GRA 1/3/129



UNIVERSITY OF NATAL

DURBAN

Graduation / Diploma Ceremony

Faculty of Engineering

Faculty of Science

Friday, 19 April 2002

18h00

Durban Exhibition Centre

The Chancellor

"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 spokepersons 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. One side of the mace-head was beautifully decorated with the owner's emblem and on the other side was 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 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.

OFFICERS

Chancellor The Honorable Justice PN Langa

Deputy President of the Constitutional Court BIuris, LLB(Unisa), LLD(honoris causa) (UNIZUL)

Acting Vice-Chancellor DA Maughan Brown

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

Chairman of Council A Rogoff CA(SA)

Deputy Vice-Chancellor EA Ngara

(Students and Transformation) BAHons, MPhil, PhD(London)

Deputy Vice-Chancellor SS Abdool Karim

(Research and Development) MBChB(Natal), MS(Epidem) (Columbia), FFCH(CommHlth) (SA),

MMed(CommHlth), PhD(Natal)

Acting Deputy Vice-Chancellor A Kaniki

(Academic) BALS(Zambia), MS(Illinois), PhD(Pittsburgh)

Acting Deputy Vice-Chancellor LW Roberts

(Administration) PREng, MScEng(Natal), PhD(London), DIC, HonFSAIMechEng,

MASME

Pro Vice-Chancellor JD Volmink

(Executive Director: NUDF & BScHons(UWC), PhD(Cornell)

Public Affairs)

Pro Vice-Chancellors MA Hellberg

(Academic) BScHons(CapeTown), PhD(Cantab), FRSSAf, FInstP

TH King

MAFA(Witwatersrand), UED(Natal)

Registrar PM Malgas

BAHons(UWC)

President of Convocation Z Mlisana

MBChB(Natal),FCP(Paed)(SA)

Orator WH Peters

BArch(Natal), MSc(Heriot-Watt),

Dr-Ing(Hannover), ArchSA, MIArch(BArch-degree)

Deans of Faculties

Engineering HD Schreiner

PrEng, BScEng, MScEng(Natal), PhD(London), DIC, MSAICE,

MICE, CEng

Science JJ van den Berg

MSc(Pret)

PROGRAMME

The Academic Procession enters the Hall

The Acting Chancellor constitutes the Congregation

Welcome to Guests

Professor E A Ngara
Deputy Vice-Chancellor (Students & Transformation)

Address

Students' Representative Council

Presentation of Doctoral Graduands

Deans of the Faculties

Guest Speaker

The Orator introduces the Guest Speaker

Address

Dr R Adam

Director General: Department of Arts, Culture, Science & Technology (DACST)

Musical Interlude

University of Natal Chorale

Presentation of Graduands and Diplomates

Deans of the Faculties

The Acting 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

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

Only officially authorised persons may take photographs during the ceremony

Please ensure that cell phones are turned off

Doctor of Philosophy in the Faculty of Science

Discipline

Celliers, Thesis:	Louis, MScAgric
Cheplog Thesis:	oi, Peter Kiplagat, BSc(Egerton), MSc(Nairobi)
Coombe Thesis:	s, Philip Hugh, BSc(Rhodes),MSc(UPE)
Deenada Thesis:	Thermodynamic properties of nonelectrolyte mixtures containing quinoline or 1,3-dimethyl-2-imidazolidinone. (Professor T M Letcher)
Kabeto, Thesis:	Mieso Denko, BSc(Addis Ababa), MSc(Wales)
Koorbai Thesis:	nally, Neil Anthony, MSc
Milne, C Thesis:	George Charles, BScHons
Mosala, Thesis:	Thabang Innocentia, BScHons(UNITRA),MScBiology Geohelminth transmission among slum-dwelling children in Durban, South Africa. (Professor C A Appleton)
Moyo, S Thesis:	Sibusiso, BSc(Zambia),MSc
Perritt, Thesis:	Samantha Helen, BScHons

Thesis: Extractives from the Amaryllidaceae and the Hyacinthaceae. (Professor D A Mulholland) Thesis: An historical analysis of changes in the population patterns of Indian South Africans: 1860-1991. (Dr D Scott) Thesis: Characterisation and role of sugarcane invertase with special reference to neutral invertase. (Dr B Huckett) Wesley-Smith, James, BSc(Natal), TechDip(RMS)......Biology Investigations into the responses of axes of recalcitrant seeds to dehydration and cryopreservation. (Professor P Berjak) Doctor of Philosophy in the Faculty of Engineering Discipline Thesis: Treatment of dye wastewaters in the anaerobic baffled reactor and characterisation of the associated microbial populations. (Professor C A Buckley) Loubser, Richard Clive, MScEng Mechanical Engineering Thesis: The influence of wagon structure on the vertical response of freight. (Dr S Kaczmarczyk) Thesis: Dynamic modelling and optimal control of sugar crystallisation in a multicompartment continuous vacuum pan. (Professor M Mulholland) Thesis: Automated visual inspection apparatus for flexible manufacturing systems. (Professor G Bright) Thesis: An investigation of advanced oxidation processes in water treatment. (Professor C A Buckley) Thesis: Reverse engineering apparatus for printed circuit boards incorporating an advanced material handling system. (Professor G Bright)

Venayagamoorthy, Ganesh Kumar, BScEng(AbubakarTafawaBalewa),MScEng

...... Electrical Engineering

Thesis: Adaptive critic based neurocontrollers for turbogenerators in a multimachine power system.

(Professor R G Harley)

Guest Speaker

Adam, Robert Martin, BScHons(CapeTown), MSc, PhD(Unisa)

Master of Science

Discipline

⁺ incidates degree awarded cum laude

+	John, Anslyn James, BScHons
	Jordan, Ingrid Elizabeth, BScHons
	Jugoo, Vikash Ramanand, BScHons
	Lewis, Mark Robert Melford, BScHons
	Mantlana, Khanyisa Brian, BScHons(UDW)
+	Moodley, Brenda, BScHons
+	Moodley, Nivan, BScHons
	Muller, Elizabeth Anne, BScHons
	Murrell, Katharine Ann, BA.HDE
	Naicker, Jaysen, BScHons
	Naidoo, Dashnie, BScHons

+ Neal, Marian Jane, BSc(Rhodes), BScHons...... Geographical & Environmental Sciences Dissertation: The vegetation ecology of the lower Mkuze River floodplain, northern KwaZulu-Natal: A landscape ecology perspective. (Professor W Ellery) Dissertation: Measurement of soil in sugar cane using non-destructive techniques. (Professor M J Alport) Payn, Kitt Garnet, BScHons Biology Dissertation: Heritability of wood density and the occurrence of genotype x environment interaction in progeny trial series of Pinus patula. (Professor MP Watt) Dissertation: PHAROS: pluri-detector, high-resolution, analyser of radiometric properties of soil cores (Professor M J Alport) Dissertation: A measure-theoretic approach to chaotic dynamical systems. (Professor J Banasiak) Tivane Lichucha, Ivone Delfina Lourenço, Licentiate (HighPedInst, Maputo) Biology Dissertation: Management of the linefish resource in southern Mozambique: A case study for marreco (Chrvsoblephus puniceus). (Mr R van der Elst) Turner, Geoffrey Robert, BScEng, Physics Dissertation: Novel pulsed power applications. (Professor M M Michaelis) Dissertation: Water quality indicators in estuaries: A case-study in Kwa-Zulu Natal. (Dr M H Schlever) Master of Science (Environmental & Engineering Geology)

Kujawa, Thomas, BScHons(CapeTown)

Coursework and Dissertation: Rock mass rating and slope stability analysis of quarry faces. within the Dwyka tillite of KwaZulu-Natal.

(Mr CA Jermy)

Master of Science (Environmental Science)

Matooane, Mamopeli Retsepile, BTech(CapeTech).BScHons

Coursework and Dissertation: Human health risk assessment of sulphur dioxide (SO2) in the South Durban Industrial Basin (SDIB).

(Professor R Diab)

Singh, Renelle, BScHons(UDW)

Coursework and Dissertation: Spaces of social compulsion: A case study of the Sugar Mill

(Dr S Brooks)

Master of Science in Engineering

Discipline

Akol, Roseline Nyongarwizi, BScEng(Makerere) Electronic Engineering Dissertation: Multidimensional trellis coded modulation for MC-CDMA systems. (Professor F Takawira)

Ascough, Gregory William, BScEng Agricultural Engineering Dissertation: Procedures for estimating gross irrigation water requirement for crop water requirement.

(Dr G A Kiker & Mr C Stimie)

Dissertation: Infinite dilution activity coefficients via differential ebulliometry.

(Professor D Ramjugernath & Professor J D Raal)

Butler, Andrew John Edward, BScEng. Agricultural Engineering Dissertation: The inclusion of an operating rule framework into the ACRU 2000 agrohydrological modelling system. (Professor J C Smithers, Professor R E Schulze & Dr G P W Jewitt)

+ Byers, Geoffrey James, BScEng...... Electronic Engineering Dissertation: Concatenated space-time codes in rayleigh fading channels.

(Professor F Takawira)

Friedrich, Elena, BScHons Chemical Engineering Dissertation: The use of environmental life cycle assessment for the production of potable

(Professor C A Buckley & Mr C J Brouckaert)

Govender, Manogran, BScEng Chemical Engineering Dissertation: Investigation of a proton exchange membrane fuel cell (PEMFC). (Professor C A Buckley)

Govindasamy, Prabeshan, BScEng		
Kedge, Caryn Julie, BScEng Dissertation: The evaluation of selected appropriate irrigation to farmers. (Dr G A Kiker & Dr S A Lorentz)		
Kissun, Sudhir Manilall, BScEng Dissertation: Measurement and thermodynamic interpretation of hequilibrium at sub-ambient temperatures. (Professor D Ramjugernath & Professor J D Raal)		
McIntosh, Ian James, BScEng Dissertation: Implementation of an application specific low bit rate (Professor R C S Peplow)		
Naidoo, Dasaradan, BScEng Dissertation: A laboratory-scale investigation of factors affecting at (Professor B K Loveday)	Chemical Engineering utogenous milling.	
→ Ngatched Nkouatchah, Telex Magloire, BScEng(Yaounde)	Electronic Engineering ding and burst channels	
Pillay, Kleantha, BScEng Dissertation: Pyrolysis of chlorinated organics. (Professor D R Arnold & Professor D Ramjugernath)	Chemical Engineering	
+ Pillay, Magash, BScEng Dissertation: A network based rapid prototyping system for ap engineering education (Mr G Diana & Professor R C S Peplow)	Electrical Engineering plications in research and	
Sewnarain, Reshan, BScEng Dissertation: Investigation into a multipurpose separation and purif (Professor D Ramjugernath, Professor D R Arnold & Professor	ication facility for Sasol.	
Sinclair, Douglas Scott, BScEng	Civil Engineering	
Taylor, Paul Victor, BScEng	Electrical Engineering &V transmission grid.	

Thakadu, Batlhowahela Chakane David, BScEng(CapeTown) Electronic Engineering Dissertation: Lattice-structure based MMSE detectors for DSMA-CDMA systems. (Professor F Takawira) Dissertation: Buckling of short, thin-walled cylinders as applied to storage tanks (Professor S Adali) Dissertation: Performance of TCP over wireless with quality of service. (Professor F Takawira) ·Walker, Myles Larcombe, BScEng Electrical Engineering Dissertation: Test bed system for investigating the energy usage of variable speed drive (Mr G Diana) + Whitehead, James Bruce, BScEng..... Electronic Engineering Dissertation: Space-time multi-user detection of multi-carrier DS-CDMA systems. (Professor F Takawira) Worthmann, Cedric Alwyn, BScEng. Electrical Engineering Dissertation: Feasibility study of a neural network current controller for a boost rectifier. (Mr G Diana) Master of Science (Engineering) Discipline Dissertation and coursework: Inverse internal model control of an ethylene polymerisation reactor using artificial neural networks. (Professor M Mulholland) Dissertation and coursework: Adaptive dynamic matrix control for a multivariable training plant. (Professor M Mulholland)

Master of Science in Land Surveying

Matela, Motlotlo Peter, BSc(EastLondon)
Dissertation: Lesotho geodetic network.
(Mr J Jackson)

+ indicates degree awarded cum laude

Master of Science (Land Surveying)

Mothuntsane, Bophelo, BSc(Lesotho), PGDipSur

Dissertation and coursework: Applications of land information systems in land re-adjustment projects - a Lesotho experience. (Mr S M Chilufya)

Namalomba, Andrew, HND(NorthEastLondonPolytechnic, PGDipSur

Dissertation and coursework: Framework for the development of a national cadastral and land registration system in Malawi. (Mr M Chilufya)

Master of Environmental Management

Cubitt, Jacky Lyn, BSocScHons

Coursework and Dissertation: An assessment of the status of environmental impact assessment follow-up in KwaZulu-Natal. (Professor R Diab)

Ninela, Phillip Gcinumetho, BSocScHons

Coursework and Dissertation: Environmental justice and the long-term impacts of large dam projects: A case study of communities displaced by the Inanda Dam Project. (Dr S Brooks)

Rigby, Sally-Ann, BSocScHons

Coursework and Dissertation: Environmental sustainability and the Development Facilitation Act (Act 67 of 1995). (Professor R Diab)

van Rooyen, Raymond Daniel, BTech, NatConserv (MangosuthuTech)

Coursework and Dissertation: An investigation into the Port of Durban water quality management.

(Professor G Garland)

Bachelor of Science Honours (Applied Mathematics)

van den Berg, Paul, BSc

Bachelor of Science Honours (Applied Physics)

Ogle, Peter Michael, BSc

Bachelor of Science Honours (Biological Sciences)

Bajic, Jelena, BSc Dunlop, Karryn Leigh, BSc(Rhodes) Govender, Vanashrie, BSc

Henry, Chiara Alysia, BSc Kortenbout, Nico Jan, BSc Marot, Carolynn Anne, BSc + McCormick, Alistair James, BSc Moodaly, Padmaloshnee, BSc Naicker, Janine, BSc Naicker, Kesree, BSc + Naidoo, Sasha. BSc Reddy, Viloshanie, BSc Reid, Caroline, BSc Rupnarain, Charleen, BSc Smit, Lynda Anne, BSc

Bachelor of Science Honours (Biological Sciences with Chemistry)

O'Brien, Sarah-Anne, BSc

Bachelor of Science Honours (Chemistry)

Harilal, Avinash, BSc Harripersadh, Ursulla, BSc Ismail, Fathima, BSc Kemm, Raylene Louise, BSc Makhoba, Xolani Simphiwe, BSc Mdakane, Bongani Patrick, BSc Owens, Lyndon Joseph, *BSc* Phelembe, Nonhlanhla Jillian, *BSc* Pillay, Bavani, *BSc*

+ Raasch, Terrence, BSc Sehlakgwe, Nokuthula Portia, BSc Singh, Amith, BSc

Bachelor of Science Honours (Computer Science)

Deonarain, Vinay Jairaj, BSc + Gounden, Marcellan, BSc Govender, Devan, BSc Govender, Natasha, BSc

→ Jekot, Marcin Tomasz, BSc

King, Craig Raymond, BSc
 Kuwar, Dinesh, BSc
 McKenzie, Richard Keith, BSc
 Moodley, Keagan, BSc
 Mpungose, Artwell Sandile, BSc

Naicker, Dhivendran, BSc Naidoo, Soogandhree, BSc Naidoo, Vinesh Jay, BSc Nundoo, Lynelle Beverley-Ann. BSc. Pillay, Marlon, BSc Radhakisson, Vitesh. BSc

+ Rangappa, Krishendran, BSc Sham, Dhirendra, BSc Singh, Vishal, BSc Twelves, Timothy Robert, BSc

Bachelor of Science Honours (Environmental and Engineering Geology)

Balesamang, Jacob, BSc(CapeTown) Moodley, Shivani, BSc Owens, Desmond John, BSc Reddy, Hemla, BSc

Bachelor of Science Honours (Environmental Science)

de Oliveira, Leila Paiva Nazareth Andrade, *BSc* Herman, Kevin Russell, *BSc*

Mari, Krishnaveni Kubashni, *BSc* Pillay, Renelle Karen, *BSc*

Bachelor of Science Honours (Geographical and Environmental Management)

+ Bass, Orli, BSc(CapeTown) Govender, Yugeshni, BSc

Khumalo, Thulie Nomsa, BSc(UNISWA) Mullins, Robert Gregory, BSc

Bachelor of Science Honours (Geology and Ore Deposits)

Brayshaw, Matthew McKenzie Currie, BSc + Leslie, Miree Jade, BSc Fick, Philip Mark, BSc

Bachelor of Science Honours (Mathematics)

+ Hsieh, Ai-Ni, BSc

Bachelor of Science Honours (Physics with Geology)

Bejaichund, Mayshree, BSc

Bachelor of Science Honours (Statistics)

Hariparshad, Anesh Premchund, BSc

+ Manjoo, Ahmed Mahomed Iqbal, BSc

Bachelor of Science in Engineering

(Agricultural Engineering)

Dupuche, Patrice Vincent Gregory, Justin Haig Herbert, Russell Llovd

Meikle, Bruce James Muller, Stuart John

(Chemical Engineering)

Bageloo, Kiren Chetty, Crispin Joash ★ Clifford, Scott Llewellyn Cole, Melanie Anne David, Warren du Preez, Mark Astlev Durjan, Rakesh Parabhoonath Ellis, Bruce Malcolm

Ellison, Neal Govender, Dean Govender, Devakumaran Govender, Kuvarshan Marimuthu Govender, Thishen Govender, Wesley Haripersad, Brendon Hemphill, Allen Llewellyn

+ indicates degree awarded cum laude *indicates degree awarded summa cum laude Iyer, Sugananthan Jagath, Sadhana Lalloo, Namira Madlala, Ndumiso Mar

Madlala, Ndumiso Marius

Maharaj, Pavan Jaydev
Mohabir, Shanil
Moodley, Anand
Moodley, Angeline
Morgan, Sherwin
Naidoo, Dinesh
Nannoolal, Yash

Nulliah, Sasha

Nxumalo, Percival Dumisani

Pillay, Abiseshen
Pillay, Kruben
Poulten, Amanda Tiny
Ramloutan, Nishal Mohanlal
Rascher, Gregory Vaughn
Roebuck, Duncan Christopher
Rughubir, Nikash
Sayanna, Sudashii

Rughubir, Nikash Sayanna, Sudashni Seolall, Roniel Singh, Yurisha Soni, Minal

Vosloo, John-Roy Ivy

(Civil Engineering)

Bell, Ryan Burath, Amith Jewan Parkaash Chauke, Douglas Skheto

Chauke, Douglas Skneto Dookhi, Revash Everitt, Deanne Lisa Govender, Devan Govender, Manivasen Govender, Nerashen Griffith, Mark Richard Hards, Adrian Fradie Hodsdon, Andrew Peter Kasaven, Livania

Lalbasanth, Devendra
Lewis, Grant Wayne
Mahomed, Imraan

Manoto, Mpho Ramanonyane Michael

McIntosh, Frazer Douglas Melvill, James Alexander Mkhize, Ntombiyenkosi Annamaria

Naidoo, Krishna Rapeti Naidoo, Pravesh Naidoo, Veresh Nundlall, Nischal O'Brien, Garon John Perkins, Mark Rainier Pillay, Chellan Ramsunder, Viroshka

Rochecouste Collet, Bertrand Jacques

Stagman, Rodney Lawrence Thring, Guy Peter Titchmarsh, Carl Urquhart, Ross Hamilton van Rooyen, Darren Craig Wesson, Stephen Malcolm Westray, Leslie Ryan

(Electronic Engineering)

Abdul Gaffar, Mohammed Yunus Abdul Gaffar, Mohammed Yusuf

Adriaanse, Lee Wesley Ball, Jason Stuart Boutelje, Adrian George

Chen Vi-Chen

Chen, Yi-Chen

Chetty, Dayahalan Thangavelloo

+ Coetsee, Dirk Conrad

Dearham, Nicholas Joseph Dlamini, Wandile Gounden, Kevindhren Govender, Desigan Govender, Pravindhrin Govender, Sumeshan Hancock, Grant David * Jackson, Edmund Stephen

→ indicates degree awarded cum laude

→ indicates degree awarded summa cum laude

Kadwa, Ahmed Yusuf Macrae, Kenneth Farquhar Madanda, Shumani Simeon Madiba, Ramaesela Prudence Mahomed, Junaid Mkhize, Emmanuel Xolani Moodley, Kevan Nair. Vanessa Parbhoo, Mahesh Hasmukh Pranlall, Nishal Quazi, Tahmid Al-Mumit Ramieeth, Avin Anthony Ramlakhan, Niven Bhimraj

Ramouthar, Alvin Lee Rampurthab, Viresh Samigramni, Strinivasan Sheodass, Sudesh Spring, Nicholas Andrew Stempowski, Andrzey Graham Sukai, Rishen Tomlinson, Glynn William Velayudan, Mergandran ★ Viana Rodrigues, João

Walker, Stuart Neil

White, Brian Alexander

(Electrical Engineering)

Chetty, Kumara Devzel, Leon Spence Govender, Trevor Desigan Jali, Sibusiso Mhlebeni Khan, Hoosen Ahmed Khosa, Hlamalani Jimmy Kisten, Roderick Nigel Kunene, Fortune Velenkosini Latchmanan, Glenvin Lukhele, Vusi Goodwill Maharaj, Rivash Maharaj, Yashin Maphalala, Nhlanhla Goodman Mhlanga, Mfanimpela Zacharia Modau, Minute Fhedzisani Molefi, Ahe Moodley, Prayeen Mthembu, Martin Thami Mtolo, Patrick Dumsani Nair, Nishal Karamchand Pillay, Devadasan Pillay, Shamendran Ramdari, Le Dwarakadass Reddy, Lumashan

+ Reid, Barry Wayne Saman, Ravindra Masilamoney Thusi, Lourenco Mafika

(Mechanical Engineering)

Beaumont, Stuart Nicholas Bemont, Clinton Pierre

- * Botha, Mark Quentin Childs, Emlyn Keith Cleave, Kevin Edgar Johann Corielle, Adriano
- + Cousins, Michael Geoffrey de Waal, Sijmon Kees Eric Dlamini, Sifiso Nkosinathi Ferreira, David Leite Ferreira, John Dudley

Ferriere, Julien Jean Findlay, Stewart Cornel Gates, Wesley John

- * Goga, Ebrahim
- ★ Gontier, Rowan Louis Gunaselvam, Arivamalar Jessica Miriam Gwala, Timothy Sicelo Harries, Bryn David
- + Herbert, Alistair Ian Irving, Hamish Murray

+ indicates degree awarded cum laude *indicates degree awarded summa cum laude Jazbhay, Suleman Haroon Kesval, Emmanuel Newton L'etang, Robert James

+ Maharaj, Ashveer

Maharaj, Yeshern
 Mngoma, Sibongeleni Refuge
 Mnguni, Sithembiso Gordon

+ Moodley, Dylon Deremis Naidoo, Dushendra Naidoo, Poovan Nelson, Bryan Steven Ntuli, S'phiwe Musawenkosi Paramaser, Errol

★ Pillay, Sandrasen Kuppusamy Radebe, Khabonina Surprise Ralefeta, Vusimuzi Elias Ramnarain, Vishal Ramsaroop, Avinash Selvarajalu, Vinodhan Sibiya, Gugulethu Innocent

+ Thomson, Vaughan Allen Tladi, Lejaka James Vilikazi, Sotsha Milton Zuma, Protus Sibusiso

Bachelor of Science in Land Surveying

Maseko, Magade Jacob Parbhunath, Abraham Rabind Podmore, Rodney Ray

Bachelor of Science in Quantity Surveying

Agjee, Ismail
Bedesi, Sharendra Sungeath
Calder, Denver
Chettiar, Shalina
Chunnoo, Shaneel
Gungapersad, Nishani
Harverson, Scott Ian
'Khoele, Selemela Tumelo
Masondo, Siphamandla Goodenough

McKeown, Darroll Leigh Mthethwa, Nkazimulo Noel Mulla, Ayoob Ahamad Naidoo, Eschel Ronald Jason Paruk, Sameera Singh, Nathisha Stevens, Noel Alvin Benjamin Vahed, Humayra

Bachelor of Science in Construction Management

King, Andrew Malcolm Lahner, Gordon James Moller, Michael John Ogle, Godfrey

Bachelor of Science in Property Development

Clark, Sam William Cunnoosaumi, Yaganarden Francis, Kerwen Jonathan Fuller, Thomas Douglas Grant ★ Gardner, Bronwyn Jennifer Govender, Kubandren Heerasing, Nildeshwaree Jones, Mark Anthony

+ indicates degree awarded cum laude
★ indicates degree awarded summa cum laude

Naidoo, Genevieve Ramdayal, Avitha Sandip Singh, Sulesh
+ van Schalkwyk, Hugo

Bachelor of Science

Adamson, Julie Ally, Showkat Baijnath, Sharlene Beirowski, Charlene Tiffany Bhigjee, Shoaib Bholanath, Sanjana Budree, Adheesh

★ Buldeo, Nisheen (Statistics, Actuarial Science) Cawthorn-Blazeby, Anton Christopher Cele, Mthokozisi Hansford Cele, Philile Cleopatra Chelliah, Milton Cheruiyot, Anastacia

Conde, Paulo Jose (Computer Science) da Cunha, Marco Filipe Santos (Geography,

Environmental Management)

Dace, Peregrine
Dall, Tyron

Davies, Gregory Bernard Peter

de Coriolis, Brigitte Lee Demrugaram, Vishal

Deokaran, Yuren (Computer Science)
 Devantier, Geoffrey David
 Dheopursad, Dhevashni

+ Dookhi, Dhiran (Statistics)
Douwes, Errol
du Bois, Paul Duncan

+ Firmin, Bruce (Statistics)

Gaffoor, Zakir Gobind, Dhiyaksha Govender, Desree Govender, Kerushan Govender, Kogie Govender, Mayashree Govender, Rajendren Govender, Roverndren

★ Govender, Selverani (Statistics, Actuarial Science) Govender, Shamilla Gunpath, Bivash Hajari, Elliosha (Cell Biology) Hansmann, Kathleen Marion Hargovan, Kashmira Ansuyah Hunsrajh, Akash Isaiah, Christina Terylena Jairam, Sureka Jones, Matthew Robert

★ Jugdeo, Shivaan (Statistics, Actuarial Science) Jumna, Aman (Computer Science) Kanavathy, Leon Reeves (Computer Science) Kanni, Yashodan Khan, Mohamed Bilal

Khumalo, Bhekisisa Justice

★ Levings, Ruth Irene (Mathematics, Physics)
★ Lin, Yu-Jung (Statistics, Actuarial Science)

Ludlow, Jordan Rhys Mahabeer, Natasha Maharaj, Adhir

★ Maharaj, Amith (Statistics)
 Maharaj, Amithe (Statistics)

+ Maharaj, Nishan Bramdeo (Computer Science)
Maharaj, Reshika

Maharaj, Tasveer

★ Maharaj, Thushka (Computer Science, Applied Mathematics)

Makhanya, Bongisipho Nkosinathi

Maluleke, Tiyani Mikhenso

Manion, Carla Michelle Colenso

Matabal, Priyesh Hurriduth

Matengu, Brian Munihango Mathenjwa, Phumelele Cecilia

★ Matthee, Anthea (Mathematics, Psychology)

Mazibuko, Nompumelelo Wendy Mbatha, Marcus Mbongeleni

Mbatha, Thuledu Lydia Mbongwa, Elliot Sibusiso

McCall, Alasdair James

McLeod, Lara-Jean

Mkhize, Thembisile Gloria

† indicates degree awarded cum laude
 ★ indicates degree awarded summa cum laude
 Subject disctinctions in brackets

Mkhize, Zonke Queeneth Pearl

Mkhwanazi, Qoqanani (Statistics)

Mngomezulu, Thulile Pearl

+ Moodley, Anand (Computer Science, Business Information Systems)

Moodley, Eshia Stephany

Moodley, Kifesha

Moodley, Vinodhiniee

Morris-Hale, Brynmor Stephen

Moss, Tamsyn-Claire

Mothapo, Makgamatho Godfrey

Mthembu, Zanele

Mthiyane, Maria Celiwe

Mweti, Albert Malopa

Mzobe, Nokwazi Zamokuhle

Naicker, Kubeshnie

Naicker, Louanne

Naicker, Rajandren

+ Naicker, Santelle (Statistics)

★ Naidoo, Denvin (Statistics)

Naidoo, Kamini

+ Naidoo, Lushan (Statistics)

Naidoo, Mahendra

Naidoo, Nelson

Naidoo, Niscava

Naidoo, Prealan

Naidoo, Preloshni

Naidoo, Prisha

+ Naidoo, Sershen (Cell Biology)

Naidoo, Sudhashan (Computer Science)

Naidoo, Varish

Naidu, Maronisha

Naidu. Shamini

Ndaba, Cebile Candy Pamela

Ndlovu, Nokuthula

Ndlovu, Thenjiwe Claudia

Ntaka, Gugu Princess

Ntuli, Hlengiwe Vuyiswa

Padachi, Gerard Ewald

Padavachee, Melani

Padayachee, Poovanthern

Padayachee, Rivashnee

Pan. Shih-Pin

★ Paraskevopoulos, Aresti Lambros

(Computer Science, Applied Mathematics)

Patchappa, Dayanandhan Marlin

Patel, Ebrahim

Pather, Womayaal

Patton, Gail Lilias

★ Patton, Sean Nolan (Computer Science)

Peters, Leslie Craig

Pillay, Keshni

Pillay, Marlan

Pillay, Nalini

Pillay, Poovenderan

Pillay, Prinolan

Pillay, Sudhir

Pinhal, Pedro Filipe

Priestley, Lauren Lee (Applied Mathematics,

Economics)

Pursad, Vivek Ranjith

Raja, Yusuf Cassim

Rambally, Nishana

Ramdew, Dewon

Ramdhani, Reshika

Ramkisson, Anneita

Ramkissoon, Yuri

Ramluckan, Raksha

Randeree, Ismail Hoosen (Computer Science)

Ratner, Judy Anne .

Ravjee, Bhavesh

Reddy, Mageshnie

Reddy, Mogandari

* Reddy, Prashant (Chemistry, Applied Chemistry)

★ Reddy, Privani (Statistics)

Reddy, Viven

Richardson, Andrew Grant

+ Ridgway, Monique (Geology, Applied Geology)

+ Robb, Rachel Suzanne (Cell Biology, Chemistry)

Rostance, John Hamman

Sahadev, Rivash Sharma

Samath, Zuraidha

Sartori-Angus, Peter Alan (Cell Biology,

Computer Science)

Scrooby, Mark

→ Seedat, Ahmed (Statistics)

★ Seedat, Fathima (Statistics) Sewpersad, Sanvir

→ Singh, Anisha (Statistics)

Singh, Anjita

+ inidcates degree awarded cum laude

* indicates degree awarded summa cum laude Subject distinctions in brackets

Singh, Anupa
Singh, Natasha
Singh, Nishani
Smith, Sharon Barbara
Sodalay, Anastasia
Somera, Ved Kavi
Sookdeo, Ajith
Stevenson, David John
Subbramoney, Pravendra

* Subramoney, Neil Kisten (Statistics,
Actuarial Science)

Taylor, Bradley Charles (Computer Science)

Thobye, Refentse Wilheminah Vadachalam, Vaughn van Heerden, Kirsten Helen (Cell Biology) Vandiar, Vishalin

- ★ Vawda, Ahmed (Computer Science)
 Verdon, Barry
 Volker, Guy Victor
- von Fintel, Gundula Thandi (Cell Biology, Environmental Biology)
 Ward, Jonathan James (Computer Science)

+ Will, Chantal Louise (Geography, Environmental Management)

 † indicates degree awarded cum laude

 * indicates degree awarded summa cum laude

 Subject distinctions in brackets

A professional video recording of this entire ceremony will be available from the University's Audio Visual Centre, Level 5 Shepstone Building. Telephone (031) 260 2637

For this ceremony the official photographer is Bala Govender & Sons.

Telephone (031) 332 6601/337 6003.

DR ROBERT ADAM



DIRECTOR GENERAL: DEPARTMENT OF ARTS, CULTURE, SCIENCE & TECHNOLOGY

Robert Martin Adam is Director-General of the Department of Arts, Culture, Science & Technology in Pretoria. He is qualified in both Chemistry and Physics, and was closely involved in the struggle to transform education in our country.

Born in Springs in 1955, he matriculating at Diocesan College in 1972 and registered for Chemistry at the University of Cape Town. In 1978 he obtained the degree BSc(Hons) with Distinction, and, as the top Honours student was awarded the Gordon Percy Memorial Prize. Thereupon he left for the UK and was appointed to a research contract in carbon technology at Surrey University.

Returning two years later, he joined the South African Committee for Higher Education (Sached), an organization once described as 'a candle in the night'. This organization had been established in response to the cynically named 'Extension of University Education Act' (1957), which, in reality, closed the established universities including Natal, to black students. Using a loophole in the law, Sached sought for alternatives to apartheid education. Working with this organisation, Dr Adam headed the team which developed distance learning material for the subjects of Physical Science and Mathematics.

In September 1981, whilst with Sached, Dr Adam was arrested by the apartheid security police. He was placed in solitary confinement for 9 months before being sentenced to a 10-year prison-term - at the youthful of 26.

Determination and perseverance enabled Dr Adam, while imprisoned, to embark on his qualifications in Chemistry. Registered with the University of South Africa, he completed his Honours and MSc degrees in Theoretical Physics by correspondence, both with Distinction.

Following the unbanning of all liberation movements and the releasing of political prisoners by former State President, Mr FW de Klerk in February of 1990, Dr Adam, now 35, became employed as a Research Associate at UNISA in Pretoria. He took up the National Scholarship, awarded him as the top Masters student at that University, and completed his doctoral degree in Theoretical Physics in 1991. On getting married to Miss Elizabeth Gavin, the couple departed for Amsterdam where Dr Adam took up a post-doctoral fellowship at the *Vrije Universiteit*.

On his return to South Africa in 1993, Dr Adam joined the Department of Physics at the University of Natal on its Pietermaritzburg campus. But, there was a more important calling and in 1995 already, he accepted the position as Chief Director: Science & Technology in the newly established national Department of Arts, Culture, Science & Technology, in Pretoria. Soon he was promoted to Deputy Director-General, and 3 years later, in Sept 1999, aged only 44, to Director-General, managing a staff complement of approximately 500, and an annual budget in excess of R1bn.

Among its many achievements, the Department, with Dr Adam as Director-General, has created new institutions like the Innovation Fund, or the National Research Fund (1999); and signed Management of Science and Technology agreements with 20 countries. It even accepted an invitation from the Chilean government to review its policies in science and technology, a task which resulted in a co-authored book. Dr Adam has thus not fully exchanged his academic hat for that of an administrator. He still researches, and publishes his findings in international, peer-reviewed journals on Nuclear Physics, and the latest was released as recently as February of this year.

With this curriculum vitae, Dr Adam is well equipped to talk to us tonight on the attainment of excellence; the importance of free and independent thought; and, above all, on steadfastness and the belief in a vision.



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 Education, 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 OMI. Students include Alan Paton, Steve Biko, Alec Erwin and J M Coetzee. From the Medical School, come illustrious alumni such as Dr Ben Ngubane, Dr Mamphela Ramphele, Dr Zweli Mkhize and Professor Ronnie Green-Thompson. Honorary graduates include Nelson Mandela, Roy Campbell, Abdullah Ebrahim, Fatima Meer and Selby Baqwa.

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. Alive 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.

National Anthem

Nkosi sikelel' iAfrika Maluphakanyisw' 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.

