

GRA1/3/56 cd₂

PROFESSOR L W ROBERTS
DEAN
FACULTY OF ENGINEERING



UNIVERSITY OF NATAL

GRADUATION/DIPLOMA CEREMONY

1991

SATURDAY 20 APRIL

10h00

DURBAN

PROGRAMME

The Chancellor constitutes the congregation

PRAYER
Orator

WELCOME TO GUESTS
The Vice-Chancellor

PRESENTATION OF FELLOWS OF THE UNIVERSITY OF NATAL
The Deans of Faculties

PRESENTATION OF DOCTORAL GRADUANDS
The Deans of Faculties

HONORARY DEGREES
The Orator presents the Honorary Graduand
Peter Barry Stuart Lissaman
for the degree of
DOCTOR OF SCIENCE IN ENGINEERING

ADDRESS
Dr P B S Lissaman
BScEng (Natal), MA (Cantab), MS (CIT), PhD (CIT)

IMIZWILILI QUARTET
The Arrival of the Queen of Sheba G F Handel
Laughing Kwela Jake Lerole

PRESENTATION OF GRADUANDS AND DIPLOMATES
The Deans of Faculties

The Chancellor dissolves the congregation

IMIZWILILI QUARTET
Lara Allen (flute), Jessica Ramsden (violin)
Brendan Smit (viola), Fiona Paul (cello)

The congregation is requested to stand while the academic procession enters and leaves the hall and to remain seated until the conclusion of the ceremony.

Only officially authorised persons are permitted to take photographs during the ceremony.

Refreshments will be served in the upper gallery at the conclusion of the ceremony.

MR VICE-CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE FELLOWSHIP OF THE
UNIVERSITY OF NATAL IN RECOGNITION OF DISTINGUISHED
CONTRIBUTIONS IN HYDROLOGY

ROLAND EDGAR SCHULZE

Acting Vice-Principal, Durban G J Trotter
BA(Hons) (Natal), MA (Duke)

Deputy Vice-Chancellor and B M Gourley
Vice-Principal, Finance and CTA (Witwatersrand), MBL (Unisa), CA (SA)
Technical Services

Deputy Vice-Chancellor and C de B Webb
Vice-Principal, Pietermaritzburg BA(Hons) (Witwatersrand), HOD (Pret),
MA (Cantab), FRHistS

Registrar B X de Wet
MA (Pret), DLitt et Phil (Unisa), HED (Pret)

President of Convocation J M Pet
PrEng, BScEng (Natal), MSAACE

Orator P J H Scholtz
BA(Hons), HED (Natal)

DEANS OF FACULTIES

Engineering L W Roberts
PrEng, MScEng (Natal), PhD (London)
DIC, MSAIMEchE, MASME

Medicine D D Arbuckle
CStJ, BSc (Natal), MB ChB (Cape Town)
MSc(SocMed) (London), MFPHM (RCP)

Science D E A Williams-Wynn
MSc, PhD (Rhodes), CChem, FRSC

FELLOWS OF THE UNIVERSITY OF NATAL

(See page 14)

FACULTY OF ENGINEERING

Schulze, Roland Edgar, PH (USA), MSc, PhD, UED (Natal), MIAHS, MSAIAE
Awarded for distinguished contributions in hydrology.

DOCTORAL GRADUANDS

DOCTOR OF MEDICINE

	<i>Discipline</i>
Cooppan, Rajendran Mohamberry, MB ChB Medicine Thesis : Morbidity from urinary schistosomiasis in endemic areas of Natal/KwaZulu : A community and hospital based study.	
Gathiram, Vinodh, MB ChB, FCP(SA) Medicine Thesis : Isoenzyme polymorphism in <i>Entamoeba Histolytica</i> :an epidemiological survey in a rural South African population.	
Maharaj, Breminand, MB ChB, FCP(SA) Medicine Thesis : Some aspects of liver disease in Black patients.	
Motala, Ayesha Ahmed, MB ChB, MRCP (Glasgow) Medicine Thesis : Impaired glucose tolerance (IGT): A study in South African Indians in Durban.	
Wittenberg, Dankwart Friedrich, MB ChB (Cape Town), FCP(Paed)(SA) Paediatrics & Thesis : Aspects of lactose maldigestion in African and Indian Children. Child Health	

DOCTOR OF PHILOSOPHY IN THE FACULTY OF SCIENCE

	<i>Discipline</i>
Botha, Lourens Rasmus, MSc (Pret) Physics Thesis : An investigation of high repetition rate continuously tunable CO ₂ laser systems.	
Foster, Stephen James, MSc Chemistry Thesis : An investigation of the solvent extraction kinetics of german- ium by 7-alkylated-8-hydroxyquinoline extractants.	
Hailstones, Milson Donald, MSc Biology Thesis : Lipid peroxidation and ageing in seeds of <i>Glycine max</i> .	
Jacobsen, Niels Henning Gunther, BSc (Unisa), MSc (Pret) Biology Thesis : A herpetological survey of the Transvaal.	
Kosch, Michael Jurgen, BScEng Physics Thesis : Rapid fluctuations in aurorae.	

OFFICERS

Chancellor	The Honourable R N Leon QC, BA, LLB (Natal)
Vice-Chancellor and Principal	P de V Booysen MScAgric (Natal), PhD (California)
Chairman of Council	G C Cox BCom, LLB (Cape Town)
Deputy Vice-Chancellor and Vice-Principal, Durban	C F Cresswell BSc(Hons), MSc (Rhodes), PhD (Bristol), FRSSAf
Acting Vice-Principal, Durban	G J Trotter BA(Hons) (Natal), MA (Duke)
Deputy Vice-Chancellor and Vice-Principal, Finance and Technical Services	B M Gourley CTA (Witwatersrand), MBL (Unisa), CA (SA)
Deputy Vice-Chancellor and Vice-Principal, Pietermaritzburg	C de B Webb BA(Hons) (Witwatersrand), HOD (Pret), MA (Cantab), FRHistS
Registrar	B X de Wet MA (Pret), DLitt et Phil (Unisa), HED (Pret)
President of Convocation	J M Pet PrEng, BScEng (Natal), MSAACE
Orator	P J H Scholtz BA(Hons), HED (Natal)

DEANS OF FACULTIES

Engineering	L W Roberts PrEng, MScEng (Natal), PhD (London) DIC, MSAIMEchE, MASME
Medicine	D D Arbuckle CStJ, BSc (Natal), MB ChB (Cape Town) MSc(SocMed) (London), MFPHM (RCP)
Science	D E A Williams-Wynn MSc, PhD (Rhodes), CChem, FRSC

Murray, Michael, MSc Mathematical Statistics
 Thesis : A dynamic linear model for estimating the term structure of interest rates in South Africa.

Mycock, David John, BSc(Hons) Biology
 Thesis : A study of some of the inter-relationships between maize and the seed storage fungi as typified by *Aspergillus flavus* var. *columnaris*.

Rae, Bruce, BEd, MSc Chemistry
 Thesis : Investigations into the reactions of enamines and imines.

Roberts, Debra Cynthia, BSc(Hons) Biology
 Thesis : An open space survey of municipal Durban.

Taylor, Peter John, BSc(Hons) (Cape Town) Biology
 Thesis : Intraspecific systematics of the yellow mongoose *Cynictis penicillata*.

Waltham, John Antony Robert, BSc(Hons) Physics
 Thesis : Investigations of laser-produced plasmas and associated phenomena.

DOCTOR OF PHILOSOPHY IN THE FACULTY OF ENGINEERING

(Department of Agricultural Engineering)

Lyne, Peter William Liversedge, MScEng
 Thesis : Automated processor for optimising tractor operation.

(Department of Chemical Engineering)

Mühlbauer, Andreas Lorenz BScEng
 Thesis : Measurement and thermodynamic interpretation of high pressure vapour-liquid equilibrium.

Riley, Rodger Keith, BScEng
 Thesis : The kinetics of steam gasification of South African coals.

DOCTOR OF PHILOSOPHY IN THE FACULTY OF MEDICINE

Discipline

Sharp, Brian Leslie, BSc(Hons) (Natal), MSc (Witwatersrand) Medical Microbiology
 Thesis : Aspects of the epidemiology of malaria in Natal Province, Republic of South Africa.

HONORARY GRADUAND

(See page 13)

Lissaman, Peter Barry Stuart, BScEng (Natal), MA (Cantab), MS (CIT), PhD (CIT)

MR CHANCELLOR

To this day the farm tractor remains an inefficient machine despite its development over the past 100 years. The interface between the tractor wheel and the soil is the most difficult aspect to understand and address in terms of enhancing efficiency.

The unique in-the-field techniques adopted by Peter Lyne, in making significant savings in optimising tractor efficiency at this interface, bypassed all previous attempts at solving this problem. Overseas experts have described his innovative approach as destined to becoming one of the classics of traction research.

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE FACULTY OF ENGINEERING

PETER WILLIAM LIVERSEDGE LYNE

MR CHANCELLOR

The phase behaviour of fluid mixtures at high temperatures and pressures is complex and mysterious. Satisfactory prediction of the gas and liquid compositions at phase equilibrium is still not fully within our grasp despite intensive and increasingly imaginative efforts at resolution. Accurate data and their thermodynamic interpretation are critically important.

The equipment developed by Andre Muhlbauer is complex and novel. Liquid samples as small as three microlitres are extracted from a high pressure mixture without disturbing the delicate equilibrium balance and conveyed through a novel near-sonic jet mixer to a gas chromatograph for analysis.

Andre Muhlbauer tackled these difficult problems with remarkable skill and determination and developed an experimental facility unique in South Africa. His very precise and definitive measurements on systems have been published internationally, and provide information vital for the design of industrial separation and recovery processes.

His work constitutes a significant contribution to Chemical Engineering Science and practice.

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY IN THE FACULTY OF ENGINEERING

ANDREAS LORENZ MÜHLBAUER

MR CHANCELLOR

The success of synthetic fuel production in this country has depended, amongst other things, on the efficient generation of synthesis gas from coal. An understanding of the chemical kinetics of the coal conversion process and, the knowledge of the intricacies of the functioning of the equipment are vital to the proper design and operation of the gasifiers.

Rodger Riley developed and operated a small-scale reactor to quantify the kinetic behaviour of Bosjespruit coal-char in the steam gasification process and a fundamental mathematical model for the process was identified.

He also developed a computer program which, using the kinetic data, could satisfactorily simulate the steady-state operation of the circulating fluidised bed gasifier at the University of Natal.

This valuable research has led to a distinct improvement in the knowledge of this complex process of coal conversion.

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY IN THE FACULTY OF ENGINEERING

RODGER KEITH RILEY

GRADUANDS

MASTER OF SCIENCE

Discipline

- * **Carson, David Ian, BSc(Hons)** Computer Science
Thesis : Planarity testing and embedding algorithms.
- Demetriades, Nicolette Tracy, BSc(Hons)** Biology
Thesis : Some aspects of the population dynamics of the commercially important Natal penaeid prawns.
- Evers, Philip Martin, BSc (Plymouth)** Biology
Thesis : A comparative morphological study of the tegument of several species of schistosome using the scanning electron microscope.
- Farahmand, Anne Lois, BSc(Hons) (Salford)** Biology
Thesis : Papilionoidea of municipal Durban : some aspects of their biogeography.
- Frank, Neil Augustine, BSc(Hons)** Physics
Thesis : Modelling of particle transport due to tearing modes in a tokamak.
- * **Gaunt, Richard Gwynne, BScEng** Physics
Thesis : Two-probe measurements in a turbulent plasma.
- Goldstein, Hilton, BSc(Hons)** Computer Science
Thesis : Computer simulated skull surgery.
- Hoffman, Leonard Andrew Charles, BSc(Hons) (Cape Town)** Biology
Thesis : The herpetofauna of the Owen Sitole College of Agriculture, Zululand.
- Kalicharran, Sanjiv, BSc(Hons)** Geographical & Environmental Sciences
Thesis : Proposals for the rehabilitation and management of the Isipingo Lagoon and Estuary
- * **Knight, Gary Malcolm, BSc(Hons)** Biology
Thesis : A preliminary investigation into the status, distribution and some aspects of the foraging ecology of the Southern Ground Hornbill (*Bucorvus cafer*) in Natal.
- Monberg, Christian, BSc(Hons)** Chemistry
Thesis : Complexes formed by zinc and cyanide ions at elevated pH.
- Mungunda, Milka Martha Arnoldine, BSc, BPaed (UNIN)** Psychology
Coursework
- Murphy, Philip William, BSc(Hons)** Geology
Thesis : The petrology, geochemistry and classification of the Bein Venue massive sulphide deposit, Barberton Mountain Land.
- Nair, Jerald James, BSc(Hons)** Chemistry
Thesis : Toxic compounds in cycads.

* = Degree awarded *cum laude*

- Nott, Colin Andrew, BScAgric** Biology
 Thesis : A functional classification of savannah vegetation in relation to environmental factors and burning history in the Complex.
- Pellow-Jarman, Martin Vincent, BSc(Hons)** Chemistry
 Thesis : The liquid-liquid extraction of germanium with the 7-Alkylated 8-Hydroxyquinoline derivative - Kelex 100
- * **Pillay, Neville, BSc(Hons)** Biology
 Thesis : The breeding and reproductive biology of the vlei rat *Otomys irroratus*.
- Ramjee, Gita, BSc(Hons) (Sunderland Polytechnic)** Biology
 Thesis : Some studies on fungal incidence, aflatoxin and kwashiorkor.
- Senior, Paul David, BSc(Hons)** Chemistry
 Thesis : An investigation of glycoside synthesis.
- Smith, Gary Sean, BSc(Hons)** Biology
 Thesis : Host-searching by *Goniozus Natalensis* females elicited by a short-range kairomone in the frass of its natural host *Eldana saccharina*.
- Smith, Rosemary Elizabeth, BSc(Hons) (Stell)** Biology
 Thesis : Comparative water relations of *Protea nitida* seedlings and sprouters after fire.
- Strassner, Carola Brigitte Bahati, BSc(Hons) (Cape Town)** Applied Chemistry
 Thesis : The effect of amylolytic enzymes on the degradation of starch during extrusion.

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF

MASTER OF SCIENCE IN ENGINEERING

MASTER OF SCIENCE IN ENGINEERING

(Department of Agricultural Engineering)

Dilmitis, Manoussos Peter, BScEng
 Thesis : Combustion of ignition-improved ethanol in diesel engines.

Haywood, Richard Wilfred, BScEng
 Thesis : Model evaluation for simulating runoff from sugarcane fields.

* = Degree awarded *cum laude*

- * **Prinsloo, Guy Andrew Johan, BScEng**
Thesis : Injector needle lift as an indicator of diesel engine power.

Schafer, Norman Wayne, BScEng
Thesis : Modelling the areal distribution of daily rainfall.

Schrur, Michael Russell John, BScEng
Thesis : Refinement of a model for irrigation application efficiency.

(Department of Chemical Engineering)

Ford, Kevan James Rowland, BScEng (Witwatersrand)
Thesis : Kinetics of leaching calcined Natal kaolin using sulphuric acid.

(Department of Civil Engineering)

Goga, Yunus, BScEng
Thesis : Water losses in Municipal distribution systems.

(Department of Electrical Engineering)

Webster, Mitchell Roydon, BScEng
Thesis : Field oriented control of AC motors using transputers.

- * **Wishart, Michael Thomas, BScEng**
Thesis : Field oriented control of AC machines with particular reference to permanent magnet AC machines.

(Department of Electronic Engineering)

Brass, John, BScEng
Thesis : Automated control of an electron beam welder.

Kennedy, Paul, BScEng
Thesis : Microwave microstrip patch antennas.

- * **Moosa, Mohamed Suleman, BScEng**
Thesis : CAD software for microelectronics.

Phillips, Caroline Campbell, BScEng
Thesis : Solder-bump flip-chip technology.

Stokes, Anthony William, BScEng
Thesis : Magnetic focussing of electron beams for linear beam tubes.

Williams, Jeremy Charles Townley, BScEng
Thesis : Fabrication and design of microwave thin-film components.

* = Degree awarded *cum laude*

- Nott, Colin Andrew, BScAgric** Biology
 Thesis : A functional classification of savannah vegetation in relation to environmental factors and burning history in the Complex.
- Pellow-Jarman, Martin Vincent, BSc(Hons)** Chemistry
 Thesis : The liquid-liquid extraction of germanium with the 7-Alkylated 8-Hydroxyquinoline derivative - Kelex 100
- * **Pillay, Neville, BSc(Hons)** Biology
 Thesis : The breeding and reproductive biology of the vlei rat *Otomys irroratus*.
- Ramjee, Gita, BSc(Hons) (Sunderland Polytechnic)** Biology
 Thesis : Some studies on fungal incidence, aflatoxin and kwashiorkor.
- Senior, Paul David, BSc(Hons)** Chemistry
 Thesis : An investigation of glycoside synthesis.
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 Thesis : Host-searching by *Goniozus Natalensis* females elicited by a short-range kairomone in the frass of its natural host *Eldana saccharina*.
- Smith, Rosemary Elizabeth, BSc(Hons) (Stell)** Biology
 Thesis : Comparative water relations of *Protea nitida* seedlings and sprouters after fire.
- Strassner, Carola Brigitte Bahati, BSc(Hons) (Cape Town)** Applied Chemistry
 Thesis : The effect of amylolytic enzymes on the degradation of starch during extrusion.
- Visser, John Duckitt** Biology
 Thesis : The biosystematics of the *purcelli* group of the frog genus *Heleophryne* (Amphibia Leptodactylidae).
- Whittaker, Anne, BSc(Hons)** Biology
 Thesis : The role of glutathione reductase during oxygen toxicity in transformed tobacco plants.
- * **Wright, Charles Ian, BSc(Hons)** Geology
 Thesis : The sediment dynamics of St Lucia Estuary Mouth, Zululand, South Africa.

MASTER OF SCIENCE IN ENGINEERING

(Department of Agricultural Engineering)

Dilmitis, Manoussos Peter, BScEng
 Thesis : Combustion of ignition-improved ethanol in diesel engines.

Haywood, Richard Wilfred, BScEng
 Thesis : Model evaluation for simulating runoff from sugarcane fields.

* = Degree awarded *cum laude*

(Department of Mechanical Engineering)

Dutton, Christiaan Joseph, BScEng

Thesis : Mathematical modelling of rolling stock impacts.

Hobson, Terence Cecil, BScEng

Thesis : Aerodynamic losses resulting from injection of coolant flow

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF

MASTER OF SCIENCE IN LAND SURVEYING

MASTER OF SCIENCE IN LAND SURVEYING

Discipline

Truter, Robert Mennen, BScSur	Surveying and Mapping
Thesis : Design of a programming suite for the transfer of data from the existing information system for informal settlements to a predetermined GIS, together with special procedures for the required analysis.	

MASTER OF MEDICINE

Discipline

Courtenay, Michael Trevor, MB ChB (Cape Town)	Otorhinolaryngology
Emerson, Charles Paul Davis, MB ChB (Cape Town)	Community Health
Garbharran, Hari Narain, MB ChB	Psychiatry
Hacking, Dayle Jeremy Harold, MB ChB (Zimbabwe), MRCS (Edinburgh), LRCP (Edinburgh), LRCP&S (Glasgow)	Radiotherapy & Oncology
Hill, Alan John, MB ChB (Cape Town)	Anaesthetics
Landers, Gregory Ashley, MB ChB	Radiotherapy & Oncology
Mkize, Dan Lamla, MB ChB, MFGP(SA)	Psychiatry
Naidoo, Segaran Ramalu, MB ChB	Forensic Medicine
Perumal, Ganas, BSc (UDW), MB ChB (Natal)	Forensic Medicine
Rajah, Viven, MB ChB	Otorhinolaryngology
Ross, Graham Alexander, MB ChB (Zimbabwe)	Radiotherapy & Oncology
Rugg, Terence Anthony, MB ChB (Zimbabwe)	Radiotherapy & Oncology
Tungay-Desmarais, Gideon Peter, MB ChB, MMed(Pharm) (Pret)	Otorhinolaryngology
Wadee, Shabbir Ahmed, MB ChB,	Forensic Medicine
Way, Raymond Keith, MB BCh (Witwatersrand)	Ophthalmology

* = Degree awarded *cum laude*

MASTER OF MEDICAL SCIENCE

Discipline

- Dilraj, Athmanundh, BSc(Hons) (UDW)** Experimental & Clinical Pharmacology
Thesis : Plasma and cerebrospinal fluid catecholamine levels in aneurysmal sub-arachnoid haemorrhage.
- Haneef, Raazia Be, BSc (UDW)** Chemical Pathology
Thesis : Development of a monoclonal antibody based immuno-radiometric assay for the measurement of the free alpha-subunit of human chorionic gonadotrophin.
- * **Kharsany, Ayesha Bibi Mahomed** Medical Microbiology
Thesis : Microbiological investigation of vaginal discharge with emphasis on *Gardnerella vaginalis*.
- Moodley, Dhayendre, BSc(Hons) (UDW)** Medical Microbiology
Thesis : Cryptosporidium and Cryptosporidiosis
- Peberdy, Carol Nicola, BSc** Community Health
Thesis : The Nutritional Status of Pre-School Children in Malukazi
- Sathar, Mahomed Aslam, BSc(Hons) (UDW)** Medicine
Thesis : Serodiagnosis of active invasive amoebiasis.
- Sebastian, Devamani, BSc (UDW), BSc(Hons) (Natal)** Virology
Thesis : A comparative study of viral gastroenteritis in African, Indian, Coloured and White children in Natal.

BACHELOR OF SCIENCE (HONOURS)

Discipline

- Baise, Paul Anthony, BSc** Computer Science
- + **Barbour, Colleen Joy, BSc** Physics
- + **Bean, Timothy Jackson, BSc** Applied Mathematics
- Botes, Andre Michael, BSc** Geology
- Botha, Candace Jane, BSc** Geographical & Environmental Sciences
- + **Busse, Joanne, BSc** Applied Mathematics
- Clemmett, Susan Joy, BSc** Chemistry
- Coombes, Brett Justin, BSc** Geographical & Environmental Sciences
- Coulson, Mornay, BSc** Biology
- Durham, Ben David, BSc** Biology
- Forster, Rowan Ian, BSc** Chemistry
- Goosen, Mary-Anne, BSc** Applied Mathematics
- Hansen, Valerie Kim, BSc** Biology
- Haskins, Craig Ian, BSc** Biology
- Hatton, Irene May Susan, BSc** Geographical & Environmental Sciences
- Hellberg, Barbara Luise, BSc** Applied Mathematics
- Hoffmann, Teresa Leonie, BSc** Biology
- Hutton, Liam Dermot, BSc** Engineering Geology
- Kearney, Teresa Catherine, BSc** Biology
- King, Gerald Charles, BSc** Biology
- Kuppen, Mogamberi, BSc** Physics
- Meadon, Sean Brian, BSc** Engineering Geology
- Miller, Warwick Richard, BSc** Engineering Geology
- Mkhwanazi, Wiseman Thokozani, BSc** Applied Mathematics
- + **Moodley, Kuben, BSc** Chemistry

* = Degree awarded *cum laude*
+ = Degree awarded in the first class

(Department of Mechanical Engineering)

Dutton, Christiaan Joseph, BScEng

Thesis : Mathematical modelling of rolling stock impacts.

Hobson, Terence Cecil, BScEng

Thesis : Aerodynamic losses resulting from injection of coolant flow from turbine nozzle blades.

Legemaate, Brian Leendert, BScEng

Thesis : Fluid dynamic performance mapping and aerodynamic loading of a large axial flow fan.

* **Makins, Roger Kevin, BScEng**

Thesis : The buckling, vibration and bending characteristics of cross-ply laminates containing matrix cracks.

Mapstone, Anthony Rory, BScEng

Thesis : Control phenomenon in mechanical vapour compressors.

MASTER OF SCIENCE IN LAND SURVEYING

Discipline

Truter, Robert Mennen, BScSur Surveying and Mapping
Thesis : Design of a programming suite for the transfer of data from the existing information system for informal settlements to a predetermined GIS, together with special procedures for the required analysis.

MASTER OF MEDICINE

Discipline

Courtenay, Michael Trevor, MB ChB (Cape Town) Otorhinolaryngology
Emerson, Charles Paul Davis, MB ChB (Cape Town) Community Health
Garbharran, Hari Narain, MB ChB Psychiatry
Hacking, Dayle Jeremy Harold, MB ChB (Zimbabwe), Radiotherapy & Oncology
MRCS (Edinburgh), LRCP (Edinburgh), LRCP&S (Glasgow)
Hill, Alan John, MB ChB (Cape Town) Anaesthetics
Landers, Gregory Ashley, MB ChB Radiotherapy & Oncology
Mkize, Dan Lamla, MB ChB, MFGP(SA) Psychiatry
Naidoo, Segaran Ramalu, MB ChB Forensic Medicine
Perumal, Ganas, BSc (UDW), MB ChB (Natal) Forensic Medicine
Rajah, Viven, MB ChB Otorhinolaryngology
Ross, Graham Alexander, MB ChB (Zimbabwe) Radiotherapy & Oncology
Rugg, Terence Anthony, MB ChB (Zimbabwe) Radiotherapy & Oncology
Tungay-Desmarais, Gideon Peter, MB ChB, MMed(Pharm) (Pret) Otorhinolaryngology
Wadee, Shabbir Ahmed, MB ChB, Forensic Medicine
Way, Raymond Keith, MB BCh (Witwatersrand) Ophthalmology

* = Degree awarded *cum laude*

+	Mortimer, Bruce, BSc	Engineering Geology
	Mtembu, Langa Zola, BSc	Chemistry
	Muir, David John, BSc	Geology
	Munsami, Valanathan, BSc	Physics
	Murphy, John Edward, BSc	Engineering Geology
	Naicker, Ninmaalan, BSc	Physics
	Paetz, Jurgen Siegfried Hans, BSc	Engineering Geology
	Patel, Jyonita, BSc (Bombay)	Chemistry
	Pernegger, Jo Ann, BSc (Witwatersrand)	Engineering Geology
	Pietersen, Kevin John, BSc	Geology
	Pitts, Judy Margaret, BSc (Witwatersrand)	Geographical & Environmental Sciences
	Powell, Alan Roy, BSc	Computer Science
	Raubenheimer, Janine, BSc	Biology
	Reddy, Visvanathan Subba, BSc	Geology
	Rejdych, Diana Marianna, BSc	Chemistry
+	Roberts, Michael Austin, BSc	Biology
	Robertson, John Mackinnon, BSc	Geology
	Ross-Jones, Bradley Steve, BSc	Physics
+	Sewambar, Soraya, BSc	Mathematical Statistics
	Sithole, Christian Msindiseni Linda, BSc	Chemistry
	Smith, Ian William Sands, BSc	Chemistry
	Smith, Jacqueline Anne, BSc	Biology
	Stewart, Gwethlyn Meriel, BSc	Biology
	Sweby, Deborah Lee, BSc	Biology
	Tonkinson, Charles Henry Llewelyn, BSc	Chemistry
	Turner, Audrey Michelle, BSc	Geology
	Yates, Craig Brooke, BSc	Computer Science

+ = Degree awarded in the first class

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

Ameen, Zaki Haroon
Amod, Abdul Kader
Amod, Farida Cassim
Amod, Samshad Begum
Aphane, Maduo
Bayat, Bilkees Ismail
Benitha, Romela
Biyana, Wanda, BSc(Hons) (UFH)
Bomela, Hlwelekazi Noludwe
Bovungana, Andile
Brijball, Rajesh Brijnarayan
Chinniah, Kogielambal
Dindar, Fareed Suliman
Ebrahim, Irshaad Osman
Gaga, Sisanda
Gani, Akbar
Garach, Yatish Manharlal
Govender, Harrikrishnan
Govender, Parimala
Govender, Preshene
Hassim, Shamimah
Hoosen, Julie Karodia
Johnson, Melonie Bryonie
Khoabane, Simon Dingane
Khubedu, Mpho Samuel
Khumalo, Sydney Bongani
Koovarjee, Roshen Vijay
Limbada, Ahmed Goolam Hoosen
Lutchmeenarain, Rameshwar
Mabaso, Themba
Madhanpall, Niresh
Madurai, Dhavagan
Maforah, Mervyn Jacob Kgotso, BSc (Cape Town)
Maharaj, Rickesh Ramsankar

Maharaj, Sanjay Umashunker
Mahomed, Aslaam Dawood
Makhubela, Alfred Dudu
Makhubu, Mbuyisa James
Mall, Riaz Abdool Haque
Mancotywa, Prince Mkuseli
Maphaha, Ntshavheni Peter
Mbeje, Goodman Vusumuzi
Medley, Priyadarshni
Mgudlwa, Notende Botwekazi, BSc (UFH), BEd (Unisa)
Moodley, Anandan Angamuthu
Moodley, Loshini
Moodley, Pragasen Perumal
Moosa, Muhammed Shiraz
Motala, Farhana
Mzoneli, Lancelot Nhlanhla Fana
Nadesan, Poovalingam
Naidoo, Kavindra Gunarathanum
Naidoo, Kimesh Loganathan
Naidoo, Mahadev Logaindra
Naidoo, Namasha Mariemuthoo
Naidoo, Nirmala
Naidoo, Rajaspari Daliah
Naidu, Clive Andrew
Naidu, Thamothran Sivanundan
Naidu, Venodharan
Nteta, Molefi Zebilon, BSc (UFH)
Nzuza, Moses Gcinumthetho
Omar, Ismail Mahmood
Padia, Kamila
Panday, Virjanand Hansraj
Parthab, Omkar
Paruk, Nafisa
Pather, Adashnee Yagalai

Pillay, Srinivasan Savabathy
 Ramlall, Suvira
 Rampedi, Mabitje Jackson
 Ramsamy, Nadaraj Moorthi
 Salduker, Mahomed Shaquir
 Salejee, Yusuf Mahomed
 Savrimuthu, Sylvester Michael
 Seedat, Soraya

Seeraj, Anesh Jaichan
 Shaik, Abdool Samad
 Singh, Omesh Nirbundhu
 Singh, Shamila Dowlath
 Valjee, Manish
 Vanmari, Manoj Jugjeevan
 Xamlashe, Mtandeki Matthew

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF

BACHELOR OF SCIENCE IN ENGINEERING

BACHELOR OF SCIENCE IN ENGINEERING

(Agricultural Engineering)

Bartleet, Sean Keith
 Brodie, James Roger
 de Wet, David Louis
 Lewin, Ross Charles
 Pilson, Richard Adair

Smith, Warwick Marshall
 van Egmond, Dirk Pieter
 Welter, Jan Theo
 Zartmann, Mark

(Chemical Engineering)

Baddock, Larry André Dominic
 Barnett, Jacqueline Lisa
 Brakenridge, Nigel Colin
 * Chetty, Clement Emmanuel
 Chetty, Surendra
 * Gordge, Wendy Anne
 Govender, Sivaluxmi
 Hamilton, Timothy Clive
 Hubbard, Grant Michael
 Johnson, Zane Mark
 Jones, Glynis Edna

Jooma, Ashraff
 Jordens, Marc
 * Karodia, Moosa Essack
 Moodley, Sugenthiran
 Naidoo, Surendra Gungayiah
 Poorun, Andrew
 Ramthol, Rakesh Haricharan
 Rushin, Malcolm Stuart
 * Swart, Andrew Fugard
 Thakor Vallabh, Shadana

(Civil Engineering)

Aucamp, Casper Andrew
 Banks, Kevin, BScEng (Western Kentucky)
 Baxter, Charles Churchill
 Bingham, Frank Clifford Wells
 Braithwaite, Errol John
 Brown, Kevin Robert
 Castle, Darryll John
 Cowper, Allison Jane
 Craig, Douglas

Deacon, Mark Philip
 Dunlop, Neill Anthony
 Ferreri, Tullio
 Forrest, Peter Lyndsay
 Geekie, Douglas John
 George, Hylton Bernard
 Govender, Kubaren
 Haliburton, Andrew John
 Joubert, Simon Gerard

* = Degree awarded *cum laude*

Pillay, Srinivasan Savabathy
 Ramlall, Suvira
 Rampedi, Mabitje Jackson
 Ramsamy, Nadaraj Moorthi
 Salduker, Mahomed Shaquir
 Salejee, Yusuf Mahomed
 Savrimuthu, Sylvester Michael
 Seedat, Soraya

Seeraj, Anesh Jaichan
 Shaik, Abdool Samad
 Singh, Omesh Nirbundu
 Singh, Shamila Dowlath
 Valjee, Manish
 Vanmari, Manoj Jugjeevan
 Xamlashe, Mtandeki Matthew

BACHELOR OF SCIENCE (PHARMACY)

Adams, Wendy Jacqueline
 Botha, Robin Nicolas
 Coetzer, Tandy Edna
 Davis, Aneesa
 Govender, Vinayagic
 Govender, Viveka
 Harries, Catherine Sara
 Hoption, Janet Wong
 Latib, Mohamed Riaz

Meij, Veronica
 Ostler, Sandra Lynne
 Rampurtab, Roshina
 Reddy, Prabashni (Pharmaceutical Chemistry)
 Sewdarsen, Ashwin
 Stromnes, Theresa Cecile
 Suleman, Khatija Shaik (Pharmacology)
 Velayudan, Vanishree

BACHELOR OF SCIENCE IN ENGINEERING

(Agricultural Engineering)

Bartleet, Sean Keith
 Brodie, James Roger
 de Wet, David Louis
 Lewin, Ross Charles
 Pilson, Richard Adair

Smith, Warwick Marshall
 van Egmond, Dirk Pieter
 Welter, Jan Theo
 Zartmann, Mark

(Chemical Engineering)

Baddock, Larry André Dominic
 Barnett, Jacqueline Lisa
 Brakenridge, Nigel Colin
 * Chetty, Clement Emmanuel
 Chetty, Surendra
 * Gordge, Wendy Anne
 Govender, Sivaluxmi
 Hamilton, Timothy Clive
 Hubbard, Grant Michael
 Johnson, Zane Mark
 Jones, Glynis Edna

Jooma, Ashraff
 Jordens, Marc
 * Karodia, Moosa Essack
 Moodley, Sugenthiran
 Naidoo, Surendra Gungayiah
 Poorun, Andrew
 Ramthol, Rakesh Haricharan
 Rushin, Malcolm Stuart
 * Swart, Andrew Fugard
 Thakor Vallabh, Shadana

(Civil Engineering)

Aucamp, Casper Andrew
 Banks, Kevin, BScEng (Western Kentucky)
 Baxter, Charles Churchill
 Bingham, Frank Clifford Wells
 Braithwaite, Errol John
 Brown, Kevin Robert
 Castle, Darryll John
 Cowper, Allison Jane
 Craig, Douglas

Deacon, Mark Philip
 Dunlop, Neill Anthony
 Ferreri, Tullio
 Forrest, Peter Lyndsay
 Geekie, Douglas John
 George, Hylton Bernard
 Govender, Kubaren
 Haliburton, Andrew John
 Joubert, Simon Gerard

* = Degree awarded *cum laude*

* Kalyan, Dharmesh Narsee
 Landmark, Phillip Sverre, BScEng
 (Witwatersrand)
 Mann, Robert Craig
 McKay, Andrew
 McQuirk, Deon Michael
 Molenaar, Hugo Edward
 Morris, Gregory John
 Musgrave, James Clarke

Schaper, Craig
 Scruton, Simon Robert
 Shuttleworth, Peter Anthony
 Sieweke, Andre Bernard
 Smith, Warren John
 Strachan, Brett John
 Theron, Garth
 van der Walt, Victor Grant
 Wallace, Charles Ian

Seeveka

35

(Electrical Engineering)

Beepath, Vijendra
 Bode, Henry
 Combrink, Richard Anthony
 Dhrochand, Rajesh
 Frame, Mark Andrew
 Freese, Conrad Remo
 Gillespie, Janet Faye
 Hayes, David Walter
 Jooste, Peter
 Khayyam, Shahriar

Matlhabegoane, Kgadile Samuel
 Maynard, Maryeen Therese
 McQueen, Jeffrey Robert
 Mohabir, Harish
 Setati, Benny
 Vajeth, Riaz Amod
 van der Linde, Frederik
 van Zyl, David
 Wessels, Arden Louis

19

(Electronic Engineering)

Barnes, Patrick Alan Lambeth
 Busse, Ashley Curtis
 Catlin, Gary John
 Claude, John Benjamin
 Copley, Thomas
 Davis, Michael Francis
 Divall, Paul Murray
 # Domoney, Colin Michael
 Donaldson, Brian Howard
 Elliott, Steve Dallas
 Elsner, Martin Gert
 Foulis, Bruce David
 Garbutt, Michael Fawcett
 Gillespie, Andrew Malcolm
 Goosen, Shirley Elspeth
 Groen, André Jacobus
 Groothedde, Harmen Wessel Weyland
 Hamalainen, Jyri Pekka
 Hiralal, Manojkumar
 Hulme-Jones, Lisa Marina
 John, Lester Ryan
 Katz, Moran

Kemp, Graham Vincent
 Larsen, Gernot Egon
 Lawson, Michael Glen
 Louw, Shaun Lawrence
 Lowe, Craig Hardwicke
 MacColl, Barry Stuart
 Maipath, Jayendra
 Mavimbela, Mondli Mathews
 McGough, Hilton Crawford
 * Meijer, Carl Alko
 Molefe, Philemon Dipolelo
 Naidoo, Julian Kevin
 Naidoo, Navindran Ramsamy
 Neveling, Gary Arnold
 Ollive, Daryl Michael
 Patrick, Steven Roger
 Punnett, Liza Marie
 van der Vlis, Vincent John Spencer
 van der Walt, Tjaart Michael
 van Wyk, Stephanus Johannes
 * Webster, Kevin William Campbell
 Wicks, Matthew Charles

44

(Mechanical Engineering)

Alcock, Sean Paul
 Aldridge, David Douglas
 Ambler, Iain Malcolm
 # Batohi, Rajeev
 Cassidy, Adrian Gregory
 Coady, Stephen
 Cottino, Andrea Filippo
 Cugnet, Marc Louis Henri
 Culverwell, Clive Courtney Lovedere
 Cuninghame, Allan Robert
 * Dixon, Andrew Ivan

Elliott, Paul Robert
 # Farah, Michael Wayne
 Gil, José Carlos
 Hofmann, Jan
 Human, Thys
 * Ingram, Clive Francis
 Koch, André
 Kraus, Paul Anthony
 Langa, Sibusiso Thokozani Cyril
 Larkan, Brent Lionel
 Levine, John Charles

* = Degree awarded *cum laude*
 # = Degree awarded *summa cum laude*

MR CHANCELLOR

I HAVE THE HONOUR TO PRESENT FOR THE DEGREE OF

BACHELOR OF SCIENCE IN LAND SURVEYING

BACHELOR OF SCIENCE IN LAND SURVEYING

* Baker, Kevin Douglas
Dighero, Paolo
Freese, Ivan Hubert
Hatch, Evan John
Hodson, Timothy Albin

Pettit, Gary
Prescott, Larry
Smith, Kevin Paul 10
Vincent, Graeme
Walsham, Douwe Alec Christopher

184

BACHELOR OF SCIENCE

* Ainslie, Ian Richard
Badenhorst, Paul William (Cell Biology,
Chemistry)
Barbour, Graham David
Bartel, Deborah Ann (Psychology)
Beley, Pierre Andre
Bennie, Kerren
Bernon, Elizabeth Ann
Bertossi, Riccardo
Bester, Rae
Bisset, Carol Jayne
Botha, Lorraine
Brakenridge, Julie Margaret
Brett, Bonnie
Briser, Robin Shaun
Broadbent, Jane Karen
Bullock, Allan Michael Tinley
Clemmans, Konrad Theodore
Clinning, Sean Graham
Cox, Amanda Jane
Daly, Sharon Anne
David, Dion Augustine
Dhrampal, Sharmintha
Dickens, Bernard Joseph
Duigan, Barbara Lynn
Dunn, Michael John
Easson, Kerry Ann
Ebrahim, Hawa Bibi Cassim
Farman, Kerry Lee
Ferguson, Bradley John
Forbes, Andrew

Ford, Elizabeth Sarah Wynne
Garz, Cathryn Lee
Gazzard, Robyn Philippa
* Gerber, Priscilla (Computer Science)
Gold, Catherine Jean
Gounden, Vinesh Kreehan
Govender, Nischendhren (Mathematical
Statistics)
Govender, Rajendran (Mathematics)
Haley, Michael Blake
* Harmer, Mark Stuart (Mathematics)
Hogan, Charmaine
Hutson, Celia Yvonne
Jamal, Irshad Essack
Johnson, Kim
Kattenhorn, Simon Allen
Khoza, Ronald Mafika
Kirk, Megan Michelle
Kirk, Sarah Anne
Lawrence, James Vincent
Leat, Neil Grant
Lee, Sarah Joanna
Lortan, Darren Brendan
Lotter, Clint Einar
Maharaj, Adrienne Melanie
Maharaj, Ajendra Mohanand
Mahomed, Hamdani Ahmed
* Maistry, Gavin Raj (Mathematical Statistics,
Applied Mathematics)
Mayor, Laura Jane
Mbabane, Mveliso Brutus

* = Degree awarded *cum laude*

= Degree awarded *summa cum laude*

Major subjects which candidates have passed with distinction are shown in brackets after their names.

Lilje, Mark
 Maharaj, Pran
 # Marais, Sarel Johannes
 * McDonald, Gary
 McNamara, Patrick Raymond
 Middleton, Martin Albert Milne
 Rees, Alun Brant
 Shirley, Mark Wayne
 Shuttleworth, Michael Kenneth
 Slater, Andrew Howard
 Smith, Peter Craig
 # Stapleton, Gavin Malcolm

Stenslunde, Christian John
 Steyn, Richard Bevil
 Stuttaford, Peter John
 * Summers, Evan Bryan
 # Sykes, Kevin
 Taylor, Geoffrey David
 Theron, Malcolm Christian
 van Duyker, Errol Glenn
 van Selm, Richard Christopher
 von Staden, Patrick Ernst
 Winterburn, Michael Craig
 Woolley, Robin

46

BACHELOR OF SCIENCE IN LAND SURVEYING

* Baker, Kevin Douglas
 Dighero, Paolo
 Freese, Ivan Hubert
 Hatch, Evan John
 Hodson, Timothy Albin

Pettit, Gary
 Prescott, Larry
 Smith, Kevin Paul
 Vincent, Graeme
 Walsham, Douwe Alec Christopher

10

184

BACHELOR OF SCIENCE

* Ainslie, Ian Richard
 Badenhorst, Paul William (Cell Biology, Chemistry)
 Barbour, Graham David
 Bartel, Deborah Ann (Psychology)
 Beley, Pierre Andre
 Bennie, Kerren
 Bernon, Elizabeth Ann
 Bertossi, Riccardo
 Bester, Rae
 Bisset, Carol Jayne
 Botha, Lorraine
 Brakenridge, Julie Margaret
 Brett, Bonnie
 Brister, Robin Shaun
 Broadbent, Jane Karen
 Bullock, Allan Michael Tinley
 Clemmans, Konrad Theodore
 Clinning, Sean Graham
 Cox, Amanda Jane
 Daly, Sharon Anne
 David, Dion Augustine
 Dhrampal, Sharmintha
 Dickens, Bernard Joseph
 Duigan, Barbara Lynn
 Dunn, Michael John
 Easson, Kerry Ann
 Ebrahim, Hawa Bibi Cassim
 Farman, Kerry Lee
 Ferguson, Bradley John
 Forbes, Andrew

Ford, Elizabeth Sarah Wynne
 Garz, Cathryn Lee
 Gazzard, Robyn Philippa
 * Gerber, Priscilla (Computer Science)
 Gold, Catherine Jean
 Gounden, Vinesh Kreehan
 Govender, Nischendhren (Mathematical Statistics)
 Govender, Rajendran (Mathematics)
 Haley, Michael Blake
 * Harmer, Mark Stuart (Mathematics)
 Hogan, Charmaine
 Hutson, Celia Yvonne
 Jamal, Irshad Essack
 Johnson, Kim
 Kattenhorn, Simon Allen
 Khoza, Ronald Mafika
 Kirk, Megan Michelle
 Kirk, Sarah Anne
 Lawrence, James Vincent
 Leat, Neil Grant
 Lee, Sarah Joanna
 Lortan, Darren Brendan
 Lotter, Clint Einar
 Maharaj, Adrienne Melanie
 Maharaj, Ajendra Mohanand
 Mahomed, Hamdani Ahmed
 * Maistry, Gavin Raj (Mathematical Statistics, Applied Mathematics)
 Mayor, Laura Jane
 Mbabane, Mveliso Brutus

* = Degree awarded *cum laude*

= Degree awarded *summa cum laude*

Major subjects which candidates have passed with distinction are shown in brackets after their names.

- | | |
|---|---|
| McGee, Jennifer Jane | Ramnarayan, Dinesh |
| McGillewie, Susan Lynne | Rautenbach, Carl Andrew |
| McNeill, Gayle | Rawat, Mahomed Amod Saeed |
| * Metcalf, Gillian Elizabeth (Computer Science) | Rebello, Teresa Maria Gomes |
| Meth, Deanna Lorraine | * Rice, William Kenneth MacLeod |
| Miller, David Roy | (Mathematics) |
| Mofokeng, Lorraine | Richards, Dean Sean |
| Moollan, Warren Charles | Roodt, Johnny Mark |
| Moopanar, Selvandren | Samuels, Llewellyn Peter |
| Moran, Craig | Sapir, Carmen Cindy |
| Moscrop, Heather | Saunderson, Iain James |
| Msibi, Leonard Lucky | Singh, Sharendra |
| Munsami, Valanathan | Smith, Alan Roy (Applied Mathematics, |
| Mzolo, Mbuso Noel Trevor | Computer Science) |
| Naidoo, Thirumeni | * Smithdorf, Vivienne (Computer Science, |
| Naidoo, Vinesh | Mathematics) |
| Nicholls, Richard Douglas | Smoog, Ingrid |
| * Nicholson, Gary Dean (Computer Science) | Sparks, Andrew Peter Walsh |
| * Nicholson, Grant Robert (Computer Science) | Stephens, Shawn |
| Niedinger, Sabina | Teversham, Charles |
| Oosthuysen, Jaques André | Thomas, Kim |
| Paikin, Kim Rosemary | Thompson, Ivan Sackēle |
| Patel, Zarina | Vadeveer, Shantakanthi |
| Peacey, Carina | van Blomestein, Bradley Ian |
| Pearman, Craig Stuart | * van den Berg, Jennifer Ruth (Chemistry) |
| Pedlar, Shannon Patrick James | van Es, Françoise |
| Peté, Angela Diane | Walters, Andrew Mark |
| Pierzchalski, Sharon | Ward, Susan Sharon |
| Pillay, Sivantheren | Weerts, Kevin Andrew |
| Polfreman, James Digby | * Wittenberg, Ralf Werner (Chemistry, |
| Pollock, Anne Margaret | Mathematics, Physics) |
| Porée, Ian Douglas (Chemistry) | Wood, Gregory Bancroft |
| Potgieter, André | Woods, Katharine Anne |
| Ramdew, Renee | Young, Andrew David |
| Ramluggan, Sundil Radhikranath | |

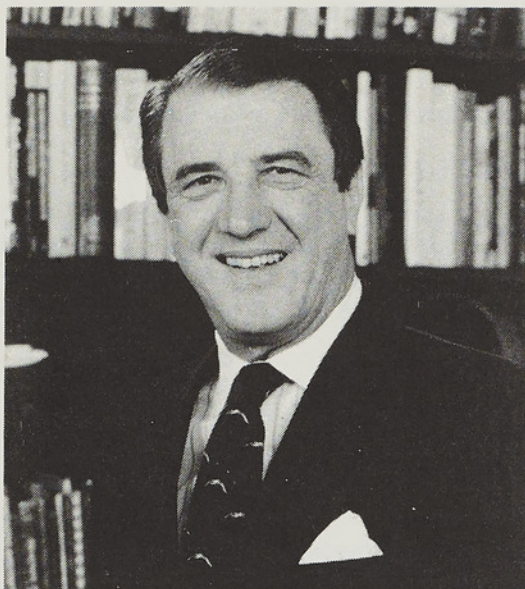
* = Degree awarded *cum laude*

Major subjects which candidates have passed with distinction are shown in brackets after their names.

DIPLOMATES

POSTGRADUATE DIPLOMA IN HEALTH SERVICES MANAGEMENT

- | | |
|--|--|
| Dean, Robin Brockley, BDS (Edinburgh) | Rahman, Abul Kalam Mohammed Mahmudur, |
| Nakin, Damian Crysogonus Tsepang, MB ChB | MB BS (Bangladesh) |
| Padayachee, Selvaraj, BSc (UDW), BChD | Yoganathan, Nagalingam, MB BS (Ceylon) |
| (UWC) | |



**CONFERMENT OF THE DEGREE OF
DOCTOR OF SCIENCE IN ENGINEERING
HONORIS CAUSA, UPON
PETER BARRY STUART LISSAMAN**

Peter Lissaman was born in Durban and educated at Cordwallis, Michaelhouse and the University of Natal, where he obtained his BScEng degree in the Department of Mechanical Engineering in 1951. He went on to Cambridge on an Elsie Ballot Scholarship (MA Mathematics 1954), California Institute of Technology (MS Aeronautics 1955 and PhD Aeronautics 1965).

From 1958 to 1961 Dr Lissaman was Assistant Professor at the US Naval Postgraduate school in Monterey, California, instructing graduate students in aerodynamics, structures and flight tests. He was an Assistant Professor of Aeronautics at the California Institute of Technology from 1962 to 1969, teaching and supervising graduate research in applied fluid dynamics. Prior to joining AeroVironment in 1971 as a founding Principal, he was Director of the Continuum Mechanics Laboratory at Northrop's corporate laboratories.

A principal aerodynamicist - theoretician of the Gossamer Condor team, Peter Lissaman had a large part in the design of the machine, the first man-powered vehicle ever to achieve sustained flight. The same airfoils he designed were used on the Gossamer Albatross, the human-powered airplane which made the historic crossing of the English Channel in June 1979. For his contribution to the Gossamer aircraft he was awarded the 1979 Longstreth Medal by the Franklin Institute and the Kremer Medal from the Royal Aeronautical Society of Great Britain.

Dr Lissaman is the author of more than 100 technical papers involving wind energy, aerodynamics, airfoil design and turbulence, and has served on many national committees associated with energy, aeronautics and high-speed ground transportation.

He was appointed American Institute of Aeronautics and Astronautics Distinguished Speaker from 1972 to 1979 and in 1980 he received the E G Malherbe Meritorius Award from the Convocation of the University of Natal.

The University of Natal honours Dr Lissaman for his outstanding contribution to Education, Science and Technology.

UNIVERSITY FELLOWSHIPS

University Fellowships have been instituted in order to give special recognition to members of the permanent academic staff for distinguished work of special merit in their chosen fields. The standard of the work is judged primarily by publications and the contribution these have made in the particular field. Public presentation of work in the performing and fine arts may be regarded as equivalent to research and publications.

Roland Edgar Schulze: Professor Schulze is one of South Africa's leading hydrologists. His interest in modelling water utilisation, irrigation, run-off and crop production systems, together with his background in the Environmental Sciences, have enabled him to supervise research in the Faculties of Engineering, Science and Agriculture. The national and international research activities of the group he leads resulted in the Department of Agricultural Engineering being declared a "Recognised Centre of Expertise" by the Water Research Commission in 1986.

He has published over 50 papers in refereed journals, 45 others in conference proceedings, two books and numerous reports and user manuals. He is ranked in the Comprehensive Support category by the Foundation for Research Development and was appointed an *Ad Hominem* Professor in the Department of Agricultural Engineering in 1987.

UNIVERSITY ANTHEM

Natale solum canimus
Cui sol adest faustissimus
Almamque matrem dicimus
Aurorae Stellam colimus.

*O vivas, in aeternum, vivas,
Alma mater, quae nos ditas,
Fove serva protege
Stella aurorae signum Natale.*

Hic juvenes addiscimus
Ad artes corda ferimus
Qui domus species sumus,
Quocumque nos dividimus.

Hinc etsi nos discedimus
Scottarum rus meminimus
Ad Umsinduzi tendimus
Mentesque saltem vertimus.

GAUDEAMUS IGITUR

Gaudeamus igitur, juvenes dum sumus; (Rep)
Post jucundam juventutem, post molestam senectutem,
Nos habebit humus, nos habebit humus.

Ubi sunt qui ante nos in mundo fuere? (Rep)
Vadite ad superos transite ad inferos,
Ubi jam fuere, ubi jam fuere.

Vita nostra brevis est, brevi finietur; (Rep)
Venit mors velociter, rapit nos atrociter,
Nemini parcetur, nemini parcetur.

Vivat Academia, Vivant Professores, (Rep)
Vivat membrum quodlibet, vivant membra quaelibet,
Semper sint in flore, semper sint in flore.

Vivant omnes virgines, faciles, formosae, (Rep)
Vivant et mulieres, dulces et amabiles,
Bonae, laboriosae, bonae, laboriosae.

Vivat et respublica, et quae illam regit; (Rep)
Vivat nostra civitas, Maecenatum caritas.
Quae nos his protegit, quae nos hic protegit.

Pereat tristitia, pereant osiores, (Rep)
Pereat diabolus, quivis antiburschius,
Atque irrisores, atque irrisores.

