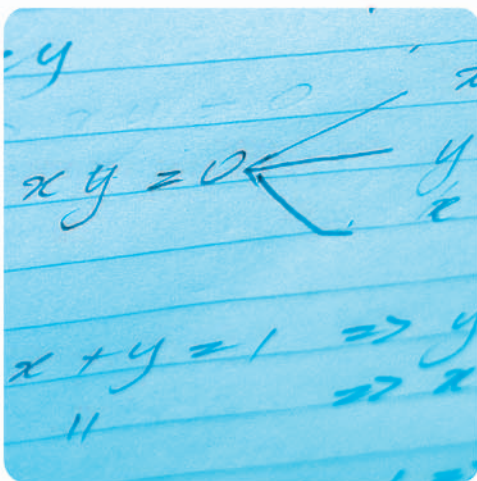


Faculty of Natural and Agricultural Sciences

Report 2008



Faculty of

**Natural and
Agricultural Sciences**

Report 2008

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Preface

From the Dean's Office

In 2008 the Faculty of Natural and Agricultural Sciences once again lived up to its vision to be acknowledged as a faculty that is at the forefront of the practice of natural and agricultural science where the highest levels of quality and credibility are reflected.

During the year the faculty not only remained one of the leaders in training and career development in the natural and agricultural sciences, but it also made a concerted effort to enlarge its international footprint and to establish itself internationally. This is evident in the visits of staff from the faculty to universities such as the USA-based University of Minnesota and Virginia Polytechnic Institute and State University (Virginia Tech) and the extension of international agreements between the University of the Free State (UFS) and these institutions. The faculty also had the privilege of hosting a high-level delegation from the University of Minnesota on the Main Campus in Bloemfontein in August 2008.

The turmoil in the international markets firstly led to very high oil prices, which spilt over to the grain markets and high food prices. This, in turn, led to high inflation levels and therefore high interest rates. Eventually the exchange rate also deteriorated against the major currencies. In the latter part of the year the whole situation was turned upside down with the collapse of the financial markets. The faculty did not escape this and the price of equipment for which orders were placed sky rocketed. Innovative skills had to be applied to remain on track with our equipment strategy.

Although 2008 was an exceptionally difficult year for the UFS and the institution had to bear the brunt of the Reitz video and the reaction of the national and international community, the faculty still managed to perform and expand its core business.

The faculty offers multi-disciplinary and holistic courses to send skilled and capable students into the South African workplace and to empower the labour force. Our general and extended programmes are continuously assessed and improved in order to improve our throughput rates and quality of teaching.

The staff at the faculty worked tirelessly this year to broaden our product offering and to provide our students with the best quality teaching in the country. I applaud their efforts of expanding capacity, developing programmes and strengthening re-



Prof. Herman van Schalkwyk.

lationships both within and outside the faculty and the university.

I also want to applaud the staff and students of the faculty with their achievements this year – whether it is on a personal level, in their capacity as staff member of their respective department/centre or for the faculty. To mention a few:

- Ms Estelle Heideman HIV/Aids coordinator of the Lengau Agricultural Development Centre, received a bursary to participate in a leadership programme in the United States of America (USA), which trains female leaders in South Africa who contribute to the prevention of HIV at a local, regional and national level;
- In the Department of Agricultural Economics, Prof. Johan Willemse, known for his contribution towards agriculture, was appointed on the non-executive board of Absa;

Staff in the dean's office



The staff working in the dean's office are, from the left, front: Ms Stefanie Naborn, Manager: Marketing and Liaison, Ms René Bloem, Secretary, Prof. Neil Heideman, Vice-Dean: Faculty of Natural and Agricultural Sciences; back: Mr Clasia Claassen, Assistant Administrative Officer, Mr Johan Kruger, Faculty Manager, Ms Lorinda Rust, Secretary, and Ms Mitzie Cloete, Typist/Clerical Assistant.

- Prof. James du Preez, Departmental Chair of the Department Microbial, Biochemical and Food Biotechnology, received the silver medal for exceptional published research awarded at the biennial conference of the South African Society for Microbiology hosted in Graham's Town. It was only the seventh time since 1986 that the medal was awarded;
- A study of the UFS about how the change in the packaging of DNA with cellular development is influenced by the expression of genes, in which Prof. Hugh Patterson played a leading role, was published in a leading peer-reviewed scientific journal *Proceeding of the National Academy of Sciences* of the USA (PNAS). The PNAS journal has an impact factor of 10, which means that studies published in this journal

are referred to by ten other scientific studies within the scope of two years;

- Prof. Riaan Luyt, professor in Chemistry and head of the Natural Sciences Programme at the Qwaqwa Campus, received an honorary medal from the Polymer Institute of the Slovak Academy of Sciences during a conference hosted in the High Tatras mountains of Slovakia;
- Prof. Maryke Labuschagne from the Department of Plant Sciences was the recipient of the National Science and Technology Forum's (NSTF) research capacity-development award. A team consisting of Prof. Jan van der Westhuizen and Dr Susan Bonnet from the Department of Chemistry, Prof. Kenneth Swart and Prof. Thinus van der Merwe from FARMOVS-PAREXEL also

received the innovation award for an outstanding contribution to science, engineering and technology by either an individual or a team over the last ten years from the NSTF;

- Prof. Maryke Labuschagne received a second prestigious national award for her research when the 2008 Cereal Science and Technology - SA's (CST-SA) Award for research and development was awarded to her; and
- Prof. Ivan Horak, extraordinary professor at the university's Department of Zoology and Entomology, became the third person in the history of the UFS to receive the D.Sc. degree.

In closing I would like to thank the faculty's lecturing staff for their support and enthusiasm during the past year. However, none of these achievements would have been possible without the interest and hard work of the administrative staff.

During 2008 we have all worked together to live up to the faculty's motto: "There is no substitute for excellence!" This report covers the activities of the faculty in 2008. It is a reflection of a year's commitment from a team of highly skilled academic and support staff.

Prof. Herman van Schalkwyk
Dean: Faculty of Natural and Agricultural Sciences
University of the Free State

Faculty news

Successful visit from delegation of the University of Minnesota

A senior delegation from the University of Minnesota in the United States of America (USA) paid a very successful visit to the University of the Free State (UFS) in May 2008 to explore ways of strengthening already existing ties between the two institutions.

Teacher training, capacity building in health sciences and student preparedness were among the areas of cooperation that were investigated, within the context of the Strategic Academic Cluster initiative of the UFS. Poverty reduction strategies were also a strong focus area.

The Faculty of Natural and Agricultural Sciences has had a cooperation agreement with the University of Minnesota's Department of Applied Economics since 2002 and the exchange of staff



During the visit are, from the left: Prof. Herman van Schalkwyk, Dean: Faculty of Natural and Agricultural Sciences at the UFS, Prof. Robert Jones, Senior Vice-President: System Academic Administration at the University of Minnesota, Dr Meredith Quiad, Associate Vice-President and Dean: International Programmes, University of Minnesota, Prof. Teuns Verschoor, Acting Rector of the UFS and Prof. Ezekiel Moraka, Vice-Rector: Student Affairs at the UFS.

has been taking place on a regular basis. This agreement will be expanded and both institutions are now exploring the possibility of

applying it across faculties. Both institutions have committed seed funding to formalise the cooperation agreement.

50 years of Agriculture celebrated



The faculty celebrated 50 years of the teaching of agriculture at the UFS in November 2008. Part of the celebrations was a seminar with the theme "Challenges in a changing agricultural environment". Some of the guest speakers are, from the left: Mr Corwyn Botha, Chairman: Agri Business Chamber and Managing Director of the Cape Agri Group, Mr Motsepe Matlala, President of NAFU, Mr Hans van der Merwe, Executive Head: Agri SA, Prof. Herman van Schalkwyk: Dean: Faculty of Natural and Agricultural Sciences at the UFS, and Mr Sugar Ramakarane, Head: Department of Agriculture, Free State Province.

Winners of NSTF awards assist with recruitment of students



Here are, from the left: Dr Martin Ntwaeaborwa, senior lecturer at the Department of Physics and finalist in the category for black researchers, Prof. Kenneth Swart, FARMOVS-PAREXEL, Prof. Maryke Labuschagne, head of Plant Breeding at the UFS's Department of Plant Sciences and female recipient of the award for the development of research capacity over the past five to ten years, and Prof. Jan van der Westhuizen, Department of Chemistry at the UFS; front: Ms Kedibone Aphane, MRC. Prof. Swart and Prof. Van der Westhuizen were the leaders of the team who received the award for the development of innovation by a corporate organisation or institution.

Representatives of the South African Medical Research Council (MRC) visited the UFS to recruit students who want to study in the fields of sci-

ence, engineering and technology. To assist with the recruitment, the winners of awards made by the National Science and Technology Forum (NSTF) earlier this year,

made presentations to create an interest amongst students. The UFS had four finalists of whom two were the winners in their respective categories.

Young scientists learn what faculty can offer



Young science lovers gathered in Sasolburg for the annual Sasol TechnoX in August 2008. The faculty's exhibition captured the learners' attention through an interactive representation of the application fields of science. Delegates from the Departments of Mathematics and Applied Mathematics, Chemistry, Zoology and Entomology, as well as UFS Marketing stood ready to answer the questions of the 20 832 learners who attended the event. Pictured here is Theo Viljoen, M.Sc. student in Forensic Entomology, sharing interesting facts regarding insects with learners.

Two UFS academics appointed on the Land Bank Board



Prof. Herman van Schalkwyk (left), Dean: Faculty of Natural and Agricultural Sciences, and Mr Theo Potgieter from the UFS School of Management were appointed on the Land Bank Board in March 2008. Prof. van Schalkwyk was appointed as Director and Deputy Chairperson and Mr Potgieter as Director of the Board. The appointments were made by the Minister of Agriculture and Land Affairs, Ms Lulu Xingwana, and are effective for a period of four years.

UFS extends exchange agreement with USA university



Here are, from the left, front: Dr SK de Datta, Vice-Rector: International Affairs, VT, Prof. Herman van Schalkwyk, Dean of the Faculty of Natural and Agricultural Sciences, UFS, Dr Martin Ntwaeaborwa, senior lecturer at the Department of Physics, UFS; back: Prof. Jim McKenna, Department of Crop, Soil and Environmental Affairs, VT, Prof. Izak Groenewald, Director of the Centre for Sustainable Agriculture and Rural Development at the UFS and responsible for the faculty's international liaison, Dr Michael Bertelsen, VT's international office, Dr Aldo Stroebel, Head: Internationalisation at the UFS and Dr Liesel Herselman, senior lecturer at the Department of Plant Sciences, UFS.

A delegation from the faculty visited the Virginia Tech University (VT) in the USA in June 2008 to confirm and extend the existing student exchange agreements between the two institutions.

During the visit the agreement, which started in 1997, was extended for the next five years. More than 150 students from both institutions have already taken part in this exchange agreement and it is the most successful student exchange agreement that VT is involved in. Although agricultural students from the UFS initially took part in the agreement, it was extended to other departments in the faculty and also to the rest of the UFS.

Itjoriseng Project launched



The faculty launched the Itjoriseng Project on the Main Campus in Bloemfontein in March 2008. The aim of the project is to improve the skills of teachers in the subjects Mathematics and Physical Science for Grades 10–12. "Itjoriseng" is the Sotho word for "sharpen yourself". At the launch were, from the left: Mr Mzamo Jacobs, Director: Curriculum Development for Further Education and Training, Free State Department of Education, Mr Johan Kruger, Faculty Manager, Ms Elna Marais, Chief Education Specialist: Curriculum Development, Free State Department of Education, and Prof. Herman van Schalkwyk, Dean: Faculty of Natural and Agricultural Sciences at the UFS.

2007 Faculty report launched



The faculty once again produced another report in which the various departments and centres highlighted their activities for 2007. The report was so well received that a second edition had to be printed. Here are some of the departmental chairpersons during the launch of the report in June 2008.

Department of

Urban and Regional Planning

“The programme in Urban and Regional Planning has now been accredited for three years” - Prof. Das Steyn.



Prof. Das Steyn.

Overview

2008 has been a year of consolidation for the Department of Urban and Regional Planning. The new honours and master's programmes are working well, with the second group of graduates from the master's programme graduating this year. After a dip in enrolments, the number of students registering for the courses is increasing.

Accreditation of new programmes is always essential to ensure that graduates can register with the relevant professional associations.

Two inspections were held. One was by the Royal Town Planning Institute (RTPI) in 2007, one of the foremost institutes in the world,

and the other was the South African Council for Town and Regional Planners (SACPLAN) in 2008, responsible in terms of the town planning professions' legislation for the quality of South African planning education.

In November the evaluation committee of SACPLAN evaluated the department's programmes. The programmes were provisionally accepted, with a follow-up visit planned for 2010. This means that graduates from all programmes (old and new) may register as candidate planners and after submission of a practical training report, can become professional planners.

The University of the Free State's (UFS) programme in Urban and Regional Planning has now been accredited for three years.

The RTPI, on invitation of the UFS, visited the department on Friday, 12 October 2007 to undertake a preliminary inspection of the content and quality of the programme offered here (i.e. the Bachelors (Honours) in Spatial Planning and Master's in Urban and Regional Planning) and to benchmark it against the RTPI planning education standards and requirements. The intention was to determine whether the department could qualify for a comprehensive evaluation for RTPI accreditation. The RTPI secretariat gave oral feedback at the end of the visit indicating that "There is much to commend about the planning programmes and in theory the combination of the B. (Hons) and one year master's degree could represent a programme capable of seeking RTPI accreditation for chartered status."

The department had nine graduates with B. (Hons) in Spatial Planning, 14 master's students in Urban and Regional Planning and one with a Ph.D. degree.

Students from the department had several achievements. Mr JH Theron graduated with a doctorate. The topic of his thesis was *Lessons from the strategic management of integrated development planning in KwaZulu-Natal (KZN) from 1994 to 2006*. Not only was his thesis of a high standard, it was also particularly relevant. In

the words of one of the external examiners, "The thesis has been well conceptualized, carefully researched and documented. One of the particular values of this thesis is that it makes available a large and complex body of information about the way in which the KZN province managed the integrated development planning process at both provincial and municipal levels in a carefully documented and systematic form. It provides a concise, yet comprehensive summary of the recommendations for more effective strategic management of integrated development planning in KZN. These recommendations are equally applicable

for other provinces or developing countries."

Mr Andile Mshumpela received an award for the best housing student from the South African Housing Federation.

Dr Marlène Campbell was part of a multi-disciplinary research team of the UFS and the CSIR Built Environment appointed by Trans African Concessions (Pty) Ltd (TRAC) to undertake a socio-economic impact study on the Maputo Development Corridor (MDC) along the N4 toll route. Their initial findings indicate that there has indeed been an increase in income levels along the route. ■



From the left are: Prof. Das Steyn, Departmental Chairperson, Ms Dienie Steenkamp from the department, Sir Peter Hall, one of the foremost theorists in planning and Mr Rodney Swart, former student at the department during Sir Peter's visit to South Africa.



Mr Piet Potgieter (left), lecturer in the department and Mr Brian Campbell, honors student in Spatial Planning.

Staff

Professor: Prof. Das Steyn

Senior Lecturer: Dr Marlène Campbell

Lecturers: Mr Pieter Potgieter, Ms Lize Barclay

Part-Time Lecturers: Prof. Wynand Senekal, Mr Neil Devenish

Senior Professional Officer: Ms Dienie Steenkamp

Typist/Clerk: Ms Riana Hugo

Assistant Officer: Ms Antoinette Nel

Research outputs

Research articles

Campbell, M.M. & Phago, K.G. 2008. The impact of major sporting events on the economy and the people of a developing region: The case of the 2010 World Cup Soccer Tournament. *Africa Insight* 38(3): 26-34.

Campbell, M.M., De Kock, J. & Van der Westhuizen, T. 2008. Secure tenure for the urban poor: Lessons from a community-based land-tenure approach in Windhoek, Namibia. *Town and Regional Planning* 52: 45-54.

Reports

Campbell, M.M. 2008. *The viability of a corridor development along the R30 Route between Welkom and Bloemfontein in terms of the Provincial Spatial Development Framework of the Free State*. Research Report No. 32 to the Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa.

Potgieter, P.J. & Steyn, J.J. 2008. *Bloemfontein CBD Masterplan Project T1: Demarcation of Study*

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Students on tour to Gauteng.

Area. Research Report No. 33 to the Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa.

Potgieter, P.J. & Steyn, J.J. 2008. *Bloemfontein CBD Masterplan Project T2: Literature review report*. Research Report No. 34 to the Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa.

Potgieter, P.J. & Steyn, J.J. 2008. *Bloemfontein CBD Masterplan Project T3: Land-use Survey*. Research Report No. 35 to the Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa.

Potgieter, P.J. & Steyn, J.J. 2008. *Bloemfontein CBD Masterplan Project T4: Comprehensive CBD land-use plan*. Research Report No. 36 to the

Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa.

Conference contributions

Campbell, M.M. 2008. *Informal settlements and tenure options: Freehold or leasehold?* Paper presented at the 3rd Conference of the South African Planning Institute (SAPI) - Planning Africa: Shaping the Future, Sandton Convention Centre, Johannesburg, South Africa. 13-16 April.

Campbell, M.M. 2008. *The impact of transport corridors in promoting development: The position of Welkom*. Paper presented at the Conference on Planning and Development Perspectives of Mining Towns in South Africa, North-West University, Potchefstroom, South Africa. 18 June.

Campbell, M.M. 2008. *The viability of corridor development between Bloemfontein and Welkom*. Paper presented at the 5th Post Graduate Conference on Construction Industry Development (CIDB), University of the Free State, Bloemfontein, South Africa. 16-18 March.

Campbell, M.M. & Mshumpela, A.S. 2008. *The people's housing process: The case of the Amathole District Municipality*. Paper presented at the 44th International Society of City and Regional Planners (ISOCARP) Conference, Urban Growth without Sprawl: A Way Towards Sustainable Urbanization, Dalian, China. 19-23 September.

Campbell, M.M. & Mshumpela, A.S. 2008. *The peoples housing process: A viable option for quality low cost housing*. Paper presented at the Southern African Housing Foundation (SAHF) Conference and Exhibition: Developing Communities, Cape Town, South Africa. 12-15 October.

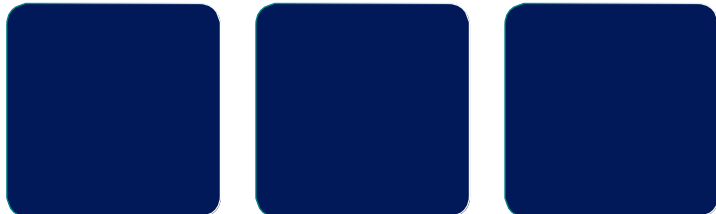
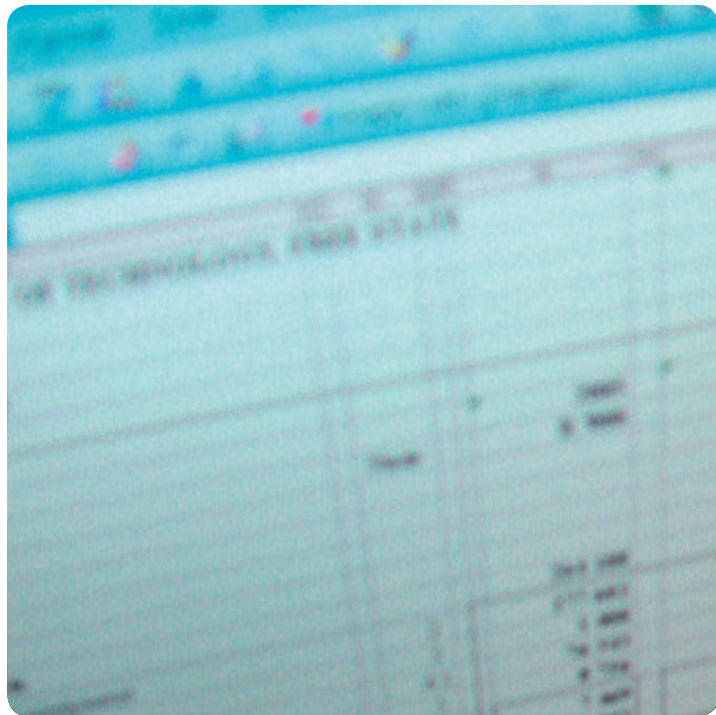
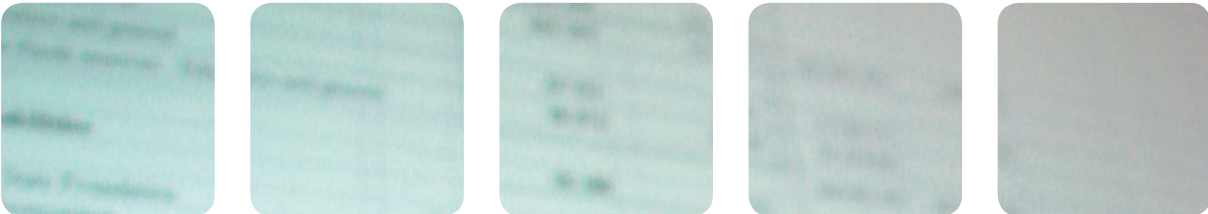
Potgieter, P.J. 2008. *Control in the Bloemfontein inner city renewal plan: How the planner lost against power*. Paper presented at the 3rd Conference of the South African Planning Institute (SAPI) - Planning Africa: Shaping the Future, Sandton Convention Centre, Johannesburg, South Africa. 13-16 April.

Steyn, D. & Stapelberg, H. 2008. *Planning and planning education in the Free State, South Africa*. Paper presented at the Inaugural Meeting of the Association of African Planning Schools (AASP), Cape Town, South Africa. 13-15 October.

Steyn, J.J. 2008. *The process of testing community's acceptability of high quality earth constructed building methods as a means to support local economic development*. Paper presented at the 5th Post Graduate Conference on Construction Industry Development (CIDB), University of the Free State, Bloemfontein, South Africa. 16-18 March.



Statistical data

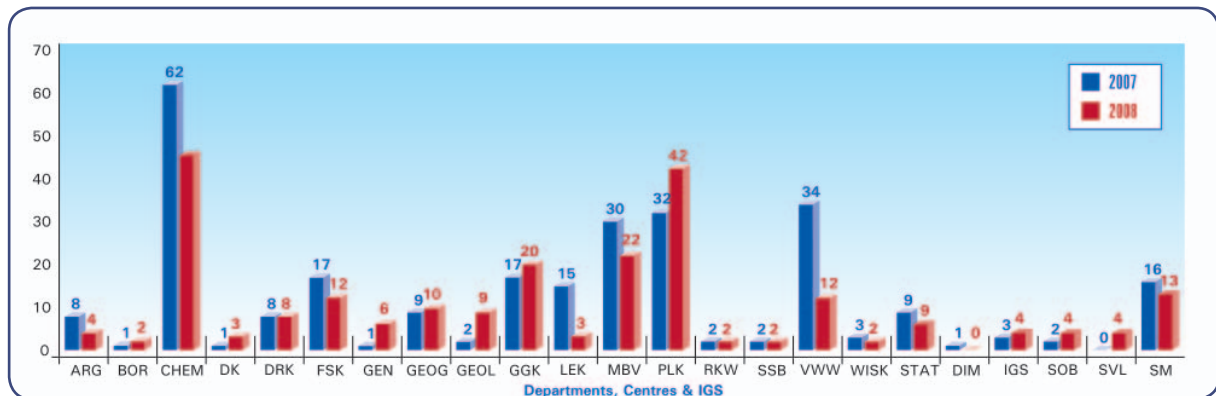


Research outputs: 2007-2008

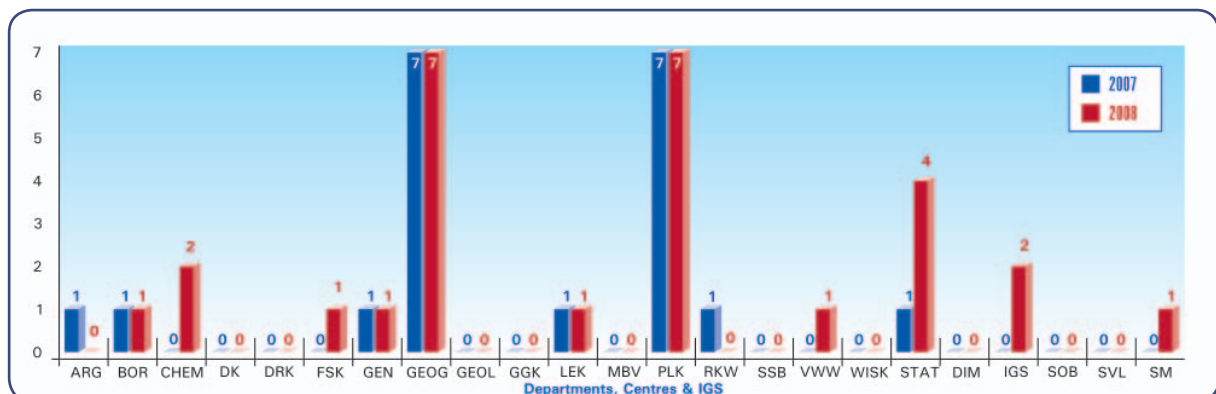
List of abbreviations

Abbreviation	Name	Abbreviation	Name
ARG	Department of Architecture	GGK	Department of Soil, Crop and Climate Sciences
BOR	Department of Quantity Surveying and Construction Management	IGS	Institute for Groundwater Studies
SOB	Centre for Environmental Management	LEK	Department of Agricultural Economics
CEM	Department of Chemistry	MBV	Department of Microbial, Biochemical and Food Biotechnology
SM	Centre for Microscopy	PLK	Department of Plant Sciences
SVL	Centre for Sustainable Agriculture and Rural Development	RKW	Department of Computer Science and Informatics
DK	Dean's Office	SSB	Department of Urban and Regional Planning
DRK	Department of Zoology and Entomology	SRB	Disaster Management Training and Education Centre for Africa (DIMTEC)
FSK	Department of Physics	VWW	Department of Animal, Wildlife and Grassland Sciences
GEN	Department of Genetics	STAT	Department of Mathematical Statistics and Actuarial Science
GEOG	Department of Geography	WISK	Department of Mathematics and Applied Mathematics
GEOL	Department of Geology		

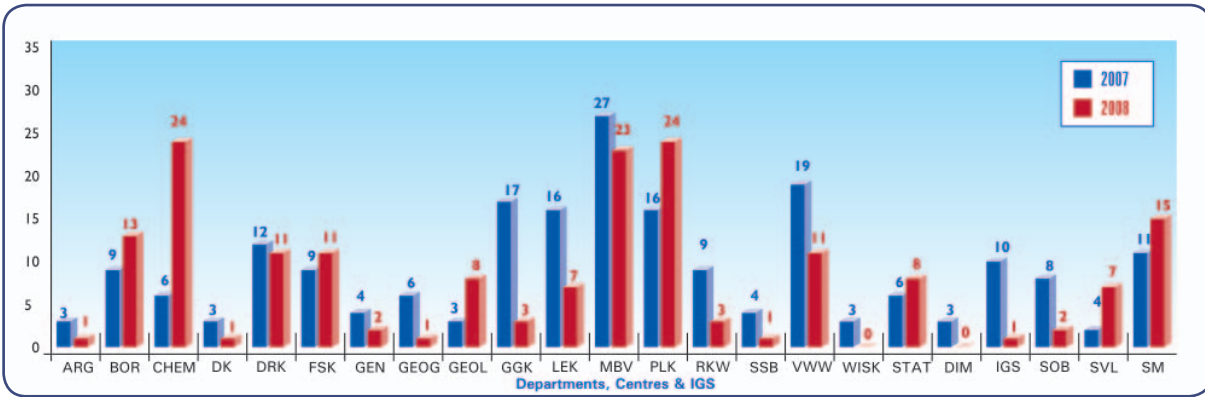
Accredited articles



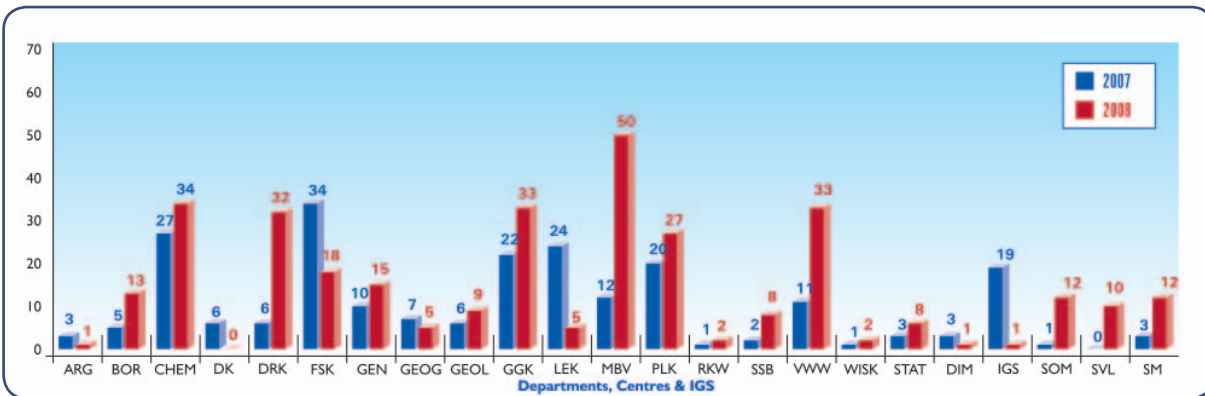
Books



International conferences



Local conferences



Student figures: 2007-2008

Student figures

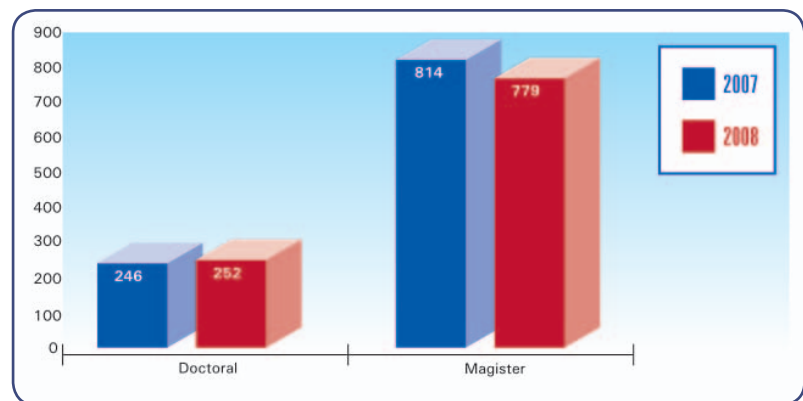
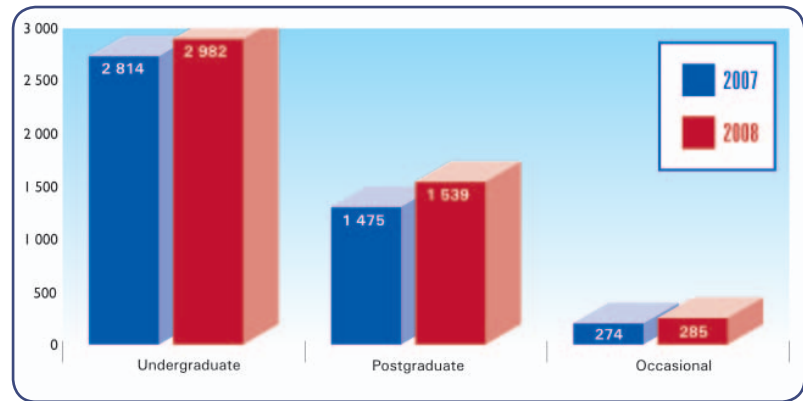
Year	Description	Black	Coloured	Asian	White	Total
2007	Undergraduate	1492	66	38	1218	2814
	Postgraduate	710	41	40	684	1475
	Occasional	230	6	2	36	274
*TOTAL		2432	113	80	1938	4563
2008	Undergraduate	1667	51	37	1227	2982
	Postgraduate	755	40	43	701	1539
	Occasional	260	5	1	19	285
* TOTAL		2682	96	81	1947	4806

International students

Nationality	Year	Year
	2007	*2008
Angola	2	0
Asian countries	20	24
Botswana	17	23
Democratic Republic of the Congo	0	1
European countries	9	10
Lesotho	118	144
Malawi	3	5
Mauritius	2	3
Mozambique	4	7
Namibia	54	65
North America	15	5
Other African countries	47	69
South America	1	0
Swaziland	5	6
Zambia	7	7
Zimbabwe	48	60
Total	352	429

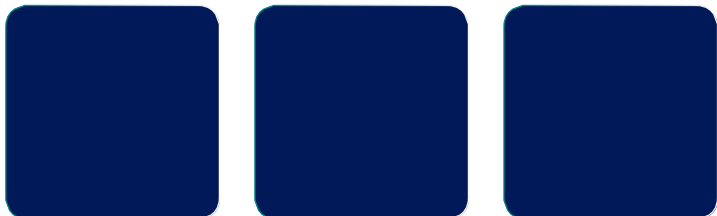
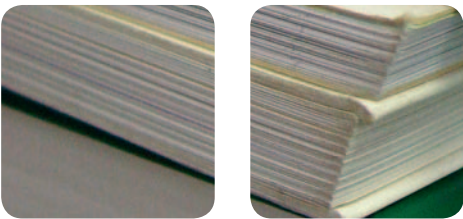
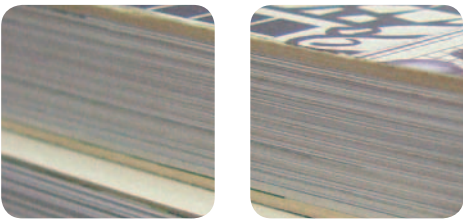
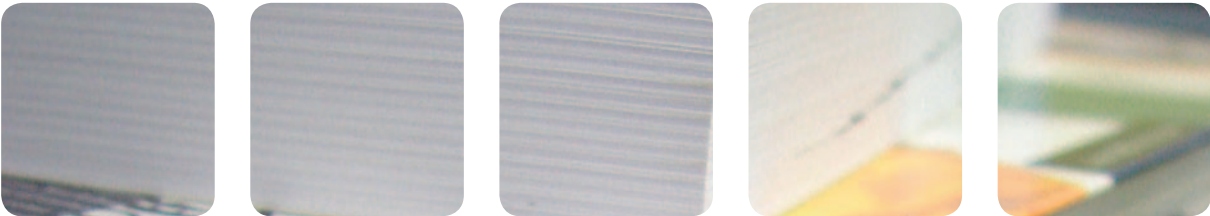
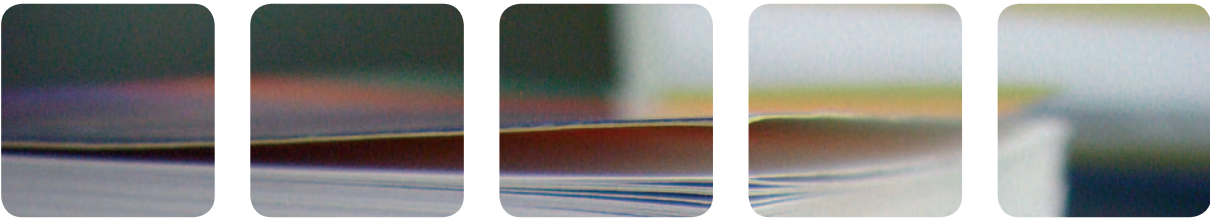
*2008 Final HEMIS figures not available

Comparison for the Faculty of Natural and Agricultural Sciences





Glossary



Glossary

A

AACC -	American Association for Cereal Chemists
AACE -	Association for the Advancement of Cost Engineering
ADF -	Amsterdam Density Functional Programme
ADG -	Average Daily Grain
AEASA -	Agricultural Economics Association of South Africa
AEON -	the African Earth Observation Network
AGU -	American Geophysical Union
AI -	Artificial Insemination
ARC -	Agricultural Research Council
ARV -	Antiretroviral
ASC -	Architecture Student Conference
ASAQS -	Association of South African Quantity Surveyors
ASOCSA -	Association of Schools of Construction of Southern Africa

B

BBSRC -	Biotechnology and Biological Sciences Research Council
BMBF -	Federal Ministry of Education and Research, Germany

C

CAA -	Commonwealth Association of Architects
CANSA -	Cancer Association of South Africa
CAB -	Centro de Astrobiología
CED -	Centre for Education Development
CePHMa -	Centre for Plant Health Management
CHESD -	Centre for Higher Education Studies and Development
CHPC -	Centre for High Performance Computing
CIDB -	Construction Industry Development Board
CIOB-SA -	Chartered Institute of Building, South Africa
CSIR -	Council for Scientific and Industrial Research Organisation
CSTA -	Cereal Science and Technology Association
CUT -	Central University of Technology

D

DiMTEC -	Disaster Management Training and Education Centre for Africa
DMISA -	Disaster Management Institute of Southern Africa
DRRW -	Durable Rust Resistance in Wheat
DST -	Department of Science and Technology
DWAF -	Department of Water Affairs and Forestry

E

ECA -	European Crystallographic Association
EGIC -	Economic Growth and International Competitiveness
EMSA -	Environmental Management Systems Association
EMS -	Environmental Management Systems
EPWP -	Expanded Public Works Programme

F

FAO -	Food and Agricultural Organisation
FETWater -	Framework Programme for Research Education and Training in Water
FMP -	Facilities Management Programme
FSRDPP -	Free State Rural Development Partnership Project
FTIR -	Fourier Transform Infra Red Spectrometer

G

FGAP -	Facility for Genomics and Proteomics
GIS -	Geographical Information Systems
GMO -	Genetically Modified Organisms
GRDM -	Groundwater Resource Directed Measures
GSSA -	Grassland Science Society of South Africa
GSSA -	Geological Society of South Africa

H

HCI -	Human-computer Interaction
HRTEM -	High Resolution Transmission Electron Microscopy

I

IAMA -	International Food and Agribusiness Management Association
IAU -	International Astronomical Union
ICACS -	International Conference on Atomic Collisions in Solids
ICCC -	International Conference on Coordination Chemistry
ICEC -	International Cost Engineering Council
ICRISAT -	International Crops Research Institute for the Semi-Arid Tropics
ICSU -	International Council for Science
IDC -	Industrial Development Corporation
IGC -	International Geological Congress
IGS -	Institute for Groundwater Studies
IMWA -	International Mine Water Association
INCRoP -	Insects on New Crops Programme
IPMP -	Intensive Project Management Programme
ISI -	International Statistical Institute
ISME -	International Society for Microbial Ecology
IT -	Information Technology
IUMS -	International Union of Microbiological Societies

L

LPI -	Lunar and Planetary Institute
LRAD -	Land Redistribution for Agricultural Development

M

MCEE -	Minnesota Council on Economic Education
MDC -	Maputo Development Corridor
MEC -	Member of the Executive Council
MNS -	Material and Nanosciences Cluster
MOU -	Memorandum of Understanding
MRC -	Medical Research Council
MSA -	Masters in Sustainable Agriculture
MSSA -	Microscopy Society of Southern Africa
MUCPP -	Mangaung University Community Partnership Programme

N

NAMC -	National Agricultural Marketing Council
NASA -	National Aeronautics and Space Administration
NASSP -	National Astrophysics and Space Science Programme
NBN -	National Bioinformatics Network
NCEE -	National Council for Economic Education
NDF -	Neutral Detergent Fibre
NECSA -	Nuclear Energy Corporation of South Africa
NERPO -	National Emergent Red Meat Producers Organisation
NGO -	Non-Governmental Organisation
NRF -	National Research Foundation
NSTF -	National Science and Technology Forum
NWGA -	National Wool Growers' Association

O

OECD -	Organisation for Economic Cooperation and Development
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P

PAQS -	Pacific Association of Quantity Surveyors
PDMS -	Provincial Disaster Management Centre
PRT -	Protein Research Trust

R

RDP -	Redress and Development Programme
RIBA -	Royal Institute of British Architects
RICS -	Royal Institute of Chartered Surveyors
RIEP -	Research Institute of Education Planning
RMMA -	Red Meat Abattoirs Association
RPO -	Red Meat Producers Organisation
RTPI -	Royal Town Planning Institute

S

SA -	South Africa
SAAPMB -	South African Association of Physicists in Medicine and Biology
SAB -	South African Breweries Limited

SABC -	South African Broadcasting Corporation
SACAP -	South African Council for the Architectural Professions
SACPCMP -	South African Council for the Property Valuers Profession
SACPLAN -	South African Council of Planners
SACQSP -	South African Council for the Quantity Surveying Profession
SADC -	Southern African Development Community
SAFA -	South African Feedlot Association
SAFEFE -	South African Foundation for Economic and Financial Education
SAFOI -	South African Fryer Oil Initiative
SAIA -	South African Institute of Architects
SAIM -	Society for Industrial and Applied Mathematics
SAISC -	Southern African Institute of Steel Construction
SANBI -	South African National Biodiversity Institute
SANCID -	South African Commission on Irrigation and Drainage
SANPAD -	South African Netherlands Research Programme on Alternatives in Development
SANSA -	South African National Survey of Arachnida
SAPOA -	South African Property Owners Association
SAPPS -	Symposium of the South African Pecan Producers Association
SAQA -	South African Qualifications Authority
SASA -	South African Statistical Association
SASHS -	Southern African Society for Horticultural Sciences
SASM -	South African Society for Microbiology
SAWMA -	South African Wildlife Management Association
SAWSS -	Southern African Weed Science Society
SCM -	Scientific Computing and Modeling
SEG -	Society of Economic Geologists
SEM -	Scanning Electron Microscope

SLE -	Senior Lecturer Equivalent
SSSSA -	Soil Science Society of South Africa
SWMA -	Southern African Wildlife Management Association

T

TEM -	Transmission Electron Microscope
THRIP -	Technology and Human Resource for Industry Programme

U

UCT -	University of Cape Town
UEC -	Unit for Earth Construction
UFS -	University of the Free State
UJ -	University of Johannesburg
UK -	United Kingdom
UN -	United Nations
UNESCO -	United Nations Educational, Scientific and Cultural Organisation
UNU -	United Nations University
UP -	University of Pretoria
USA -	United States of America
USAID -	United States Agency for International Development
UWC -	University of the Western Cape

W

WCAP -	World Conference on Animal Production
WITS -	University of the Witwatersrand
WRC -	Water Research Commission

