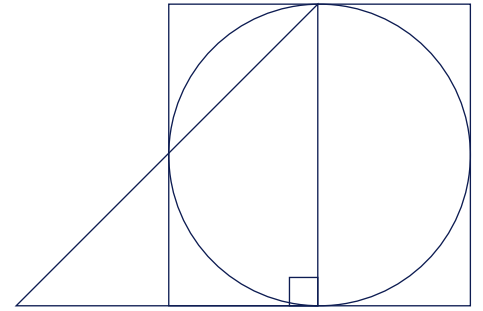


Report

05/06



Faculty of Natural and Agricultural Sciences



Faculty of Natural and Agricultural Sciences

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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.

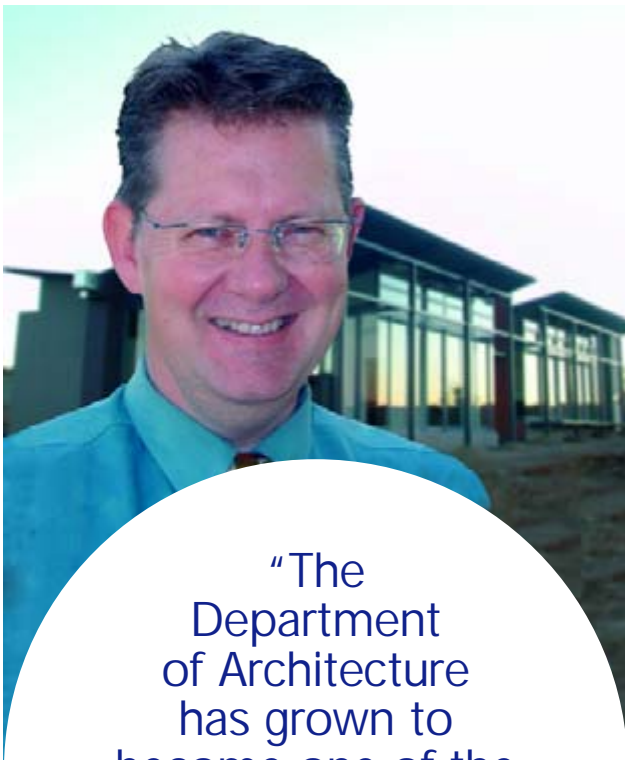
This report covers the faculty's activities in 2005/06. It is a reflection of two years' commitment on the part of a team of skilled and motivated academics and support staff.



Prof. Herman van Schalkwyk

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

Architecture



“The Department of Architecture has grown to become one of the leading architectural departments in South Africa.”

Prof. Jan Smit.

Overview

Over the years the Department of Architecture has grown into one of the leading architectural departments in South Africa, proven by the unconditional international accreditation from the Royal Institute of British Architects, the Commonwealth Association of Architects and the South African Council for the Architectural Profession. This, together with the upswing currently being experienced in the building industry in the country, is causing a new enthusiasm and interest in the building trades.

The 50th anniversary celebrations of the department in 2005 were commemorated with a gala dinner in the Centenary Complex on the Main Campus in Bloemfontein during the Sophia Gray festivities. The guests of honour on this occasion were Prof. Herman van Schalkwyk, Dean: Faculty of Natural and Agricultural Sciences at the UFS, Prof. Glenn Murcutt, world-renowned architect from Australia, and Dr Hennie de Clercq, Executive Director of the Southern African Institute of Steel Construction.

Demand in the architectural field has escalated sharply over the past years. The year 2006 can be considered highly successful for this department. More than 240 enquiries were received for this field of study. To ensure quality and to conform to the university's strategic aim of excellence, only 60 students were selected for 2006 and 50 for the 2007 intake. This positive reflection of the building industry as well as the motion of confidence in the department caused the staff to take stock early in 2006.

In 2005/06 various student tours took place to different centres in the country, among others Phillippolis, Clarens, Cape Town and Johannesburg and students took part in several student design competitions:

- In 2005 the department's entries for the National Des Baker Student Design competition received an honourable commendation (from 24 entries). Students participated in this competition in 2006 as well. The community projects where students designed and built the projects also had some interesting features, although most

“The Department of Architecture commemorated its 50th anniversary in 2005.”

important were the housing developments done for the Paradys Experimental Farm of the university.

- In 2005 Ms Marieta Meyer, a third-year student of the department, won the National Steel competition (SAISC) for her project, *Steel in the fabric of the South African house*. In 2006 Mr Charles de Jager, also a student from the department, won this prestigious competition.
- In 2005 Ms Alet van der Merwe entered her first-year photography class in several categories of the Freshford Bloemfontein photographic competition. A number of prizes were won, with Ms Michelle Marais winning a first prize in one of the categories. In 2006 Ms Van der Merwe organised the ex:posed photography exhibition in the Johannes Stegmann Gallery on the Main Campus. This will probably become an annual event on the campus calendar.

- Ms Surette Pieterse was appointed regional winner of the Corobrik Student of the Year competition in 2005, for producing the best thesis. In 2006 Ms Mari-Louise Flanagan was appointed regional winner for the best thesis.
- In 2005, 29 third-year students of the Building Science course built full-scale copies of the well-known Rietveld chair (designed in 1917 by a Dutch architect) under leadership of Mr Jacques Laubscher.
- In 2006 one of the second-year students, Mr Justice Liebenberg, was one of the ten finalists in the National PG Bison competition.
- In 2006 three entries for the Cement and Concrete Institute competition for honours students were received from students in the department. This is a competition for a project in Batho, Bloemfontein, based on sustainable principles applied to design.

The department was also involved in various projects:

- Dr Pieter le Roux was a collaborative member of the Centre for People and Buildings (CfPB) in Delft in the Netherlands. His contribution focuses on the conveying of knowledge on the functioning of workplace evaluation from the Netherlands database to the South African context. This centre is currently busy with a variety of research projects



House Uys is situated in Rayton and was designed by Smt! Architects. It reflects farm architecture with its use of galvanised iron as building material.



Third-year students on their self manufactured copies of the well-known Rietveld chair in front of the Architecture Building.

that examine and evaluate the inter-dependent relationships of people with the built-up area. Under the leadership of Dr Le Roux, various projects were introduced and several completed during 2006. Research on the improvement and optimising of facilities on the Main Campus was published during 2006 in the September issue of the *Journal of Facilities Management (JFM)*.

- The Unit for Earth Construction is being run from the department under the leadership of Ms Petria Jooste-Smit and Mr Gerhard Bosman. Both of these lecturers were invited by the Technical University Eindhoven (TUE) in the Netherlands to do their doctorates in Earth Building at their facility. The centre also helped with the completion of the !Xhariep Dam Tourist Centre in the Free State. In 2006 this unit, with the participation of Prof. Das Steyn of the Department of Urban and Regional

Planning at the UFS, completed its field work for the South Africa-Netherlands Research Programme on Alternatives in Development (SANPAD) research project with the TUE. The title of the project was: *A South African building renaissance; acceptability of sustainable, high quality, earth-constructed, public and private buildings to support local economic development*. The centre also assisted in the Des Baker student competition project. Real clients in the low income sector were used, one of which, House Seekoei in Heidedal, was recently completed.

- At a housing project in Kimberley the building work was evaluated by the Unit for Earth Construction. A process of employment creation was also part of this project. The Department of Housing was advised regarding the quality of the housing as well as the future plan of action.

- In 2005 Ms Maxie Botha, a postgraduate student in architecture, worked for the Umbili Foundation in Tsumeb, Namibia for three months, on the relocation of a group of San people. The work included the design, production and physical building of earth bricks for their houses.
- Altogether 21 honours students took part in a building project known as Permaculture and Earth Building Workshop, under the leadership of Mr Bosman, on a smallholding in Linbro Park, Johannesburg. The students learned to employ sustainable architectural principles on a small scale, as well as how to erect a residential home by using three different earth building techniques.
- A strategy was developed and designs were created for the upgrading of the housing and communal facilities on the Paradys and Sydenham Experimental Farms.



House Enkalweni, which was designed by Smlt Architects is a contemporary work of the traditional Free State building styles.



House Gutter is situated in Rayton. This house, designed by Smlt Architects, reflects the historically sandstone heritage of Free State architecture.

- Third-year students presented designs for a new entrance gate for the State President Swart High School in Brandfort, for the school's centenary celebrations.
- Mr Hendrik Auret, an honours student, took part in an international architectural students' workshop, seeking solutions to counteract the deterioration of Zeyrek, a poverty-stricken residential area in Istanbul, Turkey.
- On request from the University of Fort Hare, the department was involved in the redesigning of the East London Campus. As part of the design course, students were introduced to real clients. Solutions were presented to the university authorities, and these were received very positively.
- On the initiative of Mr Laubscher, the first winter school for architectural students was held during the winter holiday in 2006. The school was attended by 30 students from all over the country.

Prof. Pattabi Raman continued to be the technical adviser to the Freedom Park development in Gauteng.

The department presented a number of opportunities for members of the profession and students in the architecture environment to gain the insight and knowledge from experts in the field:

- The 17th Sophia Gray Memorial Lecture was held in August 2005, with the title: *Stories... Architecture... Life*. Prof. Bannie Britz, former head of the department, was the guest speaker. The 2006 Sophia Gray Memorial Lecture was held by Design Workshop SA from Durban. This practice was responsible for the design of the Constitutional Hill Court building in Johannesburg.
- To coincide with the 50th anniversary of the department, Prof. Murcutt from Australia was invited as guest speaker to present a lecture that was arranged by the Southern African Institute of Steel Construction (SAISC). It was specifically the emphasis of his approach to regional architecture which made his visit to Bloemfontein valuable, since this department also ascribes to the concept of regionally bound architecture. Mr Richard Murphy from Edinburgh spoke at the 2006 lecture of the SAISC.
 - Other than Prof. Murcutt, Mr Dolf Wieërs from the University of Limburg in Hasselt, Belgium also visited the department in 2005, with the aim of investigating exchange possibilities between the university and the UFS. Mr Wieërs also gave a public lecture about their School of Architecture.

- Prof. Mikki Desai from India visited the department and gave a series of lectures on Indian architecture.
- Mr Laubscher arranged a lecture series, with Sanlam as the sponsor, in conjunction with the Volksblad Arts festival in July 2005. Guest speakers were Prof. 'Ora Joubert on *Contemporary South African Architecture*, Mr Kobus du Preez on *Tangible points between South African and International Architecture* and Mr Johann Slee on *Critical regionalism within the South African context*. In 2006, with Plascon as the sponsor, Ms Gardiol Bergentuin (Johannesburg), Mr Pieter Matthews (Pretoria) and Prof. Jan Smit and Ms Jooste-Smit from the department acted as guest speakers at this occasion. Prof. Smit is the Departmental Chairperson of the Department of Architecture.

- Ever since the tours to architecturally designed residential houses were initiated by Mr Laubscher in 2004, this has become one of the most popular activities during the Volksblad Arts Festival. Three of the Smit couple from Smit Architects' new designs in Rayton were also included in the tours. Of the contemporary houses featured on the popular house tours in 2006, House Smit (Smit Architects), House Uys (Smit Architects) and a house done by Mr Sergio Nunes (part time lecturer in architecture) were included.
- The department acted as host for the biannual Sustainable Built Environment (SBE) congress held in July 2006 on the Main Campus.

The department was approached to present a workshop together with the Department of Architecture of the Nelson Mandela Metropolitan University (NMMU) in Graaff-Reinet. From the UFS, Prof. Smit and Raman, Dr Le Roux as well as Messrs Du Preez, Pretorius and Ms Jooste-Smit attended. They did strategic planning and exchanged ideas on training.

Staff from the department also enhanced their knowledge on an international level during a number of study tours. Messrs Ras and Laubscher visited Verona, Italy in September 2005, attending the exhibition: *Designing with Natural Stone*. They also received three days' training in the use of natural stone. Prof. Smit and Ms Jooste-Smit visited England, Switzerland, Italy and Croatia in June 2005. They especially focused on historical Roman structures and Middle Age cities in Europe. Mr Gert Swart visited Eastern Europe, focusing on historical and contemporary architecture of Jewish communities, as well as on the concentration and extermination camps during the Second World War, which were used during the Holocaust. Ms Van der Merwe visited the Department of Architecture at the National University of Science and Technology in Bulawayo, Zimbabwe in July 2005.

Prof. Raman, previously departmental head of Architecture at the University of the Witwatersrand, was appointed as research professor for a term of three years, starting in 2005. Dr Le Roux was a former resident of Japan, where he received his doctorate at the Toyohashi University of Technology with a thesis entitled: *Application of a model of work style typology on aspects of autonomy and diversity in work performance in open plan offices: A study on predictive facility management*. He was appointed as senior lecturer in April 2005.

Academic staff

Professors: Prof. Pattabi Raman

Associate Professor: Prof. Jan Smit

Senior Lecturers: Dr Pieter le Roux, Ms Petria Jooste-Smit

Lecturers: Messrs Jan Ras, Gerhard Bosman, Kobus du Preez, Jacques Laubscher, Gert Swart

Junior Lecturers: Mr Henry Pretorius, Ms Alet van der Merwe

Contract Lecturers: Messrs Char-Pierre Cilliers, Sergio Nunes, Pieter Venter, Dr Zoë Henderson, Ms Wilandi Esterhuysen

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Research outputs

Publications

Le Roux, P.C. 2005. A study on the application of current and anticipated work style diversity: Work style directional change model for predictive facility management. *Journal of Architectural Planning (Research Journal of the Architectural Institute of Japan)* 594: 33-38.

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Raman, P. 2005. Humanitarian architectural practice. *Architecture South Africa* May/June: 12-17.

Steyn, J.J. & Jooste-Smit, P. 2006. Informal small brickyards in Free State townships are enhancing local economic development. *Acta Structilia* 13(1): 82-105.

Swart, G.P. 2006. Betekenis en verhaal van UV-kampus-argitektuur 1904-2004: 'n Krities-teoretiese oorsig. *Town and Regional Planning* 48: 35-67. (Special edition, University of the Free State, Bloemfontein, South Africa).

Chapters in books

Bosman, G. 2006. Promoting sustainability of earth constructed private and public buildings in South Africa. In *Eco-Architecture: Harmonisation between architecture and nature*, edited by G. Broadbent & C.A. Brebbia, Wessec Institute of Technology, UK: WIT Press. pp. 297-306.

Raman, P. 2006. Design and representation. In *Inquiry into Urban environment: Issues*, edited by D. Oktay. Farmagusta: EMU Press. pp. 126-141.

Raman, P. 2006. Beyond lateral thinking. In *The Design Studio: A Black Hole*, edited by G. Saglam. Istanbul, Turkey: YEM Yayin. pp. 55-70.

Raman, P. 2006. Message and meaning. In *The Architecture of Edge Cities*, edited by P.

Hobbs. Johannesburg: David Kurt Publishers. pp. 256-275.

Raman, P. 2006. The architecture of edge cities. In *Messages and Meaning*, edited by P. Hobbs. Johannesburg: David Kurt Publishers. pp. 256-275.

Conference contributions

Bosman, G. 2005. *The sustainability of earth construction*. Paper presented at the Sustainable Built Environments (SBE 2005) Congress, University of Pretoria, Pretoria, South Africa.

Bosman, G. 2005. *Teaching earth construction in the Free State: 1995-2005*. Paper presented at the Sustainable Built Environments (SBE 2005) Conference, University of Pretoria, Pretoria, South Africa.

Bosman, G. 2006. *Promoting sustainability of earth constructed private and public buildings in South Africa*. Paper presented at the Eco-Architecture Congress, Wessex Institute for Technology, England.

Laubscher, J. 2005. *Building science education*. Paper presented at the South-African Institute of Architects Congress: Educating the Architect, University of KwaZulu-Natal and the KwaZulu-Natal Institute for Architecture, Durban, South Africa.

Le Roux, P.C. 2005. *Towards the improvement and optimization of facilities on the campus of the University of the Free State*. Paper presented at the 2nd Annual South African Facilities Management Association (SAFMA) Conference, Midrand, South Africa.

Le Roux, P.C. & Esterhuysen, W. 2006. *Revitalization of the historic Main Building on the campus of the University of the Free State: Towards the improvement and optimization of facilities*. Poster presented at the 1st International Symposium on Environment, Behaviour, and Society, University of Sydney, Sydney, Australia.

Le Roux, P.C. & Raman, P. 2006. *Alternative approaches to housing delivery strategies in low-income communities in the South African context:*

Identifying existing patterns of use and appropriation as analogy for the transformation of existing settlements. Poster presented at the 1st International Symposium on Environment, Behaviour, and Society, University of Sydney, Sydney, Australia.

Pretorius, H. 2006. *The influence of regional vernacular architecture on the work of Jan and Petria Smit Architects*. Paper presented at the South African Association of Visual Arts Historians (SAVAH) Conference: Transformations in Visual Culture, Vaal University of Technology, Vanderbijlpark, South Africa.

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Raman, P. 2005. *Art, architecture and the hermeneutic concept of distance*. Paper presented at the Society of Art Historians Conference, Johannesburg, South Africa.

Raman, P. 2005. *Heterogeneity in Housing Form*. Paper presented at the Seminar on Housing, Department of Development Studies, University of the Free State, Bloemfontein, South Africa.

Raman, P. 2006. *Architectural transformations*. Paper presented at the South African Visual Arts Association 22nd Annual Conference, Johannesburg, South Africa.

Raman, P. 2006. *Content, container and context of museums*. Paper presented at the South African Museums Associations 70th Annual Conference, Johannesburg, South Africa.

Raman, P. 2006. *Fragmentation of cities*. Paper presented at the International Conference on Housing, University of La Sapienza, Rome.

Raman, P. 2006. *Heterogeneity in housing form*. Paper presented at the International Conference on Housing, University of La Sapienza, Rome.

Statistical data of the faculty



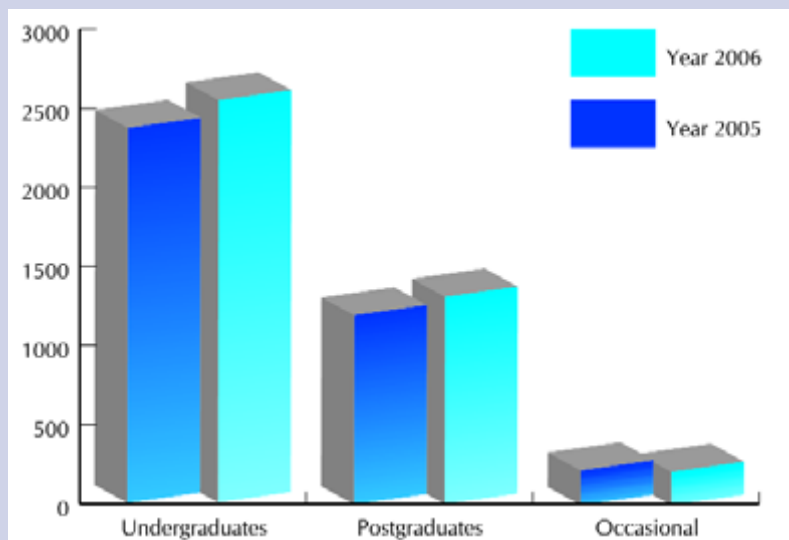
Student figures

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

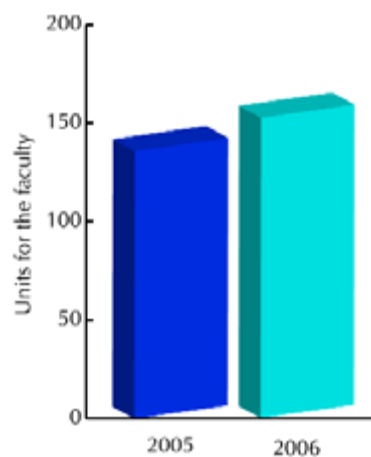
Total					
2005					
Description	African	Coloured	Indian	White	Total
Undergraduate	1239	72	37	1118	2466
Postgraduate	557	38	26	621	1242
Occasional	185	8	6	28	227
Total 2005	1981	118	69	1767	3935
2006					
Description	African	Coloured	Indian	White	Total
Undergraduate	1370	67	38	1169	2644
Postgraduate	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

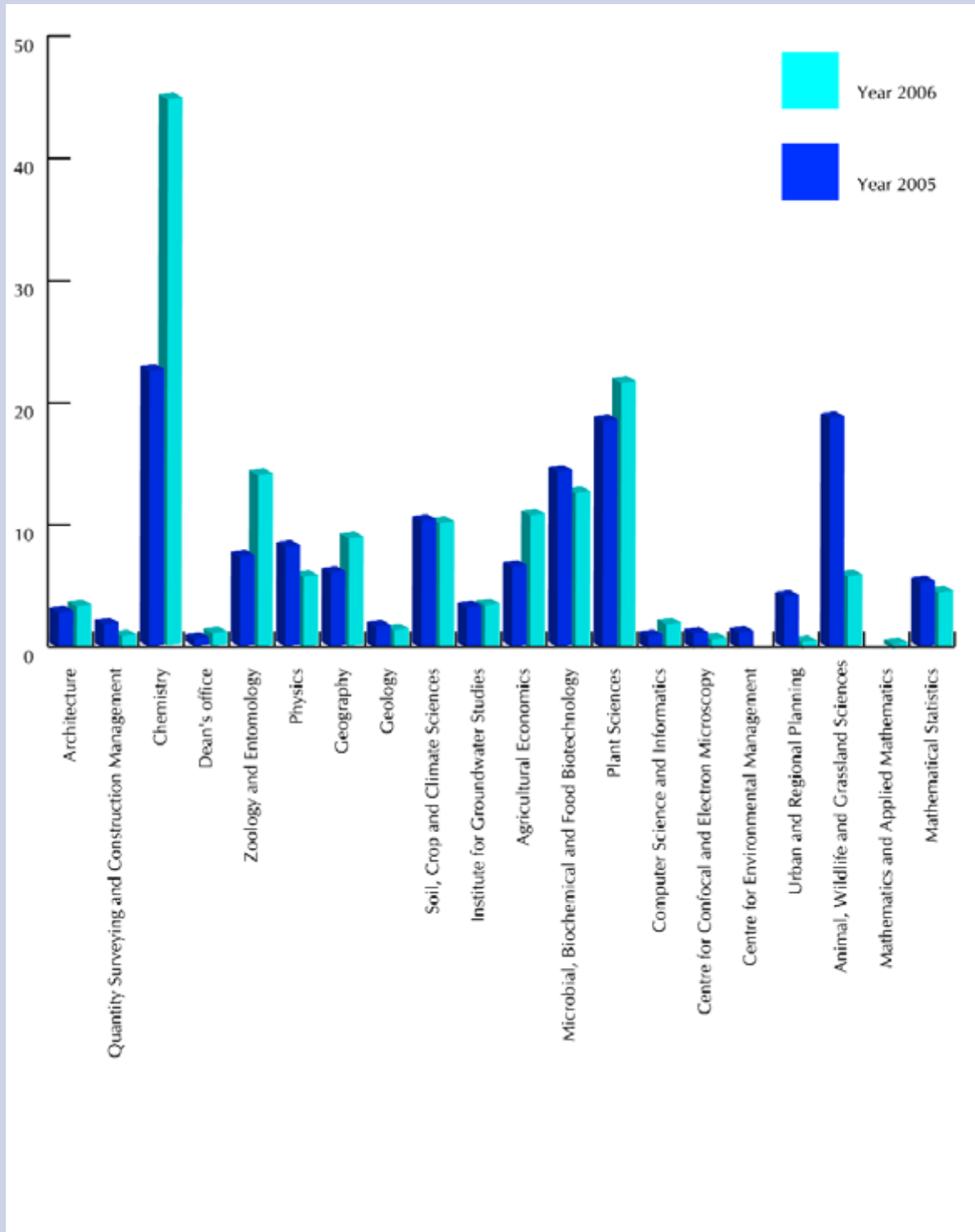
Research outputs for the Faculty of Natural and Agricultural Sciences



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
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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	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
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L

LExEn	Life in Extreme Environments
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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		