

NG

DURBAN

AMENDED

Graduation/Diploma Ceremony

Faculty of Engineering

Saturday, 8 April 2000

10h0

R â\200\224.

Durban City Hall

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The Chancellor

The Chancellor is an office that goes back to antiquity: the original Chancellor or cancellarius (as the office was known) regulated access to the Roman Tribune. In medieval times, the office became associated with the heads of the writing departments of the early kings. Because so few people were literate, a chancellor was necessarily learned. This is why the heads and spokespersons of the early universities were also accorded the title. More recently, the office has become largely symbolic. The executive head of a university is its vice-chancellor.

Justice Pius Langa is the sixth Chancellor of the University of Natal. His predecessors are : The Honourable D G Shepstone (1949-1966), Dr G G Campbell (1967-1973), Dr B A Armitage (1973-1983), the Honourable R N Leon QC (1983-1992), and Archbishop D E Hurley (1993-1998).

The Mace

The Chancellor's Mace is used on ceremonial occasions presided over by the Chancellor and is regarded as the Chancellor's staff of office. It symbolises the University's protection of its Chancellor.

The use of the mace as a symbol of authority has a long history. The head of a copper mace, which apparently dates back to the 12th Century before Christ, has been excavated at Beyce Sultan in Asia. In the early centuries, churchmen who went to war often carried a mace in preference to a sword. On one side of the mace-head was beautifully decorated with the owner's emblem and on the other side was as a large knob which served as a weapon, but was always round as a reminder of church law forbidding the shedding of blood. In the early centuries the mace was a symbol of the king's authority. During the power struggle between the king and the Commons in the 13th Century, the king gave the speaker the mace as a symbol of his indemnity against arrest.

The Mace was designed by Mr G H Atkins, senior lecturer in sculpture in the University's Department of Fine Arts. The Mace was made in England, it was first used at the 1970 graduation ceremonies.

The Armorial Bearings (see front cover)

The armorial bearings of the University of Natal were awarded by the College of Arms in London.

The two black wildebeest come from the arms of the Province of KwaZulu-Natal. They are shown in full course to symbolise movement and progress. The two open books represent the universal heritage of knowledge and the two centres of the University, Durban and Pietermaritzburg. The five pointed star refers to the naming of Natal by Portuguese navigators when they landed for the first time at Durban on Christmas Day in 1497. Stella Aurorae (star of the dawn) symbolises the role of the University in bringing to light new knowledge and spreading the enlightening influence of education.

Academic Dress

The wearing of gowns by judges, ministers, teachers and scholars is an ancient and significant

ant custom.

When the graduating students at universities receive their diplomas or degrees, they, too (and for some, only once in their lives) wear the caps and gowns and so participate in this long tradition. By wearing the ancient regalia, they join hands with students past and students present.

In modern academic ceremonies the standard cap and gown are almost universally worn. Of all the components of the costume, the hood conveys the greatest amount of information: it makes clear the level of the degree, the faculty in which it was given, and the institution which awarded it.

Convocation

After being capped by the Chancellor, each graduate moves across the stage and hands the hood to the President of Convocation (or representative). The President places the hood upon the graduate's shoulders.

At the end of the ceremony, after the Chancellor's procession has left the stage, the President leads a procession of the new graduates out of the hall, row by row, to symbolise their acceptance into, and future membership of, the Convocation of the University of Natal, the statutory body through which graduates have the opportunity to play a continuing role in the affairs of the University.

Kec, t Nov. 200!

Chancellor

Vice-Chancellor

Chairman of Council

Senior Deputy Vice-Chancellor

Deputy Vice-Chancellor

(Academic)

Deputy Vice-Chancellor

(Research and Development)

Deputy Vice-Chancellor

(Students and Transformation)

Pro Vice-Chancellor

(Director: Public Affairs and NUDF)

Pro Vice-Chancellor

Pro Vice-Chancellor

(Academic)

Registrar

President of Convocation

Orator

OFFICERS

The Honorable Justice P N Langa

Deputy President of the Constitutional Court

Bluris. LLB(Unisa), LLD(honoris causa) (UNIZUL)

B M Gourley

CTA(Witwatersrand). MBL(Unisa). HonLLD(Nott)

A Rogoff

CA(SA)

D A Maughan Brown

BA(CapeTown) MA(Cantab). DPhil(Sussex)

A C Bawa

BSc(Unisa), BSc(Hons) (Natal). MSc(UD W), PhD(Durham)

E M Preston-Whyte

BSocSc(Hons). PhD(Natal)

E A Ngara

BA(Hons).MPhil. PhD(London)

J D Volmink

BSc(Hons) (UWC).PhD(Cornell)

P M Zulu

BA(Hons) (Unisa).MSocSc.Phd(Natal)

A M Kaniki

BA[,SQambia),MS(I//znoisJ.Phd(Tâ\200\231insbzu*gh)

P M Malgas

BA(Hons) (UWC)

T Zietsman

BA(Natal). HED(Stell)

D Herwitz

BA(Brandeis) . MA.PhD(Chicago)

DEAN OF FACULTY

Engineering

L W Roberts

PrEng MScEng(Natal) . PhD(Londor)

DIC MSAIMechE MASME

PROGRAMME

The Academic Procession enters the Hall
THE VICE-CHANCELLOR CONSTITUTES THE CONGREGATION

WELCOME TO GUESTS

The Deputy Vice-Chancellor (Academic)

ADDRESS

The President of the Studentsâ\200\231 Representative Council

PRESENTATION OF DOCTORAL GRADUANDS

The Dean

ADDRESS

The Vice-Chancellor

MUSICAL INTERLUDE

The University of Natal Chorale
Conductor: S E Mkhulisi, BMus(Unisa). BA(Hons) (Natal)

PRESENTATION OF GRADUANDS AND DIPLOMATES

The Dean

THE VICE-CHANCELLOR DISSOLVES THE CONGREGATION

NATIONAL ANTHEM

The Congregation is invited to join in the singing of the National Anthem

The Academic Procession leaves the hall, followed by the Convocation Procession

The congregation is requested to stand
while the procession enters and leaves the Hall

Only officially authorised persons may take photographs and record the ceremony
Please ensure that cell phones are turned off

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Doctor of Philosophy in the Faculty of Engineering
Discipline

Barry, Michael Brendan, BSc. MBA(C apecmm) ... Land Surveying
Thesis: Evaluating cadastral systems in periods of uncertainty: a study of Cape Townâ\200
\231s Xhosa-
speaking communities
(Dr C Fourie)

Judge, Garth, BScEng .. Electronic Engineering
Thesis: Protocols for voice/data integration in a CDMA packet radio network
(Professor F Takawira)

Naidoo ValereIMScInTr I dmaied = 12 e S s R S Chemical Engineering
Thesis: Municipal wastewater characterisation: application of denitrification batch tests
(Professor C A Buckley)

Pillay Narrainen, Rosy, BScEng
Thesis: Call admission control in CDMA cellular networks
(Professor F Takawira)

..... Electronic Engineering

von Klemperer, Christopher Julian, MScEng..... Mechanical Engineeri
ng
Thesis: Optimisation of the process parameters of the resin film infusion process
(Professor V E Verijenko, Professor E Morozov)

Master of Science in Engineering

Discipline

Asmall, Ismail Goolam Hoosen, BSCENG.....ccocoiiiiis Electrical Engineeri
ng
Dissertation: Visual programming and run-time visualisation for motion control applications

(Professor R G Harley)
Barnes WA ALewa) Ohn BiS Âç iy g e o e Ve s Agricultural Engineering
Dissertation: Simulation modelling of sugarcane harvest-to-crush delays

(Professor A C Hansen)
Esteves, Carlos Alberto Vaz, BSCENG.....ccooooiiiiiiicis Civil Engineering

Coursework and Dissertation: The impact to Pinetown Municipalityâ\200\231s road network res
ultant
from a change in the permissible legal axle mass for vehicles in South Africa
(Mr P R Everitt)

Gardner, Grant Alex William, BSCERG.....c.cooooiiiiiiiccs Chemical Engineerin
g
Dissertation: Pinch analysis: as a tool for the management of products, water and effluent
at a

chloro-alkali complex
(Professor C A Buckley, Mr C J Brouckaert)

+ indicates degree awarded cum laude

Discipline

Gopal, Ajith Karamshiel, BSCERGccccccovvoirinii Mechanical Engineering
Dissertation: Conceptual design of a cost effective low mass prop for stope support in the mining industry

(Professor S Adali)

Hansen, Bronwyn Kathleen Ellen, BSCERG ... Electronic Engineering
Dissertation: In-line ISDN PABX monitoring system
(Professor R C S Peplow)

Jennings, Ronald Brian, BTech(NATTEK) ... Mechanical Engineering
Dissertation: Investigation into a computer-aided motion controller with vision control
(Dr G Bright)

MittenmaiergVanontEetral B Gl Rrer) e e Civil Engineering
Dissertation: Investigating the characteristics of the vertical reflecting profile

(Professor G G S Pegram)

Mullan, David James, BScEng ... Chemical Engineering
Dissertation: Modelling of the tubular filter press process

(Professor C A Buckley)

Mundell, Fergus Norman, BSCENG ... Electronic Engineering
Dissertation: Development of a high yield fabrication process for millimeter wave gunn diodes
(Professor A D Broadhurst, Professor H D Reader)

Narotam, Nirmal Keshavlal, BScEng Chemical Engineering
Dissertation: Development of artificial neural networks for the modelling and control of chemical processes
(Professor M Mulholland)

ReddyDeneshâ€Œ Sy oot i e e oo e e Mechanical Engineering
Dissertation: Locomotive characteristic and application variation influence on train dynamics and train design
(Professor S Adali)

SinghSNavInERUD]EPBSCE7CE s S e Electronic Engineering
Dissertation: Multi-user demodulation for DS-CDMS systems in fading channels
(Professor F Takawira)

Strachan, Lindsay Julian, HND(Civil) (NATTEK)ccccocooviiiiiiiciciciiiiiniin. Civil Engineering

Dissertation: An investigation into biological treatment systems for landfill leachate
(Professor H D Schreiner)

+ indicates degree awarded cum laude

Discipline

+ van der Linde, Frederik J, BScEngccoccocoiiiiiiiiiiiiiiiiiiene Electrical Engineering

+ Ascough, Gregory William

Dissertation: Parameters for a power frequency model of some deteriorated surge arresters
(Professor D A Swift)

van Niekerk, Rory David, BScEng

Dissertation: Dynamic measurement system for tyre rolling resistance
(Professor P W L Lyne)

Agricultural Engineering

+ indicates degree awarded cum laude

Master of Science in Surveying

Zungu, Mduduzi Orville Sikhumbuzo, BA(HONS) (UZ) ... Land Surveying

Coursework and Dissertation: The role of community participation in land management as part of settlement upgrade. Case study: Amatikwe
(Dr C Fourie)

Bachelor of Science in Engineering

(Agricultural Engineering)

Marechal, Alain Laurent

Butler, Andrew John Edward Tweddle, Peter Brian

Kedge, Caryn Julie

(Chemical Engineering)

Avanasigan, Natasha Mkhize, Sifiso

Avidi, Vemon Alastair Mlambo, Ezra Mdelwa

Devnarain, Prathisha Baruth Moodley, Kevan

Gopalan, Nassen Moodley, Paranjothi

Govender, Moganie Mooragan, Nigel

Govinder, Uvantheren Munusamy, Lionel

John, Brindha Samantha Murugen, Lee-Ann Hilda

Jugree, Anil Naidoo, Kribun

Kader, Musthakeem Naidoo, Paramespri

Karim, Abdul Muthaliep Naidoo, Rolandra Dayanand

King, Edgar Charles Naidoo, Yugandra

Madunchand, Vikesh Ramesh

Mahomed Haniff, Ebrahim Raza

Mamashela, Malose Salamina

Pillay, Kleantha

Pillay, Komala

Pillay, Neelandhree

+ indicates degree awarded cum laude

(9%)

Pillay, Sivarajen Moonusamy
Ramkumar, Reshma
Rampersad, Nirvanna
Roopchand, Jaynash Hemraj
Roy, Ravindra Sebnath
Sewnarain, Reshan

Sibisi, Sibusiso Alfred
Singh, Nirdesh

Singh, Shashona

Tomlinson, Rion Charles
Tsotetsi, Bhampini Abram
Vayej, Shoaib Ahmed
Warren, Timothy Armstrong
Wolhuter, Ryan Glenn
Xolo, Siyavuya Nicholas

(Civil Engineering)

Bennett, David John

Bowers, Aiden James

Chambers, Gareth

de Comarmond, Louis Gerald Amaud
Gounden, Magasperan Maduray
Jangali, Shalen Prasnath

Laister, Guy

May, Bradley Igor Alexander

Montwedi, Esau Pheku

Ngcobo, Raphael Msawenkosi
Oliver, Jean-Marc Sebastien David
Olufsen, Jonathan Simon

Patel, Sahil Ramesh

Starmer, Jonathan Arthur

Surjoo, Nishal

+ Warren, Juliet Sheryl

(Electrical Engineering)

Araujo, Rog rio Jos  De Freitas
Benn, Lance Clayton

Bhoola, Ramesh

Bodasing, Sanesh Sher
Booyens, Neville

Budhai, Kevin Dewnath
Debipersad, Pramodh Chundurduth
Govender, Loganathan Krishna
Haridas, Leon

Haripersad, Vinor Anil

Huang, Feng-Wei

Jooma, Zarheer

Khumalo, Mpumelelo
Mahange, Matimba Mike
Michael, Marcus

Milambo, Sibusiso Russel, BSc (UNIN)
Moodley, Luwendran

Moodley, Lyndenn John

Naicker, Jayson Shirinivasan
Padayachee, Dean

Peer, Mohamed Abdul Rasheed
Pillay, Yaseelan

Ramadhin, Shawn

Reddy, Ralph

Singh, Kabir

Sithole, Bongani

Vilane, Sibusiso Bhekisisa, BSc (UZ)
Warr, James Seymour

Zondi, Lucky Wiseman

Zulu, Sipho Absalom

(Electronic Engineering)

Anderson, Justin Leigh
Annamalai, Leeandran
Botha, Jacques Pieter
Brooks, Stuart Martin
Byers, Geoffrey James

Cawood, Marc Julian
Chetty, Leon

Docrat, Hamza

Eckford, Laurence Edward
Evans, Ryan Nicholas

+ indicates degree awarded cum laude

4+ Fincham, Matthew Robert
Folly, Deepak Dewdutt
Gounden, Jonathan
Hall, Bryn Craig
Jacklin, Rowan Gwinnett
Jeebodh, Preshon
Khan, Muhammad Junaith
Louw, Riaan Wilhelm
Maken, Kamal Gopal
Malherbe, Jeremy Mark
McIntosh, Ian James
Moodley, Marshnee
Mulla, Mohammed Shiraz
Munien, Vernon Subramoney
Myhill, Jason Kit

Naidoo, Nersan Ranjan
Nayagar, Vaugan

Ndlovu, Patrick Musa
Pillay, Kelwin Bryan

Raw, Craig Kelman

Sibisi, Mbusi

Singh, Shravan

Sookdeo, Vishad Premchand
Spicer, Ryan David

Thaver, Vemon Timothy
van der Westhuizen, Natanje
Weber, Dawn Ashleigh
Whitehead, James Bruce
Wiggill, Byron Robert

(Mechanical Engineering)

Archary, Laresin
Barton, Mel Ashley
Bhadar Dutt, Shaun

Bhagirathi, Vishal Bunchiepasadh

4+ Bonorchis, Dean
Buthelezi, Siphiwe Griffiths
Chater, Gavin Errol
Chithiya, Prinesan
Cooper, Nigel Leslie

+ Damm, Uwe
Francis, Andrew Lingard
Good, Jayden
Govender, Deena

Govender, Kamalassen Sambasiven

Govender, Lavendran Munsamy

Govender, Lushen

Khan, Muhammad Bilal

Lucht, Horst Wilhelm

Maula, Taahir

Mbatha, Mandlenkosi Vincent

4+ Meclntyre, Shane Gavin

Mdunge, Oscar Zakhele

Moodliar, Desigan Ramamurthi

Naicker, Surendhren Manivelu
Naidoo, Rishendra

Naidoo, Vishendra Poobalan
Naiker, Soraya

Nkabinde, Mlungisi Edington
Panday, Shiven
Papastylianos, John

Patel, Prinal Vasantlal
Raghoonandan, Sudasha
Rameshur, Roshan
Ramkissor, Manoj

Reuning, Jens Markus
Reuning, Kai Matthias
Shabalala, Sipho Brian
Sibanyoni, Bongani Floyd
Sookay, Nirvan Karam
Sowki, Shikar

Surendra, Navin

Sysum, Geoffrey Roy
Thomson, Ross

Touche du Poujol, GÃ©raldine
Woolnough, David Edward

* indicates degree awarded summa cum laude
+ indicates degree awarded cum laude

W

Bachelor of Science in Land Surveying

Barsdorf, Bruce Michael Muchna, Warren Anthony
Briscoe, Craig Elliott-Drake Munien, Rajan

Burwood, Wayne Shaun Reid, Grant David

Dihn, Angela Margaret Schofield, Ryan Richard

Dralle, Elton Edwin van Jaarsveld, Adriaan Frederik
Hutchison, Grant Andrew Daniel 4+ Venter, Johan

+ indicates degree awarded cum laude

Bachelor of Science in Quantity Surveying

Butler, Andrew John Pillay, Arushka
Jumoorty, Fezal Ross, Bruce John
Kewley, Ryan Singh, Rohan
Mabharaj, Pradhisthira van Schalkwyk, Deidre
Mathura, Divashni Weir, David Deighton

Nirghen, Randir Rajkumar
Bachelor of Science in Construction Management

; Chetty, Suresh Papworth, Warren Barry
Eitelberg, Benjamin Twine, Michael John
Hogg, Jody William

Postgraduate Diploma in Engineering

Biggar, Malcolm Joseph, BScEng Maddox, Brent Ryan, BScEng

Chetty, Rajan, BScEng Maharayj, Vishal, BScEng

Chetty, Robin, BTech(MLST) Manzana, Euclid Nkosinathi, BScEng(UDW)
Gessese, Aboneh, BSc(dddissAbaba) Naidoo, Yagendra, BTech(MLST)
Govender, Dhanaseelan Anandar, BTech(MLST) Pearce, Paul Baxter, BScEng

Keyser, Justin, BScEng Peters, Neville Gabriel, BTech(MLST)

* indicates diploma awarded with distinction

A video recording of the entire ceremony is available from the University's Audio-Visual Centre.
Level 5, Shepstone Building. telephone 260-2637.

The University has appointed Studio Sydney to photograph each graduand/diplomate as they are being capped. The proofs of these photographs will be posted directly to the students. within 14 days of graduation. Note:- all enquiries regarding photographs should be directed to Studio Sydney, telephone 301-2169/305-1129.

A Brief History of the University of Natal

Natal University College - The forerunner of the University of Natal - opened its doors in Pietermaritzburg in 1910 with eight professors and 57 students, eight of whom were women. Lectures in Classics, English and Philosophy, Law, Modern Languages, Botany and Geology, Chemistry and Physics, Mathematics and Zoology were spread over various venues, including Maritzburg College, the Natal Museum building and at the City Hall.

It was not until August 1912 that Old Main Building - built on 40 acres of land donated by the Pietermaritzburg Corporation - was opened by the then Minister of Education, F.S. Malan and the core of the present-day Pietermaritzburg campus was established. The following year, Natal University College (NUC) ceased to be a state institution, becoming instead a state-aided body.

In 1923, NUC extended its tuition to Durban with university level courses in Commerce and Engineering at the Technical College, but it was not until 1928 that Durban agreed that NUC take over full responsibility for university classes in Durban, thereby establishing the characteristic dual nature of the University of Natal. A generous donation by T B Davis, whose son, Howard Davis had been killed during the battle of the Somme in World War I, facilitated the building of Howard College on the Berea which formed the core of a separate campus in Durban. Howard College was formally opened in 1931.

Largely through the efforts of Fabian Socialist Dr Mabel Palmer, separate classes for 19 "Non-European" teaching students at NUC were introduced in Durban in 1936. This number, reflecting an obvious need for training of this nature, grew to nearly 900 by 1960. However, like the University's Medical School, founded in 1951 for black students, classes still reflected the segregated nature of South Africa under apartheid. The government's Extension of University Act of 1959 limited new enrolments, other than those at Medical School, to whites and thwarted the University's aspirations to serve the educational needs of broader society. This act also restricted the autonomy achieved when NUC was granted full university status in 1949. It was not until 1983 when the University circumvented the government's racial admission "quotas" by an appeal to the High Court, that the University could fully resume its role of serving the educational needs of the broader community. Today, about 20 000 students, representing all sectors of South African society, are enrolled at the University of Natal.

In 1953, the administrative control for the University was shifted from Pietermaritzburg to Durban. In response to mounting travelling costs, the two centres were academically separated in 1973, with each centre having parallel faculties of Law, Humanities, Commerce, Science, and Social Science. Recent restructuring has meant the merging of some faculties across both campuses, with Faculties of Engineering, and Law being shared by both campuses. Unique to Durban are the Faculties of Community and Development Disciplines, Management Studies, Science and Medicine. Unique to Pietermaritzburg is the Science and Agriculture Faculty. There are separate Faculties of Human Sciences on each campus.

The University of Natal is fortunate to boast among its past vice-chancellors and principals some exceptional leaders. Its first principal, John Bews (1930-38), was a world-renowned botanist while Dr E G Malherbe (1945-65) was known internationally as an educationalist. In 1993, the University of Natal was the first South

African University to appoint a woman as its principal. Brenda Gourley is the present incumbent. Chancellors have also been distinguished figures, not least the present Chancellor, Judge Pius Langa, and the recently retired Archbishop Denis Hurley. Students include Alan Paton, Steve Biko and Alec Erwin. Honorary graduates include Nelson Mandela, Roy Campbell and Abdullah Ebrahim.

The University of Natal is committed to service through excellence in teaching and research and is opposed to discrimination on the grounds of race, colour, nationality, religion or gender. It is known as a centre for excellence in Africa, is one of South Africa's top research institutions, and has links with almost 260 international institutions. Aligned to the demands of a rapidly changing global environment, the University has embarked on a thorough reform of curricula and university structures and is currently a leader in multi-disciplinary studies and is engaged in significant HIV/Aids research. In recognition of its role in society, the University of Natal is also committed to greater emphasis on community-based education and service learning.

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National Anthem

Nkosi sikelelâ\200\235 iAfrika
Maluphakanyiswâ\200\231 uphondo lwayo
Yizwa imithandazo yethu

Nkosi sikelela

Thina lusapholwayo.

Morena boloka
Setjhaba saheso
Ofedise dintwa lematshwenyeho.

O se boloke, O se boloke
Setjhaba saheso

Setjhaba sa, South Afrika,
South Afrika.

Uit die blou van onse hemel

Uit die diepte van ons see

Oor ons ewige gebergtes

Waar die kranse antwoord gee
Sounds the call to come together
And united we shall stand

Let us live and strive for freedom
In South Africa our land.

Gaudeamus Igitur

Gaudeamus igitur, juvenes dum sumus;
Gaudeamus igitur, juvenes dum sumus;
Post jucundam juventutem,

post molestam senectutem,
Nos habebit humus, nos habebit humus.

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

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

Vivat Academia, vivant Professores,
Vivat Academia, vivant Professores,
Vivat membrum quodlibet,

vivant membra quaelibet,

Semper sint in flore, semper sint in flore.

(GF N AVA 8 DGO N i\ V.Y .\ Â\$