

UNIVERSITY

# Autumn Graduation April 2024

### Ceremony 17

Faculty of Engineering, The Built Environment and Technology

23 APRIL 2024 | 09:30



#### **VISION**

To be a dynamic African university, recognised for its leadership in generating cutting-edge knowledge for a sustainable future

#### **MISSION**

To offer a diverse range of life-changing education experiences for a better world

#### **VALUES**

Excellence
Respect for Diversity
Ubuntu
Social justice and equality
Integrity
Sustainable stewardship





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#### **OUR BRAND**

#### We are Nelson Mandela University

Together we are **Nelson Mandela University.** We are the only university in the world to be named after Nelson Mandela. Our iconic South African statesman, humanitarian and leader is known globally for what he achieved.

We are honoured as **Nelson Mandela University** to carry his name. In return, we honour our namesake by endeavouring to live his legacy. We honour him by using his name in full.

#### We are Nelson Mandela University.

Saam is ons **Nelson Mandela Universiteit.** Ons is die enigste universiteit ter wêreld wat na Nelson Mandela vernoem is. Ons ikoniese Suid-Afrikaanse staatsman, humanitêre figuur en leier, is wêreldwyd bekend vir wat hy bereik het.

Ons is geëerd as **Nelson Mandela Universiteit** om sy naam te dra. In ruil daarvoor, eer ons ons naamgenoot deur daarna te streef om sy nalatenskap uit te leef. Ons eer hom deur sy naam ten volle te gebruik. Ons is **Nelson Mandela Universiteit.** 

Sisonke **siyiNelson Mandela University.** Siyeyona kuphela kweyunivesithi ehlabathini ethiywe ngoNelson Mandela. Isiswenye sethu nowayesakuba nguMongameli woMzantsi Afrika, onesisa nokwayinkokheli waziwa kwihlabathi jikelele ngenxa yowakuzuzayo.

Siziva siwongekile **njengeNelson Mandela University** ukuthwala igama lakhe. Ngokwembuyekezo, siphakamisela phezulu ugama wethu ngokuzama ukuphila kumzila wakhe.

Simphakamisela phezulu ngokusebenzisa igama lakhe ngokupheleleyo. **SiyiNelson Mandela University.** 



#### Our logo

We developed a modern, font-based logo to communicate a forward-thinking concept. With its dynamic African feel, it sets Nelson Mandela University apart from its competition. The use of the circle and the triangle in the name creates a playful feel while alluding to ingenuity and creativity - two vital ingredients for change.

The colour palette was specifically chosen to reflect the University values and to add gravitas to the logo. We opted for blue, as it symbolises heritage, strength and trustworthiness. The bright yellow was chosen to add approachability, freshness and warmth.





#### **CONGRATULATORY MESSAGE**

Graduation is a significant milestone in life. It is the culmination of an academic journey that reflects your ambition, determination, commitment, perseverance, and demanding work. We know that this journey is not yours alone, as many have travelled with you. These are your friends, your lecturers, supervisors, mentors, and your family. They have invested in you financially, guided your studies and encouraged you to keep going. But above all, they have believed in your ability to succeed and achieve this graduation dream.

Today we celebrate not only what you have achieved, but what this promises going forward in terms of your potential as a graduate and alumnus of Nelson Mandela University.

Your education is your passport to the future – and the future hopes of our country and continent. Indeed, education is the foundation to a better world. Or, as Nelson Mandela so eloquently put it:

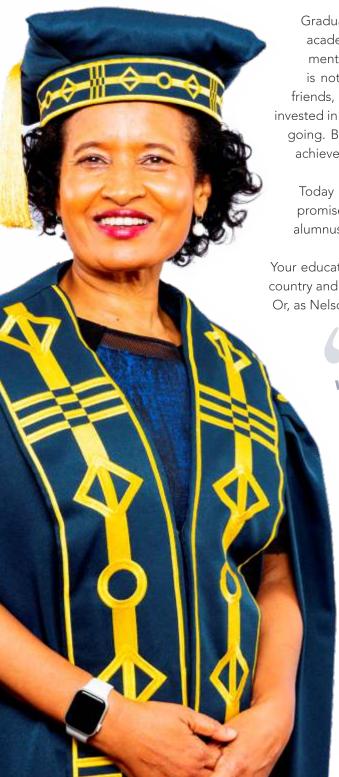
Education is the most powerful weapon which you can use to change the world.

Your joy is our joy too.

We salute and applaud your achievement and wish you every success for your future endeavours, wherever they may take you.

Congratulations!

Uthweso zidanga ludumo olubaluleke kunene ebomini. Yinkcochoyi kuhambo lwemfundo enomsila echaza ukunxanwa kwakho, ukuzimisela, ukuzinikela, ukunyamezela kwanomsebenzi otya ixesha. Siyayazi ukuba olu hambo asilolwakho kuphela, nanjengoko uninzi luthe lwakhenketha nawe. Abo ngabahlobo bakho, abahlohli bakho, amakhankatha, abacebisi, kwakunye nosapho lwakho. Batvale imali kuwe, bekukhokela kwizifundo zakho ze bakukhuthaza ukuba ughubeke uye phambili. Kodwa ngaphezulu konke, baye bakholelwa kumandla wakho okuphumelela nokuzuza eli phupha lothweso sidanga.



Dr Geraldine Fraser-Moleketi Chancellor

Namhlanje sibhiyozela hayi nje othe wakuzuza, kodwa okulithemba lokuqhubekela phambili mayelana namandla owathweleyo njengothweswe isidanga kwaye ebengumfundi waseNelson Mandela University.

Imfundo yakho litikiti lakho elikukhokelela ebomini – kwaye ubomi obulithemba lelizwe nezwekazi lethu. Ngaphandle kwamathandabuzo, imfundo, sisiseko sehlabathi elingcono. Okanye, njengokuba eyibeka ngokucace gca uNelson Mandela xa esithi:

Imfundo lelona krele lakhe lanamandla ongathi ulisebenzise ukutshintsha ihlabathi.

Uvuyo lwakho luvuyo lwethu nathi.

Sikothulela umnqwazi kwaye sikuqhwabela izandla ngenzuzo yakho futhi sikunqwenelela impumelelo nakuso nasiphi na isigaba seenzame zobomi bakho, naphi na apho singakusa khona.

#### Huntshu!

Gradeplegtigheid is 'n belangrike mylpaal in die lewe. Dit is die hoogtepunt van 'n akademiese reis wat jou ambisie, vasberadenheid, toewyding, deursettingsvermoë en veeleisende werk weerspieël. Ons weet dat hierdie reis nie joune alleen is nie, aangesien baie mense saam met jou gereis het, jou vriende, jou lektore, toesighouers, mentors en jou familie. Hulle het finansieel in jou belê, jou studies gelei en jou aangemoedig om voort te gaan. Maar bowenal het hulle geglo in jou vermoë om sukses te behaal en hierdie droom om te gradueer te bereik.

Vandag vier ons nie net wat jy bereik het nie, maar ook dit wat dit vorentoe beloof in terme van jou potensiaal as 'n gegradueerde en alumnus van die Nelson Mandela Universiteit. Jou geleerdheid is jou paspoort na die toekoms – en die toekomshoop van ons land en kontinent. Inderdaad, onderwys is die grondslag vir 'n beter wêreld. Of soos Nelson Mandela dit so welsprekend gestel het:

Onderwys is die magtigste wapen waarmee jy die wêreld kan verander.

Vandag is jou vreugde ook ons vreugde.

Ons salueer en loof jou prestasie en wens jou alle sukses toe vir jou toekomstige ondernemings, waar hulle jou ook al mag neem.

Veels geluk!



Professor Sibongile Muthwa Vice-Chancellor

## OUR CHANCELLOR, VICE-CHANCELLOR AND CHAIR OF COUNCIL



Meet **Dr Geraldine Fraser-Moleketi,** whose experience, commitment and heart for the continent's social and economic transformation are aligned with the goals of Nelson Mandela University.

Throughout her exemplary career, our Chancellor has worked for economic growth that is more sustainable. She has worked in inter-governmental structures, interacted with political leaders, business leaders and civil society, and has been involved in complex negotiations across different issues and sectors.

The titular head of our institution was previously Director of the United Nations Development Programme's (UNDP) Democratic Governance Group (DGP), based in New York, working across six regional centres in more than 100 countries.

Dr Fraser-Moleketi was Minister for Welfare and Population Development in South Africa's first democratic government and went on to serve as a member of the South African Parliament for three consecutive parliaments (1994 through September 2008).

Some of Chancellor's early achievements include participation in the multi-party negotiation process and as Deputy National Coordinator of the ANC's National Elections Commission ahead of the country's first democratic elections.

Our Chancellor serves on various boards, is a fellow of the Institute of Politics, Kennedy School of Government, at Harvard University, holds a master's degree in administration, and has received several awards, including the OP Dwivedi Public Service Award from the International Association of Schools and Institutes of Public Administration.



**Professor Sibongile Muthwa** is the Vice-Chancellor of Nelson Mandela University. Her second five-year term of office began in April this year.

Professor Muthwa holds a PhD from the School of

Oriental and African Studies, University of London, and an MSc in Development Policy and Planning from London School of Economics and Political Science. The Vice-Chancellor has enjoyed a distinguished career both in South Africa, and internationally, working in both development and public sector institutions, as well as in academia. Between 2010 and 2017 she was the Deputy Vice-Chancellor for Institutional Support, now known as People and Operations, at Nelson Mandela University.

Professor Muthwa served as the Chairperson of Universities South Africa [USAf] a membership organisation representing all South Africa's universities, that promotes and facilitates optimum conditions for universities to operate effectively and contribute to social, cultural and economic development.

She further serves on the Presidential Human Resource Development Council. Prior to joining the University, she served as Director General of the Eastern Cape Provincial Government [2004 and 2010]. Upon her return to South Africa, before joining government, she was Director of the Fort Hare Institute of Government.

She is deeply committed to gender justice, social inclusion and active democratic participation, and accordingly serves on a number of Boards and advisory structures, including from 2014 as a Commissioner of the Financial and Fiscal Commission, and served as its Deputy Chairperson from 2017-2019.

The Nelson Mandela University Council appointed **Ambassador Nozipho January-Bardill** as Chairperson of Council, the institution's highest decision-making body, in October 2017. She is currently serving her second term.

Ambassador January-Bardill's appointment as Council Chair was momentous, as she was the University's first black African female to take up the position.

She is an independent non-executive director of Mercedes Benz SA, the MTN Foundation, and two NGOs, Tshwaranang Legal Services (for women who are victims of gender-based violence) and Phenduka Literacy (for under-educated primary school pupils in Alexandra Township). In 2021 she was appointed to the

Board of Trustees of the United Nations Voluntary Fund for Technical Assistance and the Implementation of the Universal Periodic Report (UPR) in the office of the UN High Commissioner for Human Rights. Her own company Bardill and Associates advises companies on integrating race, gender and sustainable development into their business strategies and building cultures to end sexual harassment, bullying and GBV.

Ambassador January-Bardill served as SA's Ambassador to Switzerland, Lichtenstein and the Holy See as well as Deputy Director General, responsible for Human Resources and the Foreign Service Institute in the South African Department of Foreign Affairs. She was interim Chief of Staff and special advisor to UN Women and the UN Environmental Programme (UNEP) respectively.

Four years as Corporate Affairs Executive at MTN Group, the largest and most diverse mobile telecommunications company in Africa, exposed her to executive leadership in the private sector at home and on the continent, and the challenges of creating a human rights culture in business.

Ethical leadership and governance, social justice and sustainable development are central to her life and work.



## WE ARE NELSON MANDELA UNIVERSITY

As a socially embedded African university in the service of society, we offer a range of life-changing educational experiences, impactful research and innovation, and transformative engagement.

These academic core missions are rooted in and informed by recent milestones in the University's history, such as the 2017 name change to Nelson Mandela University, the Vice-Chancellor's listening campaign, inaugural and Advancing Mandela addresses, and a transversal organisational redesign process.

We offer quality higher education to nearly 32 000 students across seven campuses, making us the largest university in the Eastern and Southern Cape.

#### What we offer

Nelson Mandela University is a comprehensive university that offers both general formative and professionally orientated academic programmes from certificate to doctoral level.

We have a strong track record in both fundamental and applied research, working extensively in partnership with business, industry, government, and civil society. The institution has 500 study programmes across

seven faculties that are internationally recognised and accredited by the relevant professional bodies. State-of-the-art IT services include WiFi connectivity across all campuses and in numerous off-campus facilities, as well as advanced technological resources and digital aids geared to effective in-person and blended modes of learning and teaching.

Along with a first-class academic education, Nelson Mandela University provides students with a vibrant student life beyond the classroom.

#### Our campuses

Our seven campuses have a large, ever-increasing footprint, with six in Gqeberha and one in George.

Of these, four are in Summerstrand, one in Bird Street in Central, and one in Missionvale. Our North and South campuses in Summerstrand are located on an 840-hectare private nature reserve.

Our George Campus is on the Garden Route, midway between Nelson Mandela Bay and Cape Town. Set at the foot of the Outeniqua Mountains, our "sustainability" campus is where our ecological footprint meets business acumen for a sustainable future.















#### **FAST FACTS**

## **CAMPUSES**

North, South, Ocean Sciences, Second Avenue (in Summerstrand) Missionvale (Missionvale), Bird Street (Central), George (George Campus in the Garden Route)



### **FACULTIES**

(Business and Economic Sciences; Education; Engineering, the Built Environment and Technology; Health Sciences; Humanities; Law and Science) 32178
HEADCOUNT ENROLMENTS



2436
PERMANENT EMPLOYEES



#### STRATEGIC FOCUS AREAS







39
DIFFERENT
COUNTRIES

#### **REASONS TO BE PROUD**

Various ground-breaking projects, awards and achievements have given Nelson Mandela University and its staff and students reason to be proud, some of which are included below:

#### Winning designs

Architecture student **Luzuko Funda** won the annual national 2022 Corobrik Student Architecture Awards. He is the fourth winner from Mandela University over the past five years, keeping the tradition strong.





#### Spreading the Mandela brand

Social media is positively extending and entrenching the Mandela University brand as confirmed by the University's success as a winner of the **International Digital Communication Awards.** 

Sharing the joys of this year's Autumn Graduation season, the institution's Communication and Marketing department substantially exposed the Mandela University brand into Africa and internationally to win the small budget campaign category.

Its social media posts were displayed over 15.5 million times to users (up by 112%) and generated over 1.9 million engagements (up by 348%) compared with 2022. Its video views grew by 678% to over 4.1 million.

Three of its Facebook videos W had over 1.5 million impressions, with one reaching 4.7 million impressions and over 900 000 engagements, while one on Instagram had over a million impressions.

#### Science achievers

**Professor Janine Adams** (left image) and doctoral student **Carla Dodd** (right image) both received recognition for their groundbreaking water research at the South African Women in Science Awards ceremony.

Professor Adams, who holds the DSI/NRF Research Chair for Shallow Water Ecosystems and is deputy director for the Institute for Coastal and Marine Research, is the winner of the DSI Distinguished Woman Researcher in Natural Science and Engineering.

Carla, a doctoral student in Geosciences, was awarded the DSI-Ndoni Mcunu Fellowship: Doctoral Award for her pioneering research on groundwater resources.





#### A medical school making a difference

Our programme to train MBChB graduates in Gqeberha is the first and only medical school in the western part of the province. Intentionally anchored in Missionvale to engender urban renewal and regeneration, it is set to make a tangible contribution

to building capacity for accessible healthcare service delivery through its emphasis on primary health care.



## Ocean Sciences: Growing the blue economy

Nelson Mandela University has embraced the United Nations declaration of the Decade of Ocean Science for Sustainable Development from 2021 to 2030.

With South Africa's coastline spanning approximately 3000km and bordered by three oceans, the University is perfectly placed to contribute to and benefit from this blue decade.

Nelson Mandela University has developed a range of ocean sciences education and training, research, innovation and engagement programmes to support the blue economy nationally and on the African continent. Nelson Mandela University was ranked as the top institution in South Africa for UN Sustainable Development Goal Four: Life Below Water in 2022.



Our overarching ocean sciences strategy is underpinned by the following objectives:

- Advancing inter- and transdisciplinary synergies to promote learning, teaching, research, innovation and engagement "where art meets science"
- Promoting social, economic, and environmental sustainability
- Developing and maintaining mutually beneficial and collaborative partnerships with civil society, industry, government, and other postschool educational institutions nationally and internationally
- Positioning the University to be a destination of choice for ocean sciences nationally and on the African continent.

See more on Ocean Sciences at Mandela.

#### Ocean Sciences awards

Nelson Mandela University has won five national and international infrastructure awards for the new extensions to its Ocean Sciences Campus in Summerstrand.

The University's new triple-storey E Block with its aesthetically appealing, dedicated research spaces, specialised laboratories and signature dive tank, received high praise from judges in four competitions recently.

Infrastructure services and space optimisation deputy director Graham Gouws said as the only higher education institution in SA with a dedicated ocean sciences campus, Mandela University was home to a range of ocean sciences education and training, research, innovation and engagement programmes.

"These awards speak to our commitment to advance our scientific contribution to ocean sciences globally by developing fit-for-purpose spaces that meet this need," Gouws said.

The new R54m wing built from department of education funding is part of the University's commitment to the United Nations' sustainability development goals relating to the sea.



#### State-of-the-art Science Centre

The University's new Science Centre, on its Ocean Sciences Campus, will serve as a dynamic education hub catering to learners, students, scholars, academics and the wider public.

The state-of-the-art Centre, which was officially launched by the Minster of Higher Education and Training Professor Bonginkosi Emmanuel Nzimande on 15 March this year, was established as an expression of Nelson Mandela University's commitment as an engaged institution.

The R54-million building, funded by the Department of Higher Education and Training's Infrastructure Efficiency Grant, is dedicated to using its resources, platforms, students, and staff in pursuit of building a learning society that embraces social justice.

In short, the University is set on making science accessible to the public. It's here, in what is the most sophisticated digital dome of its kind in the country to date, that scientists will share complex concepts with the public, engage in discussions

and host interactive exhibitions and conferences. The centrepiece, a 15-metre digital dome/auditorium, offers a unique immersive space for learning and visualising spatial models in an engaging and entertaining format. It is akin to an IMAX theatre, but on a grander scale, fully enveloping the viewer.

School learners who visit will enjoy a comprehensive tour, including a fully immersive show featuring videos showcasing topics such as life underwater or the potential for life in outer space.

## Pioneering inclusive education with coding programme for the digital age

Mandela University is at the forefront of inclusive education and coding through its pioneering initiative, the Tangible Africa programme, which began in 2017 as a mobile app developed at the institution.

Computer Science student Byron Batteson's honours project has morphed into today's programme that transforming the educational landscape by empowering disadvantaged students to take up successful careers in coding.

In today's increasingly digital world, coding plays a central role in our lives, with the demand for online solutions, applications, and digital innovations skyrocketing. As the digital age advances, the role of software developers in shaping our future becomes indispensable.

Professor Jean Greyling, Head of the Department of Computing Sciences at Nelson Mandela University and the Tangible Africa Programme Founder, says: "While technologies like ChatGPT and AI are enhancing productivity, they will never replace the problem-solving abilities of skilled software developers."

He says software development is essential for a nation's innovation capacity, with many South African software companies exporting their products to Europe and America.

However, South Africa faces several challenges in promoting coding education. Over 16 000 schools lack computer labs, and many of the existing labs are nonfunctional. The shortage of qualified coding teachers compounds the issue, and there is a diminishing pool of matric learners with strong mathematical abilities - a critical prerequisite for coding.

Mandela University, through its Tangible Africa Programme, is addressing these challenges head-on. Launched in 2017, this initiative uses innovative methods to teach coding concepts, even in settings without access to computers, the internet, or electricity. Learners work collaboratively, solving challenges using physical puzzle pieces, thereby developing critical problem-solving skills.

The Tangible Africa Programme focuses on specific domains such as game poaching (RANGERS) and marine themes (BOATS), making coding education more engaging and accessible to diverse groups of students. New domains that will be introduced soon will be soccer and Formula 1 racing.

date 30000 teachers other and facilitators been have trained across Africa. and now also Europe. More than 100 000 learners benefitted from the programme, thanks to the collaboration with the Leva Foundation to address educational gaps and foster job creation and entrepreneurship.

"We are changing the African narrative. A product made in Africa for Africa is now being used in Africa and beyond," says Prof Greyling.



#### **OUR HISTORY**

The former institution was formed in 2005 as a the result of the merging of the PE Technikon, the University of Port Elizabeth and the Port Elizabeth campus of Vista University (Vista PE).

The PE Technikon has its roots in the country's oldest art school, the PE Art School founded in 1882; the University of Port Elizabeth (UPE), the country's first dual-medium residential university, came into being on 31 January 1964; and the Port Elizabeth campus of Vista university, which opened up access to higher education for disadvantaged students.

The union of these institutions was part of countrywide restructuring of higher education, intended to deliver

a more equitable and efficient system to meet the needs of South Africa, the continent and the world in the 21st century. Founded on more than a century of quality higher education, Nelson Mandela University nurtures innovation, fosters creativity, embraces technology and develops people to meet the challenges of tomorrow.

Today, Nelson Mandela University is the only university in the world to carry the name of Nelson Rolihlahla Mandela, is a sought-after educational destination and the most diverse university in South Africa.

A full history of the institution is available on our website, along with insights into our namesake.



### Office-Bearers of the University

#### **CHANCELLOR**

Dr GJ Fraser-Moleketi: MAdmin (*Cum Laude*) (UP), DPhil (*honoris causa*) (Nelson Mandela University), DPhil (*honoris causa*) (NWU)

#### CHAIRPERSON OF COUNCIL

Ambassador NP January-Bardill: BA, Cert in Ed (UBL), MA (Essex University, UK), Dip HR Management (Damelin) Doctor of Laws (honoris causa) (Glasgow Caledonian University)

#### **VICE-CHANCELLOR**

Prof SW Muthwa: BA (SW) (Fort Hare), BA (SW) Hons (Wits), MSc, PhD (London University, UK)

#### DEPUTY VICE-CHANCELLOR: ENGAGEMENT AND TRANSFORMATION

Prof A Keet: BA, HDE, BEd, MEd (Cum Laude) (UWC), PhD (Edu Manag, Law and Policy) (UP)

#### **DEPUTY VICE-CHANCELLOR: LEARNING AND TEACHING**

Dr SF Moeng: BA, HDE, BEdHons (UPE), MSc (St Cloud State University, USA), DEd (NMMU)

#### **DEPUTY VICE-CHANCELLOR: PEOPLE AND OPERATIONS**

Mr LP Jack: NDip (PMA) (EC Technikon), BTech (PM) (PET), BAPhil (US), MCom (UKZN)

#### DEPUTY VICE-CHANCELLOR: RESEARCH, INNOVATION AND INTERNATIONALISATION

Prof HR Lloyd (Acting): BCom (UPE), BComHons (UPE), MCom (UPE), DCom (UPE)

#### **DEAN OF STUDENTS**

Dr BK Sebake (Acting): NDip (PM) (TUT), BTech (PM) (UNISA), MTech (PM) (TUT), D (PA) (Monitoring and Evaluation) (TUT)

#### **EXECUTIVE DIRECTOR: FINANCE**

Mr MR Monaghan: BCom (UPE), BComHons (UNISA), Professional Accountant (SA)

#### **REGISTRAR**

Mr EB De Koker: BA (UCT), BAHons (UNISA), MA (Pub Admin) (University of Warwick, UK)

#### PRESIDENT OF ALUMNI ASSOCIATION

Mr S Hlwatika: LLB (NMMU), PGDip (Labour Law Practice), LLM (Labour Law) (Nelson Mandela University)

#### **Executive Deans of Faculties**

#### **BUSINESS AND ECONOMIC SCIENCES**

Prof MR Mey (Acting): NH Dip (Mgt Prac) (PET), BCom (UPE), BCom Hons (UNISA), MTech (PET), DTech (HRM) (NMMU), MIPM, RPP

#### **EDUCATION**

Prof HH Sathorar (Acting): BCom, HDE (Cum Laude), BEd Hons (Cum Laude) (UPE), MBA (Cum Laude) (NMMU), PhD (Nelson Mandela University)

#### ENGINEERING, THE BUILT ENVIRONMENT AND TECHNOLOGY

Prof M Sheldon: BTech BA, DEng (Chemical Engineering) (CPUT), Pr Tech Eng

#### **HEALTH SCIENCES**

Prof Z Zingela: MBChB (Natal), FCPsych (SA), MMed (UP), PhD Psychology (Nelson Mandela University)

#### **HUMANITIES**

Prof P Maseko: BA, BAHons (UWC), MA, PhD, PGDip in Higher Ed (RU)

#### **LAW**

Dr L Biggs: BCom (Law), LLB (UPE), LLM (Labour Law) (Cum Laude), LLD (NMMU)

#### **SCIENCE**

Prof ZR Tshentu (Acting): BScHons (UPE), MSc (UPE), PhD (NMMU)

#### DEAN OF LEARNING AND TEACHING

Dr P Kota-Nyati: BA (Vista), BAHons, MA Couns Psych (UPE), DPhil (Nelson Mandela University)

### Order of Proceedings

#### **Entrance of Academic Procession**

#### **Moment of Silence**

#### Constitution of Congregation and Welcome

Vice-Chancellor

#### **Choral Item**

Nelson Mandela University Choir

#### **Awarding of Qualifications**

Vice-Chancellor

#### **Conferring of Doctoral Degrees**

Vice-Chancellor

#### Message of Congratulations and Dissolution of Congregation

Vice-Chancellor

#### **National Anthem**

(The congregation is requested to stand for the singing of the National Anthem)

#### **Departure of Academic Procession**

(The congregation is requested to remain standing until the academic procession has left the hall)

<sup>\*</sup> The words Cum Laude indicate that the diploma or degree is awarded with distinction to the candidate/s

#### FACULTY OF ENGINEERING, THE BUILT ENVIRONMENT AND TECHNOLOGY

## HIGHER CERTIFICATE IN INFORMATION TECHNOLOGY IN USER SUPPORT SERVICES

ANDERSON, Ross Connor BALOYI, Koketso Allen BILLAH, Faheema Nombali BOPAPE, Makgomo Hendrica CANA, Siyamthanda Zukhanye

CHARLIE, Esona CWELE, Andiswa DAYILE, Zukanye DINTLE, Tshepiso

DOYI, Siphesihle Recardo

GCELU, Indiphile

GOMOMO, Chulumanco

GONYA, Xola GQUMANI, Mandla GWAYI, Loyiso Cumile HLANA, Qhama HLUNZA, Phumelela KEPE, Abenathi KETO, Sinozuko

KGAGARA, Rebecca Lebogang KHANYE, Mpo Sanelisiwe MAABANE, Sophie Ranapo

MADATT, Ameer

MAGAGULA, Sakhile Xolani MAHLANYA, Thabang MAKHATHA, Mpolokeng MAKHUBA, Pride Vhampfunaho MAKHUBU, Nonelwa Jane

MAKINANA, Lutho

MALINGATSHONI, Ikhona MANQA, Vuyane Patric MASHEGO, Angelo Theto MATEZA, Azukile Unako MAXHIBASHE, Liyema MBATHA, Sthembile

MDUNJANA, Siyabonga Banele MENDS-BREW, Efua Mansa

MIGGELS, Unathi MILLER, Caleb MILLER, Calum

MIYAMBO, Tlangelani Eulenda

MLETSHE, Busisiwe MNGXOZANA, Ntobeko

MOOI, Liyema

MPANZA, Sindisiwe Zamokuhle MUNYAI, Makhado Tshanduko

MVELASHE, Asavela NABELA, Luzuko

NAKENG, Lebeko Ashley

NCISE, Thulisile

NDLOVU, Asande Mthobisi

NDZUMO, Fisani

NDZWAYIBA, Sibabalwe

NGIBE, Bandile

NGWANGWA, Sinethemba

NOKWE, Lindokuhle NONZINYANA, Xabiso NOZINTWANA, Zintle NQABA, Mongezi Zinhle NQUMBA, Sivuyisiwe NTLANGULA, Yonela NTOMBINI, Siziphiwe

NXUNTE, Lolona Lulamela

NZAMELA, Naledi

PETI, Zintle

RAMAWA, Murangi

RATHOGWA, Mashudu Lucky

SAKUBE, Sanda SENTI, Avuyile

SHOROMA, Karabo Justinus

SIGEDLE, Amahle SINQABA, Zintle SIPEOLU, Olumayowa SOBEKWA, Esihle STENGILE, Avuzwa TALENI, Ibongwe Luxolo

TINI, Aphiwe

TYESI, Sisanda Siphesihle

VALISA, Oyena WANDA, Njabulo XHONGO, Anelisa YAMBATHA, Kwakho ZINIYA, Anathi ZONDANI, Landile ZULU, Lulama Noluthando

#### **CUM LAUDE**

MOKOENA, Janna QAYI, Nandipha

## DIPLOMA: INFORMATION TECHNOLOGY (COMMUNICATION NETWORKS)

ABRAHAMS, Reezah

ALEXANDER, Moegammat Saeed

BEJA, Sibabalwe

CHAUKE, Jonathan Daniel
CHAUKE, Lovemore Wandile
CHEMANE, Atha-Yanda
GCOLOTELA, Yola
GWASHU, Msondezi
HLANGANISE, Asemahle
LESHABANA, Refentse

MADADZHE, Mashudu Promise

MAPUMA, Minqweno Ernest

MATHEBULA, Inothando Temakholo Valentine

MCUNU, Yandisa MLONYENI, Banele MPHAPHULI, Fhatani MYALWA, Wandile NDAMASE, Chuma NOGAYA, Mlandeli SEKHWARI, Pfarelo SYSE. Emelio Bennito

THABETHE, Mdumiseni Edwin

TIBANE, Sinalo

TIKIMANA, Siphokuhle

VATSHA, Lindokuhle Innocent

VUMA, Zusakhe

#### **CUM LAUDE**

CLASSEN, Dillon MAQONDOSE, Zuko

MATLHOKO, Galaletsang Kenole

MHLELEMBANA, Amahle

TEYI, Mnoneleli TSITA, Siyabonga

## DIPLOMA: INFORMATION TECHNOLOGY (SOFTWARE DEVELOPMENT)

ABRAHAMS, Muhammad Noor ADAMS, Raveal Kimberleigh Carolina

APPELS, Jade Franklyn

BALEPILE, Keloeditse Florence

BANDA, Andile Simon BOTOMAN, Aviwe Sange BUNYULA, Osindiso

CAIRNCROSS, Vincent Henry CHABALALA, Ntshuxeko CHAUKE, Innocent DAU, Rolivhuwa Ntendeni DIBAKOANE, Michelle Jessica

DUDULA, Hlulelwa DYONAS, Akhona EAGAN, Usakhe Zenande GIBSON, Daniel Mark GODLOZA, Lumko

HLANJWA, Siyabulela Tebogo

JAKUJA, Xolela

JANSEN, Ronaldo Cullen

JOJO, Noncedo

KGOPA, Mothupi Lethabo

KILI, Afikile LECOGE, Didintle

LINGANI, Amanda Pamela

LUMKO, Amanda LUYENGE, Mandlakazi MABENA, Phumlani MACHAEA, Thato Ntando MADUMA, Bongani Glen MAFHUWA, Ronewa Lesley MAGINGXA, Thimna MAGQWASHE, Anodumo Sandisa MAHLANGU, Sisanda Kwanele

MAJILA, Mbasa

MAKUBALO, Mzuvukile MALGAS, Liyabona

MAMA, Thembisipho Bhekinkosi

MAMBA, Melusi Mvikeli
MANTI, Siphosethu
MANYEPERA, Kudzanayi
MAQOJANA, Amzolele
MATLOU, Seboye Catherine
MAVHUTHUGU, Andani Andy
MAZIBUKO, Thabo Frank
MBANGELELI, Esihle
MDEKAZI, Nkcubeko
MDEKAZI, Sikholwe
MDUBEKI, Wandile

MDUKU, Mzwanele Pawulos MDUTYANA, Sanele Mandlezulu MENSAH, Samuel Kwameya

MFOPA, Mologadi MGODUKA, Siposetu MIRAMS, Brandon David MITASHI, Zukisa

VIII ASHI, Zukisa

MJALI, Zenande Nqaba Sango MKHIZE, Bonga Arthur MKHWANAZI, Nokuthula MKOSANA, Yolanda MOKGALE, Katlego Delight MOKHERANYANA, Sebolelo

MONKI, Asanda

MOODALEY, Shaamlin Leonard Mark

MOREBUDI, Didintle Michell

MOSEKI, Gontse MOTSOKO, Zelda

MPOFU, Siphosethu Sinazo MTEBELE, Nosibabalo MTHIYWA, Nazo MTYELWA, Lutho

MULAUDZI, Fhumulani Whity MULAUDZI, Mulalo Ricky MVANGO, Olothando MXOLI, Sive Chulumanco

MZILENI, Olwethu NDABA, Njabulo NDONGENI, Unathi

NETSHIOMBO, Neo Charlot NJAMELA, Athenkosi Simthabele

NJENGELE, Okuhle NKALA, Sibulele NKOSI, Ntokozo NODALI, Zisanda NQOKISO, Landile NYEMBEZI, Yandisa PHETLHE, Kgaugelo PHILISANI, Anam PLANGA, Liyabona

QILINGANA, Kamva

RATSHIBVUMO, Lutendo Jimmy

RIBOMBO, Precious Molebogeng

SEGAFA, Thebe Blessing

SELANE, Teboho Gift

SESE, Kamvelihle

SIFILE. Mihlali

SILIKA, Grace Tshifhumulo

SMILES, Zaid Lukin

SOGAYISE, Siyamamkela

SOLANGA, Nkosithandile

SOTASHE, Khanya

THIBA, Nyiko

THORNE, Sue-Maré

TSHIAMBWA, Pfano Terresa

VIVIERS, Graeme Peter

VLOK, Matthew

YAKE, Liyema

ZAMEKO, Simbongile

ZWENI, Yonela

#### **CUM LAUDE**

GOLDMAN, Daylin

GXEKIWE, Nombongo

SHIVAMBU, Casey

THWALA, Thembinkosi Eden

VIKA, Mihle

## DIPLOMA: INFORMATION TECHNOLOGY (SUPPORT SERVICES)

BHOKO, Nonjongo

CENGANI, Zandile

DLAMINI, Wanele

DUKUZA, Lukhona

FINGWANA, Amahle

GROOTBOOM, Oyama

HADEBE, Phumzile Penelope

HEKA, Mandilakhe

JALI, Nwabisa Felicia

JAVU, Phila

KHOTSHOBE, Kamva

KRAAI, Esihle

LILELO, Nokubonga

MADIKIZELA, Dineo

MADLEBE, Esethu

MADULINI, Afikile

MAGAZI, Sibongakonke

MALUNGA, Siza

MAMANI, Siphosethu

MAVITYO, Zinhle Veronica

MAZIBUKO, Wandile Moses

MBALANE, Luxolo

MBOMBELA, Sinalo

MCAKA, Busisiwe

MDALANA, Siphesihle

MEMANI, Amahle

MFAKADOLO, Hlomla

MOHABENI, Luxolo

MRWASHU, Zenande

MTHETHWA, Bongiwe Nomthandazo

MTHIBA, Mthokozisi

MWANDA, Anathi

NDZAMELA, Emihle

NGOMANE, Jabulile Rejoyce

NJAMELA, Sinovuyo

NONDALA, Cwangco

NOPECE, Lihle

NTANTISO, Sibongile

NTHUSHI, Rhulani Justice

NTSHWANTI, Bungcwele

PHILLIP, Zikona

SHONGWE, Sphamandla

SIDWALA, Fortunate Nomfundo

SIFUBA, Sinethemba

SITOYILE, Lide

SKOSANA, Slindokuhle Cynthia

SOCOSA, Biyela

TAGOBE, Keaobaka Kelvin

TLEANE, Kagiso Ruth

TSHAZI, Andiswa

XATASI, Sinalo

#### **CUM LAUDE**

MKHIZE, Mangaliso

MOKGATE, Mothabine Happy

MORUTLHO, Lerato

MPAKETSANE, Mapaseka Ramatsimele

#### **BACHELOR OF INFORMATION TECHNOLOGY**

JESSIMAN, Sarah Cassidy

LIGHTFOOT, Ryan Wesley

NDLOVU, Zivuko

RAAFF, Luke

SELE, Simbonile

SILWANA, Mihlali

VAN ASWEGEN, Jadrian-Dru

#### **CUM LAUDE**

HANSEN, Stefan

PUTZIER, Ryan Shawn

ROWE, Christian

STRYDOM, Mischka

YUSUFF, Jamal Bolaji

#### ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY

BAKUBAKU, Odwa

BARNARD, Georgia

BONGOBI, Luthando

CEKISO, Simamkele

CELE, Thabile Purity

CEWU. Kamvelihle

DE VASCONCELLOS, Ervine Ernest

FIHLANI, Siyakudumisa

FOURIE, Chad Andrew William

GQIBANI, Chumani

HERMANS, Naledi Palesa

HLABANA, Ayandiswa

HLANEKELA, Vuyolwethu

ISAACS, Moegamat Reezaa

ITUMELENG, Rorisang

JACOBS, Davron Dyllon

JANSEN, Tristan Matthew

JANSEN VAN RENSBURG, Darren Edward

KOZA, Lithemba

LEHANA, Khotsofalang

LETSABA, Edith Mathapelo

LUBEDU, Anelitha

MABASO, Ntombizonke Favourite

MABIYA, Isenathi

MACAKELA, Somila

MAKHUBELA, Doctor Liyoni

MALEKA, Ernest Motlokoe

MANKAYI, Aphiwe

MAQOKOLO, Esihle Siliziwe

MARWARWA, Avuzwa

MASHEGO, Tumelo Tollarence

MATHEBULA, Philani Miyelani

MATHIBELA, Nhlanhla Millicentia Popo

MATU, Ezile

MAZANTSANA, Nkosinathi

MBADLA, Esethu

MBADLANYANA, Aviwe

MBEWANA, Yolanda

MDUNYELWA, Undilile Aphelele

MELENI, Mahlubandile Christopher

MEVANA, Zusiphe Aubrey

MGQUBA, Sihle

MGWEBI, Lithi

MIMI, Thulani

MKHWANAZI, Nkosingiphile

MLONZI, Veliswa Petronella

MNGOMA, Siyabukwa

MNGOMEZULU, S'Thembiso

MNYAMANI, Bukho

MOHALE, Teboho

MOHLALA, Tokelo

MOKONE, Tebogo Cicil

MOLATLHEGI, Palesa Keolebogile

MPANZA, Amandla Zamani

MPINI, Esethu

MPUKWANA, Ziphozethu

MTSHUBUNGU, Thokozani

MZANYWA, Sinovuyo

NDAMASE, Onela

NGCWEMBE, Azile

NGQOKOMA, Someleze

NJISANE, Sibabalo

NKQUBEZELO, Kumnandi

NOMPUKANE, Sandiso

NTLANGA, Sinesipho

NZWANA, Asive

PAKELA, Fatima

PETER, Zukhanye

PITYANA, Rolihlahla

PRINS, Kimberley Marilyn

QANGULE, Aviwe

QHALO, Alizwa Siyasanga

QUMA, Asemahle

RALO, Asanda

SHEMI, Elvin

SIGWADI, Viwe

OlOVVADI, VIWE

SILO, Simbongile

SIMBELA, Mfanelo

SKOSANA, Zukhanyise Audrey

SMITH, Nerine Ednah

SOBEKWA, Azasakhe

SOFEYA, Simphiwe

SOMDAKA, Lumko

TANA, Siphokuhle

THWALA, Siyajabula Nkululeko

TSHOMA, Thato Erick

WECU, Anathi

ZANTSI, Sibulele

ZAWUKA, Ubenathi Xola

#### **CUM LAUDE**

MANI, Ayabongwa

MKUPA, Uviwe

MOSENA, Koketso

SEROKE, Malehloa

#### POSTGRADUATE DIPLOMA IN CYBERSECURITY

BRUMMER, Roben Peter

DE REUCK, Ruphael Mynhardt

KEETSI, Florence Karabo

KHANYILE, Nokubongwa Samkelisiwe

KWANINI, Nikita

VAN VUUREN, David

VENTER, Christian

#### **CUM LAUDE**

METELERKAMP, Tessa Jane

PATSALOS, Constandino Nicholas

#### MASTER OF INFORMATION TECHNOLOGY (RESEARCH)

BLUNT, Phillip John Title of dissertation: A MODEL FOR SPEECH-DRIVEN LESSON SUMMARY GENERATION IN A NOISY EDUCATIONAL ENVIRONMENT Supervisor: Prof BP Haskins
MHLABA, Surety Aleta Title of dissertation: A FRAMEWORK FOR A CYBERSECURITY POLICY IN SOUTH AFRICAN SCHOOLS Supervisor: Prof M Gerber
MJOLI, Siliziwe Title of dissertation: A FRAMEWORK FOR THE INTEGRATION OF 4IR-RELATED TOPICS INTO IT UNDERGRADUATE CURRICULA IN SOUTH AFRICA SOUTH AFRICA
NDOME NDAME, Evelyne Alexandra Title of dissertation:  GUIDELINES TOWARDS THE USE OF VIRTUAL CONSULTATION IN PRIMARY HEALTHCARE  Supervisor: Dr A Petratos Co-supervisor: Dr M Makalima
STRYDOM, Elton Title of dissertation: SUPPORTING COMPETITIVE ROBOT GAME MISSION PLANNING USING MACHINE LEARNING Supervisor: Prof BP Haskins Co-supervisor: Dr RG Leppan
VIVIERS, Andre - <i>Cum Laude</i> Title of dissertation:  COMPUTER VISION AS A TOOL FOR TRACKING GASTROPOD CHEMICAL TRAILS  Supervisor: Prof RA Botha Co-supervisor: Prof BP Haskins
MASTER OF PHILOSOPHY IN INFORMATION TECHNOLOGY GOVERNANCE (COURSEWORK)
KHAMALI, Rethabile Goodwin Title of treatise: A STRATEGIC APPROACH FOR HANDLING INFORMATION SECURITY INCIDENTS IN HIGHER EDUCATION Supervisor: Dr KT Kativu
MAHLATHINI, Mkhosomhle Title of treatise: A STRATEGY FOR IMPLEMENTATION OF IT SHARED SERVICES FOR THE NELSON MANDELA UNIVERSITY Supervisor: Dr R Reid Co-supervisor: Prof K Thomson

MONARENG, Glacier Jamela
Title of treatise:
A CYBER SECURITY STRATEGY TO MITIGATE CLOUD COMPUTING RISKS WITHIN THE INVESTMENT MANAGEMENT
SECTOR IN CAPE TOWN
Supervisor: Dr KT Kativu

#### DOCTOR OF PHILOSOPHY IN INFORMATION TECHNOLOGY

DU PREEZ, Creswell Martin		
Title of thesis:		
A MODEL TO MEASURE THE DIGIT	L COMPETENCE OF SOUTH AFRICAN DIGITAL	L CITIZENS Supervisor: Prof D van Greunen Co-supervisor: Prof CD Foxcroft
JANSE VAN RENSBURG, Ebenhaes Title of thesis: INCORPORATING EMOTION DETE	· Otto TION IN TEXT-DEPENDENT SPEAKER AUTHEN	NTICATION
		Supervisor: Prof RA Botha
		Co-supervisor: Prof BP Haskins
		Co-supervisor: Prof R von Solms

## **DOCTORAL CITATIONS**

## THE DEGREE OF DOCTOR OF PHILOSOPHY (INFORMATION TECHNOLOGY)

#### **CRESWELL MARTIN DU PREEZ**

#### **Previous Qualifications:**

1992	National Diploma (Computer Data Processing)	PE Technikon
1993	Management Development Program	University of Port Elizabeth
2009	MTech (Business Information Systems)	Nelson Mandela Metropolitan University



#### Thesis:

A MODEL TO MEASURE THE DIGITAL COMPETENCE OF SOUTH AFRICAN DIGITAL CITIZENS

The rapid rise of disruptive technologies is changing the way we live, work, communicate, and relate to each other. South Africa faces challenges in achieving digital competence, ranking 95th out of 139 countries on the skills pillar due to poor education quality and infrastructure. The COVID-19 pandemic highlighted the gap between current online digital skills training programs and citizens' ability to participate in them. This study developed a digital competence assessment model to measure South African citizens' digital competencies. The model consists of a Digital Competence Assessment Grid and an example for developing an assessment questionnaire. This study also contributes to advancing digital competence assessment in South Africa, guiding development programs and generating

competence profiles for future skills required to fulfil the 4<sup>th</sup> Industrial Revolution employment opportunities.

Supervisor: Prof D van Greunen Co-supervisor: Prof C Foxcroft

## THE DEGREE OF DOCTOR OF PHILOSOPHY (INFORMATION TECHNOLOGY)

#### **EBENHAESER OTTO JANSE VAN RENSBURG**

#### Previous qualifications:

2016	National Diploma: Information Technology	Nelson Mandela Metropolitan University
2017	Bachelor of Technology: Information Technology	Nelson Mandela Metropolitan University
2019	Master of Information Technology	Nelson Mandela University



#### Thesis:

INCORPORATING EMOTION DETECTION IN TEXT-DEPENDENT SPEAKER AUTHENTICATION

Using voice as an authentication mechanism is gaining popularity. However, users can be forced to authenticate under duress. This study investigated the detection of duress when authenticating with voice, enabling pre-emptive countermeasures to improve security. The data gathered from this study demonstrate that it is possible to detect convoluted emotions that consist of multiple emotions. A new metric for determining the utility of selected techniques was defined. While uncertainty will not allow for the decision to be fully automated, it is suitable for the implementation of early warning systems that require additional scrutinisation of the authentication attempt.

Supervisor: Prof RA Botha Co-supervisor(s): Prof BP Haskins Prof R von Solms

### Congratulatory Message from the Alumni Association

#### Congratulations on your academic achievement!

Welcome to the Nelson Mandela University family. You are now a Nelson Mandela University alumna/us.

We would like to take this opportunity to introduce you to the Nelson Mandela University Alumni Association.

Once you have obtained your Nelson Mandela University certificate, diploma or degree you become an alumna/ us of the University and a member of the Nelson Mandela University Alumni Association.

The Association is approved by the University Council as a structure of the University. The Association supports and enhances the realisation of the University's vision and mission through maintaining and expanding positive relationships with its members.

#### The Role of the Alumni Association Office

Primarily, the ARO builds relationships and maintain strong links with graduates, parents, friends and supporters of the University through events, newsletters, social media, the alumni and friends magazine *Thetha* and services.

#### The Role of Nelson Mandela University graduate

We encourage you to attend the alumni engagement events, be an active alumni ambassador, support your alma mater in a variety of ways including sharing news, expertise, skills, and contributions in cash and kind. For more information regarding University projects you can support please visit the University giving page <a href="https://mandela.ac.za/giving-to-mandela-university">https://mandela.ac.za/giving-to-mandela-university</a>

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### Photographer details

The official photographer for the Nelson Mandela University graduation ceremony is Gordon Harris Photographic. Photographs will be taken of every graduate as he or she is being presented by the Executive Dean of the Faculty and when being hooded by the Registrar. A demarcated area will be used to take family photographs, please follow directional signage. Please refer to the enclosed photograph order form.

NOTE: NO OTHER PHOTOGRAPHERS WILL BE ALLOWED IN THE HALL.

NB: THE TAKING OF ALL PHOTOGRAPHS (INSIDE AND OUTSIDE THE HALL) IS A PRIVATE TRANSACTION BETWEEN EACH CANDIDATE AND THE PHOTOGRAPHER CONCERNED. THE UNIVERSITY ACCEPTS NO RESPONSIBILITY FOR THE QUALITY OF THE PHOTOGRAPHS.

## NATIONAL ANTHEM

Nkosi Sikelel'i-Afrika,

Maluphakanyisw'uphondo lwayo,

Yizwa imithandazo yethu,

Nkosi Sikelela, thina lusapho lwayo.

Morena boloka setjhaba sa heso,
O fedise dintwa le matshwenyeho.
O se boloke, O se boloke setjhaba sa heso,
Setjhaba sa South Africa.

South Africa.

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.

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