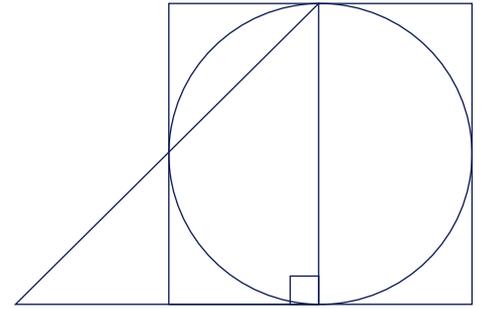


Report

05/06



Faculty of Natural and Agricultural Sciences



Faculty of Natural and Agricultural Sciences

Issued by:
Faculty of Natural and Agricultural Sciences,
University of the Free State

Editorial committee
Lacea Loader
Leonie Bolleurs

Language revision
Nanette Lötter

Revision of bibliographical data
Mercia Coetzee

Layout and cover design
Chrysalis advertising and publishing

Photographers
Gerhard Louw
Stephen Collett

Printing
Print 24

The Afrikaans version is also available on a compact disc
from the dean's office or on the university's website at
www.ufs.ac.za.

Cover page: Aspects of natural and agricultural sciences.

Contact details

Dean

Prof. Herman van Schalkwyk
+27 51 401 2535
hvs.sci@ufs.ac.za

Vice-Dean

Prof. Neil Heideman
+27 51 401 3855
heidemannj.sci@ufs.ac.za

Office of the Dean

Ms Lorinda Rust
+27 51 401 2322
rustl.sci@ufs.ac.za

Faculty Manager

Ms Corné Havemann
+27 51 401 2490
havemach.sci@ufs.ac.za

Liaison

Mr Nelis Maeder
+27 51 401 2531
maedecj.stg@ufs.ac.za

Physical address of the office of the Dean

Room 9A, Biology Building, Main
Campus, Bloemfontein

Postal address

University of the Free State
PO Box 339
Bloemfontein
South Africa
9300

Fax

+27 51 401 3728

Faculty website

www.ufs.ac.za

From the Dean's office



Prof. Herman van Schalkwyk.

The Faculty of Natural and Agricultural Sciences at the University of the Free State (UFS) leads the way in the practising of natural and agricultural sciences in South Africa and the highest levels of quality and credibility are reflected.

Our commitment, however, reaches far beyond just this. It reaches beyond the borders of the country and across continents; its multi-disciplinary and practical approach is vested in all the disciplines presented by the faculty.

In 2005/06 the Faculty experienced significant growth in measurable outputs. A contributing factor was the comprehensive apparatus strategy and plan which was implemented in 2005. With this strategy, university funds were used to leverage other funds in order to obtain huge discounts from suppliers of apparatus. In this way the faculty managed to obtain almost R50 million worth of apparatus in 2005.

The strategy was continued in 2006 when an agreement to the value of R7 542 531 was reached with Shimadzu, according to which apparatus was supplied to the faculty at discount prices. The agreement, which is valid for three years, entails the free replacement of apparatus which is purchased during this period with upgraded versions.

The new apparatus forms part of the UFS vision to compete internationally with quality research outputs in certain niche areas, to provide leadership in advanced training to students from the African continent and to establish the university as a leader among South African universities.

Two researchers with a B rating from the National Research Foundation (NRF) were also appointed. Both of these initiatives bore fruit and in 2006 the faculty increased its total research outputs by

about 13%. As an example, the Department of Chemistry's outputs increased by 100%.

The faculty has been bursting at the seams over the past couple of years. Student figures rose from 3 935 undergraduate, postgraduate and occasional students in 2005, to 4 224 in 2006. There is also strong representivity of students from other African countries and in 2005/06 almost 600 students studied at the faculty.

An extended B.Sc. programme has been presented to students since 2005. The programme aims at providing students who do not comply with all the requirements for the B.Sc. programme with the necessary sub-structure to complete the B.Sc. degree successfully. A preliminary evaluation of the results indicates that the programme is delivering the desired results.

The alignment of the Qwaqwa Campus, which was incorporated into the UFS in January 2003, remains a challenge. Regular discussions are held with staff on the campus in order to make the faculty's programmes more sustainable and to align it with the broader strategic plan of the UFS.

On a national level, the faculty is in the process of making its mark in terms of teaching and community service. In 2005 the faculty again actively began utilising its

experimental farms. A three-way agreement between the UFS, the National Farmers Union (NAFU) and the Mangaung Local Municipality led to the establishment of the Lengau Agricultural Development Centre on the Sydenham Experimental Farm. The centre provides training and mentorship to small-scale upcoming farmers.

To be dynamic and progressive requires innovative thinking. It requires commitment and a desire to deliver excellent teaching and learning opportunities to students. It requires a willingness to form partnerships, and a multi-disciplinary and practical approach to the tertiary education environment in South Africa.

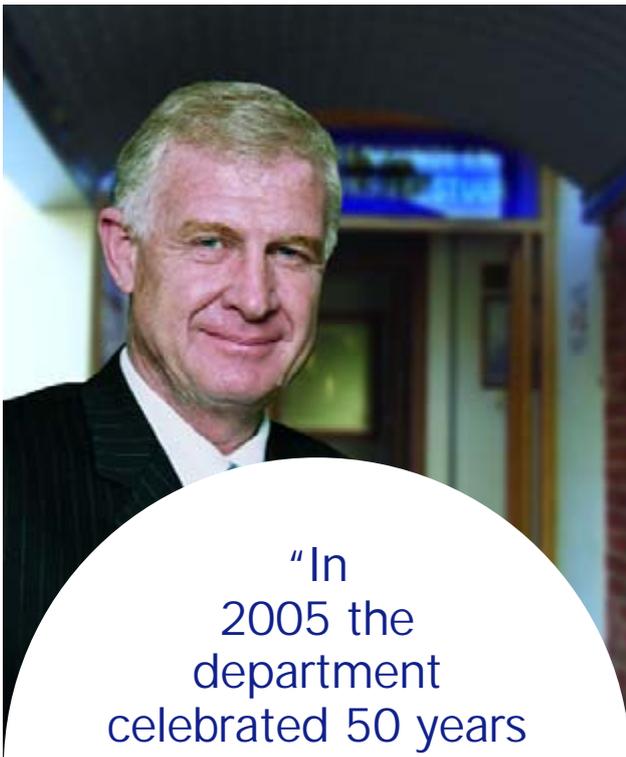
This report covers the faculty's activities in 2005/06. It is a reflection of two years' commitment on the part of a team of skilled and motivated academics and support staff.



Prof. Herman van Schalkwyk

Dean: Faculty of Natural and Agricultural Sciences
University of the Free State

Quantity Surveying and Construction Management



“In 2005 the department celebrated 50 years of quantity surveying and construction management at the UFS.”

Prof. Basie Verster.

Overview

During 2005 the Department of Quantity Surveying and Construction Management was involved in several actions, events and developments and experienced various highlights, one being its 50th birthday celebrations.

In 1955 the department offered four programmes. This increased to a staggering 14 programmes in 2005.

The open learning programme for Quantity Surveying, Construction Management and Project Management, which presents programmes for individuals in construction management and quantity surveying, was implemented in 1998. The UFS is the only university in Africa to offer open learning programmes in these disciplines.

In the area of education, more students than ever were served by open-learning (programmes presented in different areas/cities) or residentially (programmes are presented in Bloemfontein only). New programmes were added and different programme options were made possible at undergraduate and postgraduate level for both residential and distance learning students to keep up with the ever-changing environment in technological and traditional professional activities. In 2005 the department served a total of 469 students – the most in its history. During this year, a record of 38 students registered for the masters degree programme.

During the National Construction Week, the department distributed information on career opportunities in the construction industry to scholars. This marketing opportunity was used to make scholars and potential students aware of the programmes offered by the department.

Apart from existing programmes, the department developed different registered short programmes and courses as an additional training initiative.

In 2005 54 students completed the Facilities Management Programme (FMP) supported by the South African Property Owners Association (SAPOA) in Johannesburg, ten students completed the Intensive Project Management Programme (IPMP) also supported by the SAPOA and 31

“To celebrate its 50th birthday the department launched a special publication during a prestigious ceremony. ”



Ms Benita Kotzé, Prof. Basie Verster, Departmental Chairperson and Ms Alna Beukes, co-ordinator of the 50 year celebration publication, at the launching ceremony.

students completed the Health and Safety Programme for Construction Managers (HSPCM) supported by the Gauteng Masters Builders Association (GMBA).

In 2006 a total of 81 students completed the FMP, 17 students the IPMP and ten students the HSPCM programmes. These programmes were of great value to the industry.

During 2005 the department developed 11 computer-based learning modules for the Association of South African Quantity Surveyors (ASAQS) for the very important *Go-learning* programme for continuous training of practising quantity surveyors.

The department's involvement in community service is apparent in the continued presenta-

tion of mentorship programmes offered to emerging contractors. For the past 19 years, the Centre for Construction Entrepreneurs has offered training to several small emerging building contractors. In 2005/06, 12 students completed the two-year certificate in Building Science. This training is offered with the support of the ASAQS.

The department also offers a continuous development service to emerging construction contractors and other stakeholders through the Construction Mentor Accreditation Programme. The principle of mentor-based development programmes is now a standard component in the support of emerging contractors and other forms of development in the construction industry. The highly

esteemed Expanded Public Works Programme (EPWP) has accepted the idea of mentors for emerging contractors within their programme. Staff members of the UFS, in collaboration with the Council for Scientific and Industrial Research (CSIR) and other consultants, are at the forefront of the development and implementation of mentorships. Mentors who offer their services as part of this programme are accredited by the UFS.

The department has made a distinct contribution to the different professions and the industry during the past 50 years and has accreditation with the South African Council for the Quantity Surveying Profession (SACQSP), the South African Council for the Project and Construction Management Profession (SACPCMP) and the South African Council for the Property Valuers Profession (SACPVP). Internationally the department received accreditation by the Royal Institute of Chartered Surveyors (RICS) in the United Kingdom (UK) and the Chartered Institute of Building (CIOB), also in the UK.

Former students of the UFS practise mainly in South Africa, although many are employed in countries such as England, Ireland, Dubai and the Middle East. To serve the various arms of this industry, personnel with diverse backgrounds such as quantity surveying, construction management, project management, engineering and property economics are employed.

Prof. Basie Verster, Departmental Chairperson, was awarded the Distinguished International Fellow award by the International Cost Engineering Council (ICEC) during the council's world congress held in Ljubljana, Slovenia in 2006. Five members of the department presented nine papers at this congress and Prof. Verster was an invited speaker.

Members of the department are actively involved with industry by serving on various committees. Internationally they are involved with the Chartered Institute of Building-South Africa (CIOB-SA), the ICEC worldwide and the RICS in the UK.

Prof. Verster served as chairman of the international body of ICEC for 2005/06 as well as of the Education Standards and Research Committee for the SACQSP, and was admitted as a Fellow of the CIOB in the UK. Dr Hendrik Marx is a board member of the Central University of Technology in the Free State, and is chairman and board member of the South African Association of Consulting Engineers (SAACE). Mr Hendrik van Vuuren is a committee member of the CIOB-SA.

In 2005 Ms Helena Jordaan was awarded the prestigious gold medal for students from the ASAQS for excellence in Quantity Surveying in South Africa. Over the past 50 years, 14 students from the department were awarded this award. Ms Suzanne Chinner received the ASAQS award for the excellent first year student in B.Sc. Quantity Surveying in 2005.

In the research area, the accredited journal *Acta Structilia* celebrated its 12th year of existence in 2005. The *Acta Structilia* is a South African accredited journal for independently refereed research articles on any topic in the field of the physical and development sciences. Since 1993, 60 research articles, 12 international articles, 12 commentaries, seven book reviews and eight introductions have been published. A number of articles from the department were contributed for publication in this journal.

In 2006 the 23rd edition of the *Bouvaria*, a student journal, was published. This publication contains articles by final year students, photos of departmental activities and prizes awarded to students.

Ms Benita Kotzé and Mr Stephen Ramabodu respectively delivered papers on: *The built environment in Southern Africa – the influence of diversity and culture on conservation* and *A project management*



Dr Corné de Leeuw, President of the African Association of Quantity Surveying, who received the Directors Award of Appreciation for his contributions to Africa, and Prof. Basie Verster, Departmental Chairperson, who received the Distinguished International Fellow award as outstanding international member, by the International Cost Engineering Council.



The department offers a service to stakeholders through the Construction Mentor Accreditation Programme.



approach to housing and infrastructure development in South Africa during the 2005 Housing Research Day.

The prestigious RICS magazine, *Journal of Property Investment and Finance*, accepted an article entitled: *Diversity and value in Africa's Real Estate: Challenges facing property development in South Africa* by Mr Ramabodu, Ms Kotze and Prof. Verster.

The department is one of 14 international research partners involved in a combined research project on maturities in project-oriented communities in partnership with the Wirtschaftsuniversität Wien, in Austria. Prof. Roland Gareis from this university visited the department and presented a commemorative lecture entitled: *International trends in Project Management*, which also strengthened the international bond between the universities.

The department is also involved in joint research projects with the RICS, the Bureau for Economic Research at the University of Stellenbosch, the Construction Industry Development Board (CIDB) and the ASAQS.

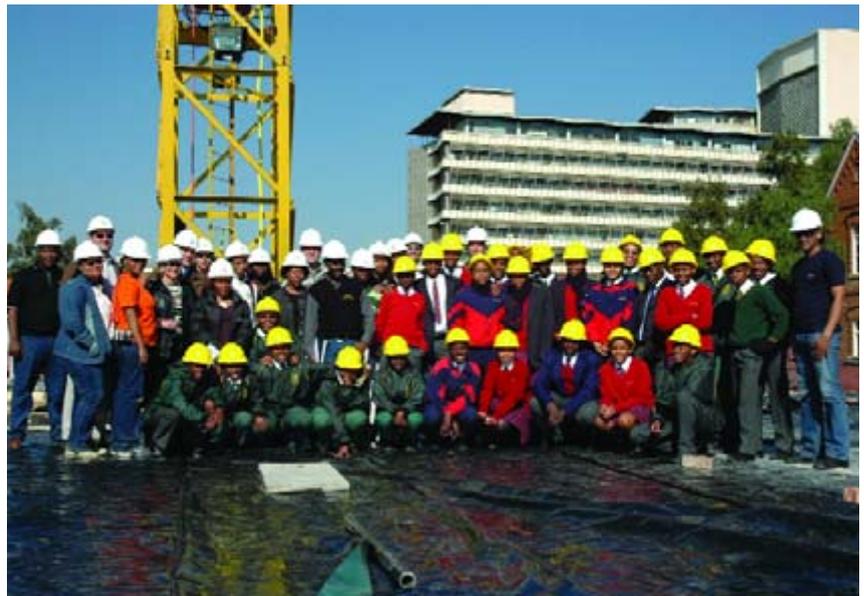
Academic staff

Professors: Proff. Basie Verster, Andries Hauptfleisch (in Midrand)
Senior Lecturer: Dr Hendrik Marx
Lecturers: Messrs Frank Berry, Ben Swart, Hendrik van Vuuren, Stephen Ramabodu, Ms Benita Kotzè
Contract Lecturers: Messrs Carl Van Zyl, Pierre Oosthuizen

Contact details

Prof. Basie Verster
Department of Quantity Surveying and Construction Management
University of the Free State
PO Box 339
Bloemfontein
South Africa
9300

Tel: +27 51 401 2248
Fax: +27 51 401 3324
E-mail: Versterj.sci@ufs.ac.za
Website: www.ufs.ac.za



During National Construction week, the department distributed information on career opportunities in the construction industry to scholars. Students, scholars and members of this profession are standing at a project of the Department of Public Works at the Appeal Court in Bloemfontein.

Research outputs

Publications

Hauptfleisch, A.C. 2005. Bemagtiging: 'n Geïntegreerde model vir die ontwikkeling van opkomende kontrakteurs in die konstruksiebedryf. *Acta Structilia Journal* 12(2): 129-137.

Lazarus, S., Hauptfleisch, A.C. & Verster, J.J.P. 2006. The development and assessment of an integrated skills development model for emerging construction contractors. *Acta Structilia Journal* 13(2): 145-158.

Ramabodu, M.S., Kotzé, B.G. & Verster, J.J.P. 2005. Diversity and value in Africa's real estate: Challenges facing property development in South Africa. Accepted for publication in *Journal of Property Investment and Finance* 25(1): 7-22.

Verster, J.J.P. 2006. Project management maturity models and analyses: How mature is the construction industry? *SA Builder* 973: 22-23.

Verster, J.J.P. & Berry, F.H. 2005. The property development challenge: Creating wealth through regional and rural projects. *Acta Structilia Journal* 12(1): 20-40.

Conference contributions

Grant, M. & Verster, J.J.P. 2006. *Real time integrated cost planning and control: The living process*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Hauptfleisch, A.C. 2006. *An accelerated integrated small construction contractor development model: A holistic approach for developing countries*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Hauptfleisch, A.C. & Kotzé, B.G. 2006. *Real time integrated cost planning and control:*

Bringing the process alive through procurement dynamics. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Kotzé, B.G. 2006. *Real time integrated cost planning and control: Communication for results*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Kotzé, B.G. 2006. *Relationships, risk management, recommendations and realised performance: The 4r's as strategic tools for customer satisfaction*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Lazarus, S. 2006. *The development and assessment of an integrated skills development model for emerging construction contractors*. Paper presented at the Construction Industry Development Board (CIDB) 4th Post Graduate Conference on Construction Development, Stellenbosch, South Africa.

Marx, H.J. 2006. *Evaluation of the BER building cost index*. Paper presented at the Construction Industry Development Board (CIDB) 4th Post Graduate Conference on Construction Development, Stellenbosch, South Africa.

Marx, H.J. 2006. *The value of cost data for estimation: Evaluation of a construction tender price index*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Marx, H.J. & Hauptfleisch, A.C. 2005. *Categorisation of postgraduate research in the built*

environment in South Africa 2005. Proceedings of the Construction Industry Development Board (CIDB) Post-Grad Conference, Johannesburg, South Africa. pp. 434-472.

Marx, H.J. & Hauptfleisch, A.C. 2006. *Categorisation of postgraduate research in the built environment in South Africa*. Paper presented at the Construction Industry Development Board (CIDB) 4th Post Graduate Conference on Construction Development, Stellenbosch, South Africa.

Prinsloo, J.D.G. 2005. *Wheat straw bales as building material: A study of the physical and economic properties of wheat straw bales as an alternative to certain construction materials*. Proceedings of the Construction Industry Development Board (CIDB) Post-Grad Conference, Johannesburg, South Africa. pp. 159-168.

Swart, B.J. 2006. *Property investment: Reality or fiction? What is the real value in property*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.

Verster, J.J.P. 2006. *Managing cost, contracts, communication and claims: A quantity surveying perspective on future opportunities*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia. (Invited paper).

Verster, J.J.P. 2006. *Real time integrated cost planning and control: Mitigation and resolution of claims*. Paper presented at the 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Ljubljana, Slovenia.



Statistical data of the faculty



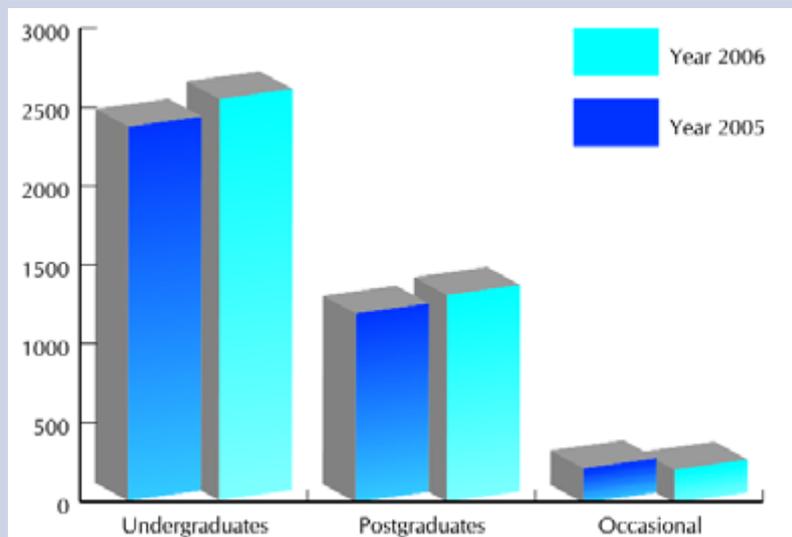
Student figures

Faculty of Natural and Agricultural Sciences, 2005/06

Male					
2005					
Description	African	Coloured	Indian	White	Total
Undergraduate	676	31	26	724	1457
Postgraduate	351	22	15	400	788
Occasional	84	3	4	17	108
Total 2005	1111	56	45	1141	2353
2006					
Description	African	Coloured	Indian	White	Total
Undergraduate	729	28	21	768	1546
Postgraduate	385	21	16	431	853
Occasional	68	2	2	23	95
Total 2006	1182	51	39	1222	2494

Female					
2005					
Description	African	Coloured	Indian	White	Total
Undergraduate	563	41	11	394	1009
Postgraduate	206	16	11	221	454
Occasional	101	5	2	11	119
Total 2005	870	62	24	626	1582
2006					
Description	African	Coloured	Indian	White	Total
Undergraduate	641	39	17	401	1098
Postgraduate	243	15	17	234	509
Occasional	103	2	2	16	123
Total 2006	987	56	36	651	1730

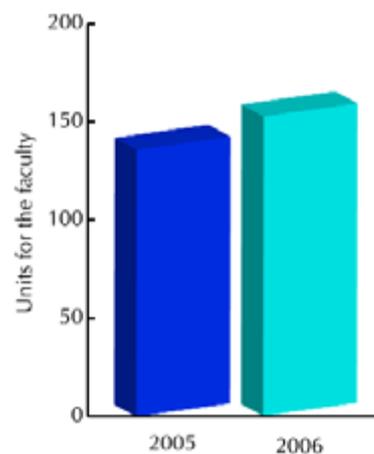
Total					
2005					
Description	African	Coloured	Indian	White	Total
Undergraduate	1239	72	37	1118	2466
Postgraduate	557	38	26	621	1242
Occasional	185	8	6	28	227
Total 2005	1981	118	69	1767	3935
2006					
Description	African	Coloured	Indian	White	Total
Undergraduate	1370	67	38	1169	2644
Postgraduate	628	36	33	665	1362
Occasional	171	4	4	39	218
Total 2006	2169	107	75	1873	4224



Student figures

Student nationality		
Nationality	2005	2006
Angola	1	
Asian countries	21	18
Botswana	20	20
European countries	6	6
Lesotho	142	142
Malawi	2	1
Mauritius		2
Mozambique	8	7
Namibia	40	42
No information	1	
North America	4	4
Other Africa	45	48
South Africa	3610	3893
South America		1
Swaziland	13	13
Zambia	4	6
Zimbabwe	18	21
Total	3935	4224

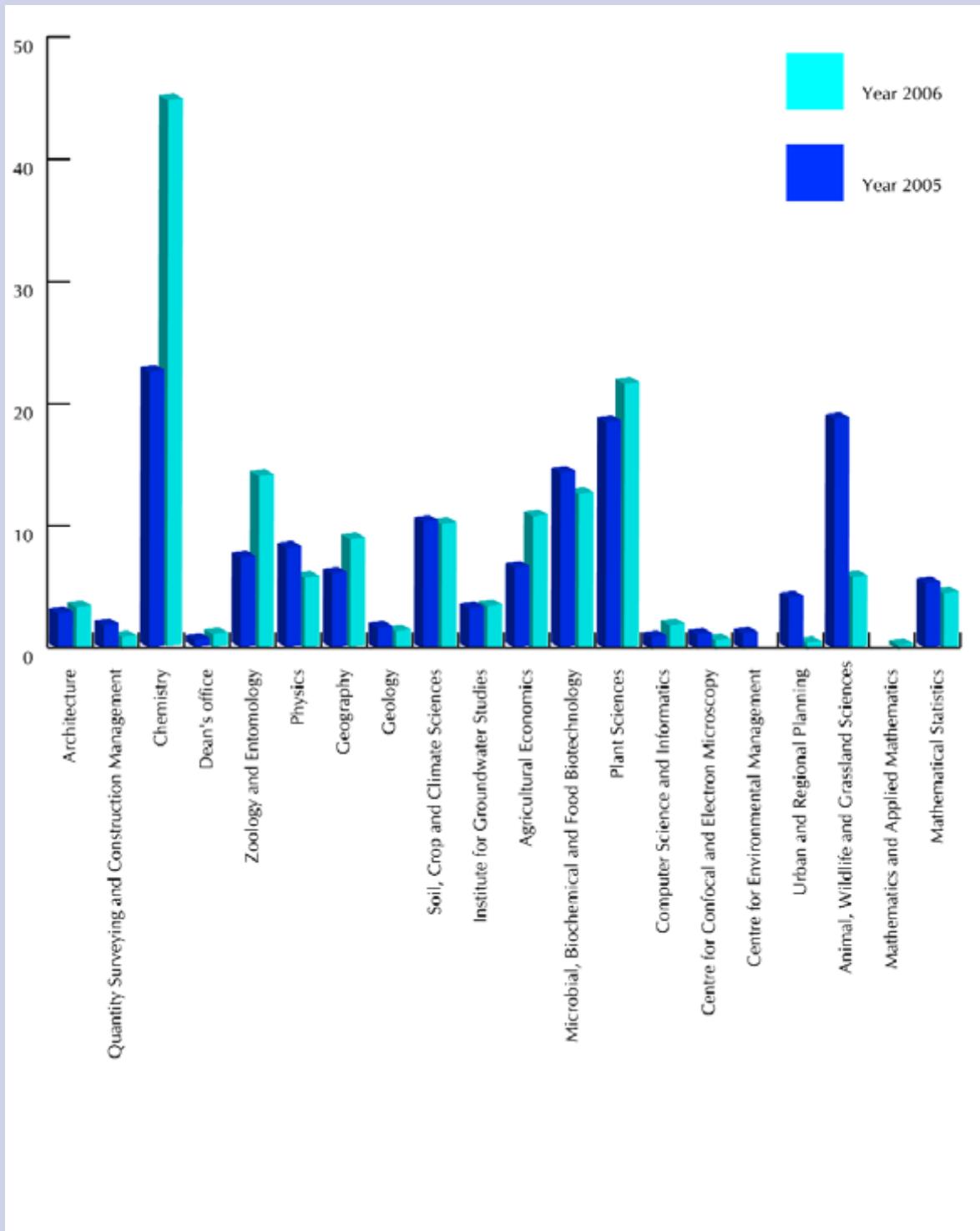
Research outputs for the Faculty of Natural and Agricultural Sciences



Articles published in accredited approved research journals.

Departmental research outputs

Articles published in accredited approved research journals, 2005/06



Glossary



Glossary

A

ACIAR	Australian Centre for International Agricultural Research
AEASA	Agricultural Economics Association of South Africa
ALPRU	African Large Predator Research Unit
ARC	Agricultural Research Council
ARMSCOR	Armaments Corporation of South Africa
ARS	Agri Risk Specialists
ASAQS	Association of South African Quantity Surveyors
ASSA	Anatomical Society of South Africa
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
AVS	American Vacuum Society

C

CANSA	Cancer Association of South Africa
CATSA	Catalysis Society of South Africa
CBD	Convention of Biological Diversity
CCEM	Centre for Confocal and Electron Microscopy
CePHMa	Centre for Plant Health Management
CfPB	Centre for People and Buildings
CIAT	International Centre for Tropical Agriculture
CIDB	Construction Industry Development Board
CIMMYT	International Maize and Wheat Improvement Centre
CIOB	Chartered Institute of Building
CIOB-SA	Chartered Institute of Building - South Africa
CSACEE	Central South African Council on Economic Education
CSIC-INTA	Centro de Astrobiología
CSIR	Council for Scientific and Industrial Research
CSIRO	Commonwealth Scientific and Industrial Research Organisation

D

DEAT	Department of Environmental Affairs and Tourism
DiMTEC	Disaster Management Training and Education Centre for Africa
DMISA	Disaster Management Institute of South Africa
DST	Department of Science and Technology

E

EAAP	European Association for Animal Production
EASA	Education Association of South Africa
ECA	European Crystallographic Association
EIGG	Environmental Inorganic Geochemistry Group
EPWP	Expanded Public Works Programme
ESBES	European Symposium on Biochemical Engineering Science
ESREL	European Safety and Reliability
ESRP	Economic and Social Rehabilitation Programme

F

FAO	Food and Agriculture Organisation
FEMS	Federation of European Microbiological Societies
FMP	Facilities Management Programme
FOTIM	Foundation of Tertiary Institutions of the Northern Metropolis

FSRPO	Free State Red Meat Producers Organisation
-------	--

G

GIS	Geographical Information Systems
Glen ADI	Glen Agricultural Development Institute
GM	Genetically Modified
GMBA	Gauteng Master Builders' Association
GMO	Genetically Modified Organisms
GWK	Griekwaland-Wes Koöperasie

H

HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa
HPLC	High Performance Liquid Chromatography
HSPCM	Health and Safety Programme for Construction Managers

I

IAGOD	International Association on the Genesis of Ore Deposits
IAH	International Association of Hydrogeologists
ICCC	International Conference on Coordination Chemistry
ICEC	International Cost Engineering Council
ICID	International Commission on Irrigation and Drainage
ICP	Inductively Coupled Plasma
ICRBM	International Conference on Rodent Biology and Management
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDC	Industrial Development Corporation
IGS	Institute for Groundwater Studies
IITA	International Institute of Tropical Agriculture
INCRoP	Insects on New Crops Programme
INTSORMIL	International Sorghum and Millet Research Support Programme

IPMA

IPMA	International Project Management Association
IPMP	Intensive Project Management Programme
IRDP	Institutional Research and Development Programme
IRWH	In-field Rainwater Harvesting
IUCr	International Union of Crystallography
IUMS	International Union of Microbial Societies
IUPAP	International Union of Pure and Applied Physics

J

JFM	Journal of Facilities Management
-----	----------------------------------

L

LExEn	Life in Extreme Environments
-------	------------------------------

M

MIRCHEN	Microbiological Resources Centre
MIT	Massachusetts Institute of Technology
MRM	Mineral Resource Management
MSA	Master's Degree in Sustainable Agriculture
MSSA	Microscopy Society of Southern Africa
MUCPP	Mangaung University Community Partnership Programme
MURP	Master's Degree in Urban and Regional Planning

N

NaCOF	National Climate Outlook Forum
NAFU	National African Farmers Union
NAMC	National Agricultural Marketing Council
NASA	National Aeronautics and Space Administration
NASSP	National Astrophysics and Space Science Programme
NCEE	National Council for Economic Education
NDA	National Department of Agriculture
NECSA	National Energy Commission of South Africa
NELSAM	Natural Earthquake Laboratory in South African Mines
NERPO	National Emergent Red Meat Producers' Organisation
NGO	Non-Governmental Organisation
NML	National Metrological Laboratory
NMMU	Nelson Mandela Metropolitan University
NMR	Nuclear Magnetic Resonance
NRF	National Research Foundation
NUFU	Norwegian Council of Universities Committee for Development, Research and Education
NWGA	National Wool Growers' Association

O

OABS	Optimal Agricultural Business Solutions
OECD	Organisation for Economic Co-operation and Development

P

PARSA	Parasitological Association of Southern Africa
PDMIW	Processing and Disposal of Mineral Industry Wastes
POT	Peaks over Threshold
PPP	Public Private Partnership
PRT	Protein Research Trust

R

RICS	Royal Institute of Chartered Surveyors
RIEP	Research Institute of Education Planning
RNA	Research Niche Area
RPO	Red Meat Producers' Organisation

S

SA	South Africa
SAACE	South African Association of Consulting Engineers
SAB	The South African Breweries Limited
SACI	South African Chemical Institute
SACPCMP	South African Council for the Project and Construction Management Profession
SACPVP	South African Council for the Property Valuation Profession
SACQSP	South African Council for the Quantity Surveying Profession
SADC	Southern African Development Community
SAFMA	South African Facilities Management Association
SAFOI	South African Fryer Oil Initiative
SAIP	South African Institute of Physics
SAISC	Southern African Institute of Steel Construction
SAMSI	Statistical and Applied Mathematical Sciences Institute

SANCIAHS	South African National Committee for the International Association of Hydrological Sciences	SEDA	Small Enterprise Development Agency	UNEP	United Nations Environment Programme
SANCU	South African National Consumer Union	SMME	Small, Medium and Micro Enterprises	UNESCO	United Nations Educational, Scientific and Cultural Organisation
SANPAD	South Africa-Netherlands Research Programme on Alternatives in Development	SRC	Student Representative Council	USA	United States of America
SAPOA	South African Property Owners' Association	SRL	Sustainable Rural Livelihood	USAID	United States Agency for International Development
SAPS	South African Police Services	SSAG	Society of South African Geographers	UTCHEM	University of Texas Chemical Compositional Simulator
SAQA	South African Qualifications Authority	T		UWC	University of the Western Cape
SASAS	South African Society for Animal Science	THRIP	South African National Research Foundation Thrust for Industry-Related Projects	W	
SASQUA	Southern African Society for Quaternary Research	TUE	Technical University Eindhoven	WARFSA	Water Research Fund of Southern Africa
SAVAH	South African Association of Visual Arts Historians	U		WATOC	World Association of Theoretically Orientated Chemists
SBE	Sustainable Built Environments	UCT	University of Cape Town	WFP	World Food Programme
		UFS	University of the Free State	WITS	University of the Witwatersrand
		UJ	University of Johannesburg	WRC	Water Research Commission
		UK	United Kingdom	WUA	Water Users' Association
		UN	United Nations		