# **CONGRATULATORY MESSAGE**

Graduation is a milestone event deserving of celebration. It is the culmination of an academic journey over many years in which you worked hard, persevered and no doubt overcame many challenges. You and your loved ones have made many sacrifices in pursuit of your qualification. You have acquired new knowledge in your chosen field, and grappled with matters deserving of our collective attention, like sustainability, poverty and social injustice.

Yes, such a crowning moment in your life must be acknowledged and celebrated with pride and joy.

This joy is ours too, for graduation is the highlight of our University calendar as we witness successful students cross the stage to be capped and enter a new chapter of their lives. Each of you has a unique story to tell and an exciting journey ahead.

While we are confident that Mandela University has equipped you with an excellent academic qualification for the challenges of life and work to come, we are equally hopeful that you will live the legacy of our namesake.

With the honour of being the only University in the world to bear the name of one of the world's greatest icons, Nelson Mandela, comes huge responsibilities. Nothing less than adhering and advancing the efforts of our former President will suffice. You are encouraged to continue his and our quest towards a more just, healthy and equal society.

Regardless of your chosen career, use your new-found qualification as a force for good, strive to serve a cause larger than yourself and endeavour to change the world for the better. As in the words of Nelson Rolihlahla Mandela himself "education is the most powerful weapon which you can use to change the world".

We thank you for entrusting your dreams with us. It's you who make us want to do better, for it's you, our students, who give our institution a human face. It's you who will live his and our legacy.

We applaud and salute your achievement and wish you all the best in your future endeavours. As Nelson Mandela University alumni, we look forward to watching your story unfold.

Congratulations!

Dr Geraldine Fraser-Moleketi Chancellor



Prof Sibongile Muthwa Vice-Chancellor



#### ABOUT NELSON MANDELA UNIVERSITY

Nelson Mandela University is a new generation university, distinguished by a wide range of study options and access routes open to students. With 470 programmes from certificate through to doctoral level across 200 different career fields, Nelson Mandela University truly is a comprehensive university.

Founded on more than a century of quality higher education, Nelson Mandela University nurtures innovation, fosters creativity, embraces technology and develops people towards changing the world for the better. The University was previously known as Nelson Mandela Metropolitan University (NMMU), but on 20 July 2017 it was officially re-launched as Nelson Mandela University – the only university in the world to have been given this privilege. Our alumni also come from the University of Port Elizabeth, the PE Technikon and Port Elizabeth campus of Vista University, as these three institutions were combined to form NMMU in 2005.

The University has a strong record of research, working extensively in partnership with business and industry, and has an even more exciting future ahead of it, especially in terms of its contribution to the socio-economic development of the metro, region, country and continent of Africa.

This is due, among other new and growing ventures, to Nelson Mandela University's bold journey towards becoming the leading destination for all Ocean Sciences postgraduate teaching, learning, research and engagement in Africa with the launch of its dedicated campus in September 2017.

### **Our campuses**

The launch of the Ocean Sciences Campus means Nelson Mandela University now has seven campuses and about 27 000 students.

Six of Nelson Mandela University's campuses are in Nelson Mandela Bay and one is in George on the Garden Route. The seven campuses are:

- South Campus in Summerstrand (within a 720-hectare private nature reserve)
- North Campus in Summerstrand
- Ocean Sciences Campus, adjacent to North and South campuses in Summerstrand
- Second Avenue Campus, home to our "green" Business School, in Summerstrand
- Bird Street Campus, a growing postgraduate arts hub in Central
- Missionvale Campus in Missionvale
- George Campus in George

### Facilities and supportive teaching and learning environment

Nelson Mandela University is privileged to have outstanding facilities. All students have access to well-equipped laboratories, some of which are open 24/7, and free Wi-Fi throughout all its campuses. All lecture halls are equipped with the latest technology and students have the opportunity of using additional e-learning tools online. The campus libraries and information services network offers a state-of-the-art integrated online system. There are cafeterias, food courts and coffee shops.

A range of opportunities is provided to enhance the academic success of students. These include a first-year orientation programme, peer-facilitated learning opportunities (eg, Supplemental Instruction, e-PAL, tutorials, practicals, mentor programmes, 'Keys to Success' workshops and online resources). The University also promotes learning and development beyond the classroom towards enhancing holistic student development. To recognise this learning, Nelson Mandela University has developed an innovative, electronic co-curricular record system. This record complements the students' academic record.

The University also offers the finest sporting facilities in the Eastern Cape and numerous venues for conferences, meetings and other special events.

#### **Faculties**

Nelson Mandela University has seven faculties. They are:

- Arts
- Business and Economic Sciences
- Education
- Engineering, the Built Environment and Information Technology
- Health Sciences
- Law
- Science

#### **Academic focus areas**

Though the University prides itself on its vast range of programme offerings, it has a number of strategic areas in terms of its core business of teaching and learning, research and engagement. These are:

- Health and wellness
- Economic and business development with a focus on job creation and entrepreneurship
- Materials and process development for industry and manufacturing
- Emerging information and communications technology for development
- · Environmental and natural resource management
- Culture, communication and language
- Leadership, governance, democracy and justice
- Educational development in support of excellence in teaching, learning and curriculum
- Infrastructure and human settlement development

# Strategic research areas

- Biodiversity conservation and restoration
- · Coastal marine and shallow water ecosystems
- Cyber citizenship
- · Democratisation, conflict and poverty
- Earth Stewardship Science
- Health and wellbeing
- · Humanising pedagogies
- · Manufacturing technology and engineering
- Nanoscale characterisation and development of strategic materials
- Science, Mathematics and Technology Education for Society
- Strategic energy technologies
- · Sustainable human settlement development and management
- Sustainable local economic development

### **Research and Engagement entities**

Nelson Mandela University has more than 30 focused institutes, centres and units that exist over and above the formal academic structures. These are aimed at promoting research, technology transfer and innovation. They include the likes of InnoVenton, the University's go-getting Institute for Chemical Technology and Downstream Chemicals; eNtsa, an institute that focuses on seeking solutions through engineering; Earth Stewardship Science Research Institute (ESSRI); and the Institute for Coastal and Marine Research. Many are award-winning entities. The University also has many more engagement institutes, centres and units and two clinics serving society in various initiatives. Its mobile Zanemphilo health platform, for example, serves both indigent communities and its Health Sciences students with practical experience. The latter forms part of the growing Interprofessional Education (IPE) that will undergird the University's Health Science qualifications as it moves towards the formalisation of its Medical School.

#### 'Green' endeavours

In line with its value of respect for the natural environment, Nelson Mandela University is involved in a large number of "green" initiatives that will not only reduce its own carbon footprint but is also assisting others in seeking renewable energy resource solutions. The University's Business School, for example, was the first in the country to be awarded four-star "green" accreditation for a public and education building by the Green Building Council of South Africa in 2013. The "green" agenda is supported by the Centre for Renewable Energy, which is recognised as a research leader in the field, and the University's overriding strategic priority towards all-round environmental economic and environmental sustainability.

#### **International links**

About 8% of the University's student body comes from 84 different countries outside of South Africa. The Office for International Education fosters relationships and manages inter-institutional linkages to enrich both Nelson Mandela University staff and students. These partnerships also foster our growing research.

### Reasons to be proud:

- Nelson Mandela University is the only University in the world to be named after the global icon Nelson Mandela.
- Nelson Mandela University's diversity and multiculturalism. Our African students come from 32 countries on the continent.
- The Centre for High Resolution Transmission Electron Microscopy (CHRTEM) is the only place in Africa where scientists can view atoms in line with the University's growing prominence for nanoscience.
- The University was chosen to host the country's 10<sup>th</sup> Medical School, and hopes to welcome its first cohort of medical students from 2020.
- 43% of our academic staff have doctoral degrees, which is above the national average.
- New infrastructure like the second iconic Engineering block on North Campus, the High Performance Complex complete with a 100m research sprint track, and the Science building on South Campus.
- The University has the only dedicated Ocean Sciences campus in South Africa and is working together across disciplines from the Arts through to Zoology to find innovative, sustainably solutions in growing the country's blue economy.
- Nelson Mandela University has excellent links with industry and business, particularly within the pharmacy, tourism, the automotive industries and now with all Ocean Sciences-related partners.
- Nelson Mandela University's ongoing education partnership of ten years with Fifa, as one of only two
  presenters in Africa of an international sports management programme through the Centre International
  d'Etude du Sport (CIES).
- In 2012 the University was selected to facilitate the country's first electric e-mobility programme and technical centre, called the uYilo e-mobility programme.
- The University has extensive expertise within the field of friction processing which has resulted in numerous national awards for the patented technology, WeldCore<sup>®</sup>. This technology has saved industry vast sums of money.
- Nelson Mandela University's accounting and pharmacy students who continue to produce top results in their national external examinations.
- The University's international award-winning choir which continues to perform around the globe to wide acclaim.

#### **ACADEMIC DRESS**

Special academic attire was designed for office bearers at Nelson Mandela University to be worn at prestigious academic events like graduation.

Each outfit – from that of the Chancellor and Vice-Chancellor to those of the Executive Deans – has been meticulously selected to signify a particular office; this is a tradition that is consistent with leading universities throughout the world.

The gowns, caps and hoods of Nelson Mandela University graduates were similarly inspired and are explained in detail below.

### Academic dress for graduates at Nelson Mandela University is as follows:

## **Doctoral degrees**

Gown: Cardinal red polyester cashmere gown with long pointed sleeves pleated up with blue cord and

button and lined with blue satin with 125mm facings and a blue collar.

**Hood:** Full shape hood in cardinal red polyester cashmere lined with faculty colour satin and edged

around the cowl with 75mm faculty colour ribbon with 15mm blue ribbon overlaid central. 50mm wide straight neckband in cardinal red polyester cashmere, 25mm faculty colour ribbon in centre

of neckband with 15mm blue ribbon overlaid central to faculty ribbon.

**Cap:** Round doctor's bonnet in black velvet with faculty colour cord and tassel.

### **Master's degrees**

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

ord detail is used.

**Hood:** Full shape blue hood lined faculty colour satin and edged around the outside of the cowl with

75mm faculty colour with ribbon. 50mm straight neckband in blue with 25mm faculty colour ribbon

centred.

**Cap:** Black mortarboard with blue tassel.

# Postgraduate diplomas

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood lined silver grey satin. Straight neckband with 15mm faculty ribbon on

top edge of neckband and around cowl. 15mm silver grey ribbon on bottom edge of neckband

and around cowl spaced 20mm away from the faculty colour.

**Cap:** Black mortarboard with blue tassel.

# **Bachelor honours degrees**

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood lined silver grey satin with 50mm wide straight neckband in faculty colour.

Cowl edged 75mm faculty colour ribbon on the outside. 15mm silver grey ribbon runs along the

outer edge of the cowl, overlaid on faculty ribbon and on top edge of neckband.

**Cap:** Black mortarboard with blue tassel.

# Four-year bachelor's degrees (including Bachelor of Technology degrees)

**Gown:** Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood lined silver grey satin with 50mm wide straight neckband in faculty colour.

Cowl edged 75mm faculty colour ribbon on the outside. Silver grey cord runs along the outer

edge of the cowl, overlaid on faculty ribbon and on top edge of neckband.

**Cap:** Black mortarboard with blue tassel.

#### Three-year bachelor's degrees

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood lined with silver grey satin with 50mm wide straight neckband in faculty

colour. Cowl edged 75mm faculty colour ribbon on the outside.

**Cap:** Black mortarboard with blue tassel.

### **Advanced diploma**

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood lined with silver grey satin with 50mm wide straight neckband. 15mm

faculty colour ribbon on top and bottom of neckband around cowl.

**Cap:** Black mortarboard with blue tassel.

**Diploma** 

Gown: Black gown, long pointed sleeves pleated up with blue twisted double cord and button. Similar

cord detail.

**Hood:** Blue simple shape hood with 50mm wide straight neckband. 25mm faculty colour ribbon on

centre of neckband.

**Cap:** Black mortarboard with blue tassel.

### **Faculty colours**

Arts: Yellow Business & Economic Sciences: Plum

Health Sciences:

Law:
Grey blue
Education:
Orange
Science:
Dark green

Engineering, the Built Environment

and Information Technology: Light blue

Business School: Black and magenta

Messrs T. Birch & Co (Pty) Ltd and its subsidiary, Croft Magill & Watson (Pty) Ltd, have been appointed as official robemaker to the University and as contracted suppliers of choice to students for graduation academic attire.

The Image Factor has been appointed as the official photographer of the University.

### **RE-IMAGINING GRADUATION AT NELSON MANDELA UNIVERSITY**

Our new name, evolving identity and institutional vision offers us an ideal opportunity to collectively explore how we would like to celebrate graduation at Nelson Mandela University.

What should an African university graduation associated with one of the world's most iconic leaders, the late Nelson Mandela, look and feel like?

It is this question that is presently being asked of Nelson Mandela University alumni, staff and students via surveys, focus groups and informal discussions.

We want our graduation ceremonies to offer an authentic expression of who we are ... one that embraces our rich multi-cultural diversity.

#### **Examining all parts**

To do so, the focus groups and surveys have examined our new identity, why we celebrate and how we should celebrate – particularly graduation, which is the apex of the academic journey of commitment, sacrifice and an affirmation of our intellectual ability.

What is the best format of our ceremonies? How do we visually express our success? How do we celebrate within socially acceptable norms – norms that embrace all cultures with dignity and pride? How should we dress?

#### **Feedback**

The input received to date from the university's key stakeholders in painting a picture of our future graduation ceremonies, has been consistently shared, in a parallel process, with a design team which won a tender to design new academic gowns for office bearers. This does not include gowns worn by graduates, but rather those worn by the likes of our Chancellor, Vice-Chancellor and Chairperson of Council, our deans, the Registrar and other key academic staff.

Interestingly, there has been overwhelming support to retain the academic gowns but in a manner befitting of our vision as a "dynamic African" university.

The new gowns, along with other agreed-upon aspects of our graduation ceremonies – from their size through to the supporting cultural performances – will hopefully be finalised in time for our 2018 Summer Graduation

AUTUMN GRADUATION CEREMONIES APRIL 2018			
Friday, 13 April 2	2018		
Ceremony 1	10:00 George Campus All Programmes		
Wednesday, 18	April 2018		
Ceremony 2	09:30 Faculty of Business and Economic Sciences (School of Industrial Psychology & Human Resources, Graduate School and others) Faculty of Law Two Honorary doctoral degrees		
Ceremony 3	14:30 Faculty of Business and Economic Sciences (School of Management Sciences) One Honorary doctoral degree		
Thursday, 19 Ap	oril 2018		
Ceremony 4	09:30 Faculty of Science (School of Computing Sciences, Mathematics, Physics & Statistics and School of Biomolecular & Chemical Sciences)		
Ceremony 5	14:30 Faculty of Science (School of Environmental Sciences)		
Friday, 20 April 2	2018		
Ceremony 6	09:30 Faculty of Engineering, the Built Environment and Information Technology (School of the Built Environment and School of Information & Communication Technology)		
Ceremony 7	<b>14:30</b> Faculty of Engineering, the Built Environment and Information Technology (School of Engineering)		
Saturday, 21 Ap.	ril 2018		
Ceremony 8	<b>09:30</b> Faculty of Arts (School of Architecture; School of Music, Art & Design and School of Language, Media & Culture)		
Ceremony 9	<b>14:30</b> Faculty of Arts (School of Governmental & Social Sciences) Faculty of Education		
Monday, 23 April	il 2018		
Ceremony 10	09:30 Faculty of Business and Economic Sciences (School of Accounting)		
Ceremony 11	14:30 Faculty of Business and Economic Sciences (School of Economics, Development & Tourism)		
Tuesday, 24 Apr	ril 2018		
Ceremony 12	09:30 Faculty of Health Sciences (School of Clinical Care Sciences and School of Medicinal Sciences)		
Ceremony 13	14:30 Faculty of Health Sciences (School of Behavioural Sciences and School of Lifestyle Sciences)		

### **OFFICE-BEARERS OF THE UNIVERSITY**

**CHANCELLOR** 

DR GJ FRASER-MOLEKETI: MAdmin (UP), DPhil (hc) (NMMU)

CHAIRPERSON OF COUNCIL

MS NP JANUARY-BARDILL: Cert in Ed (UBL), Dip HR Mgt (Damelin), BA (UBL), MA (Essex, UK)

VICE-CHANCELLOR

PROF SW MUTHWA: BA(SW)(Fort Hare), BA(SW)Hons(Wits), MSc, PhD(London University, UK)

**DEPUTY VICE-CHANCELLOR: INSTITUTIONAL SUPPORT** 

MR LE HASHATSE (ACTING): B (Journ & Media Studies), BAHons (RU), MA (Edith Cowan, Australia)

DEPUTY VICE-CHANCELLOR: RESEARCH AND ENGAGEMENT

PROF AWR LEITCH: BSc, BScHons, MSc, PhD(UPE)

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

PROF DM ZINN: BA, BAHons, HDE(UCT), MEd, DEd(Harvard University, USA)

**EXECUTIVE DIRECTOR: FINANCE** 

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

**EXECUTIVE DIRECTOR: HUMAN RESOURCES** 

MS VN BAM: BSocSc(UCT), PGDip(UFH), MBL(UNISA)

**REGISTRAR** 

DR F GOOLAM: BSc, HDE, BEd, MEd(UDW), PhD(UP)

PRESIDENT OF ALUMNI ASSOCIATION

DR R JONAS: BA(UWC), HDE, BAHons(Unisa), MA(UPE), PhD(NMMU)

**EXECUTIVE DEANS OF FACULTIES:** 

**ARTS** 

PROF MJR BOSWELL: BSocSc, BSocScHons, MSocSc(UCT), PhD(Vrije Universiteit, Netherlands)

**BUSINESS AND ECONOMIC SCIENCES** 

PROF HR LLYOYD (ACTING): Bcom, BcomHons, Mcom, DCom (UPE)

**EDUCATION** 

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

ENGINEERING, THE BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

DR OSW FRANKS: BSc MechEng, MInd Admin(UCT), Hons (B&A)(US), PhD (Engineering Science)(USF - USA), Pr Eng

oorty, i'i Eng

**HEALTH SCIENCES** 

PROF L PEPETA: MBChB (Unitra), FCPAED(SA), DCH(SA), MMed (Wits)

ιΔW

PROF A GOVINDJEE: BA, LLB(RU), LLM(UPE), LLD(NMMU)

**SCIENCE** 

PROF A MURONGA: BSc,UED(UNIVEN), BScHons, MSc(UCT), PhD (University of Minnesota, USA)

**DEAN OF TEACHING AND LEARNING** 

PROF CD FOXCROFT: BA, BAHons, MA, DPhil(UPE)

**DEAN OF STUDENTS** 

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

# **ORDER OF PROCEEDINGS**

# **ENTRANCE OF ACADEMIC PROCESSION**

(The congregation is requested to rise while the academic procession enters the hall)

#### **MOMENT OF SILENCE**

(The congregation is requested to remain standing)

#### **CONSTITUTION OF CONGREGATION AND WELCOME**

Vice-Chancellor (The congregation is requested to be seated)

### **AWARDING OF QUALIFICATIONS**

Vice-Chancellor

#### **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)

# **INFORMATION TO MEMBERS OF THE CONGREGATION**

Members of the congregation are requested:

- To rise and remain standing while the academic procession enters and leaves the hall.
- Not to leave the hall before the end of the ceremony.
- To switch off cellular phones or turn them on silent mode.
- Not to move around in the hall.
- Not to eat and drink in the hall.
- Not to get up and take photographs during the ceremony.
- To keep cheering and ululating to a minimum.

The words Cum Laude indicates in the text below that the diploma or degree is awarded with distinction to the candidate/s listed.

#### **NATIONAL DIPLOMA: AGRICULTURAL** MANAGEMENT

BOOI. Nikiwe CUJANA. Yandisa CUTU, Nonzaliseko DINGISWAYO, Xolisile DYODO, Thabiso DYWILI, Zintle FELEZA, Siseko HANEKOM, Pelser JEZILE, Chumani

KHOZA, Chummy Sinegugu KOLWENI, Asanda Elethu KONDLO, Yamkela KWANINI, Lisa Ziyanda

MABANDLA, Okuhle MADIKIZELA, Lelethu MAHALA, Lungelwa Pakama

MAHLANYANA, Sonwabile

MAJEKE, Zukani MAKALA, Aphiwe MANQOLA, Zikisa MASELANA, Asanda MATROSE, Nolubabalo MAVUSO, Akhona MAYEKISO, Athini

MBADLANYANA, Simamkele

MBALEKI, Zola

MBALEKWA, Noluvuyo MBANGO, Sonwabo MBULAWA, Esethu MBUMBULWANA, Sivuyile MHATU, Sinovuyo Canida MJUQU, Sibonelo Penuel MNINI, Yandiswa Yonela MNUKWA, Thembelihle

MPONDZO, Luvokazi MQINA, Mzolisi

NDLOVU, Sphumelele Puleng Charlotte

NGCOBO, Sbusiso NJILI, Zamazima NOMLALA, Asiphe NTLANGA, Phumzile NTONGANA, Simamkele NTWANAMBI, Lusanda

NYOSI, Apiwe

PANGUMSO, Nompilo Happiness RADALI, Adivhaho Everest SILIBALI DLATHU, Sinazo SONTLABA, Zilulutho Noludwe THEKWANA, Thembelihle TSHUTSHANE, Ziphiwo ZWANE, Ayabonga Nkanyiso

#### **CUM LAUDE**

KOLANISI, Noxolo

#### **NATIONAL DIPLOMA: GAME RANCH MANAGEMENT**

BOTHA, Dirk-Andre BOTHA, Tikita CAGNI, Joshua DE NECKER, Anouschka HESLINGA, Pieter Frederik MARAIS, Samantha Mae

NELL, Thomas George PRETORIUS, Danelle PUTNAM, Chad Russel RICHARDSON, Bronwyn Joan

MPHEPHU, Tshifhiwa Rudolph

THERON, Pieter

VAN DER WESTHUIZEN, Izak Johannes VILJOEN, Christoffel Johannes Botha WOLMARANS, Jaco

#### **CUM LAUDE**

MAC LEOD, Chezney Kim

#### **BACHELOR OF SCIENCE**

BADI, Lindelwa BANDA, Shamiso BERKLAND, James Matthew BERNABAS, Lord- Carrington Numo BOOI. Hulisani CLOETE, Andre' DUBAZANA, Yakhuluntu GARIREMO, Natasha Rumbidzai GRASSI, Cameron Michael GRIEBENOW, Robert Ernest HARTLEY, Oliver

HEATH, Danielle HENNING. Shane JULIE. Corianna Lauren LEBESE. Felicia Emily LEHMAN, Tevan William Key LUCAS, Joanne Ayla Aleena MAHLEBA, Masivuye Momelezi MAHWEHWE, Anesu Angela MAKWENKWE, Ntombozuko Portia

MASINDI. Avhasei MAXAMA, Asakhile MBANA, Unathi

MBUQE, Nandipha Germina MC ARTHUR, Brogan Erin MJALI, Siphathisiwe MOODLEY, Avveshan MUSA, Sameera NEL, Marele Annette NOBHEQWA, Sinalo Kamva SAO, Emmanuel Kwabena Boateng VALASHIYA, Khaya

WASSERMAN, Johan De Wet

ZANONCELLI, Luca Guy

#### **CUM LAUDE**

ANDERSON, Rebekah Leigh BEHRENS. Kirstv WIENAND, Nicole Nadine

#### **BACHELOR OF TECHNOLOGY: AGRICULTURAL MANAGEMENT**

DINGA, Vuyokazi Thelma GCISA, Phila KONDILE, Khonjiswa LAMONT, Colin

MADONONO, Liyabona
MBITYI, Zintle
MTSHONTSHI, Avela
MTUKUSHE, Phumza
NOMBEWU, Liliso
SAMBOKWE, Vusumzi
SEJOSENGOE, Katleho
SIYENGO, Ntomboxolo
STUURMAN, Sibulele
TAKAYI, Onesimo Ziyanda
TEFFO, Mmabatho Lucy
VUMISA, Yolanda Khanyisile
ZASAWE, Siphosethu

### **BACHELOR OF SCIENCE HONOURS**

MDODANA, Mandilakhe

(Botany)

SOMTSEWU, Andiswa

(Environmental Geography)

#### **BACHELOR OF SCIENCE HONOURS IN BOTANY**

CHETTY, Ranita GCINA, Sinenjongo LIDDELL, Duncan Carlyle

# BACHELOR OF SCIENCE HONOURS IN ENVIRONMENTAL GEOGRAPHY

FERREIRA, Lise KHAN, Bushraa MAPHOSA, Sean Tafara MAXAMA, Asakhile

# BACHELOR OF SCIENCE HONOURS IN GEOGRAPHICAL INFORMATION SYSTEMS

AROSI, Oyama BAVUMA, Lukhanyiso

#### **BACHELOR OF SCIENCE HONOURS IN GEOLOGY**

BUHLUNGU, Zilungile DEE, Charissa DYAN, Siyasanga MQANYA, Sinenhlanhla Fortunate NAIR, Sabarinathan TSHABALALA, Siphiwe Mswati VAN JAARSVELD, Ruan ZINIKELE, Nkosikhona

#### **CUM LAUDE**

BUCKSEY, Rachel Margaret CLARK, Fiona DODD, Carla

# MASTER OF SCIENCE (RESEARCH)

BORNMAN, Eugin (Zoology) Title of dissertation: AN APPRAISAL OF WARM-TEMPERATE RNA: DNA RATIOS OF GILCHRISTELLA A		
CALITZ, Wynand (Botany) Title of dissertation: SPATIAL AND TEMPORAL HETEROGENE	EITY OF PLANT FLAMMABILITY	Supervisor: Dr AJ Potts Co-supervisor: Prof RM Cowling
CARVALHO, Shandon Luke (Botany) Title of dissertation: THE ASSOCIATION OF THE BUSHCLUMF	PS OF CALCRETE BONTVELD WITH A	A <i>DJACENT THICKET</i> Supervisor: Prof EE Campbell
COETZER, Crystal Jeanne (Zoology) Title of dissertation: PROTECTED AREA EXPANSION AND MECHANISMS, PATTERNS AND BENEFIT		P IN THE OLIFANTS CATCHMENT: Supervisor: Prof GIH Kerley Co-supervisor: Dr SD Holness
LONG, Chazanne Anita (Geology) Title of dissertation: HYDROCHEMICAL ASSESSMENT OF N SYSTEMS THAT FLOW THROUGH THE C		
ROUSSOUW, Natasha Kimberlee (Botany) Title of dissertation: ASSESSMENT OF THE MICROALGAL COL EASTERN CAPE KAROO REGION EARMA		
SHAANIKA, Titus Mwiitantandje Title of dissertation: SITE FIDELITY AND HABITAT PREFEREN ALGOA BAY, SOUTH AFRICA	NCE OF INDO-PACIFIC BOTTLENOSE	E DOLPHINS (TURSIOPS ADUNCUS) IN Supervisor: Dr S Plön
WESTON, Ross-Lynne Alida (Botany) Title of dissertation: MICROHABITAT AND BIOTIC STRUCTUR		Supervisor: Prof R Perissinotto isors: Dr P-P Steyn and Dr GM Rishworth

# **DOCTOR OF PHILOSOPHY**

BARAKAGIRA, Alex (Environmental Geography) Title of thesis: TOWARDS A COMMUNITY BASED CONSERVA	TION STRATEGY FOR WETLA	NDS IN LIGANDA
TOWNING TO COMMISSION TO BRIGED CONCERNATION	TION STIVILST FOR WEIGH	Supervisor: Dr AH De Wit
		-
DE VYNCK, Jan Carlo (Oceanography) Title of thesis: PRODUCTIVITY AND RESILIENCE OF INTERT SOUTH AFRICA'S CAPE SOUTH COAST: BEAH		
DHANSAY, Taufeeq Goolam (Geology) Title of thesis: ON THE EVOLUTION AND MECHANICS OF TI	HE BRITTI E LIPPER CRUST B	RELOW SOLITH AFRICA: IMPLICATIONS
TOWARD THE SUSTAINABLE TRANSFORMA		
DUKER, Robbert (Botany) Title of thesis:		
THE EFFECTS OF FROST ON ALBANY SUBTRO		CAROO SHRUBLAND IN SOUTH AFRICA Supervisor: Dr AJ Potts ors: Prof RM Cowling and Dr DR Du Preez
GROBLER, Barend Adriaan (Botany) Title of thesis: ROADS AND THEIR EFFECTS IN FYNBOS OF	- THE SOUTH-EASTERN CAPE	E IMPLICATIONS CONSERVATION AND
MANAGEMENT OF ROAD VERGE VEGETATION	V	Supervisor: Prof EE Campbell Co-supervisor: Dr DR Du Preez
LEMLEY, Daniel Alan (Botany) Title of thesis: ESTUARINE MICROALGAL BLOOM DYNAMICS	AT MULTIPLE TEMPORAL SCA	
		Supervisor: Prof JB Adams Co-supervisor: Prof S Taljaard
MARTIN, Kristen (Botany) Title of thesis: POTENTIAL ECOPHYSIOLOGICAL AND PHYTO	OSOCIOLOGICAL IMPACTS OF	F FRACKING ON THE VEGETATION OF
THE KAROO, EASTERN CAPE, SOUTH AFRICA		Supervisor: Prof EE Campbell Co-supervisor: Prof MJ De Wit

NEL, Larize (Zoology) Title of thesis: HABITAT USE OF IMPORTANT JU AREAS WITH NOTES ON FEEDING E PLANNING, SOUTH AFRICA	UVENILE FISH SPECIES IN TEMPERATE ESTUARINE NURSERY COLOGY AND HISTORICAL SHIFTS TO ASSIST WITH CONSERVATION Supervisor: Prof NA Strydom Co-supervisor: Prof JB Adams
SNOW, Bernadette (Botany) Title of thesis: LINKING PEOPLE'S NEEDS, PREFEREN PHYTOPLANKTON OF ALGOA BAY, SOUT	ICES AND VALUES TO ECOSYSTEM SERVICES PROVIDED BY MARINE TH AFRICA Supervisor: Prof EE Campbell
	COLOGICAL RESTORATION OF PORTULACARIA AFRA (SPEKBOOM)- IND ABOVEGROUND CARBON ENDPOINT PROJECTIONS Supervisor: Prof RM Cowling Co-supervisor: Dr AJ Mills
VAN NIEKERK, Lara (Botany) Title of thesis: APPROACHES TO DETECTING AND ASSE AFRICAN ESTUARIES	ESSING PATTERNS, PROCESSES AND RESPONSES TO CHANGE IN SOUTH Supervisor: Prof JB Adams

# **DOCTORAL DEGREE CITATIONS**

# THE DEGREE OF DOCTOR OF PHILOSOPHY (ENVIRONMENTAL GEOGRAPHY)

### **ALEX BARAKAGIRA**

**Previous qualifications:** 

2006 MSc (Environmental and Natural Resources)

Makerere University, Uganda

Thesis:

TOWARDS A COMMUNITY BASED CONSERVATION STRATEGY FOR WETLANDS IN UGANDA

Wetlands in Uganda form a significant part of this country's natural resource base. However, unsympathetic policy frameworks and the over-reliance of people on agriculture, culminate in the systematic degradation of the wetlands. An attempt to mitigate this dilemma comes in the form of Wetland Management Agencies, but the exclusion of local community involvement renders them sterile. This study aims to address this challenge by formulating a Community Based Conservation strategy for wetlands in Uganda. The study applies a transdisciplinary approach with the necessary scientific rigor to satisfy the staggering informational demands of an effective Community Based Conservation strategy. Through an intensive fieldwork process, it reveals the previously unknown continuum of community based stakeholders who interact with wetlands within a complex system of (unsustainable) agricultural and other practices. The study highlights how unsustainable land use, combined with undefined property rights and questionable policy frameworks, drive the process of wetland degradation. This study synthesises these and related critical considerations, such as the dynamics of unsustainable land use and ineffective environmental governance into a promising Community Based Conservation strategy. Enabled by the necessary policy reforms that the study recommends, this strategy includes a wide range of community based planning, implementation, monitoring and evaluation components. This is likely to make a significant contribution to wetland conservation in Uganda.

# THE DEGREE OF DOCTOR OF PHILOSOPHY (OCEANOGRAPHY)

## **JAN CARLO DE VYNCK**

**Previous qualifications:** 

1995 BA University of Stellenbosch
 2014 MSc Nelson Mandela Metropolitan University

#### Thesis:

PRODUCTIVITY AND RESILIENCE OF INTERTIDAL RESOURCES AVAILABLE TO EXTANT HUMAN FORAGERS ON SOUTH AFRICA'S CAPE SOUTH COAST: BEHAVIOURAL IMPLICATIONS FOR EARLY HOMO SAPIENS

Pre-historic evidence reveals the south Cape area to be of global significance for the emergence and development of modern human cognition. Intertidal resources are hypothesised to have played a role in this cognitive revolution due to potential productivity and resilience. The present can inform the past and this study's ethno-archaeological approach, through modern analogues, examined productivity, resilience and temporal and spatial size variation of intertidal invertebrates on the Cape's south coast. Productivity was shown to be as high or higher than all global energetic evidence and resilience was mutually impressive due to in-migration of mobile species from subtidal stocks ('pantries').

# THE DEGREE OF DOCTOR OF PHILOSOPHY (GEOLOGY)

### **TAUFEEQ GOOLAM DHANSAY**

#### **Previous qualifications:**

2007 BSc (Geology) 2008 BSc (Geology Hons) 2013 MSc (Geology *Cum Laude*) University of Cape Town University of Cape Town Nelson Mandela Metropolitan University

#### Thesis:

ON THE EVOLUTION AND MECHANICS OF THE BRITTLE UPPER CRUST BELOW SOUTH AFRICA: IMPLICATIONS TOWARD THE SUSTAINABLE TRANSFORMATION OF EXPLORATION/EXPLOITATION IN THE EARTH'S CRITICAL ZONE

The Critical Zone is the Earth's 'porous crust' within which all life-sustaining spheres of Earth interact. Understanding brittle fracture-connectivity throughout this 'skin' down to depth of up to 8 kilometres (km), near the lowermost barrier to life, is crucial because it links sub-surface regions of exploration and extraction processes of resources to human socio-economic development built on minerals, soils, water, energy with increasingly harmful environmental feed-back mechanisms. This thesis explores and quantifies the geology, physics and chemistry of natural and anthropogenic fractures in this Critical Zone related to gold, geothermal energy and shale-gas in order to minimise negative ecosystem services.

# THE DEGREE OF DOCTOR OF PHILOSOPHY (BOTANY)

### **ROBBERT DUKER**

# **Previous qualifications:**

2011 BSc
 2012 BSc Honours
 Nelson Mandela Metropolitan University
 Nelson Mandela Metropolitan University

#### Thesis:

THE EFFECTS OF FROST ON ALBANY SUBTROPICAL THICKET AND NAMA-KAROO SHRUBLAND IN SOUTH AFRICA

This study investigated the ecological forces that separate the Albany Subtropical Thicket and Nama-Karoo shrubland biomes of South Africa. The findings indicate that frost plays a major role in determining the local- and regional-scale distribution of plants from these two biomes. Leaf- and plant-level freezing tolerance determine distributional thresholds of these plants, and climatically mediated microrefugia have played a major role in facilitating the persistence of thicket and Nama-Karoo shrubland through unfavourable climatic periods in the Pleistocene. Thicket restoration initiatives need to incorporate frost occurrence into planning of restoration sites, as this will have major influences on their success.

### **BAREND ADRIAAN GROBLER**

# **Previous qualifications:**

2009 BSc (Environmental Science)
20010 BSc Hons (Cum Laude)
2012 MSc (Botany)

University of Port Elizabeth
University of Port Elizabeth
University of Port Elizabeth
Nelson Mandela Metropolitan University

#### Thesis:

ROADS AND THEIR EFFECTS IN FYNBOS OF THE SOUTH-EASTERN CAPE IMPLICATIONS CONSERVATION AND MANAGEMENT OF ROAD VERGE

This study provides a first comprehensive investigation of road effects on fynbos plant communities in the South-Eastern Cape Floristic Region. Road impacts modified soil properties and community composition, but key fynbos components persisted in road verges. While road disturbance reduced pollination by birds, transformation of land next to verges exacerbated this effect. In contrast, insect pollinators appear less sensitive, and the reproductive output of verge populations of a threatened, insect-pollinated plant was unaffected by road impacts. Road verges provide suitable habitat for several fynbos plants, but management interventions, especially fire management, are required for road verge fynbos communities to persist in highly transformed landscapes.

# THE DEGREE OF DOCTOR OF PHILOSOPHY (BOTANY)

### **DANIEL ALAN LEMLEY**

# Previous qualifications:

2011 BSc (Biological Sciences)
 2012 BSc Honours (Botany)
 2014 MSc (Botany)
 Nelson Mandela Metropolitan University
 Nelson Mandela Metropolitan University
 Nelson Mandela Metropolitan University

#### Thesis:

ESTUARINE MICROALGAL BLOOM DYNAMICS AT MULTIPLE TEMPORAL SCALES

This is the first comprehensive study in South Africa to identify the key drivers influencing phytoplankton dynamics, particularly harmful algal blooms (HAB) in estuaries. There is a national and global increase in HABs due to nutrient enrichment from agriculture and wastewater input. Two dominant HAB species that cause blooms and low oxygen as a result of decay were identified in the Sunday Estuary. The persistent occurrence of HABs is a new feature in South African estuaries and continued research is needed to recommend management responses. Four articles have been published from this research in highly rated journals, with an additional one under review.

### **KRISTEN MARTIN**

# **Previous qualifications:**

2004 BSc (Environmental Science) University of Port Elizabeth
2005 BSc Hons Botany (*Cum Laude*) University of Port Elizabeth
2014 MSc (Botany) Nelson Mandela Metropolitan University

### Thesis:

POTENTIAL ECOPHYSIOLOGICAL AND PHYTOSOCIOLOGICAL IMPACTS OF FRACKING ON THE VEGETATION OF THE KAROO, EASTERN CAPE, SOUTH AFRICA

This study is the first to investigate the potential ecophysiological effects of fracking fluid contamination on Karoo plants. The candidate has demonstrated that while seed germination was not affected by contamination, varying levels of stress could be empirically demonstrated in contaminated plants. This study uses these measured responses to predict how the Karoo vegetation communities in the fracking footprint may respond to further degradation expected from fracking. A predicted level of risk is assigned to each biome based on these findings – Grassland is high risk, Albany Thicket lower risk and Nama-Karoo vegetation is at lowest risk.

# THE DEGREE OF DOCTOR OF PHILOSOPHY (ZOOLOGY)

# **LARIZE NEL**

# **Previous qualifications:**

2011 BSc Tourism
 2012 Hons Environmental Sciences
 2014 MSc Zoology
 North West University, Potchefstroom
 North West University, Potchefstroom
 North West University, Potchefstroom

# Thesis:

HABITAT USE OF IMPORTANT JUVENILE FISH SPECIES IN TEMPERATE ESTUARINE NURSERY AREAS WITH NOTES ON FEEDING ECOLOGY AND HISTORICAL SHIFTS TO ASSIST WITH CONSERVATION PLANNING, SOUTH AFRICA

Estuaries are vital refuge and feeding areas for the juveniles of many recreationally and economically important fish species but fine scale habitat use, particularly the role of vegetated areas, is poorly studied. Fishes comprising 24 families and 40 species were netted in five estuaries, processed on site and released alive. Catches showed major declines from historical values, indicative of overfishing of adults in the ocean and the continued exploitation of undersized fishes by anglers. Juvenile fishes make extensive use of salt marsh lined creeks, seagrass, rice grass and previously unexplored reed beds. Stomach contents with C and N stable isotope analyses confirmed that the dominant marine juvenile *Rhabdosargus holubi* relies on all vegetated habitats for feeding throughout growth and in turn is fed upon by fish and bird predators. Shallow water <60cm coupled with vegetation was identified as important refuge using Generalized Additive Modelling. Presence of fishes from collapsed; overexploited and vulnerable populations together with habitat use patterns provides essential new knowledge for priority areas and conservation planning in estuaries.

#### **BERNADETTE SNOW**

### **Previous qualifications:**

1994BSc (Zoology and Botany)University of Port Elizabeth1995BSc Hons (Zoology)University of Port Elizabeth1997MSc (Zoology)University of Port Elizabeth

#### Thesis:

LINKING PEOPLE'S NEEDS, PREFERENCES AND VALUES TO ECOSYSTEM SERVICES PROVIDED BY MARINE PHYTOPLANKTON OF ALGOA BAY, SOUTH AFRICA

The study aimed to understand how people within the Nelson Mandela Bay Municipality value marine and coastal environments of Algoa Bay. Their knowledge of phytoplankton and associated ecosystem services, as well as their attitudes towards the future and value positions that could identify pro-environmental behaviour were assessed. The South African marine environmental policy landscape was analysed to determine support for socio-ecological systems thinking and equitable development of marine and coastal resources. A socio-ecological ecosystems approach was adopted and a framework developed using phytoplankton biodiversity as an indicator for ecosystem services and input from environmental managers and community members.

# THE DEGREE OF DOCTOR OF PHILOSOPHY (BOTANY)

# **MARIUS LODEWYK VAN DER VYVER**

# **Previous qualifications:**

1998 BA (General) University of Pretoria
2001 BA Hons (Semitic languages) University of Pretoria
2003 NHDip (Nature Conservation) Tshwane University of Technology
2008 BSc Hons University of South Africa
2011 MSc (Botany) Nelson Mandela Metropolitan University

# Thesis:

FACTORS AFFECTING EFFECTIVE ECOLOGICAL RESTORATION OF PORTULACARIA AFRA (SPEKBOOM)-RICHSUBTROPICAL THICKET HABITAT AND ABOVEGROUND CARBON ENDPOINT PROJECTIONS

This thesis evaluated topographic, edaphic, climatic, ecological and management-related factors, and twelve planting treatments that potentially impact on effective ecological restoration of spekboom-rich subtropical thicket with data from a biome-wide experiment. Using an ensemble learning algorithm and survivorship and aboveground carbon sequestration rate as proxies, the most important factors were identified and current restoration protocols for efficacy were evaluated. Forty allometric regression models, which were used to estimate aboveground biomass carbon of paired intact and degraded stands on five sites across the biome were generated. The results refined current restoration protocols and provided quantitative aboveground carbon endpoints for restoration.

# **LARA VAN NIEKERK**

# **Previous qualifications:**

1999BScUniversity of South Africa (UNISA)2000BSc Honours (Cum Laude)University of Stellenbosch2007MSc (Cum Laude)University of Stellenbosch

#### Thesis:

APPROACHES TO DETECTING AND ASSESSING PATTERNS, PROCESSES AND RESPONSES TO CHANGE IN SOUTH AFRICAN ESTUARIES

The research presented indicates deep knowledge of estuary pattern-process-function across a broad range of estuary types. This study successfully developed and applied approaches to detect change at varying temporal and spatial scales in South African estuaries. This assessment was based on the physical characteristics of estuaries and predicted or measured change in the drivers of estuary health. This is the first study in the country to review and synthesise the vulnerability of South African estuaries to Climate Change on a regional scale. Through sound scientific approaches this research has advanced our knowledge on complex estuarine systems and made a significant contribution globally to approaches for the conservation and management of estuaries.

# VISION, MISSION, VALUES, EDUCATIONAL PURPOSE AND PHILOSOPHY

#### 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 educational experiences for a better world.

To achieve our vision and mission, we will ensure that:

- Our values inform and define our institutional ethos and distinctive educational purpose and philosophy.
- We are committed to promoting equity of access and opportunities so as to give students the best chance
  of success in their pursuit of lifelong learning and diverse educational goals.
- We provide a vibrant, stimulating and richly diverse environment that enables staff and students to reach their full potential.
- We develop graduates and diplomates to be responsible global citizens capable of critical reasoning, innovation, and adaptability.
- We create and sustain an environment that encourages and supports a vibrant research, scholarship and innovation culture.
- We engage in mutually beneficial partnerships locally, nationally and globally to enhance social, economic, and ecological sustainability.

### **VALUES**

- Diversity
- Excellence
- Ubuntu
- Social justice and equality
- Integrity
- Environmental stewardship

#### **EDUCATIONAL PURPOSE AND PHILOSOPHY**

- We provide transformational leadership in the service of society through our teaching and learning, research and engagement activities.
  - To achieve this we are committed to developing the human potential of our staff and students in the full spectrum of its cognitive, economic, social, cultural, aesthetic and personal dimensions in the pursuit of democratic citizenship.
- We adopt a humanising pedagogical approach that respects and acknowledges diverse knowledge traditions and engages them in critical dialogue in order to nurture a participative approach to problemposing and -solving, and the ability to contribute to a multi-cultural society.
- We inspire our stakeholders to be passionate about and respectful of an ecologically diverse and sustainable natural environment.
- We will be known for our people-centred, caring, values-driven organisational culture that will allow all members of the university community to contribute optimally to its life.

# **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 alumnus.

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 alumnus of the University and a member of the Nelson Mandela University Alumni Association. The Association is recognised 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

The Alumni Association Office is a public relations and projects department responsible for the day-to-day management and running of the Alumni Association, the University Shop and all matters related to alumni engagement. Primarily, we build relationships and maintain strong links with graduates, parents, friends and supporters of the University through events, networks, services, communications and community engagement.

# 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. We encourage a culture of giving back especially for student bursaries, which can be accessed on our alumni website.

#### **University Shop**

Visit the University Shop situated at the Sanlam Student Village on University Way, Summerstrand, for all Nelson Mandela University branded clothing, corporate gifts, bags and memorabilia!

More info, © 041 504 4371 <u>www.shop.mandela.ac.za</u> <u>shop@mandela.ac.za</u>

#### **Lifetime connection with Nelson Mandela University**

We are proud of our alumni and value your connection.

We encourage you to stay in touch by updating your graduate profile. We will keep you informed with University developments and graduate news through our event invitations, project and campaign updates, regular enewsletters via our website and social media channels.

Your Graduate profile link https://mandela.devman.co.za/Devman/alumni/findme/

We welcome your visit to the Alumni Associates Centre on the North Campus in Port Elizabeth.

More info, © 041 504 3935 www.alumni.mandela.ac.za 

| Solution |

Stay connected to your alma mater!

# **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.