESEARCHER	FUNDER	PROJECT	ALLOCATION (rands)
Keyser M	SurePure, Milnerton	Ultraviolet radiation as an alternative technology for the inactivation of spoilage micro-organisms in red and white SA grape juice and wines	52 000

NRF FUNDING

RESEARCHER	PROGRAMME	NRF	CPUT	ALLOCATION (rands)
Fatoki OS	IRDP	262 000	54 667	316 667
Khan W	IRDP	82 000	54 667	136 667
McMaster LD	IRDP	48 000	32 000	80 000
Odendaal J	IRDP	173 000	45 333	218 333
Snyman RG	IRDP	106 000	20 667	126 667
Van der Walt TN	ISL	50 000	-	50 000
Fatoki OS	ISL	5 990	-	5 990
Jacobs A	Thuthuka	117 500	85 000	202 500
TOTAL				1 136 824

RESEARCH & INNOVATION FUNDING

RESEARCHER	RESEARCH	ALLOCATION (rands)
Benadé S	Functional foods	3 180 000



UNIVERSITY RESEARCH FUND

RESEARCHER	TITLE	ALLOCATION (rands)
Baatjies R	Occupation risk factors and interventions for bakers' allergy and asthma among supermarket bakery workers	75 000
Bronkhorst JP	The success of the implementation of Instruction 171 with regard to industrial audiometry in the Western Cape	30 000
Coetzee JC	Taxonomic studies in the families Lycoperdaceae and Broomeiaceae	25 736
Daniels CW	A comparative analysis of the nutrient uptake during growth of <i>Gethyllis multifolia</i> and <i>G. villosa</i> (Family: Amaryllidaceae) and the manipulation of the natural environment to effect the production of medicinal agents	13 400
Keyser M	Ultraviolet radiation as an alternative technology for the inactivation of spoilage or pathogenic microorganisms in liquid food products as well as molecular diagnostics, FAST plaque TB assay for rapid and specific detection of <i>Mycobacterium aviumsubsp</i>	75 000
Keyser Z	Cancer modulating properties of indigenous plant extracts of two wild garlic species against fumonisin B1-induced chronic oxidative stress live carcinogenesis in male Fischer rats	30 000
Ndakidemi P	Assessing nitrogen fixation, photosynthesis, rhizosphere enzyme activities and nutrient dynamics in snap bean, field pea and cowpea plants supplied with <i>Rhizobium</i> inoculants in the Western Cape	75 000
Rautenbach GS	Development of a database of total antioxidant capacity and antioxidant composition in South African foods and beverages	50 000
Sparks C	Metal contamination off the west coast of the Cape Peninsula and its effects on mussels	37 000
TOTAL		411 136



NRF RATED RESEARCHER

Established researcher (C rating)

Prof Olalekan Fatoki

fatokio@cput.ac.za

Prof Fatoki works in the field of environmental analytical chemistry. His work focuses on the investigation of endocrine disrupting chemicals – phthalates, pesticides and phenols – in water systems, and their health risk assessments. He also does speciation studies of organotins commonly used in antifouling paints. Currently, he is working on brominated flame retardants – brominated diphenyl ethers (PBDEs) and polybrominated biphenyls (PBBs) – which are potent carcinogens.



NRF research niche area

ENVIRONMENTAL TOXICITY AND REMEDIATION

Dr James Odendaal

odendaalj@cput.ac.za

This research niche area is based on two scientific themes: the assessment, through monitoring and modelling, of exposure to environmental toxicants, and the development of remedial technologies to ensure sustainable development in the Western Cape. A third component, information dissemination, contributes to policy development, setting of standards, guidelines and management tools.



Research institutes, centres and units

CRYSTAL ENGINEERING UNIT

Prof Luigi Nassimbeni

nassimbenil@cput.ac.za

The Crystal Engineering Unit has three staff members, Prof LR Nassimbeni, Dr A Jacobs and Dr G Ramon. The research is concerned with the structure and reactivity of selected organic compounds and their inclusion complexes. In particular, researchers measure the selectivity profiles of various bulky host compounds with respect to a series of volatile guests, elucidate their structures and measure their thermal stabilities. Kinetic studies of thermal decomposition are undertaken by thermogravimetry, and the formation of novel substances by solid-solid reactions is under current investigation.



FUNCTIONAL FOODS RESEARCH UNIT

Prof AJS Benadé

benades@cput.ac.za

The unit conducts multi-disciplinary functional food research on a project management basis according to the highest scientific and ethical standards.

The mission of the unit is to:

- Establish the scientific basis to support and further validate claims for functional components and foods containing them, in health promotion and disease prevention through the life cycle, by means of randomised clinical controlled trials
- Develop functional food products for specific target groups, in close collaboration with the food industry, health authorities, non-governmental organisations, communities and other national and international organisations
- Validate the functionality of the products developed for specific target groups in health promotion and disease prevention through clinical trials
- Use the scientific information obtained to support all promotional and marketing initiatives for functional food products
- Build research and innovation capacity in functional food research, nationally and internationally

RADIO CHEMISTRY AND ION EXCHANGE CHROMATOGRAPHY

Prof TN (Nico) van der Walt

vanderwaltt@cput.ac.za

The core areas of research include radiochemical separations of radioisotopes from each other and from the target material, and the labelling of organic compounds with a specific radioisotope to obtain a product which can be used as a radiopharmaceutical in nuclear medicine or for cancer therapy. The research also includes the study of various methods which can be applied for quality control of the intermediate or final products.

Ion exchange chromatographic separation methods are very suitable for the separation of radioisotopes from each other and from the target material, especially for use in hot cells, because they generate limited volumes of liquid radioactive waste. Ion exchange chromatographic separation can also be applied to separate trace amounts of elements in geological samples, ores, water, industrial waste, sewage, etc. The research in ion exchange chromatography involves the determination of distribution coefficients for elements on an ion exchanger (cation exchanger, anion exchanger or chelating ion exchanger) in a specific medium, doing elution curve experiments to determine the optimum separation conditions and the final separation of some elements. Reverse phase ion exchange chromatography is also investigated.

A joint collaboration between the Department of Chemistry, Faculty of Applied Sciences, CPUT, Bellville, and the Institute of Chemistry Timisoara of the Romanian Academy has been approved from 1 October 2008 until 31 March 2011. The collaboration forms part of the South Africa Romania Bilateral Agreement on Science and Technology Cooperation. CPUT will be funded by the NRF. The title of the research project is *Polyphosphonic acid organic polymers used as ion exchangers in chromatography*.





Technology research station

AGRIFOOD TECHNOLOGY STATION

Mr Larry Dolley

dolleyl@cput.ac.za

The Agrifood Technology Station caters for entrepreneurs who are looking for a one-stop solution for problems within the agricultural and food processing industries. Agrifood provides an affordable range of technological services, focusing on existing smaller and medium enterprises, with a view to improving standards, competitiveness, innovation and R&D capacity. Agrifood also assists with certification for supermarkets, as well as aiding new and start-up businesses. Agrifood therefore provides a complete range of scientific, commercial and technical services to agricultural and food industries.

New professors appointed



Associate Professor
Johan C Coetzee



Associate Professor
De Wet Schutte



Associate Professor
Wesaal Khan

Conference papers

Crafford S

A curriculum framework for promoting consumer learning with students in higher education
9th International South African Association of Family Ecology and Consumer Sciences (SAAFECS) Conference: Aligning for the Future
Pretoria
13 – 16 May 2008

Daniels CW & Laubscher CP

Specialised bulb propagation of *Gethyllis multifolia* and *G. villosa* (Kukumakranka):

comparative specialised propagation techniques as applied to a threatened and common South African bulb
International Plant Propagators Society: Great Britain & Ireland Conference
Falmouth, UK
8 – 11 October 2008

De Abreu P, Harley V,

Panagos MD & Reilly BK
Density estimates of grasses in a savanna, granite-lowveld area using distance sampling
Southern African Wildlife Management Association Conference
Port Alfred

16 – 19 September 2008

Du Toit L & Venter I

Relationship between observed and self-reported adherence to bacterial food-borne disease prevention guidelines of female students in self-catering residences at the Cape Peninsula University of Technology
9th International South African Association of Family Ecology and Consumer Sciences (SAAFECS) Conference: Aligning for the Future
Pretoria
13 – 16 May 2008

Hoekstra DJ, James MD, Volschenk H & **McMaster LD**
An investigation into anaerobic bacterial contamination of *Arthrospira plantensis* tablets
Cape Biotech Forum
Somerset West
1 – 2 December 2008

Jackson V, Pause A, Khan S, Odendaal J & Khan W
Identification of metal-tolerant organisms isolated from the Plankenburg River in the Western Cape, South Africa
Cape Biotech Forum
Somerset West
1 – 2 December 2008

Jideani VA & Jideani AI
A model for education and promoting food science and technology among high school students and the public
1st International ISEKI_Food Conference (ISEKI_Food 2008): Bridging Training and Research for Industry and the Wider Community
Porto, Portugal
10 – 12 September 2008

Muller CJC, **Visser V, Schmulian A** & Botha JA
Cow behaviour in relation to free

stall design and management of bedding surfaces in a temperate climate
ASABE International Livestock Environment Symposium VIII
Iguassu Falls, Brazil
31 August – 4 September 2008

Nassimbeni LR
Polymorphism, isostructurality and selectivity in inclusion compounds
XXI Congress of the International Union of Crystallography
Osaka, Japan
23 – 31 August 2008

Ndakidemi PA
Tissue concentration of mineral nutrients in nodulated cowpea (*Vigna unguiculata* L. Walp.) and maize (*Zea mays* L.) supplied with exogenous P in mixed plant culture
Third Annual National Science, Technology and Innovation Conference and Exhibitions: Science, Technology and Innovation for Sustainable Biodiversity and Better Livelihoods
Arusha, Tanzania
5 – 7 November 2008

Reilly BK, **Harley V** & Kotze JJ
The influence of habitat and animal size, colour and behaviour on precision of helicopter total aerial counts of ungulates in South Africa
Southern African Wildlife Management Association Conference
Port Alfred
16 – 19 September 2008

Van der Merwe J, Harley V & Moll E
Habitat of the critically endangered riverine rabbit recently discovered in fynbos veld types
Southern African Wildlife Management Association Conference
Port Alfred
16 – 19 September 2008

Van Wyk J
Education organisation in South Africa
14th World Conference of Food Science and Technology
Shanghai, People's Republic of China
19 – 23 October 2008

Conference posters

Behardien L, Khan S & Khan W
Enumeration of the bacterial contamination in a spring water distribution system, Western Cape, South Africa
International Union of Microbiological Societies (IUMS)

Istanbul, Turkey
5 – 15 August 2008

Cameron M, **McMaster LD** & Britz TJ
Can ultrasound be used as a safe and efficient alternative to pasteurise milk?

14th World Conference on Food Science and Technology
Shanghai, People's Republic of China
19 – 23 October 2008



Cameron M, **McMaster LD** & Britz TJ
The impact of power ultrasound on a selection of spoilage and potentially pathogenic microbes frequently associated with dairy products
21st Biennial meeting of the International Committee of Food Microbiology and Hygiene (ICFMH)
Aberdeen, Scotland
1 – 4 September 2008

Dolley L
Status and improvement of innovative practices in small to medium food processors in the Western Cape Province of South Africa
14th World Conference on Food Science and Technology
Shanghai, People's Republic of China
19 – 23 October 2008

Fredericks IN, Du Toit M, Ellis L, Fourie Z & **Keyser M (first prize in student category)**
Ultraviolet radiation as an alternative technology for the inactivation of spoilage micro-organisms in red and white South African wines
CPUT Celebrating Research Day
Bellville
28 November 2008

Hoekstra DJ, James MD, Volschenk H & **McMaster L**
An investigation into anaerobic material contamination of *Arthrospira platensis* (Spirulina) tablets
BIO-08, Incorporating South African Society for Microbiology Biennial Congress

Grahamstown
21 – 25 January 2008

Jackson V, Paulse A & Khan W
Metal contamination in three rivers in the Western Cape, South Africa
BIO-08, Incorporating South African Society for Microbiology Biennial Congress
Grahamstown
21 – 25 January 2008

Jacobs A, Nohako KL, Nassimbeni LR & Taljaard JH
Inclusion compounds of 9-(1-naphthyl)-9H-xanthen-9-ol
39th South African Chemical Institute (SACI) National Convention
Stellenbosch
30 November – 5 December 2008

Jacobs A, Nohako KL, Nassimbeni LR & Taljaard JH
Inclusion compounds of 9-(1-naphthyl)-9H-xanthen-9-ol
CPUT Celebrating Research Day
Bellville
28 November 2008

Jideani VA & Jideani AI
A model for education and promoting food science and technology among high school students and the public
CPUT Celebrating Research Day
Bellville
28 November 2008

Keyser M, Donaghy J, Johnston J, Cilliers FP, Gouws PA & Rowe M
Ultraviolet radiation as a non-thermal treatment for the

inactivation of *mycobacterium avium* subsp. *paratuberculosis* in milk
21st Biennial meeting of the International Committee of Food Microbiology and Hygiene (ICFMH)
Aberdeen, Scotland
1 – 4 September 2008

Keyser M, Donaghy J, Johnston J, Cilliers FP, Gouws PA & Rowe M
Ultraviolet radiation as a non-thermal treatment for the inactivation of *mycobacterium avium* subsp. *paratuberculosis* in milk
CPUT Celebrating Research Day
Bellville
28 November 2008

Kruger A, Snyman RG & Odendaal JP
Lead pollution of soil along the highways of Cape Town
CPUT Celebrating Research Day
Bellville
28 November 2008

Marshall LS, Matlhodi JH, Neethling D, Kucich D, Wicht MM & Hugo VI
Analysis of the health-promoting elements in *Syzgium cordatum* and *Carissa macrocarpa* by FAAS and ICP-AES
39th South African Chemical Institute (SACI) National Convention
Stellenbosch
30 November – 5 December 2008

Mei MN, Hugo VI & Green IR
A model route to a brominated hydroxyl (2,3-c) pyran – a

potential precursor to extended quinones
39th South African Chemical Institute (SACI) National Convention
Stellenbosch
30 November – 5 December 2008

Mei MN, Hugo VI & Green IR
A model route to a brominated hydroxyl (2,3-c) pyran – a potential precursor to extended quinones
CPUT Celebrating Research Day
Bellville
28 November 2008

Nohako KL, Jacobs A, Nassimbeni LR & Taljaard JH
Solid guests included by 9-(4-methoxyphenyl)-9H-xanthen-9-ol
39th South African Chemical Institute (SACI) National Convention
Stellenbosch
30 November – 5 December 2008

Nohako KL, Jacobs A, Nassimbeni LR & Taljaard JH
Solid guests included by 9-(4-methoxyphenyl)-9H-xanthen-9-ol
CPUT Celebrating Research Day
Bellville
28 November 2008

Paulse A, Jackson V, Neethling JH, Bester AA & Khan W
Bioremediation of bacterial pollution in the Berg River and metal contamination in the Plankenburg River, Western Cape, South Africa
International Union of Microbiological Societies (IUMS)

Istanbul, Turkey
5 – 15 August 2008

Paulse A, Jackson V, Khan S & Khan W
Evaluation of the contamination levels of three rivers in the Western Cape, South Africa, by means of flow cytometric analysis and epifluorescence microscopy
BIO-08, Incorporating South African Society for Microbiology Biennial Congress
Grahamstown
21 – 25 January 2008

Paulse A, Jackson V, Khan S & Khan W
Molecular identification of bacterial pollutants from the Plankenburg and Berg Rivers in the Western Cape, South Africa
Cape Biotech Forum
Somerset West
1 – 2 December 2008

Ramon G
¹H NMR application to inclusion chemistry: selectivity profiles of 10,11-dihydro-5-(1-naphthyl)-5H-dibenzo[a,d]cyclohepten-5-ol with aromatic solvents and DMSO
21st Congress of the International Union of Crystallography
Osaka, Japan
23 – 31 August 2008

Ramon G, Nassimbeni LR & Taljaard JH
Inclusion of dioxane and pyridine by a tricyclic host: structures, kinetics and selectivity
CPUT Celebrating Research Day

Bellville
28 November 2008

Rautenbach F & Venter I
Comparison of the hydrophilic antioxidant capacity of commonly consumed South African fruits and vegetables with international data
7th Indigenous Plant Use Forum
Graaff Reinet, South Africa
7 – 10 July 2008

Rautenbach F & Venter I
Comparison of the hydrophilic antioxidant capacity of commonly consumed South African fruits and vegetables with international data
CPUT Celebrating Research Day
Bellville
28 November 2008

Shuping LS, Snyman RG & Odendaal JP
Accumulation and distribution of metals in *Bolboschoenus maritimus* (Cyperaceae) from a South African river
5th Society of Environmental Toxicology and Chemistry (SETAC) World Congress
Sydney, Australia
3 – 7 August 2008

Shuping LS, Snyman RG & Odendaal JP
Accumulation and distribution of metals in *Bolboschoenus maritimus* (Cyperaceae) from a South African river
CPUT Celebrating Research Day
Bellville
28 November 2008



Slabber MY, Snyman RG & Odendaal JP
(second prize in student category)

Lysosomal membrane destabilisation in the feral oyster *Striostrea margaritacea*, exposed to metals of the South African south coast
CPUT Celebrating Research Day
Bellville
28 November 2008

Tobin M, Abrahams R, Khan W & Khan S
Identification and functional analysis of the *iap* genes of a South African isolate of *Trichoplusia ni* single nucleopolyhedrovirus
International Union of Microbiological Societies (IUMS)
Istanbul, Turkey
5 – 15 August 2008

Van der Meulen NP,
Van der Walt TN,
Steyn GF, Szelecsényi F,
Kovács Z, Perrang CM
& Raubenheimer HG
The production of ^{88}Y by the proton bombardment of ^{nat}Sr

6th International Conference on Isotopes (6ICI)
Seoul, South Korea
12 – 16 May 2008

Van der Walt TN,
Van der Meulen NP, Steyn GF,
Szelecsényi F, Kovács Z
& Raubenheimer HG
The production of ^{133}Ba by a proton-induced reaction on Cs
6th International Conference on Isotopes (6ICI)
Seoul, South Korea
12 – 16 May 2008

Van Stormbroek T, Snyman RG, Reinecke AJ & Odendaal JP
The effectiveness of a sedimentation pond to remove metals from water entering the Lourens River
CPUT Celebrating Research Day
Bellville
28 November 2008

Van Wyk, J & Lin ZC
Antioxidant activity of vinegar melanoidins
14th World Conference of Food Science and Technology

Shanghai, People's Republic of China
19 – 23 October 2008

Van Wyk, J & Lin ZC
Antioxidant activity of vinegar melanoidins
CPUT Celebrating Research Day
Bellville
28 November 2008

Wicht MM, Hugo VI & Green I
Oleanolic acid – its isolation and derivatisation to potential antimicrobial compounds
39th South African Chemical Institute (SACI) National Convention
Stellenbosch
30 November – 5 December 2008

Wicht MM, Hugo VI & Green I
Oleanolic acid – its isolation and derivatisation to potential antimicrobial compounds
CPUT Celebrating Research Day
Bellville
28 November 2008

Conference proceedings

Chimphango SBM,
Belane A, Naab JB,
Tanzubil PB, Asiwe JAN,
Ndavidemi PA, Van Heerden PD & **Dakora FD**
Multi-factor approach to identifying cowpea genotypes with superior symbiotic traits and higher yield for Africa

Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th

International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007
Heidelberg: Springer Science & Business Media, 2008, pp 23 – 24
ISBN 978-1-4020-8251-1

Dakora FD, Spriggs AC, **Ndakidemi PA & Belane A**

Measuring N₂ fixation in legumes using ¹⁵N natural abundance: some methodological problems associated with choice of reference plants
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007
Heidelberg: Springer Science & Business Media, 2008, pp 43 – 45
ISBN 978-1-4020-8251-1

Kanu S, Chimphango SBM, Sprent J & **Dakora FD**

African species belonging to the tribe *Psoraleae* produce ureides, a symbiotic trait characteristic of the *Phaseoleae*
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007

Heidelberg: Springer Science & Business Media, 2008, p 281
ISBN 978-1-4020-8251-1

Kleinert A, Venter M, Kossmann J & **Valentine AJ**

Role of PEPc isoforms in phosphate-deficient nodules
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007
Heidelberg: Springer Science & Business Media, 2008, pp 211 – 212
ISBN 978-1-4020-8251-1

Le Roux MR, **Khan S & Valentine AJ**

Assimilate allocation between the organic acid and amino acid pools in *Lupinus angustifolius* under P stress
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town,

21 – 26 January 2007
Heidelberg: Springer Science & Business Media, 2008, pp 279 – 280
ISBN 978-1-4020-8251-1

Makoi JHJR, Chimphango SBM & **Dakora FD**

Symbiotic N nutrition and yield of cowpea genotypes under different plant densities and cropping systems
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007
Heidelberg: Springer Science & Business Media, 2008, p 117
ISBN 978-1-4020-8251-1

Pule-Meulenberg F, Krasova-Wade T & **Dakora FD**

Ecophysiological studies of legumes in Botswana: types of bacterial strains from root nodules of cowpea (*Vigna unguiculata* L. Walp) and an assessment of the symbiotic status of grain legumes using ¹⁵N natural abundance
Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C & Newton WE (eds)
Biological Nitrogen Fixation: Towards Poverty Alleviation



through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress and the 12th International Conference of the African Association for Biological Nitrogen Fixation, Cape Town, 21 – 26 January 2007 Heidelberg: Springer Science & Business Media, 2008, p 115 – 116 ISBN 978-1-4020-8251-1

Journal articles (DoE subsidised)

Braun M & Venter I

Awareness and knowledge of phytonutrient food sources and health benefits for functional food application among health food store customers in the Cape Town city bowl
Journal of Family Ecology and Consumer Sciences, 36:30-39, 2008

Braun M & Venter I

Use of dietary supplements, and awareness and knowledge of the recommended fruit and vegetable intakes and consumption of health food store customers in the Cape Town city bowl
South African Journal of Clinical Nutrition, 21(4):323-330, 2008

Cameron M, McMaster LD

& Britz TJ
Electron microscopic analysis of dairy microbes inactivated by ultrasound
Ultrasonics Sonochemistry, 15:960-964, 2008

Crafford S & Bitzer E

A needs assessment for consumer learning at a higher education institution
Journal of Family Ecology and

Consumer Sciences, 36:49-57, 2008

Jacobs A, Masuku NLZ, Nassimbeni LR

& Taljaard JH
Inclusion of pyridine and acetone by a diol host: structure, thermal stability and kinetics of desolvation
CrystEngComm, 10:322-326, 2008

Jacobs A, Nassimbeni LR,

Nohako KL, Su H & Taljaard JH
Inclusion with mixed guests: structure and selectivity
Crystal Growth & Design, 8(4):1301-1305, 2008

Laubscher CP & Ndakidemi PA

Rooting response under shade using IBA growth regulators and different growth mediums on *Leucadendron laxum* (Proteaceae) – a commercial cut flower
African Journal of Agricultural Research, 3(10):740-746, 2008

Laubscher CP & Ndakidemi PA

Rooting response using IBA

auxin on endangered *Leucadendron laxum* (Proteaceae) in different rooting mediums
African Journal of Biotechnology, 7(19):3437-3442, 2008

Makoi JHJR & Ndakidemi PA

Selected chemical properties of soil in the traditional irrigation schemes of the Mbulu district, Tanzania
African Journal of Agricultural Research, 3(5):348-356, 2008

Makoi JHJR & Ndakidemi PA

Selected soil enzymes: examples of their potential roles in the ecosystem
African Journal of Biotechnology, 7(3):181-191, 2008

Milandri SG, Laubscher CP & Ndakidemi PA

Hydroponic culture of *Gladiolus tristis*: application of paclobutrazol for flowering and height control
African Journal of Biotechnology, 7(3):239-243, 2008

Mpotokwane SM,
Gaditlhatlhelwe E,
Sebaka A & **Jideani VA**
Physical properties of bambara
groundnuts from Botswana
Journal of Food Engineering,
89:93-98, 2008

Prinsloo H, **Harley V**,
Reilly B & Crowe T
The diet of helmeted guineafowl
(*Numida meleagris*) in the
Riemland of the north-eastern
Free State, South Africa
South African Journal of Wildlife
Research, 38(1):88-92, 2008

Smuts CM, Faber M,
Schoeman SE, Laubscher JA,
Oelofse A, **Benadé AJS**

& Dhansay MA
Socio-demographic profiles and
anthropometric status of 0- to
71-month-old children and their
caregivers in rural districts of
the Eastern Cape and KwaZulu-
Natal provinces of South Africa
South African Journal of Clinical
Nutrition, 21(3):117-124, 2008

Van der Westhuizen FH, Janse
van Rensburg CS,
Rautenbach GS, **Marnewick
JL**, Loots Du T, Huysamen C,
Louw R, Pretorius PJ
& Erasmus E
In vitro antioxidant,
antimutagenic and
genoprotective activity of
Rosa roxburghii fruit extracts

Phytotherapy Research,
22:376-383, 2008

Venter I

Construction of a valid and
reliable test to determine
knowledge on dietary fat of
higher-educated young adults
South African Journal of Clinical
Nutrition, 21(3):133-139, 2008

Vorster C, **Van der Walt TN**
& Coetzee PP

Ion exchange separation of
strontium and rubidium on
Dowex 50W-X8, using the
complexation properties of
EDTA and DCTA
Analytical and Bioanalytical
Chemistry, 392:287-296, 2008

Journal articles (not DoE subsidised)

Laubscher CP
& **Ndakidemi PA**

The effect of indole acetic acid
growth regulator and rooting
mediums on rooting of
Leucadendron laxum

(Proteaceae) in a shade tunnel
environment
American-Eurasian Journal of
Agricultural & Environmental
Sciences, 4:326-331

Postgraduate degrees conferred

MTech: Agriculture
Visser V

The influence of free stall
measurements, bedding
materials and management
on the behaviour patterns
and physiological aspects
of lactating dairy cows
Supervisors: Ms A Schumlian
& Dr C Muller

MTech: Chemistry
Mei MN

A model route to a brominated
[2-3c] pyran – a potential
precursor to extended quinones
Supervisor: Prof V Hugo

MTech: Food Technology
Behardien L

Investigation into the bacterial
contamination in a spring water
distribution system and the
application of bioremediation as
a treatment technology
Supervisors: Prof W Khan &
Prof S Khan





PROF SAHEED BAYAT

FACULTY OF BUSINESS

DEAN'S REPORT

The Faculty of Business is a diverse unit comprising 17 departments, and as a result of this, research is typically heterogeneous in nature. This creates an exciting environment for relevant and applied research outputs which are manifold in execution. One of the many positive consequences for the faculty is that research is becoming a meaningful reality for many more staff members than in the past, where it rested with only a core of staff members. Research is now broadly seen across the board as a core function for academic staff in the faculty, and it is recognised that the challenge will be to further promote the purpose and value of research to all academics.

The monthly research seminars continue to attract staff members and the lively debates that ensue after the presentations are an indication that academics are engaging with the presenters and that their thinking is being stimulated. It is also apparent that staff realise the importance of publishing: unfortunately not all papers submitted could be published in the faculty journal – a reflection of the healthy state of affairs as it indicates a stringent approach to academic standards, peer review and competition. The monthly newsletters continue to elicit debate and discussion and

remain a vehicle for focusing interest on particular research issues.

The accredited output of staff is reflected below. There has been an increase in publications and it is hoped that the faculty will endeavour to excel in this domain. The faculty represents the largest postgraduate complement in the university and also produced the highest percentage of master's and doctoral graduates in 2008 (36 percent and 43 percent respectively).

The appointment of one full professor and three associate professors in the faculty is a reflection of the earnestness with which faculty members approach research.

The two research units, the Centre for Tourism Research in Africa (CETRA) and the Human Performance Laboratory (Sport Management), continue to

perform and gain national/international recognition in their respective fields. For her efforts, Dr Kamilla Swart received a *Black Business Quarterly* award, which represents national recognition of the highest order. The pioneering research work into rehabilitation with paraplegics has led to the Human Performance Laboratory being featured on national television. In that context, it is not surprising that the faculty has recognised the efforts of Dr Swart and Ms Bridget Parr by awarding them the status of Researcher and most Promising Young Researcher respectively.

From the foregoing it is apparent that research is growing and becoming a valued feature of work in the faculty, and it is anticipated that 2009 will be characterised by further increased research activity along with the development of strategic research partnerships with other institutions, industry and government.

CONFERENCE FUNDING

APPLICANT	ALLOCATION (rands)
Davies SEH	34 344
Ismail R	6 510
Parr B	7 652
Slabbert A	18 436
Steyn B	5 500
Van der Merwe N	7 280
TOTAL	79 722

INDUSTRY FUNDING

RESEARCHER	FUNDER	PROJECT	ALLOCATION (rands)
Liebetrau B	DEAT	Needs analysis and development of accredited small business training curriculum to establish RED Campus Network in Western Cape	120 000
Swart K	Cape Town Routes Unlimited	CTRU contract research	1 237 900
TOTAL			1 357 900

NRF FUNDING

RESEARCHER	PROGRAMME	NRF	CPUT	ALLOCATION (rands)
Swart K	Thuthuka	50 000	-	50 000
Lourens S	Thuthuka	52 500	75 000	127 500
Rudman S	IRDP	20 000	-	20 000
TOTAL				197 500

UNIVERSITY RESEARCH FUND

RESEARCHER	TITLE	ALLOCATION (rands)
Basson C	A critical assessment of enrolment practices at higher education institutions with special reference to selection, registration and graduation	24 700
Bechan N	Measuring perceptions of corporate reputation among three stakeholder groups	40 000
Davies SEH	Normative upper body isokinetic torque values for persons classified as black (ethnic Africans) and coloured	25 000
Mngomezulu BR	Traditional leadership and modern governance in South Africa: chiefs, councillors and service delivery in rural KwaZulu-Natal	45 000
Van der Heever IC	Establishing the perceptions of German tourists about South Africa as a long-haul destination: strategy and implications	75 000
TOTAL		209 700





Research institutes, centres and units

CENTRE FOR TOURISM RESEARCH IN AFRICA (CETRA)

Dr Kamilla Swart

swartk@cput.ac.za

The Centre for Tourism Research in Africa (CETRA):

- Highlights CPUT's contribution to tourism and hospitality teaching and research in Cape Town, the Western Cape and South Africa
- Facilitates research activities in the tourism, hospitality, sport and events fields
- Brings together researchers, lecturers and practitioners (including public sector institutions) in the Western Cape in order to find feasible answers to applied research questions
- Encourages focused research clusters incorporating researchers and students from different CPUT departments and from outside the university
- Fosters research on African tourism development and contact between tourism research institutes, centres and units, and individuals across the African continent
- Provides research facilities for students and researchers
- Creates and expands current databases relating to tourism, hospitality, sport and events
- Provides facilitation of dissertation supervision

Current activities centre largely on the 2010 FIFA World Cup and contract research for Cape Town Routes Unlimited.



HUMAN PERFORMANCE LABORATORY

Ms Bridget Parr

parrb@cput.ac.za

The Human Performance Laboratory opened in 2006, and serves as a laboratory in which students complete the practical component of Sport and Physical Recreation Studies. It is also a research facility into human performance. Current research includes:

- locomotor training for people with spinal cord injuries
- design of fitness criteria for emergency medical personnel
- determination of normative strength data for African populations

New professors appointed



**Professor
Simeon Davies**



**Associate Professor
Harry Ballard**



**Associate Professor
Ignatius Ferreira**



**Associate Professor
Johann van der Merwe**

Conference papers

Allen-Ile COK & Berry DM
Trade unionism in Botswana:
oil or clog in the wheel of
progress?
9th Annual Conference of the
South African Association of
Public Management and
Administration (SAAPAM)
Bloemfontein
30 – 31 October 2008

**Allen-Ile COK, Ile IU
& Munyaka S**
The role of performance
management in the building of
human resources in the public
service of a South African
provincial government
Congress of the International
Federation of Scholarly
Associations of Management
(IFSAM)
Shanghai, People's
Republic of China
26 – 28 July 2008

Bayat MS & Johnson D
Quality in tourism and
hospitality: regulation and
application
Gulf Investment & Tourism
Forum: Round-the-Year Tourism
Jeddah, Saudi Arabia
16 – 19 February 2008

**Bell D, Lyner-Cleophas M,
Popplestone R & Abrahams E**
Evolving inclusive practices
in the Western Cape
1st Southern African Conference
on the First-year Experience
Stellenbosch
8 – 10 September 2008

**Bob U, Swart K
& Cornelissen S**
When will it be Africa's turn?
The prospects and challenges

for South Africa hosting the
Olympic Games
International Sport Business
Symposium
Beijing, China
12 August 2008

Boonzaier M
Integrating HIV/Aids into the
human resource management
curriculum
5th International Conference on
Contemporary Business (ICCB)
Somerset West
30 September – 2 October
2008

Bütschi G & Steyn B
Achieving strategic alignment
in public relations through the
development of an action
research-based software
programme
11th Annual International Public
Relations Research Conference
Miami, FL
6 – 9 March 2008

Davies SEH
Optimising sport performance:
a human factors/ergonomics
approach
Best Practices in Sport
Organisation, Club/Association
Leadership, Management and
Administration: "Transforming
Africa Sport Management
Arena"
Johannesburg
12 – 14 November 2008

Hollis-Turner S & Scholtz D
Finding alignment and teaching
for transfer
Higher Education Learning and
Teaching Association of
Southern Africa (HELTASA) and
South African Association for

Research and Development in
Higher Education (SAARDHE):
Higher Education as a Social
Space
Grahamstown
30 November – 3 December
2008

Ismail R
Developing a framework for
cultural tourism on the Cape
Flats in Cape Town
EuroCHRIE Conference:
Building a Legacy: Living the
Dream: 2020 Vision for
Hospitality and Tourism
Dubai, UAE
11 – 14 October 2008

Knott B
Factors that influence the
sponsorship impact of sport
events: a case study of the
2006 Cape Argus Pick 'n Pay
Cycle Tour
Port Elizabeth
25 – 27 June 2008

Knott B & Swart K
Maximising the sponsorship
impact of sport tourism events
1st International AHSA
Conference on Hospitality and
Tourism Research
Cape Town
11 – 14 November 2007

Knott B & Swart K
Universal accessibility
implications for 2010 FIFA World
Cup events in the Western
Cape
ICHPER.SD – Africa Region
Conference
Gaborone, Botswana
14 – 17 October 2008



Niemann L, Steyn B

& Du Plessis N
Enterprise strategy – a
mechanism for fulfilling societal
and stakeholder expectations
in the global village
South African Communication
Association: SACOMM
Conference 2008:
Communicating in a Global
Village
Muldersdrift, Gauteng
17 – 19 September 2008

Parr B

Comparison of three training
programmes on physiological
adaptations in patients with
peripheral vascular disease and
intermittent claudication
ACSIS Conference of Science
and Medicine in Sport
Hamilton Island, Australia
16 – 18 October 2008

Parr B

Factors predicting walking
tolerance in patients with
peripheral vascular disease
ACSIS Conference of Science
and Medicine in Sport
Hamilton Island, Australia
16 – 18 October 2008

Steyn B

Institutionalising the strategic
role of public relations
Invited presentation: 1st Plenary
Session: What We Mean by
Institutionalization
10th Annual EUPRERA
Congress
Milan, Italy
16 – 18 October 2008

Steyn B & Niemann L

Institutionalising the strategic
role of corporate
communication/public relations
through its contribution to
enterprise strategy and

enterprise governance
10th Annual EUPRERA
Congress
Milan, Italy
16 – 18 October 2008

Swart K

Achieving total freedom through
educational liberation:
developing a learner culture
through a woman's lifetime
6th Annual Management and
Leadership Development for
Women in Government
Conference
Cape Town
15 – 18 September 2008

Swart K

Perceptions of safety and
security among international
visitors to South Africa –
implications for the 2010 FIFA
World Cup
Challenges Facing Football in
the 21st Century: Conference
to Mark the UEFA 2008
European Championships
Bern, Switzerland
15 – 17 May 2008

Swart K

Sport tourism in SADC
Sponsorship and CSR/I
Conference: Meeting Changing
Expectations
Windhoek, Namibia
29 – 31 July 2008

Swart K & Bob U

Community perceptions of
2010 in Durban, South Africa
8th International Hamburg
Symposium: "Sport and
Economics" on the Occasion
of ITU Triathlon World Cup:
Mega Sport Events: Economic
& Socio-economic Impact
Hamburg, Germany
4 – 5 July 2008

Swart K & Bob U

Resident perceptions of the
2010 FIFA World Cup stadia
development in Cape Town
The Impact of Mega Sports
Events: The 2010 FIFA World
Cup™ in South Africa and
Developmental Goals
Cape Town
5 – 7 March 2008

Swart K & Turco DMT

Sport tourism: developing
nations?
Legacy Lives 2008
Barbados
28 – 30 January 2008

**Tshombe LM, Uken E
& Ferreira I**

Mechanisms to prevent
corruption and to promote good
governance in the Democratic
Republic of Congo
International Association of
Schools and Institutes of
Administration (IASIA) Annual
Conference: Enhancing
Efficiency, Effectiveness and
Equity in Public Service Delivery:
Challenges, Opportunities and
Good Practices
Kampala, Uganda
14 – 18 July 2008

**Volbrecht T, Coleman L,
Maree M & Scholtz D**

Weaving in the Web:
investigating connections
among agency, structure and
community/ies in using personal
development planning through
e-portfolios to promote
collaborative staff development
Higher Education Close-up
Conference (HECU4)
Cape Town
26 – 28 June 2008

Conference posters

Allen-Ile C & Scholtz D

Water on a duck's back? Impact of assessments on students' academic performance
CPUT Celebrating Research Day
Bellville
28 November 2008

Breytenbach A, Bayat MS & Ferreira IW

A comparative evaluation of tourism programmes in selected further and higher education institutions in the Western Cape
CPUT Celebrating Research Day
Bellville
28 November 2008

Davies SEH

Ethical issues in professional sport: advocating Machiavellian pragmatism
CPUT Celebrating Research Day
Bellville
28 November 2008

Francke E & Weideman M

South African business: missing a business opportunity by the omission of Web 2.0 features
CPUT Celebrating Research Day
Bellville
28 November 2008

Gie L & Ferreira IW

(third prize in staff category)
Measurement of the impact of service learning on second-year human resource management students at the Cape Peninsula University of Technology
CPUT Celebrating Research Day
Bellville
28 November 2008

Gitera V & Ng'etich M

The development and promotion of heritage tourism in Rwanda
CPUT Celebrating Research Day

Bellville

28 November 2008

Goba T

Leisure profile and recreation opportunities for sports management students at CPUT, Mowbray campus
CPUT Celebrating Research Day
Bellville
28 November 2008

Ismail R

Developing a normative model for cultural tourism on the Cape Flats
CPUT Celebrating Research Day
Bellville
28 November 2008

Johnson D

Universal access in the Western Cape: a tourism perspective
CPUT Celebrating Research Day
Bellville
28 November 2008

Joubert E

Recreation programme design for the elderly: a case of the Vredelust senior group
CPUT Celebrating Research Day
Bellville
28 November 2008

Knott B & Swart K

Universal accessibility for sport tourism events in the Western Cape – 2010 and beyond
CPUT Celebrating Research Day
Bellville
28 November 2008

Makda T

Assessing management of risks in the event industry by 2010 with reference to the City of Cape Town
CPUT Celebrating Research Day
Bellville

28 November 2008

Mohammed Amina

Knowledge, attitudes and practices regarding HIV/Aids of hotel staff from a selected hotel group in Cape Town
CPUT Celebrating Research Day
Bellville
28 November 2008

Ohlhoff JHS

(first prize in staff category)
A survey of disclosure of compliance with the King II Code in 2007 by companies listed on the FTSE/JSE Top 40 Index
CPUT Celebrating Research Day
Bellville
28 November 2008

Parr BM

Locomotor training as part of a rehabilitation programme in patients with spinal cord injuries – a case study
CPUT Celebrating Research Day
Bellville
28 November 2008

Stoop J

Health-related knowledge and behaviour of sports management students
CPUT Celebrating Research Day
Bellville
28 November 2008

Swart K, Knott B, Daniels T & Salie M

From Beijing 2008 to South Africa 2010 – who is the sports tourist?
CPUT Celebrating Research Day
Bellville
28 November 2008



Conference proceedings

Davies SEH, Parr B & Naidoo N

Differences in anthropometric, strength and isokinetic performance parameters of South African male and female emergency care students: implications for equity legislation compliance in terms of pre-selection, physical performance benchmarking and operational efficiency in the field Karwowski W & Salvendy G (eds) Proceedings of the 2nd International Conference on Applied Human Factors and Ergonomics (AHFE), jointly with the 12th International Conference on Human Aspects of Advanced Manufacturing (HAAMAHA), Las Vegas, NV, 14 – 17 July 2008 Louisville, KY: USA Publishing, 2008, 19 pp ISBN 978-1-60643-712-4

Davies SEH, Parr B & Naidoo N

Differences in anthropometric, physiological and fitness performance parameters of South African male and female emergency care students: implications for equity legislation compliance in terms of pre-selection, physical performance benchmarking and operational efficiency in the field Karwowski W & Salvendy G (eds) Proceedings of the 2nd International Conference on Applied Human Factors and Ergonomics (AHFE), jointly with the 12th International Conference on Human Aspects of Advanced Manufacturing (HAAMAHA), Las Vegas, NV, 14 – 17 July 2008

Louisville, KY: USA Publishing, 2008, 14 pp ISBN 978-1-60643-712-4

Francke E & Weideman M

Web 2.0 features on South African business websites: African business websites: missing a business opportunity? Van Brakel PA (ed.) WWW 2008: Proceedings of the 10th Annual Conference on World Wide Web Applications, Cape Town, 3 – 5 September 2008 Cape Town: CPUT, 2008. 9 pp electronic ISBN 978-0-620-42642-8

Gie L & Ferreira IW

The impact of service learning on second-year human resource management students at the Cape Peninsula University of Technology Rensburg R & Fischer M (eds) Conference Proceedings of the 20th Annual Conference and 21st Birthday Festival of the Southern Africa Institute for Management Scientists, Muldersdrift, 14 – 17 September 2008 Pretoria: University of Pretoria, 2008, pp 281 – 298 ISBN 978-1-86854-729-6

Mngomezulu BR

The challenges of restructuring higher education in a changing political environment: the case of post-apartheid South Africa Wolhuter CC (ed.) Access, Participation and Democratization in African Education: Proceedings of the 2005 Conference of the Southern African Comparative

and History of Education Society (SACHES), University of Dar Es Salaam, and the Open University of Tanzania, Dar Es Salaam, Tanzania, 16 – 19 September 2005 Potchefstroom: CC Wolhuter, 2008, pp106 – 121 ISBN 978-1-86822-527-9

Rust B & De Jager JW Leadership in South African provincial hospitals: SOS, salvage what is left and start again Rensburg R & Fischer M (eds) Conference Proceedings of the 20th Annual Conference and 21st Birthday Festival of the Southern Africa Institute for Management Scientists, Muldersdrift, 14 – 17 September 2008 Pretoria: University of Pretoria, 2008, pp 722 – 738 ISBN 978-1-86854-729-6

Scott E, Sewchurran K & Van der Merwe N Windows to the real world – a comparison of IS project management and student learning Remenyi D (ed.) Proceedings of the 2nd European Conference on Information Management and Evolution, London, 11 – 12 September 2008 Reading: Academic Publishing, 2008, pp 393 – 402 CD-Rom ISBN 978-1-906638-13-9

Ukpere W & Slabbert A

Globalisation as a driver of inequality and poverty Rensburg R & Fischer M (eds)

Conference Proceedings of the 20th Annual Conference and 21st Birthday Festival of the Southern Africa Institute for Management Scientists, Muldersdrift, 14 – 17 September 2008
Pretoria: University of Pretoria, 2008, pp 788 – 799
ISBN 978-1-86854-729-6

Ukpere WI & Slabbert A
The relationship between globalisation, unemployment, inequality and poverty
Chiru C, Iatan E, Elefterie L, Grama I, Grigore M & Grecu I (eds)
International Conference on Business and Economy, Constanța, Romania,

6 – 8 November 2008:
Conference Proceedings
Constanța, Romania: Editura Muntenia, 2008,
pp 321 – 329
ISBN 978-973-692-233-6

Journal articles (DoE subsidised)

Allen-Ile COK & Berry DM
Trade unionism in Botswana: oil or clog in the wheel of progress
Journal of Public Administration, 43(3.1):26-25, 2008

Bob U, **Swart K** & Cornelissen S
When will it be Africa's turn?
Prospects and challenges for South Africa hosting the Olympic Games
Africa Insight, 38(3):49-60, 2008

Bob U, **Swart K**, Maharaj B & Louw P
Nature, people and environment: overview of selected issues
Alternation, 15(1):17-44, 2008

Davies SEH, Parr BM & Naidoo N
Physical performance characteristics of South African male and female emergency care practitioners
Ergonomics SA, 20(2):3-14, 2008

Donaldson R, Cornelissen S, **Swart K** & Bob U
Expectations of urban residents in the Western Cape on the 2010 FIFA World Cup
Africa Insight, 38(3):35-48, 2008

Laubscher CP & Ndakidemi PA
Rooting response under shade using IBA growth regulators and different growth mediums on *Leucadendron laxum* (Proteaceae) – a commercial cut flower
African Journal of Agricultural Research, 3(10):740-746, 2008

Ntloko NJ & Swart K
Sport tourism event impacts on the host community: a case study of Red Bull Big Wave Africa
South African Journal for Research in Sport, Physical Education and Recreation 30(2):79-93, 2008

Parr BM, Gamielien R & Davies SEH
Locomotor training as part of a rehabilitation programme for patients with spinal cord injury – a case study
South African Journal of Sport Medicine, 20(3):91-92, 2008

Parr B, Noakes TD & Derman EW
Factors predicting walking intolerance in patients with peripheral arterial disease and intermittent claudication

South African Medical Journal, 98(12):958-961, 2008

Rust B
Are South African trade unions functioning effectively under the onslaught of globalisation? An empirical and exploratory study
Asian Economic Review, 50(3):399-420

Scholtz D & Allen-Ile COK
Is the SATAP test an indicator of academic preparedness for first-year university students?
South African Journal of Higher Education, 21(7):919-938, 2007

Steyn C & Khan M
Towards the development of a knowledge management practices survey for application in knowledge-intensive organisations
South African Journal of Business Management, 39(1):45-53, 2008

Swart K, Bob U & **Mbaze-Ebock Arrey V**
Sport events and their socio-economic impact: residents' perceptions of the Isuzu Berg River Canoe Marathon
Africa Insight, 38(3):123-134, 2008



Tassiopoulos D & **Haydam N**
Golf tourists in South Africa: a demand-side study of a niche market in sports tourism
Tourism Management, 29:870-882, 2008

Ukpere W & Slabbert AD
The correlation between current globalisation and human resources

Asian Economic Review, 49(3):347-358, 2007

Ukpere W & Slabbert AD
Triumphant capitalism and the future of human, social and economic progress in the post-Cold War era
International Journal of Social Economics, 35(6):417-422, 2008

Zhang X, Bob U & Swart K
A comparison of spectators' and participants' profiles and perceptions of the 2006 Old Mutual Two Oceans Marathon
Africa Insight, 38(3):135-146, 2008

Journal articles (not DoE subsidised)

Abrahams R
Researching the contribution of foreign tourists to the economy of the Cape Town metropole
Journal of Business and Management Dynamics, 2(2):97-111, 2008

Allen-Ile COK
& Eresia-Eke CE
The role of management style on the prosperity for loan default by small businesses
Journal of Business and Management Dynamics, 1(1):14-27, 2007

Ballard HH
The impact of the single public service initiative from a local government perspective
Journal of Business and Management Dynamics, 1(1):112-117, 2007

Bayat MS
A brief taxonomy of academic research with special reference to the research proposal at the Cape Peninsula University of Technology (CPUT)
Journal of Business and Management Dynamics, 1(1):45-56, 2007

Bayat MS & Ferreira IW
A theoretical basis for managing human resources in tourism
Journal of Business and Management Dynamics, 2(2):75-96, 2008

Daniels T
A critical analysis of the socio-economic impacts of the N2 bypass development around Knysna
Journal of Business and Management Dynamics, 2(1):74-83, 2008

Davids E
The educational implications of tourist guiding
Journal of Business and Management Dynamics, 2(1):95-101, 2008

Ferreira IW
Extrapolating relativity theory to determine particular normative criteria for public management
Journal of Business and Management Dynamics, 1(1):108-111, 2007

Ferreira IW, Tshombe LM & Uken E
Mechanisms to prevent

corruption and to promote good governance in the Democratic Republic of the Congo
Journal of Business and Management Dynamics, 2(1):111-121, 2008

Fester E, Bayat MS, Du Toit A & Sulayman S
Academic freedom under outcomes-based education and training in South African higher education institutions (HEIs)
Journal of Business and Management Dynamics, 2(1):1-8, 2008

Francke E & Weideman M
South African youth and mobile technology impact: the MXit phenomenon
Journal of Business and Management Dynamics, 1(1):81-94, 2007

Gie L & Ferreira IW
Measurement of the impact of service delivery on second-year human resource management students at the Cape Peninsula University of Technology
Journal of Business and Management Dynamics, 2(1):40-53, 2008

Heynes, NA, **Bayat MS & Ferreira IW**

The relevance of service delivery to recruitment and selection
Journal of Business and Management Dynamics, 2(1):9-13, 2008

Ismail R

A concept analysis of cultural and heritage tourism definitions with specific reference to the Cape Flats in Cape Town
Journal of Business and Management Dynamics, 1(1):95-100, 2007

Knott B & Swart K

Consumer reactions to sports event sponsorship: a case study of the 2006 Cape Argus Pick 'n Pay Cycle Tour
Journal of Business and Management Dynamics, 2(2):67-74, 2008

Makda TJ

Assessing the management of risks in the event industry and its relevance to 2010 in the City of Cape Town
Journal of Business and Management Dynamics, 2(2):112-129, 2008

Mngomezulu BR

Leadership crisis in Africa: contextualising African leaders' obsession with power
Journal of Business and

Management Dynamics, 2(2):36-48, 2008

Mngomezulu BR

The role of co-operation between stakeholders in the effective delivery of education in KwaZulu-Natal
Journal of Business and Management Dynamics, 1(1):28-39, 2007

Ohlhoff JHS

The relationship between employer-of-choice status and employer branding
Journal of Business and Management Dynamics, 2(2):28-35, 2008

Parr B

A comparative study of high-altitude training centres in South Africa: the practicality of a high-altitude training centre in the Kingdom of Lesotho
Journal of Business and Management Dynamics, 2(2):130-133, 2008

Slabbert A

Rugby and football spectator propensity to violence: a comparative analysis
Journal of Business and Management Dynamics, 2(1):102-110, 2008

Strout D & **Davies SEH**

Challenging paradigms: why warm up prior to exercise?
Journal of Business and Management Dynamics, 1(1):101-107, 2007

Ukpere WI & Slabbert AD

Division of labour as exploitative mechanism of workers
Journal of Business and Management Dynamics, 1(1):40-44, 2007

Ukpere WI & Slabbert AD

The relationship between globalization, unemployment, inequality and poverty
Analele Universitatii Spiru Haret: Seria Economie, 7(8):169-178, 2008

Van der Merwe J & Venter BP

A rose is a rose: PR is PR and marketing is marketing: or is it?
Journal of Business and Management Dynamics, 1(1):1-13, 2007

Volbrecht T, Coleman L, Maree M & Scholtz D

Weaving in the Web: investigating connections among agency, structure and community/ies in using personal development planning through e-portfolios to promote collaborative staff development
Paradigms (15):3-16, 2008

Technical reports

CETRA

Delegate and exhibitor tracking study
Cape Town: Cape Town Routes Unlimited, 2008

CETRA & African Equations

Gap analysis value addition
Cape Town: Cape Town Routes Unlimited, 2008

CETRA & Multi-Purpose Business Solutions

The economic significance of tourism in the Western Cape Province: a tourism satellite account approach



Cape Town: Cape Town Routes Unlimited, 2008

CETRA & Stellenbosch University

2010 FIFA World Cup research: international football market profiles: experiences of previous hosts and Western Cape citizens' 2010 expectations
Cape Town: Cape Town Routes Unlimited, 2008

CETRA & Stellenbosch University

GIS-based GAP analysis
Cape Town: Cape Town Routes Unlimited, 2008

CETRA & Stellenbosch University

Perceptions of international visitors to South African on safety and security – implications for the 2010 FIFA World Cup

Cape Town: Cape Town Routes Unlimited, 2008

CETRA & Stellenbosch University

Visitor tracking and blue chip tourism development interest: Overberg and Eden Districts
Cape Town: Cape Town Routes Unlimited, 2008

Postgraduate degrees conferred

**DTech: Marketing
Groenewald JJZ**

Improving competitiveness in business through the application of product design as a knowledge creation management tool
Supervisors: Prof A Slabbert & Prof MS Bayat

Onojaefe D

Business use of branding for e-commerce benefit
Supervisor: Prof AJ Bytheway

Venter BP

Realignment of public relations in the value chain for improved organisation ethics in South Africa
Supervisors:
Prof J van der Merwe & Prof A Slabbert

**DTech: Public Management
Alexandre C Da S**

An idiographic analysis of new public management/leadership and traditional public management/leadership
Supervisors: Prof A Slabbert & Prof W Fox

Muhiya Tshombe L

Evaluating power trading in selected South African Development Countries
Supervisors: Prof IW Ferreira & Prof E Uken

**DTech: Tourism And Hospitality Management
Ismail R**

Development of a normative model for cultural tourism on the Cape Flats
Supervisors: Prof MS Bayat & Prof IW Ferreira

MTech: Business Administration

Adams S
Perceptions that impact on the enrolment of an HIV workplace programme
Supervisor: Prof A Slabbert

Human RC (cum laude)

An assessment of the internal organisation communication and information flow at the South African Cultural History Museum, with reference to its effect on decision-making
Supervisor: Prof HH Ballard

Snyders H

Learning and leading for legitimacy: a learning organisation perception survey of the administration and political leadership of Saldanha Bay
Supervisor: Prof HH Ballard

Von Wielligh JP

The impact of the attacks of 11 September 2001 on the World Trade Centre on the tourism industry in the Western Cape: a case study
Supervisors: Prof MS Bayat & Prof IW Ferreira

Wang G

Organisational and cross-cultural challenges facing expatriate hotel managers in China
Supervisors: Prof MS Bayat & Mr R Ismail

MTech: Business Information Systems

Kamish Y
The impact of security policies on e-commerce implementation in SMMEs
Supervisor: Prof A Bytheway

Pretorius ELR

The impact of e-business on the marketing function: problems and opportunities for SMMEs
Supervisor: Prof JA Watkins

Thembo R

ICT usage trends in commercial agriculture in the wine industry
Supervisor: Prof V Owei

MTech: Human Resources Management

Spirituality in the workplace: raising HR awareness
Supervisor: Prof AA Rust

Kondi Kondi J

Human resource management as a strategic business partner in the minds of stakeholders in the fast-moving consumer goods industry
Supervisors: Dr BR Mngomezulu & Mr R Palmer

Shitemba F

The effectiveness of mentoring programmes on employee job satisfaction
Supervisor: Prof AD Slabbert

MTech: Marketing**Bray N**

An accounting syllabus for marketing students as

determined by SME needs and specifications
Supervisor: Mr D de Goede

Ding Y

Guidelines for South African boatbuilding companies to market boats to China
Supervisors: Mr BP Venter & Prof A Slabbert

Grosskurth LK (cum laude)

Marketing architectural services: the role of the Internet in the marketing of architectural practices in the Western Cape
Supervisor: Mr NE Haydam

Jiang P (cum laude)

Conceptual framework of marketing the Western Cape wine routes to Chinese tourists
Supervisor: Mr NE Haydam

Singh R

Customer perceptions of values of a retail supermarket: analysis of Pick 'n Pay's Waterfront store
Supervisor: Prof A Slabbert

MTech: Office Management and Technology**Adams Z**

Competency requirements for the effective management of SMMEs
Supervisor: Prof JA Watkins

MTech: Tourism and Hospitality Management**Gitera V**

The development and promotion of heritage tourism in Rwanda
Supervisor: Mr M Ng'etich

Hendrickse N

A theoretical analysis of event management as a separate discipline in South Africa
Supervisor: Prof MS Bayat

Makda TJ (cum laude)

Assessing management of risks in the event industry by 2010 with reference to the City of Cape Town
Supervisor: Prof MS Bayat

Ngenzi Kome Y

Perceived barriers to tourism development in Rwanda as a tourist destination
Supervisor: Mr M Ng'etich

Reynish NK

An assessment of adventure tourism potential: Muizenberg, Cape Town
Supervisor: Prof MS Bayat

Postgraduate degrees obtained by staff members**PhD**

University of the Western Cape
Hendrickse R
Governance and financial sustainability of NGOs in South Africa

MBA

Stellenbosch University
Oihlhoff S
A survey of disclosure of compliance with King II by top-listed South African companies:

an investigative study of companies listed on the FTSE/JSE Top 40 Index





PROF MAUREEN ROBINSON

FACULTY OF EDUCATION & SOCIAL SCIENCES

DEAN'S REPORT

The Faculty of Education & Social Sciences has had a successful year of research with an ever-increasing level of conference papers, master's and doctoral graduations and published research articles. These research outputs are characterised by their close relationship with the problems and challenges of practice, as we seek to theorise and understand the challenges of quality education in our country.

As a faculty that began with a very low research track record seven years ago, we are proud that this year twenty papers were presented at international conferences and ten at national conferences. Eight articles were published and seven more were accepted for publication in books or accredited journals.

Two staff members received research grants from the NRF, five from the URF, and one from SANPAD, the Western Cape Education Department, and NUFFIC respectively. We are very proud of the appointment of three post-doctoral fellows in the faculty, namely Dr Chiwimbiso Kwenda, Dr Dominique Mwepu and Dr Clive Kronenberg.

The faculty is committed to sharing and networking in the area of knowledge generation. To support this, research partnerships were established in the fields of literacy, numeracy, and teacher supply and demand. All these research partnerships included other universities across the country and/or the provincial department of education.

Under the auspices of the Cape Higher Education Consortium (CHEC), the faculty hosted the first regional seminar for universities and the WCED. This has now become a regular slot in the regional calendar. We also participated actively in the Western Cape Education Students' Research Conference, held this year at UCT. Other seminars and workshops included a three-day supervision

workshop attended by 30 staff members, regular Friday afternoon seminars for postgraduate students, and the weekly staff seminar at Mowbray.

Seven staff members were registered for doctoral degrees and eight for master's degrees. Despite the heavy teaching demands on staff, the faculty goes out of its way to assist staff members with their studies, in the view that such studies can add to the personal and professional growth of the staff member, the faculty and ultimately, our students.

Thanks are due to the Research Directorate at CPUT for their enthusiastic support in all our work. We look forward to an ever-increasing level of research outputs that adds value to our work.

CONFERENCE FUNDING

APPLICANT	ALLOCATION (rands)
Condy J	12 360
Koopman R	8 750
November I	14 356
Scholtz Z	7 600
Sosibo L	9 000
Westraadt G	11 800
Whittles K	17 690
TOTAL	81 556

INDUSTRY FUNDING

RESEARCHER	FUNDER	PROJECT	ALLOCATION (rands)
Hill A	WCED	Reasons for underperformance in literacy in Grades 3 & 6 in quintiles 1, 2 & 3 primary schools in the Western Cape	224 000
Joubert J	NUFFIC	Multigrade teaching and rural education	2 000 000
Robinson M	CHEC/WCED	Educator supply and demand in the Western Cape	1 500 000
TOTAL			3 724 000

NRF FUNDING

RESEARCHER	PROGRAMME	NRF	CPUT	ALLOCATION (rands)
Chetty RP	Focus	186 000	-	186 000
Condy JL	Focus	952	-	952
Robinson M	Focus	94 319	-	94 319
Robinson M	IRDP	40 000	10 000	50 000
TOTAL				331 271

UNIVERSITY RESEARCH FUND

RESEARCHER	TITLE	ALLOCATION (rands)
Chetty R	Teacher education in South African universities: towards good practice strategies: phase 1	52 000
Condy JL	How does THRASS impact on final-year students' perceptions of teaching literacy?	60 000
Scholtz ZE	The development of a short course on mentorship in critical thinking for in-service teachers	40 000
Thraves PA	An investigation into students' reading attitudes and habits using a child literature intervention programme	45 000
TOTAL		197 000





NRF RATED RESEARCHERS

Established researchers (C rating)

Prof Rajendra Chetty

chettyr@cput.ac.za

Prof Rajendra Chetty is engaged in research covering education policy and politics, teacher education, and post-colonial literature. An NRF focus area-funded project in the category Culture, Religion and Communication in South Africa, is relevant to the literary debates around the African renaissance, the exclusivity of contemporary South African literary history, marginalised local writings and new cultural formations, with the aim of enriching the South African historiography. His current focus area grant, in collaboration with the University of the Witwatersrand and the University of KwaZulu-Natal, attempts to provide an informed understanding of the complexity of teacher education, determine an environment for quality learning, teaching and research in higher education, and establish strengths and challenges in the current framework.



Prof Maureen Robinson

robinsonm@cput.ac.za

Prof Maureen Robinson's research falls within the fields of initial and continuing teacher education. She is especially interested in how different policies and practices within teacher education give shape to different educational processes and outcomes. The following fields of study are part of such an investigation: educational change, teacher identity, action research, and curriculum development. Her research focuses on models of teacher education in southern and East African countries, a case study of professional development that facilitates active learning among teachers, and teacher preparation for diversity.



Research institutes, centres and units

CENTRE FOR MATHEMATICS, SCIENCE AND TECHNOLOGY EDUCATION (CEMSTE)

Dr M Shaheed Hartley

hartleys@cput.ac.za

The centre specialises in research, training, development and outreach in mathematics, science and technology education. The centre's mission is to:

- research current trends in MST curriculum innovation and educational challenges
- train MST research students at master's and doctoral level

- provide support and build capacity in MST for educators and learners
- provide training in pedagogical content knowledge for in-service MST educators
- develop quality learning resources and support programmes in MST
- provide alternative teaching strategies and methodology
- build educator capacity in practical and experimental work
- assist educators in the building of science clubs at schools
- develop and implement science and technology competitions, exhibits and olympiads for learners
- develop informal learning as a valuable research niche area.

New professor appointed



Associate Professor Cornelis Vermeulen

Books/chapters

Chehore T & Scholtz Z

Exploring a pedagogy that supports problem-based learning in higher education
Nygaard C & Holtham C (eds)
Understanding Learning-Centred Higher Education
Denmark: Copenhagen Business School Press, 2008, pp 145 – 159
ISBN 978-87-630-0219-6

Robinson M & Christie P

South Africa
O'Donogue T & Whitehead C (eds)
Teacher Education in the English-Speaking World: Past, Present and Future
Charlotte, NC: Information Age Publishing, 2008, pp 137 – 154
ISBN 978 1-59311-900-3

Whittles K, Torkildsen O-E,

Julie C & Breiteig T
Introducing new content into a school mathematics curriculum: the case of cryptology
Holtman L, Julie C, Mikalsen Ø, Mtetwa D & Oggunniyi M (eds)
Some Developments in Research in Science and Mathematics in Sub-Saharan Africa: Access, Relevance, Learning, Curriculum Research
Somerset West: African Minds, 2008, pp 19 – 30
ISBN 978-1-920299-29-3



Conference papers

Anker J

Metaphors of pain: a discussion of the use of metaphor in trauma literature
16th International English Academy Joint Conference
Pretoria
22 – 25 June 2008

Boonzaaier PJV

Multigrade rural schools intervention in the West Coast EDMC: a case study
8th Education Students' Regional Research Conference
Cape Town
3 – 4 October 2008

Chehore T & Scholtz Z

Exploring a pedagogy that supports problem-based learning
Learning in Higher Education Symposium 2008
Aghia Marina, Island of Aegina, Greece
1 – 6 June 2008

Chetty R

Rethinking quality in teacher education in South Africa
European Education Research Association Conference
Gothenburg, Sweden
10 – 12 September 2008

Condy J

The development of an enabling self-administered questionnaire

for enhancing reading teachers' professional pedagogical insights
International Reading Association 2nd World Congress on Reading: Reading in a Diverse World
San José, Costa Rica
28 – 31 July 2008

Condy J & Thraves P

Motivating reading
CPUT and the English Academy Seminar
Mowbray, Cape Town
27 September 2008

De Kock GT

Evaluating the criteria for a reading programme of Grade R learners
8th Education Students' Regional Research Conference
Cape Town
3 – 4 October 2008

Dos Reis K

Gang-related factors affecting educator morale on the Cape Flats, Western Cape: an empirical study
Kenton Conference 2008: 350 Years of Formal Schooling in South Africa: Where to from here?
Broederstroom, Gauteng
23 – 26 October 2008

Dos Reis K

The influence of gangsterism

on the morale of educators on the Cape Flats, Western Cape
7th Education Students' Regional Research Conference
Mowbray
28 – 29 September 2007

Enow AE

The demand and supply of secondary school teachers in the Western Cape
8th Education Students' Regional Research Conference
Cape Town
3 – 4 October 2008

Hartley MS

Using science clubs to promote and develop science and technology education at rural schools in South Africa
39th Conference of the Australasian Science Education Research Association (ASERA)
Brisbane, Queensland, Australia
2 – 5 July 2008

Hill A

Discursive change and the empowerment of children: a conceptual analysis
International Seminar on Democratic and Secular Education in the Context of Kerala's Experience
Kerala, India
4 – 6 December 2008

Hill A, Venter M & Foley A
Scrap the set-book! What then?
CPUT and the English Academy
Seminar
Mowbray, Cape Town
27 September 2008

Johnson SM
Teaching strategies to address
art anxiety in first-year education
students
Kenton Conference 2008:
350 Years of Formal Schooling
in South Africa: Where to
from here?
Broederstroom, Gauteng
23 – 26 October 2008

Joubert J
The influence of poverty on rural
education in South Africa and
Africa, and one of the best
solutions to it – multigrade
education
Paris International Conference
on Education, Economy
& Society
Paris, France
17 – 19 July 2008

Joubert J
Training of teachers in poor rural
areas through a multigrade
intervention to achieve
millennium goals: our
experience of using ODL as a
tool for building capacity and
what lessons can be learned
Fifth Pan-Commonwealth
Forum on Open Learning
London, UK
13 – 17 July 2008

Koopman R & Sadeck M
Developing critical thinking
through argumentation:
exploring the pedagogical
practices of pre-service
teachers
XIIIth International Organization
of Science and Technology
Educators (IOSTE) Symposium
Izmir, Turkey
21 – 26 September 2008

Kwenda C
Building communities of
practice
8th Education Students'
Regional Research Conference
Cape Town
3 – 4 October 2008

Levin J
Exploring Waldorf and brain-
based Grade 1 literacy
environments
8th Education Students'
Regional Research Conference
Cape Town
3 – 4 October 2008

Mwepu DN
Rethinking quality indicators for
teacher education
8th Education Students'
Regional Research Conference
Cape Town
3 – 4 October 2008

November I
Do principal-educators in South
Africa necessarily have the
ability to transform schools?
Education Research Unit of the
Athens Institute for Education

and Research (ATINER) 10th
Annual International Conference
Athens, Greece
26 – 28 May 2008

Ntshuntshe N
Literacy practices and English
as the language of learning and
teaching in a Grade 9 classroom
8th Education Students'
Regional Research Conference
Cape Town
3 – 4 October 2008

Pather Sue
Thinking skills development:
approaches to assist first-year
students
1st Southern African Conference
on the First-year Experience
Stellenbosch
8 – 10 September 2008

**Robinson M, Christie P
& Kwenda C**
What do we mean by "good"
teacher education?
CHEC, WCED and CPUT
Seminar
19 March 2008
Mowbray, Cape Town

**Robinson M, Kwenda C
& Hewson P**
Teacher development: small-
scale interventions for large-
scale change
Kenton Conference 2008: 350
Years of Formal Schooling in
South Africa: Where to from
here?
Broederstroom, Gauteng
23 – 26 October 2008



Sosibo L

Diversity in top management: a comparative analysis of the faculties of education in Western Cape universities
8th International Conference on Diversity in Organisations, Communities and Nations
Montreal, Canada
17 – 20 June 2008

Van der Merwe M

The pedagogical purpose of dictionaries: perspective on dictionary education
13th International Conference on Lexicography
Stellenbosch
1 – 3 July 2008

Van der Merwe M

The pedagogical purpose of dictionaries: perspective on dictionary education
16th International English

Academy Joint Conference
Pretoria
22 – 25 June 2008

Van der Merwe M

The pedagogical purpose of dictionaries: perspective on dictionary education
Lexicography at the Crossroads: On the Way to Computer Dictionaries of Tomorrow
Aarhus, Denmark
19 – 21 May 2008

Westraadt G

A comparison of curricula for art and culture (visual art) in higher education
Higher Education Learning and Teaching Association of Southern Africa (HELTASA) and South African Association for Research and Development in Higher Education (SAARDHE):

Higher Education as a Social Space
Grahamstown
30 November – 3 December 2008

Westraadt G

In-service mentoring of educators to facilitate rich and diverse learning through visual art education
6th International Conference on Comparative Education and Teacher Training
Sofia, Bulgaria
1 – 4 July 2008

Whittles K

Cryptology: from mathematics to school mathematics
Third International Conference on Mathematical Sciences
Al-Ain, United Arab Emirates
3 – 6 March 2008

Conference posters**Jamodien M**

A comparison of isiXhosa-speaking Grade R learners' conceptual development in isiXhosa- and English-medium classrooms: a case study of two schools
CPUT Celebrating Research Day
Bellville
28 November 2008

Jordaan Van A & Joubert J

Training of teachers in poor rural

areas through a multigrade intervention to achieve millennium development goals: our experience of using ODL as a tool for building capacity and what lessons can be learned
CPUT Celebrating Research Day
Bellville
28 November 2008

Kwenda C & Robinson M

Teacher education and pupil performance in selected southern

and east African countries
CPUT Celebrating Research Day
Bellville
28 November 2008

Robinson M, Kwenda C

& Hewson P
Teacher development: small-scale interventions for large-scale change
CPUT Celebrating Research Day
Bellville
28 November 2008

**Scholtz Z, Sadeck M
& Koopman R**

Developing critical thinking
through argumentation:
exploring the pedagogical
practices of student teachers
CPUT Celebrating Research Day
Bellville
28 November 2008

Whittles K

The cryptosystem in cryptology
CPUT Celebrating Research Day
Bellville
28 November 2008

Conference proceedings**Braund M, Lubben F,
Scholtz Z, Sadeck M
& Hodges M**

Developing argumentation in
Grade 10 biology lessons in
South Africa: implications for
teachers' professional
development

Hamman M, Reiss M, Boulter
C & Tunnicliffe SD (eds)
Biology in Context: Learning
and Teaching for the Twenty-
first Century: A Selection of
Papers Presented at the VIth
Conference of European
Researchers in Didactics of
Biology (ERIDOB), London,
11 – 15 September 2006
London: Institute of Education,
University of London, 2008,
pp 160 – 170
ISBN 978-0-85473-798-7

Chetty R

The pedagogics of e-learning:
rethinking learning theories
Van Brakel PA (ed.)
WWW 2008: Proceedings of

the 10th Annual Conference on
World Wide Web Applications,
Cape Town,
3 – 5 September 2008
Cape Town: CPUT, 2008,
10 pp electronic
ISBN 978-0-620-42642-8

Chigona A & Chigona W

A critical discourse analysis on
media about MXit
Van Brakel PA (ed.)
WWW 2008: Proceedings of
the 10th Annual Conference on
World Wide Web Applications,
Cape Town,
3 – 5 September 2008
Cape Town: CPUT, 2008,
12 pp electronic
ISBN 978-0-620-42642-8

**Lubben F, Scholtz Z
& Fish A**

Using evidence through
argumentation: a pilot study
with electrical engineering
students
Polaki MV, Mokuku T &

Nyabanyaba T (eds)
Proceedings of the 16th Annual
Conference of the Southern
African Association for Research
in Mathematics, Science and
Technology Education
(SAARMSTE)
Maseru, Lesotho, 14 – 18
January 2008
s.l.: s.n.: 2008, pp 478 – 483

Vermeulen N

Algebraising the arithmetic
curriculum
Boshoff HH, Govender VG &
Heymans L (eds)
Proceedings of the 14th Annual
Congress of the Association for
Mathematical Education of
South Africa (AMESA):
"Mathematics: A Universal
Language", Port Elizabeth,
30 June – 4 July 2008
Johannesburg: AMESA, 2008,
pp 190 – 206 (Volume 1)
ISBN 978-0-620-41068-7



Journal articles (DoE subsidised)

Anker J

Die verwerking van trauma in twee Afrikaanse romans
LitNet Akademies, 5(2), 2008.
16 pp electronic

Anker J

Magiese realisme en die religieuse in *Bidsprinkaan*
Tydskrif vir Letterkunde, 45(2):5-19, 2008

Chigona A & Chetty R

Sexuality out of control: an analysis of the educational policy on schooling teen mothers in the Western Cape
Child Abuse Research: a South African Journal, 9(1):15-26, 2008

Chigona A & Chetty R

Teen mothers and schooling: lacunae and challenges
South African Journal of Education, 28(2):261-281, 2008

Condy J

The development of an enabling self-administered questionnaire for enhancing reading teachers' professional pedagogical insights
South African Journal of Education, 28(4):609-624, 2008

Kronenberg C

Culture, nation and social cohesion: a scrutiny of revolutionary Cuba
Critical Arts: A Journal of South-North Cultural and Media Studies, 22(1):49-68, 2008

Kronenberg C

Guitar composer Leo Brouwer: the concept of a "universal" language
Tempo, 62(245):30-46, 2008

Scholtz Z, Braud M, Hodges M, Koopman R & Lubben F

South African teachers' ability to argue: the emergence of inclusive argumentation
International Journal of Educational Development, 28(1):21-34, 2008

Van der Merwe MF

Wine and words: a trilingual wine dictionary for South Africa
Lexicos, 18:337-348, 2008

Journal articles (not DoE subsidised)

Anker J

Die Jakkals deur Dirk Jordaan: "Dié jakkals laat jou vinnig lees"
LitNet.co.za
Januarie 2008

Anker J

Polaroid deur Tom Dreyer
Tydskrif vir Letterkunde, 45(1):225-227, 2008

Anker J

Chinchilla deur Nanette van Rooyen
LitNet.co.za
Februarie 2008

Postgraduate degrees conferred

DEd
Boonzaaier PJV

Multigrade rural schools intervention in the West Coast

Winelands education

management district circuit: a case study
Supervisor: Dr J Joubert

MEd
Gibbs K

The impact of reflective practice on art teaching

Supervisors: Prof R Chetty & Ms S Johnson

Isaacs BV

Cooperative learning: implementing an alternative teaching strategy in a Grade 7 technology class
Supervisor: Mr J Koeberg

Kohler V

An evaluation of a guided reading programme to enhance literacy in the primary school
Supervisors: Prof R Chetty & Dr J Condy

Pather Subethra (cum laude)

An investigation of a mathematics intervention programme for first-year at-risk student teachers
Supervisor: Prof M Robinson & Ms S McAuliffe

Phillips H

A study of the skills newly qualified teachers have to manage and administer in a classroom
Supervisor: Prof R Chetty

Cox S

Die gebruik van e-leer vir die effektiewe onderrig van isiXhosa-kommunikasie en die invloed daarvan op Afrikaanssprekende onderwysstudente in Wellington /The use of e-learning for the effective teaching of IsiXhosa communication to Afrikaans-speaking education students in Wellington
Supervisors: Prof J Anker & Mr M Moll

Postgraduate degrees obtained by staff members

DLitt

Nelson Mandela Metropolitan University

Gxekwa N

An investigation into the creation and use of scientific terms in isiXhosa

DLitt

University of Stellenbosch

Steenkamp AW

Focus on form in a framework for task-based isiXhosa instruction in a special purposes multimedia curriculum

PhD

University of the Western Cape

Whittles K

Cryptology: a didactical transposition into a Grade 10 school mathematics classroom

MEd

University of the Western Cape

De Mink K

Learners' experience of the integration of theory and practice in a wholesale and retail generalist (NQF level 2) learnership

MPhil

Stellenbosch University

Rousseau N

Fostering learner autonomy amongst second language student teachers with computer assisted language learning in a supportive role





DR OSWALD FRANKS

FACULTY OF ENGINEERING

DEAN'S REPORT

On behalf of the staff of the Faculty of Engineering, I am pleased to be able to report on research efforts in the faculty for the year 2008.

Staff and students in the Faculty of Engineering are discovering new knowledge, designing new products and devices, and solving problems which contribute to improved quality of life or enhanced industrial competitiveness.

Research in the Faculty of Engineering continues to enjoy support from the institution's research development structures, and we are grateful for the financial support and encouragement our researchers receive from such structures. The strategic appointment of Professor Daniel Makinde to the position of Chair of Postgraduate Studies in the Faculty of Engineering during 2008 signals the faculty's commitment to enhancing its contribution to institutional research output and

to providing the necessary expertise to mentor and grow our base of researchers. This appointment has already translated into numerous benefits and increased research output, which is evident in the detailed reports from research units below.

Furthermore, the report below provides quantifiable evidence of increased research output in all categories: industry-funded research, research units, DoE accredited journal articles, conference proceedings, posters, book chapters and postgraduate degrees conferred.

The faculty is committed to playing an important role in contributing to CPUT's research outputs and, in particular, to producing postgraduates who have the requisite knowledge and skills to contribute to the competitiveness and growth of our national economy. To this end, we are continually striving to hone and improve our research development structures and to align our research efforts with

regional (provincial) and national imperatives.

I would like to congratulate the researchers in Engineering for their contribution to the faculty research endeavours and outputs and assure them of our continued support.

CONFERENCE FUNDING

APPLICANT	ALLOCATION (rands)
De Vries ID	18 000
Mbiya B	22 695
TOTAL	40 695

INDUSTRY FUNDING

RESEARCHER	FUNDER	PROJECT	ALLOCATION (rands)
De Vries ID	Eskom TESP	Battery management systems	100 000
Fish A	Eskom	State estimation of power systems	70 000
Gumede C	Eskom	Substation automation using IEDs on the basis of communication Standard IEC 61850	80 000
Haupt TC	Eskom TESP	Developing the Eskom Centre for Construction Health & Safety as a network of excellence	100 000
Haupt TC	Development Bank of Southern Africa	Needs assessment: capacity building of women entrepreneurs in construction	200 000
Masalova I	AEL	Stability of explosive emulsions	500 000
Tzoneva R	Eskom	Centre for Advanced Control	70 000
Uken E	Eskom Assurance Forensic Department of the Corporate Services	Measurement and verification	875 503
Uken E	Eskom Tertiary Education Support Programme	Effective use of electricity and energy	90 000
Uken E	Alexander von Humboldt-Stiftung, Germany	Kapstadt Kollege 2008	98 766
Wilkinson R	Eskom TESP	Condition monitoring of transmission lines and transformers using wireless sensor network technology	100 100
TOTAL			2 284 369



NRF FUNDING

RESEARCHER	PROGRAMME	NRF	CPUT	ALLOCATION (rands)
Haupt TC	Focus	142 000	-	142 000
Haupt TC	Focus	167 000	-	167 000
Jacobs C	Focus	20 000	20 000	40 000
Van der Merwe AJ	Focus	20 000	20 000	40 000
Van Zyl RR	F'SATI	162 000	-	162 000
Ackerman DW	IRDP	86 000	17 333	103 333
Davies JR	IRDP	400 000	100 000	500 000
De Vries ID	IRDP	93 000	42 000	135 000
Fester VG	IRDP	197 000	51 333	248 333
Groenewald BBJ	IRDP	141 000	40 667	181 667
Haldenwang R	IRDP	246 000	64 000	310 000
Kabamba BM	IRDP	106 000	30 667	136 667
Kohlhofer W	IRDP	114 000	49 333	163 333
Masalova IA	IRDP	32 000	21 333	53 333
Oliver GJ	IRDP	150 000	-	150 000
Philander O	IRDP	475 000	126 667	601 667
Slatter PT	IRDP	200 000	53 333	253 333
Sutherland APN	IRDP	84 000	36 000	120 000
Tzoneva RG	IRDP	309 000	82 667	391 667
Van Zyl RR	IRDP	165 000	13 333	178 333
Wilkinson RH	IRDP	209 000	59 333	268 333
Adonis M	Thuthuka	39 500	79 000	118 500
Bart Q	Thuthuka	23 500	47 000	70 500
Dube N	Thuthuka	52 500	45 000	97 500
Riddles M	Thuthuka	32 700	65 400	98 100
Sheldon MS	Thuthuka	81 500	103 000	184 500
Witkowsky J	Thuthuka	24 500	49 000	73 500
Uken E-A	Thrip	51 000	-	51 000
Jacobs C	Swedish Research Links Programme	75 000	-	75 000
TOTAL				5 114 599

DEPT OF SCIENCE & TECHNOLOGY FUNDING

RESEARCHER	FUNDER	ALLOCATION (rands)
Sun B	AMTS/Department of Science & Technology	372 000
Van Zyl RR	Department of Science & Technology	2 600 000
TOTAL		2 972 000

UNIVERSITY RESEARCH FUNDING

RESEARCHER	TITLE	ALLOCATION (rands)
Atkinson-Hope G	Design, selection, application, harmonic analysis and protection of high-voltage regulators in power systems	60 000
Kilfoil AM	Variable blade-length wind turbine	75 000
Martin L	Mechanisms of knowledge and skills transfer from established to emerging construction companies	37 000
Ogle M	An evaluation of Krashen's Natural Approach as applied to the communication skills of Foundation Engineering Provision (FEP) students at CPUT (Cape Town campus)	28 000
Voss E	Torque ripple reduction in synchronous reduction motors	37 500
Wheeler J	Developing intelligent power control for local dairy processing microwave technology	75 000
TOTAL		312 500

NRF RATED RESEARCHERS

Internationally acclaimed researchers (B rating)

Prof Theo Haupt

hauptt@cput.ac.za

Prof Theo Haupt leads the Southern African Built Environment Research Centre (SABERC) where he conducts research into the broad areas of construction health, safety and the environment; construction education; and construction industry development. More specifically, he has researched the impact of HIV and Aids on the construction sector, the impact of culture on construction project success, the causes and costs of construction accidents, and the extent of non-value adding construction activities.



**Prof Paul Slatter***slatterp@cput.ac.za*

Prof Paul Slatter heads the Institute of Material Science and Technology where he conducts research into the pipe flow of high concentration, fine particle suspensions in pipes. Rheology plays a major role in the optimisation of many industrial processes, but his work principally involves mining wastes. The main aim of his work has been to supply industry with reliable design technology for the efficient design of systems, so that savings in water and energy can be utilised, ultimately realising cost savings, which in turn lead to greater profitability and job creation.

Established researchers (C rating)

**Prof Bohua Sun***sunb@cput.ac.za*

Prof Bohua Sun is one of the leading researchers in South Africa in the field of mechanics, smart structures and micro-systems. He is currently conducting research on using biodegradable materials for environmentally friendly packing solutions for the fruit industry. He is an internationally recognised scholar and the editor-in-chief of *Journal of Mechanics and MEMS* and a series of books, *Advances in Engineering Mechanics*.

**Dr Alna van der Merwe***vandermerwea@cput.ac.za*

Dr Alna van der Merwe's research focuses on vibration problems for beams, plates and linked plate-beam systems. It includes modelling, mathematical analysis, numerical analysis and numerical experimentation. She collaborates with researchers in the Department of Mathematics and Applied Mathematics at the University of Pretoria.

Late entrant into research (L rating)

**Prof Cecilia Jacobs***jacobsc@cput.ac.za*

Prof Cecilia Jacobs is co-leader of the Work-Integrated Learning Research Unit, a research niche area within the NRF. Her body of work concerns the way in which knowledge is structured in different disciplines, and how that knowledge is communicated through discipline-specific language, i.e., "understanding the way in which a discipline reads and writes itself".

Promising young researcher (Y rating)

Dr Richardt Wilkinson

wilkinsonr@cput.ac.za

Dr Richardt Wilkinson's area of specialisation is power electronics. This field of study investigates how electrical power can be converted from one level to another by using electronically controlled switches instead of transformers. Power electronics has implications for renewable energy technologies, and research in this field is likely to contribute to solving the current energy crisis.

NRF research niche areas

CENTRE FOR INSTRUMENTATION RESEARCH (CIR)

Dr Richardt Wilkinson

wilkinsonr@cput.ac.za

Since its inception in 1995, the Centre for Instrumentation Research (CIR) has flourished. The CIR specialises in wireless networks, sensors and high-power high-frequency electronics. Close collaboration with the University of Cape Town and University of Stellenbosch enables collaborative research across many industries.

COMPUTATIONAL AND APPLIED TECHNOLOGIES MANUFACTURING

Prof Graeme Oliver

oliverg@cput.ac.za

The Computational and Applied Technologies Manufacturing niche area explores the use of computational techniques for the simulation of mechanical engineering problems along with applying more advanced technologies to solve engineering problems.

MATERIAL SCIENCE AND TECHNOLOGY (IMST)

Prof Irina Masalova

masalovai@cput.ac.za

The Institute of Material Science and Technology's (IMST) activities revolve around the branch of physical science called rheology – the study of how materials deform and flow. The IMST has produced internationally-cited research in such diverse areas as emulsion technology and environmentally superior waste disposal practices. The emulsion project is being carried out under the sponsorship of local company African Explosives Ltd (AEL), and will result in a safer and more accurate blasting practice for the SA mining industry – impacting positively on one of South Africa's major foreign exchange earning industries. The study on high concentration suspension pumping with the Australian Mineral Industrial Research Association (AMIRA) has helped mines to save energy and pump less water onto waste dumps, thereby reducing leaching and promoting rehabilitation.





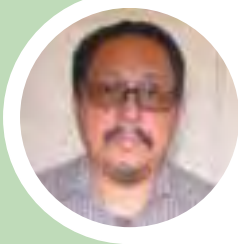
REAL-TIME DISTRIBUTED SYSTEMS (RTDS)

Prof Raynitcha Tzoneva

tzonevar@cput.ac.za

The Centre for Real-Time Distributed Systems (RTDS) concentrates on the development of novel models, design methods, software, hardware, and their integrated application for real-time distributed systems. Its overall objective is to increase the effectiveness, reliability, productivity and competitiveness of South African industry through application-driven research and human resource development.

Research institutes, centres and units



CENTRE FOR DISTRIBUTED POWER AND ELECTRONIC SYSTEMS (CDPeS)

Prof MTE (Toriq) Kahn

khant@cput.ac.za

The CDPeS research centre is involved with several key technologies such as energy efficiency technology, infrared application technology, distributed system technology, and MEMS energy sensor technology.

The CDPeS is able to attract continued student projects with industrial and societal impact, and sufficient groundwork has been covered to produce a substantial number of publications in peer reviewed conferences and journals. Research links with other academics are well established and several doctoral and master's degree candidates are attached to the centre.



CENTRE FOR MECHANICS, SMART STRUCTURES AND MICROSYSTEMS (CMSSM)

Prof Bohua Sun

sunb@cput.ac.za

The CMSSM's vision is to become a recognised centre that produces quality research and training in the area of mechanics, smart structures and micro-systems and to develop levels of expertise in a wide range of research and development-related aspects.

The centre's mission is to deliver expert human capacity and intellectual property through excellent research and teaching.

Its objectives are to integrate all expertise and knowledge in the fields into some applied and/or industrial application. Research outputs include public lectures, conferences, seminars, symposia, workshops and publications. The centre focuses on motion sensing technology, structural health monitoring, ground effect aircraft (WIG) and post-harvest packaging technology.

Core business comprises:

- Mechanics (beams, plates and shells, multi-structures, vibration, buckling, finite element methods, airflow, ground-effect-aircraft)
- Smart structures (sensors and actuators, composites, health monitoring)
- Microsystems (MEMS motion sensors, accelerometers, gyroscopes and thermal image bolometers).

CENTRE FOR POWER SYSTEMS RESEARCH (CPSR), HVDC AND HARMONIC ANALYSIS COMPUTATIONAL STUDIES

Prof Gary Atkinson-Hope

atkinsonhopeg@cput.ac.za

The CPSR specialises in harmonic analysis. During 2006 and 2007, because of the national power crisis, its mandate was extended to specialise in integrated HVAC/HVDC transmission networks to assist with alleviating power delivery shortages to localised areas of the national grid. Projects on energy-saving techniques at distribution level were also initiated.

CENTRE FOR WIRELESS APPLICATION AND INTEGRATION

Prof Robert van Zyl

vanzylr@cput.ac.za

The Centre for Wireless Application and Integration underpins the Department of Electrical Engineering's research activity in wireless technology, and covers radiation studies, electromagnetic compatibility, microwave communication systems, antennas and wireless sensor networks. It is an integral partner of the NRF research niche area for Real-Time Distributed Systems and the F'SATI postgraduate programme.

ENERGY INSTITUTE (EI)

Prof Ernst Uken

ukene@cput.ac.za

The Energy Institute (EI) has been self-sufficient since 1990, earning funds in the form of research grants and R&D contracts from local and overseas sources. Research priorities include finding solutions to the power crisis in South Africa by promoting energy efficiency. The EI has a strong Measurement and Verification team which is contracted to Eskom's Corporate Technical Auditing Department. CPUT is involved primarily with the multi-million compact fluorescent lighting roll-out programme and the installation of geyser blankets. Various cost- and energy-saving devices have been developed, tested and patented to support South Africa's Demand Side Management and Energy Efficiency programmes.





FRENCH – SOUTH AFRICAN INSTITUTE OF TECHNOLOGY

Prof Robert van Zyl

vanzylr@cput.ac.za

The French – South African Institute of Technology (F'SATI) programme was initiated at CPUT with the signing of a Memorandum of Understanding between CPUT, Tshwane University of Technology, and Groupe Ecole Supérieure d'Ingénieurs en Electrotechnique et Electronique (ESIEE) in Paris in 2006. The agreement makes provision for the presentation of the ESIEE MSc in Electronic Engineering at CPUT, concurrently with the CPUT MTech in Electrical Engineering. Students can therefore graduate with two degrees at the end of their second year of study. F'SATI will establish a postgraduate programme in Satellite Engineering at CPUT in 2009.



SOUTH AFRICAN BUILT ENVIRONMENT RESEARCH CENTRE

Prof Theo Haupt

hauptt@cput.ac.za

The South African Built Environment Research Centre (SABERC)'s core areas of research include construction health and safety, construction education, and construction industry development, with a number of major South African organisations commissioning research related to their activities. In 2008, SABERC was a major contributor to the National Construction Health and Safety Report commissioned by the Construction Industry Development Board (CIDB). A further project on Construction Health and Safety Management Systems is about to commence, with another focusing on quality in the SA construction industry. The Development Bank of Southern Africa (DBSA) is partnering with SABERC in a research project that will design and test a model for the empowerment of women in the construction business. In 2003, the DoE accredited *Journal of Engineering, Design and Technology*, now published by Emerald Publishing, was launched, as well as the *Journal of Construction*, with Prof Theo Haupt as editor, in 2007.

Technology research station



TECHNOLOGY STATION IN CLOTHING AND TEXTILES

Mr Shamil Isaacs

isaacssh@cput.ac.za

The Technology Station in Clothing and Textiles provides support to SMMEs in the clothing and textile (and related) industries to improve competition and competitiveness. This sector encompasses furniture and upholstery firms, home products (bedding and curtaining), mattress manufacturers, dyers, sock manufacturers, carpet manufacturers, safety belt manufacturers, shoe manufacturers, and clothing and textile retailers and wholesalers. Focus areas include production process consulting, quality and product testing, demonstration and training, smart organisations, and product development and research.

New professors appointed



Professor
Gary Atkinson-Hope



Professor
Theo Haupt



Associate Professor
Rainer Haldenwang



Associate Professor
Cecilia Jacobs



Associate Professor
Edward Snyders



Associate Professor
Robert van Zyl

Books/chapters

Chikuni E, Okoro OI
& **Kahn MT**
Concise Higher Electrical
Engineering
Wetton: Juta, 2008
ISBN 978-0-7021-7723-1

Jacobs C
In search of discursive spaces
in higher education
Weber E (ed.)
Educational Change in South
Africa: Reflections on Local
Realities, Practices and Reforms
Rotterdam: Sense Publishers,
2008, pp 247 – 266
ISBN 978-90-8790-656-0

Pilbeam J, **Fritz W** & Smith C
Electrical Principles and Practice
[FET College Series Level 3]
Cape Town: Pearson Maskew
Miller Longman, 2008
ISBN 978-177025-07-10

Conference papers

Buys AG, Cain VC
& Knutsen RD
Use of aluminium in tool design
for the plastics conversion
industry
Advanced Materials Initiative
Johannesburg
18 – 20 November 2008

Engel-Hills P, Garraway J,
Jacobs C, Volbrecht T
& **Winberg C**
Working for a degree: work-
integrated learning in the HEQF
Higher Education Learning and
Teaching Association of
Southern Africa (HELTASA) and

South African Association for
Research and Development in
Higher Education (SAARDHE):
Higher Education as a Social
Space
Grahamstown
30 November – 3 December
2008



Fritz W

Programming the ILC 150ETH controller with the IEC3111 programming language
2nd EduNet Phoenix Contact Conference
Istanbul, Turkey
9 – 11 June 2008

Jacobs C

Methodological meditations on producing rich narrative data
Higher Education Close-up Conference (HECU4)
Cape Town
26 – 28 June 2008

Jacobs C

Teaching explicitly that which is tacit – the challenge of engineering discourses
7th American Society for Engineering Education (ASEE) Global Colloquium
Cape Town
19 – 23 October 2008

Jacobs C

Teaching explicitly that which is tacit – the challenge of disciplinary discourses
First Southern African Conference on the First-year Experience
Stellenbosch
8 – 10 September 2008

Konegerie A

Using webMathematica to assist in the teaching of first-year engineering mathematics
9th International Mathematica Symposium
Maastricht, the Netherlands
20 – 24 June 2008

Mbiya B

The two constant models for predicting pressure losses through diaphragm valves
Valve World 2008 Conference & Expo
Maastricht, the Netherlands
4 – 6 November 2008

Millar B & Bester M

Moving beyond constructive alignment towards significant learning
Higher Education Learning and Teaching Association of Southern Africa (HELTASA) and South African Association for Research and Development in Higher Education (SAARDHE): Higher Education as a Social Space
Grahamstown
30 November – 3 December 2008

Ntwampe SKO & Sheldon MS

Limitations of the membrane gradostat reactor (MGR) designed for continuous lignin and manganese peroxidase production from biofilms of *Phanerochaete chrysosporium*
International Water Association (IWA) Biofilm Technologies Conference
Singapore
8 – 10 January 2008

Oliver G

An effective local anisotropy approach to include the effect of grain boundaries in metal plasticity
26th Solid Mechanics Conference 2008

Gdansk, Poland
9 – 12 September 2008

Sun B

Uncooled infrared imaging micro-cantilever pixel bi-material structure with optical readout
ICCE-16 Symposium on Composites and Micromechanics
Kunming, China
20 – 26 July 2008

Tshombe LM, Uken E & Ferreira I

Mechanisms to prevent corruption and to promote good governance in the Democratic Republic of Congo
International Association of Schools and Institutes of Administration (IASIA) Annual Conference: Enhancing Efficiency, Effectiveness and Equity in Public Service Delivery: Challenges, Opportunities and Good Practices
Kampala, Uganda
14 – 18 July 2008

Van der Walt E & Jacobs M

Student awareness of learning and non-academic risk factors which may impinge on the ability to learn
Higher Education Close-up Conference (HECU4 Conference)
Cape Town
26 – 28 June 2008

Conference posters

Amakali S & Tzoneva R

Development of models for short-term load forecasting using artificial neural networks
CPUT Celebrating Research Day
Bellville
28 November 2008

Bangani J & Van Zyl RR

Investigation into adaptive antenna array techniques for an indoor WLAN environment
CPUT Celebrating Research Day
Bellville
28 November 2008

Bester M

Managing assessment practices in an academic department to enhance student success
Higher Education Teaching and Learning Association of Southern Africa (HELTASA) Conference
Bloemfontein
18 – 21 November 2007

Bikitsha L & Haupt TC

The preliminary study on the impact of prefabrication and pre-assembly on construction health and safety in South Africa
CPUT Celebrating Research Day
Bellville
28 November 2008

Bopape P & Khan Z

Public policy impacting the growth of the small, medium and micro enterprises sector within the construction industry
CPUT Celebrating Research Day
Bellville
28 November 2008

Bresler R

The development of an optimised impedance-matching antenna system to increase power transfer in mobile near-field communications devices
CPUT Celebrating Research Day
Bellville
28 November 2008

Chhiba M, **Fester VG, Haldenwang R & Slatter PT**
Measurement of velocity profiles in diaphragm valves
Mineral Processing 2008
Cape Town
7 – 8 August 2008

Dauids V, Van Zyl RR & Lehmensiek R

Implementation of a wideband microstrip phased array antenna for H-band radar applications
CPUT Celebrating Research Day
Bellville
28 November 2008

De Villiers DJ, Kaplan S & Wilkinson RH

Hybrid energy harvesting system for a condition-monitoring mote
CPUT Celebrating Research Day
Bellville
28 November 2008

Fisher A & Haupt TC

Enterprise development in the construction industry
CPUT Celebrating Research Day
Bellville
28 November 2008

Francis SA & Van Zyl RR

Optimisation of doping profiles for mm-wave Gunn diodes
CPUT Celebrating Research Day
Bellville
28 November 2008

Fritz W

The ILC 150ETH programmable logic controller starter kit
Remote Engineering and Virtual Instrumentation Conference
Düsseldorf, Germany
23 – 25 June 2008

Han Y & Tzoneva R

Development of nonlinear reconfigurable control of reconfigurable plants using the FPGA technology
CPUT Celebrating Research Day
Bellville
28 November 2008

Kabengele K, Sutherland A & Slatter P

Evaluation of the two-layer model for laminar flow of settling slurries in pipes
CPUT Celebrating Research Day
Bellville
28 November 2008

Kabwe AM, Fester VG & Slatter PT

Non-Newtonian loss coefficients for Saunders diaphragm valves
CPUT Celebrating Research Day
Bellville
28 November 2008

Khan Z

The need for community participation in construction



development projects
CPUT Celebrating Research Day
Bellville
28 November 2008

Kujane P & Tzoneva R
Investigation and development
of methods for optimal control
of the activated sludge process
CPUT Celebrating Research Day
Bellville
28 November 2008

**Kunene TJ, Kilfoil M
& Fester V**
Determination of the head loss
coefficient of closely spaced
pipe bends
CPUT Celebrating Research Day
Bellville
28 November 2008

Muga J & Tzoneva R
Investigation of the application
of neural networks for
identification modelling and
control of nonlinear systems
CPUT Celebrating Research Day
Bellville
28 November 2008

**Nabongo SS & Van Zyl RR
(second prize in student
category)**
Design of an anechoic chamber
for high-frequency
measurements
CPUT Celebrating Research Day
Bellville
28 November 2008

Ndihokubwayo R & Haupt T
An increased cost adjustment
formula for an optimum cost
escalation recovery for
construction projects in South

Africa
CPUT Celebrating Research Day
Bellville
28 November 2008

Nduku N & Tzoneva R
Development of methods for
distribution network power
quality variations monitoring
CPUT Celebrating Research Day
Bellville
28 November 2008

Nketoane PA & Tzoneva R
Design and implementation of
nonlinear controller in PLC as a
part of an adroit SCADA system
for optimal adaptive control of
the activated sludge process
CPUT Celebrating Research Day
Bellville
28 November 2008

Nompunga S
An analysis of the theory behind
the teaching, learning and
assessment materials in
engineering of South African
higher education
CPUT Celebrating Research Day
Bellville
28 November 2008

**Ntwampe SKO, Williams CC
& Sheldon MS**
Influence of perfluorocarbons
on *Phanerochaete*
chrysosporium biomass
development, substrate
consumption and enzyme
production
Cape Biotechnology Forum
Somerset West
1 – 2 December 2008

Oladele SK & Oliver G
Metals and alloys
nanostructured by severe plastic
deformation
CPUT Celebrating Research Day
Bellville
28 November 2008

Raji AK & Kahn MTE
Global warming threats and
power electronic-based energy
technology
CPUT Celebrating Research Day
Bellville
28 November 2008

**Sheldon MS, Mohammed K
& Ntwampe SKO**
An investigation of biphasic
growth kinetics for
Phanerochaete chrysosporium
(BKMF 1767) immobilised in a
membrane gradostat reactor
using flow-cells
International Water Association
(IWA) Biofilm Technologies
Conference
Singapore
8 – 10 January 2008

**Slisani MP, Philander O,
Oliver G & Msomi V**
Determining the mechanical
properties of e-glass/epoxy-
reinforced composite laminate
CPUT Celebrating Research Day
Bellville
28 November 2008

**Steenkamp L Du T,
Wilkinson RH & Kaplan S**
Evaluation of 6LoWPAN-based
wireless sensor networks
CPUT Celebrating Research Day
Bellville
28 November 2008

Van Niekerk A & Khan Z

The feasibility and sustainability of materials used for underground fuel tanks at service stations
CPUT Celebrating Research Day
Bellville
28 November 2008

Wanyama W, Jansen E & Van Zyl RR

Implementation of a cost-effective broadband communication link for regional video conferencing
CPUT Celebrating Research Day
Bellville
28 November 2008

Wu J & Tzoneva T

Development of an agent-based middleware for coordination of the real-time control functions in complex industrial systems
CPUT Celebrating Research Day
Bellville
28 November 2008

Conference proceedings

Adonis M & Kahn MTE

Software-based energy management system for an infrared dryer
Beute N et al. (eds)
Proceedings of the 5th Conference on the Industrial and Commercial Use of Energy, Cape Town, 28 – 29 May 2008
Cape Town: CPUT, 2008, pp 39 – 42
ISBN 0-9584901-9-8

Agumba NJ & Haupt TC

Perceptions of construction health and safety performance improvement enablers
Third Built Environment Conference, Cape Town, 6 – 8 July 2008
Bellville: Association of Schools of Construction of Southern Africa, 2008, pp 184 – 200
CD-Rom
ISBN 978-0-620-41382-4

Cain VC & Knutsen RD

Influence of grain size and niobium content on the creep resistance of type 441 ferritic stainless steel
Aveling TAS, Theron J, Wesley-Smith J & Sew BT (eds)
46th Conference of the

Microscopy Society of Southern Africa, Gaborone, Botswana, 21 – 25 July 2008
Onderstepoort: Microscopy Society of Southern Africa, 2008, 10 pp CD-Rom (Volume 38)
ISBN 0-620-35056-3

Chileshe N & Haupt TC

An index method for measurement of knowledge awareness of construction industry outputs: gender perceptions
Nielsen Y (ed.)
Proceedings of the 5th International Conference on Innovation in Architecture, Engineering and Construction, Antalya, Turkey, 23 – 25 June 2008
Ankara: Middle East Technical University Press, 2008, 14 pp CD-Rom
ISBN 978-605-60140-0-0

De Villiers DJ, Kaplan S & Wilkinson RH

Energy harvesting for a condition-monitoring mote
Proceedings IECON 2008: The 34th Annual Conference of the IEEE Industrial Electronics

Society (IECON 2008), Orlando, FL, 10 – 13 November 2008
s.l.: IEEE, 2008, pp 2161 – 2166
ISBN 978-1-4244-1766-7

Eppenberger M & Haupt TC

South African construction sites – are high-risk construction activities receiving the priority they deserve?
Hinze J, Bohnert S & Lew J (eds)
Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
Gainesville, FL: CIB, 2008, pp 559 – 570
ISBN 978-0-9790854-1-3

Eppenberger M & Haupt TC

The older construction worker – types of injuries and their causes
Third Built Environment Conference, Cape Town, 6 – 8 July 2008
Bellville: Association of Schools of Construction of Southern Africa, 2008, pp 215 – 218
CD-Rom
ISBN 978-0-620-41382-4



Esbach J

How academics in an engineering faculty at a newly formed university of technology perceive entrepreneurship
Gillin LM (ed.)
4th AGSE International Entrepreneurship Research Exchange 2007, Brisbane, Australia, 6 – 9 February 2007
Melbourne: Australian Graduate School of Entrepreneurship, Swinburne University of Technology, 2007, pp 579 – 587
ISBN 978-0-98033280

Fester FC & Haupt T

Capstone courses as the vehicle to employability improvement of construction graduates
Haigh R & Amaratunga D (eds)
Building Resilience: CIB W89 International Conference on Building Education and Research, in conjunction with CIB W113, CIB TG53, CIB TG63, CIB TG67, CIB TG68 and CIB TG69, Heritance Kandalama, Sri Lanka, 11 – 15 February 2008:
Conference Proceedings
Salford, UK: School of the Built Environment, University of Salford, 2008, pp 1879 – 1891
ISBN 978-1-905732-36-4

Fester V, Chhiba M, Kotze R, Haldenwang R & Slatter P

Measurements of velocity profiles of slurries in complex geometries
Sobota J, Ivanov S & Alexandrov V (eds)
14th International Conference on Transport & Sedimentation

of Solid Particles
Saint Petersburg, Russia, 23 – 27 June 2008
Saint Petersburg: Saint Petersburg State Mining Institute, 2008, pp 93 – 103
ISBN 078-94211-350-7

Fester V, Slatter P, Biggs S & Kale G

Significance of alcohols in the synthesis of iron oxide nanorods
Muir A (ed.)
Papers Presented at Green Chemistry & Engineering International Conference on Process Intensification & Nanotechnology, Albany, NY, 15 – 18 September 2008
Cranfield, Bedfordshire, UK: BHR Group, 2008, pp 231 – 236
ISBN 978-1-85598-101-0

Fester VG, Slatter PT,

Vadipalli VRK & Petrik L
Use of fly ash to treat acid mine drainage before use in backfill operations
Fourie A, Jewell R, Slatter PT & Paterson A (eds)
Paste 2008: 11th International Seminar on Paste and Thickened Tailings
Kasane, Botswana, 5 – 9 May 2008
Nedlands, Australia: Australian Centre for Geomechanics, 2008, pp 285 – 296
ISBN 978-0-9804185-4-5

Haldenwang R, Slatter P

& Chhabra R
Laminar sheet flow of paste materials
Fourie A, Jewell R, Slatter PT & Paterson A (eds)

Paste 2008: 11th International Seminar on Paste and Thickened Tailings
Kasane, Botswana, 5 – 9 May 2008
Nedlands, Australia: Australian Centre for Geomechanics, 2008, pp 237 – 244
ISBN 978-0-9804185-4-5

Haldenwang R, Slatter P

& Chhabra R
Open channel flow: the other paradigm
Sobota J, Ivanov S & Alexandrov V (eds)
14th International Conference on Transport & Sedimentation of Solid Particles
Saint Petersburg, Russia, 23 – 27 June 2008
Saint Petersburg: Saint Petersburg State Mining Institute, 2008, pp 280 – 286
ISBN 078-94211-350-7

Harris A, Kilfoil M & Uken E-A

Options for residential water heating
Beute N et al. (eds)
Proceedings of the Sixteenth Conference on the Domestic Use of Energy, Cape Town, 18 – 19 March 2008
Cape Town: CPUT, 2008, pp 141 – 148
ISBN 0-9584901-8-X

Hartman A, Dorée A & Martin L

A role-play approach for teaching research methodology in construction management
Dainty A (ed.)
ARCOM (Association of Researchers in Construction

Management). Twenty-fourth Annual Conference, Cardiff, Wales, 1 – 3 September 2008
Reading: ARCOM: School of Construction Management and Engineering, University of Reading, pp 933 – 942, 2008 (Volume 2). CD-Rom
ISBN 0-9552390-1-X

Haupt T & Chileshe N
Antecedents to training and training practices: key findings from the South African construction industry
Haigh R & Amaratunga D (eds)
Building Resilience: CIB W89 International Conference on Building Education and Research, in conjunction with CIB W113, CIB TG53, CIB TG63, CIB TG67, CIB TG68 and CIB TG69, Heritage Kandalama, Sri Lanka, 11 – 15 February 2008: Conference Proceedings
Salford, UK: School of the Built Environment, University of Salford, 2008, pp 420 – 433
ISBN 978-1-905732-36-4

Jacobs M
The transition from arithmetic to algebra: results from an entry-level tertiary course
Boshoff HH, Govender VG & Heymans L (eds)
Proceedings of the 14th Annual Congress of the Association for Mathematical Education of South Africa (AMESA): "Mathematics: A Universal Language", Port Elizabeth, 30 June – 4 July 2008
Johannesburg: AMESA, 2008, pp 226 – 236 (Volume 1)
ISBN 978-0-620-41068-7

Labuschagne A, Van Rensburg NFJ & **Van der Merwe AJ**
Solvability of a hybrid model for a vertical slender structure
Simos TE, Psihoyios G & Tsitouras C (eds)
Numerical Analysis and Applied Mathematics: International Conference on Numerical Analysis and Applied Mathematics, Corfu, Greece, 16 – 20 September 2007
Melville, NY: American Institute of Physics, 2007, pp 328 – 331
ISBN 978-0-7354-0447-2

Lewandowska M, Wejrzanowski T, **Oliver GJ** & Kurzydowski KJ
Mechanical properties of nanostructural metals
Reddy BD (ed.)
Proceedings of the Sixth South African Conference on Computational and Applied Mechanics (SACAM 2008), Cape Town, 26 – 28 March 2008
Cape Town: South African Association for Theoretical and Applied Mechanics, 2008, pp 202 – 209 CD-Rom
ISBN 978-0-620-43166-8

Manuel G & Khan MTE
Design of an induction heating domestic water heater system
Beute N et al. (eds)
Proceedings of the 5th Conference on the Industrial and Commercial Use of Energy, Cape Town, 28 – 29 May 2008
Cape Town: CPUT, 2008, pp 43 – 47
ISBN 0-9584901-9-8

Marais D & Martin L
Delay analysis and its potential to reduce situations resulting in claims and losses
Verster JJP & Marx HJ (eds)
5th Postgraduate Conference on Construction Industry Development: Abstracts & Proceedings, Bloemfontein, 16 – 18 March 2008
Pretoria: The Construction Industry Development Board, 2008. 9pp CD-Rom
ISBN 0-86886-758-6

Martin L & Root D
Empowerment in South Africa and the education aspect of the BASHO
ARCOM (Association of Researchers in Construction Management). Twenty-fourth Annual Conference, Cardiff, Wales, 1 – 3 September 2008
Reading: ARCOM: School of Construction Management and Engineering, University of Reading, pp 953 – 962, 2008 (Volume 2). CD-Rom
ISBN 0-9552390-1-X

Masalova I
Rheology of explosive emulsions – viscosity, elasticity, time effects, transportation
Sobota J, Ivanov S & Alexandrov V (eds)
14th International Conference on Transport & Sedimentation of Solid Particles
Saint Petersburg, Russia, 23 – 27 June 2008
Saint Petersburg: Saint Petersburg State Mining Institute, 2008, pp 194 – 203
ISBN 078-94211-350-7



Mbonde NEIS & Oliver GJ

Heat and mass transfer in gas metal arc welding including the effects of joule heating, electron condensation, cohesive and magnetic forces

Reddy BD (ed.)

Proceedings of the Sixth South African Conference on Computational and Applied Mechanics (SACAM 2008), Cape Town,

26 – 28 March 2008

Cape Town: South African Association for Theoretical and Applied Mechanics, 2008, pp 248 – 256 CD-Rom ISBN 978-0-620-43166-8

Musonda I & Haupt TC

Client attitude to health and safety – a report on contractors' perceptions

Hinze J, Bohner S & Lew J (eds) Proceedings of CIB W99

International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008

Gainesville, FL: CIB, 2008, pp 70 – 80

ISBN 978-0-9790854-1-3

Nair T & Haupt TC

An exploratory investigation into the potential impact of prequalification on health and safety performance

Hinze J, Bohner S & Lew J (eds) Proceedings of CIB W99

International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction

Safety and Health, Gainesville, FL, 9 – 11 March 2008

Gainesville, FL: CIB, 2008, pp 81 – 90

ISBN 978-0-9790854-1-3

Ndihokubwayo R & Haupt TC

An increased cost adjustment (ICA ©) formula for optimum cost escalation recovery for construction projects in South Africa

Quantity Surveying Conference QS & 20/20 Vision Beyond 2010, Johannesburg,

9 – 10 October 2008

Halfway House: South African Council for the Quantity

Surveying Profession, 2008, pp 132 – 146 CD-Rom

ISBN 978-0-86886-7

Ndihokubwayo R & Haupt TC

Construction cost variability: does it really matter?

Nielsen Y (ed.)

Proceedings of the 5th International Conference on Innovation in Architecture, Engineering and Construction, Antalya, Turkey,

23 – 25 June 2008

Ankara: Middle East Technical University Press, 2008.

10 pp CD-Rom

ISBN 978-605-60140-0-0

Ndihokubwayo R & Haupt TC

Factors influencing the occurrence of variation orders and their impact on project performance

Quantity Surveying Conference QS & 20/20 Vision Beyond 2010, Johannesburg,

9 – 10 October 2008

Halfway House: South African Council for the Quantity

Surveying Profession, 2008, pp 120 – 131 CD-Rom

ISBN 978-0-86886-7

Ndihokubwayo R & Haupt TC

Introduction to an increased cost adjustment (ICA) formula Nielsen Y (ed.)

Proceedings of the 5th

International Conference on

Innovation in Architecture,

Engineering and Construction, Antalya, Turkey,

23 – 25 June 2008

Ankara: Middle East Technical University Press, 2008.

11 pp CD-Rom

ISBN 978-605-60140-0-0

Ndihokubwayo R & Haupt TC

Uncovering the origins of variation orders

Verster JJP & Marx HJ (eds)

5th Postgraduate Conference

on Construction Industry

Development: Abstracts &

Proceedings, Bloemfontein,

16 – 18 March 2008

Pretoria: The Construction

Industry Development Board,

2008. 9pp CD-Rom

ISBN 0-86886-758-6

Ndihokubwayo R & Haupt TC

Variation orders – construction industry stakeholders' views

Third Built Environment

Conference, Cape Town,

6 – 8 July 2008

Bellville: Association of Schools

of Construction of Southern

Africa, 2008, pp 101 – 112

CD-Rom

ISBN 978-0-620-41382-4

Omar I & Ziegler R

Offering environmental engineering as an open source distance learning course
 Van Brakel PA (ed.)
 WWW 2008: Proceedings of the 10th Annual Conference on World Wide Web Applications, Cape Town,
 3 – 5 September 2008
 Cape Town: CPUT, 2008,
 13 pp electronic
 ISBN 978-0-620-42642-8

Pillay K & Haupt TC

The cost of construction accidents: an exploratory study
 Hinze J, Bohner S & Lew J (eds)
 Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
 Gainesville, FL: CIB, 2008,
 pp 456 – 464
 ISBN 978-0-9790854-1-3

Pullum L, Chryss A, Graham L & Slatter P

A technique to obtain the underlying carrier fluid rheology from wide-size distribution suspensions using a small pipe viscometer
 Sobota J, Ivanov S & Alexandrov V (eds)
 14th International Conference on Transport & Sedimentation of Solid Particles
 Saint Petersburg, Russia, 23 – 27 June 2008
 Saint Petersburg: Saint Petersburg State Mining Institute, 2008, pp 255 – 262
 ISBN 078-94211-350-7

Salagae IM, Mouton H Du T & Wilkinson RH

Cell capacitor voltage balancing of 2-cell 3-phase multicell inverter
 Proceedings of the 17th South African Universities Power Engineering (SAUPEC) Conference, 2008, Durban,
 24 – 25 January 2008
 Durban: SAUPEC, 2008,
 pp 69 – 74
 ISBN 978-1-86840-6593

Seevaparsaid-Mansingh K & Haupt TC

Construction accident causation: an exploratory analysis
 Hinze J, Bohner S & Lew J (eds)
 Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
 Gainesville, FL: CIB, 2008,
 pp 465 - 482
 ISBN 978-0-9790854-1-3

Smallwood JJ & Haupt TC

Competencies required to manage construction health and safety
 Hinze J, Bohner S & Lew J (eds)
 Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
 Gainesville, FL: CIB, 2008,
 pp 227 – 238
 ISBN 978-0-9790854-1-3

Smallwood JJ & Haupt TC

Persons with disabilities: an underutilised construction resource
 Hinze J, Bohner S & Lew J (eds)
 Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
 Gainesville, FL: CIB, 2008,
 pp 703 – 717
 ISBN 978-0-9790854-1-3

Smallwood JJ & Haupt TC

Support work and formwork performance: built environment practitioners' perceptions
 Hinze J, Bohner S & Lew J (eds)
 Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction Safety and Health, Gainesville, FL, 9 – 11 March 2008
 Gainesville, FL: CIB, 2008,
 pp 157 – 170
 ISBN 978-0-9790854-1-3

Smith J, Stemmet WC & Atkinson-Hope G

Modelling and simulation of integrated HVAC and HVDC lines in a power system
 Proceedings of the 17th South African Universities Power Engineering (SAUPEC) Conference, 2008, Durban,
 24 – 25 January 2008
 Durban: SAUPEC, 2008,
 pp 109 – 114
 ISBN 978-1-86840-6593



Taberer MW**& Atkinson-Hope G**

Power usage in 4-wire networks having distorted waveforms
Beute N et al. (eds)
Proceedings of the 5th Conference on the Industrial and Commercial Use of Energy, Cape Town, 28 – 29 May 2008
Cape Town: CPUT, 2008, pp 149 – 153
ISBN 0-9584901-9-8

Teo EAI, **Haupt TC** & Feng Y
Construction health and safety performance in developing and developed countries: a parallel study in South Africa and Singapore

Hinze J, Bohner S & Lew J (eds)
Proceedings of CIB W99 International Conference, 14th Rinker International Conference: Evolution of and Directions in Construction

Safety and Health, Gainesville, FL, 9 – 11 March 2008
Gainesville, FL: CIB, 2008, pp 485 – 499
ISBN 978-0-9790854-1-3

Journal articles (DoE subsidised)**Adonis M & Kahn MTE**

Analysis of the efficacy of a simplified infrared energy management system
Journal of Energy in Southern Africa, 19(2):14-21, 2008

Bakker KA & Odendaal F

Managing heritage in a contested space: the case of Le Morne Cultural Landscape in Mauritius
South African Journal of Art History, 23(1):225-244, 2008

Beute N, Van Aswegen ES & Winberg C

Avoiding plagiarism in contexts of development and change
IEEE Transactions on Education, 51(2):201-205, 2008

Fester V, Mbiya B & Slatter P

Energy losses of non-Newtonian fluids in sudden pipe contractions

Chemical Engineering Journal, 145(1):57-63, 2008

Gorbatkina Y, Pavlovskii D, Ivanova-Mumjieva V
& **Masalova I**

The effect of heat treatment on the adhesion and rheological behavior of polysulfone
International Journal of Adhesion & Adhesives, 28:135-141, 2008

Ikhu-Omoregbe D & Bushi GM

Rheological characteristics of South African commercial sauces
International Journal of Food Science and Technology, 43:2230-2236, 2008

Jacobs C

Mainstreaming academic literacy teaching: implications for how academic development

understands its work in higher education
South African Journal of Higher Education, 21(7):870-881, 2007

Makinde OD

& Maserumule RL

Thermal criticality and entropy analysis for a variable viscosity Couette flow
Physica Scripta, 78:1-6, 2008

Makinde OD & Moitsheki RJ

On nonperturbative techniques for thermal radiation effect on natural convection past a vertical plate embedded in a saturated porous medium
Mathematical Problems in Engineering, 2008, 11 pp electronic.

Makinde OD & Ogulu A

The effect of thermal radiation on the heat and mass transfer flow of a variable viscosity fluid

past a vertical porous plate permeated by a transverse magnetic field
Chemical Engineering Communications, 195:1575-1584, 2008

Makinde OD & Sibanda P
Magnetohydrodynamic mixed-convective flow and heat and mass transfer past a vertical plate in a porous medium with constant wall suction
Journal of Heat Transfer: Transactions of the ASME, 130:112602-1 – 112602-8, 2008

Masalova I & Malkin AY
Master curves for elastic and plastic properties of highly concentrated emulsions
Colloid Journal, 70(3):327-336, 2008

Masalova I, Malkin AY & Foudazi R
Yield stress of emulsions and suspensions as measured in steady shearing and in oscillations
Applied Rheology, 18(4):44790-1 – 44790-8, 2008

Mtawa AN, Sun B & Gryzagoridis J
Effect of substrate to piezoceramic layer thickness ratio on the performance of a C-shape piezoelectric actuator
Sensors and Actuators A, 141:173-181, 2008

Ndihokubwayo R & Haupt T
Origin-cause matrix: a practical approach for identification of waste associated with variation orders
Acta Structilia, 15(2):126-142

Ntwampe SKO, Sheldon MS & Volschenk H
Limitation of a membrane gradostat bioreactor designed for enzyme production from biofilms of *Phanerochaete chrysosporium*
Water Science and Technology, 58(11):2259-2270, 2008

Ntwampe SKO, Sheldon MS & Volschenk H
Oxygen mass transfer for an immobilised biofilm of *Phanerochaete chrysosporium* in a membrane gradostat bioreactor
Brazilian Journal of Chemical Engineering, 25(4):649-664, 2008

Phoya S & Haupt T
Poverty alleviation of labour-based infrastructure delivery: the case of Dar es Salaam (Tanzania)
Acta Structilia, 15(1):72-90, 2008

Sheldon MS, Mohammed K & Ntwampe SKO
An investigation of biphasic growth kinetics for *Phanerochaete chrysosporium* (BKMF-1767) immobilised in a membrane gradostat reactor

using flow-cells
Enzyme and Microbial Technology, 32:353-361, 2008

Sowden M, Cairncross E, Wilson G, Zunckel M, Kirillova E, Reddy V & Hietkamp S
Developing a spatially and temporally resolved emission inventory for photochemical modeling in the city of Cape Town and assessing its uncertainty
Atmospheric Environment, 42(30):7155-7164, 2008

Sun B & Huang XMH
Mechanical nano-resonators at ultra-high frequency and their potential applications
South African Journal of Science, 104:169-171, 2008

Sun B, Zhang B & Kahn MT
Modeling and formulation of a novel microoptoelectromechanical gyroscope
Journal of Nanomaterials, 2008. 9pp electronic



Journal articles (not DoE subsidised)

Adonis M & Kahn MTE

Software-based energy management system for an infrared dryer
Energize – The Independent Power and Energy Journal of Southern Africa: 62-66, September 2008

Deyi S, Garraway J, Thole A, Morris E, Simon E & John J

Using personal development plans (PDP) to enhance learning at the university
Paradigms (15):17-23, 2008

Ferreira IW, Tshombe LM & Uken E

Mechanisms to prevent corruption and to promote good governance in the Democratic Republic of the Congo
Journal of Business and Management Dynamics, 2(1):111-121, 2008

Mouton S

Beyond the bush – the paradox of Zen
Kindred Spirit, (92):40-42, May/June 2008

Mouton S

Zen and the Masai Mara Odyssey: 36-39, October/November 2008

Sun B & Zhang R

Micromechanics of a thin film piezoelectric sensor
International Journal of Nanosystems, 1(1):89-98, 2008

Uken E

Research for power empowerment: the golden thread or binding force across all disciplines is “energy”
Energy: 98-99, August 2008

Technical report

Smallwood J, Haupt T & Shakantu W
Construction Health & Safety in South Africa
Pretoria: CIDB, 2008

Postgraduate degrees conferred

DTech: Chemical Engineering

Sheldon MS

Modelling and scale-up of a membrane gradostat bioreactor
Supervisors: Prof E Cairncross & Dr H Volschenk

DTech: Civil Engineering

Mbiya BM

Predicting pressure losses in straight-through diaphragm valves
Supervisors: Dr VG Fester & Prof PT Slatter

MTech: Chemical Engineering

Deist HE (cum laude)

A dynamic CIP/CIL process

simulation using MATLAB simulink

Supervisor: Mr W Coetzee

Kabwe AM

Non-Newtonian loss coefficients for Saunders diaphragm valves
Supervisors: Dr VG Fester & Prof P Slatter

Van den Bosch MM

Simulation of ion exchange processes using neuro-fuzzy reasoning
Supervisor: Mr W Coetzee

MTech: Construction Management

Eppenberger M (cum laude)

Older construction workers: a study of related injuries, underlying causes and estimated costs
Supervisor: Prof TC Haupt

Ndihokubwayo R (cum laude)

An analysis of the impact of variation orders on project performance
Supervisor: Prof TC Haupt

MTech: Electrical Engineering

Amakali S (cum laude)

Development of models for short-term load forecasting

using artificial neural networks
Supervisors: Prof R Tzoneva & Mr C Kriger

Han Y (cum laude)

Development of nonlinear reconfigurable control of reconfigurable plants using the FPGA technology
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Manuel G

Design of an induction heating domestic water heater system
Supervisor: Prof MTE Kahn

Motjolepane BP

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Raji AK

Modelling and development of fuel cell off grid power converter system
Supervisor: Prof MTE Kahn

MTech: Mechanical Engineering

Ayodele OL

Investigation of the mechanical properties and behaviour of hybrid polymer composites embedded with shape memory alloys
Supervisors: Prof O Philander & Dr S Mahoi

Oliveira JEDN (cum laude)

Deformation and damage analysis of composite beams under static and dynamic conditions by using PVDF film sensors
Supervisor: Prof B Sun

MTech: Quality

April MJ

Information and knowledge management as elements of intellectual capital and quality at Eskom Western Cape
Supervisors: Mr P McLaren & Prof JA Watkins

Arderne M

Developing and implementing an information communication technology model for the Holy Cross Sisters School
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Arderne RJ

An approach to the improvement of the registration process at a university of technology
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Harris M

Quality assurance in higher education: a managerial perspective at a university of technology
Supervisors: Mr A Bester &

Prof JA Watkins

Jaftha DV

South African National Accreditation System accreditation: a case study of a university of technology
Supervisors: Mr P McLaren & Prof JA Watkins

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Supervisors: Mr P McLaren & Prof JA Watkins

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Organisational transformation using total quality management and ISO 900 at an engineering company
Supervisors: Mr A Bester & Prof JA Watkins

Valentine LZ

Food certification audits: a case study in the Western Cape, South Africa
Supervisors: Mr A Bester & Prof JA Watkins

Weideman RV

Evaluation criteria for selected administrative and support systems in South African higher education institutions
Supervisor: Dr D Coetzee

Postgraduate degrees obtained by staff members

PhD: Chemical Engineering

University of Cape Town

Ojumu TV

The effects of solution conditions on the kinetics of microbial ferrous-iron oxidation by *Leptospirillum ferriphilum* in continuous culture

MSc: Materials Engineering

University of Cape Town

Cain VC

Influence of grain size and niobium content on the creep resistance of ferritic stainless steels

