

NELSON MANDELA

UNIVERSITY



April 2023

Autumn Graduation

Ceremony 18
Faculty of Science

24 APRIL 2023 | 14:30



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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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, supported you 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. As our namesake Nelson Mandela so eloquently put it:

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

Today 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. Batyale imali kuwe, bekukhokela kwizifundo zakho ze bakukhuthaza ukuba uqhubeke uye phambili. Kodwa ngaphezulu konke, baye bakholelwa kumandla wakho okuphumelela nokuzuza eli phupha lothweso sidanga.

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.”

Namhlanje uvuyo lwakho luvuyo lwethu nathi.

Dr Geraldine Fraser-Moleketi
Chancellor

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

About Nelson Mandela University



Dynamic and forward-thinking, Nelson Mandela University is a leader in generating cutting-edge knowledge for a sustainable future.

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 for a better world. We strive to change the world.

All of these 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 and her inaugural address. This name took over from Nelson Mandela Metropolitan University, which itself

was the result of the merging of the PE Technikon, the University of Port Elizabeth and the Port Elizabeth campus of Vista University.

Today Nelson Mandela University is a sought-after educational destination in South Africa and the only higher education institution in the world to carry the name of Nelson Rolihlahla Mandela.

What we offer

Along with a first-class academic education, Nelson Mandela University provides students with a vibrant student life reflecting their involvement beyond the classroom. It is all part of the drive to produce holistic graduates who are life-long learners as well as socially

conscious and responsible global citizens.

Our campuses

Our seven campuses have a large footprint in Nelson Mandela Bay and George, and this is growing. In 2022 alone, we invested three-quarters of a billion rand in campus infrastructure. It's a massive investment in both the University and in the infrastructure of the city, contributing to its economy and urban renewal.

Our campuses

Bird Street Campus

George Campus

Missionvale Campus

North Campus

Ocean Sciences Campus

Second Avenue Campus

South Campus

Six of our campuses are in Gqeberha, in Nelson Mandela Bay, in the Eastern Cape Province. Four are in Summerstrand, one is in Bird Street in Central, and one in Missionvale. Our North and South campuses in Summerstrand are on a 840-hectare private nature reserve.

The seventh – 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 home to two centres of excellence – the School of Natural Resource Management and the School for Business and Social Sciences. It's where our ecological footprint meets business acumen for a sustainable future.

Ground-breaking projects

Medical School

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

The University has developed a range of marine and maritime education and training, research, innovation and engagement programmes to support Africa's blue economy that stretch across and within disciplines. Nelson Mandela University was ranked as the top institution in South Africa for UN Sustainable Development Goal Four: Life Below Water in 2021 <https://international.mandela.ac.za/About-Us/Mandela-International-News/News/Nelson-Mandela-University-shines-in-the-Times-High>.

Revitalising the Humanities

Our critical engagement with what it means to revitalise the humanities includes a focus on decoloniality and indigenous knowledges, with a quest to awaken transdisciplinary African scholarship and systems of thought.

Engagement and Transformation

We are on a journey of engagement and transformation, using humanising pedagogy to create an environment for learning to thrive in a socially just world. In co-creating the transformative, responsive university, in part through our Hubs of Convergence, we are making a difference in our communities.

Digitalisation

We are investing significant resources in advancing digitalisation in pursuit of excellence. This includes addressing the digital divide, broadening access to mobile devices and data connectivity, and upskilling students and staff for flexible modes of learning and work.

Sustainability

The University aims to contribute to the three indivisible dimensions of sustainability – economic, social and environmental – to promote a fair, liveable and viable world. Sustainability and responsible resource stewardship are critical enablers to support our drive to be an institution in the service of society.



Fast Facts

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



379 PROGRAMMES
(FROM CERTIFICATE THROUGH TO DOCTORAL QUALIFICATIONS)

7 FACULTIES
(Business and Economic Sciences; Education; Engineering, the Built Environment and Technology; Health Sciences; Humanities; Law and Science)



30 757 ENROLLED STUDENTS

6 INSTITUTIONAL RESEARCH THEMES

2 254 PERMANENT EMPLOYEES



STRATEGIC FOCUS AREAS

 **727 INTERNATIONAL STUDENTS**



43 DIFFERENT COUNTRIES

Office-Bearers of the University

CHANCELLOR

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

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 (UWC), PhD (Edu Manag, Law and Policy) (UP)

DEPUTY VICE-CHANCELLOR: LEARNING AND TEACHING

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

DEPUTY VICE-CHANCELLOR: PEOPLE AND OPERATIONS

Mr LE Hashatse: BJourn & Media, BAHons (Rhodes), MA (Edith Cowan University, Australia)

DEPUTY VICE-CHANCELLOR: RESEARCH, INNOVATION AND INTERNATIONALISATION

Dr T Mgwebi: BSc, BScHons, MSc, HDipEd (Unitra); PhD (UCT); PGDeg (Tertiary Education Management) (University of Melbourne, Australia)

DEAN OF STUDENTS

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

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)(Mandela University)



Executive Deans of Faculties

BUSINESS AND ECONOMIC SCIENCES

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

EDUCATION

Dr T Morar (Acting): PTD (Dower College), BA (UPE), BEd Hons (RU), MEd (Leeds, UK), BCom (Vista), DEd (Curtin, Australia)

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 (Mandela Uni)

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

DEAN OF LEARNING AND TEACHING

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

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)

* The words *Cum Laude* indicate that the diploma or degree is awarded with distinction to the candidate/s listed



FACULTY OF SCIENCE

DIPLOMA IN AGRICULTURAL MANAGEMENT

CHAGI, Zukile Siyamthanda
DELILE, Namhla
DLAMINI, Sesikhona Patience
DLUDLA, Nunekazi
FERREIRA, Dirk Casper
FIPAZA, Thabiso Khanya
GQIBITOLE, Manelisi
HELENI, Zella
KALASHE, Ezethu
KHIVITI, Samkelo
KHONJELWAYO, Andile
KREXE, Banele
MAAKE, Thabile Mokgadi
MABAI, Lisakhanya
MABUZA, Sanele
MAKGOLANE, Mesuli Malope
MASHOLOGU, Sinovuyo
MAVATHULANA, Anita
MBANGI, Sibabalwe
MBONANI, Amanda Nqobile Nomtsikana
MBUNYUZA, Tembela
MBUZWENI, Masonwabe Nigel
MFUNDISI, Bathembu
MINNE, Leon
MKHONTO, Will Thabiso Ncubeko
MLUNGUZA, Lithe-Thaa
MNYAMANA, Mazithi
MSIZA, Samkelo
MVULA, Yeyethu
NDOZA, Namhla
NGCOBO, Mpendulo Pascal Lungisani
NONDODA, Tandile
NTABANKULU, Sinesisa
NTALO, Zubenathi
NTSENDWANA, Lulutho
POTGIETER, Joshua Joël
TOFU, Sanelisiwe Asavela
VILI, Neziswa
VUMA, Masimbonge

DIPLOMA IN ANALYTICAL CHEMISTRY

FIELD, Catelyn
GEZANI, Ayabonga Princess
JAM-JAM, Sibabalwe
MABANDLA, Nonkululeko Lukhanyile
MAXONGO, Bali
MDONDOLO, Masamkele Siseko
MNYAMANI, Siphamandla Sibongile
MOLI, Nomaxabiso
MPHAGA, Rolivhuwa
MVOTO, Siziphiwe Aphelele

NENWANGONI, Mueletshedzi
NOSE, Siphe
NWAYINWAYI, Yongama
QHALA, Sihle
QUM, Chuma
QWABE, Lukhanyo
TAPOLISI, Vuyolwethu
TSHISA, Masibulele
ZITUMANE, Zintle

CUM LAUDE

NZIMENI, Anele

DIPLOMA IN CHEMICAL PROCESS TECHNOLOGY

JOBE, Wangam
MASHAU, Letlhogonolo Christopher
MAZOSIWE, Phuthuma Walter
MNGOMEZULU, Amahle Mandisa
MSOMI, Lihle
MXENGE, Akanye
RADEBE, Lindiwe
SIKHOSANA, Edwin Obakeng
TANDWA, Zininzi
TUDU, Katlego Remembrance
ZULU, Mandisa
ZWANE, Samkele

CUM LAUDE

DIMBA, Siza Lindokuhle
DLAMINI, Malusi
MNCUBE, Thandeka Nothando

DIPLOMA IN GAME RANCH MANAGEMENT

BARNARD, Johann
BOTES, Reghardt
BREEDT, Suede
BUTHELEZI, Nontobeko
DWEBE, Siphokazi
KULA, Sikhokele
MATSIMBI, Kabelo Jeremiah
NDLOVU, Theophilus Tebogo
PHANDELA, Bahle
RASMENI, Lwando
ZWANE, Zabentungwa

DIPLOMA IN POLYMER TECHNOLOGY

MANGE, Inga
MBANGO, Luyolo
MDAZUKA, Lukanyo
MKHONTO, Carnell Warren

MQOBOSHWANA, Avuyile
NKABI, Yandisa
SIBUYI, Nyeleti
SIYOTHULA, Minentle
SOGWANGQA, Yondi
SONYABASHE, Cebisa

ADVANCED DIPLOMA IN AGRICULTURAL MANAGEMENT

BAKUBAKU, Amanda Innocentia
BUTHELEZI, Seneliswe Thembelihle
GINYA, Lihle
GUMBI, Halalisiwe Silindile
MADIKIZELA, Azile
MAKUNGA, Sinayo
MANTYI, Lelethu
MARRAND, Botle Nthabiseng
MAZIBUKO, Nolungelo
MBAMBO, Nkanyiso
MGCEBELE, Unathi
MKHONDE, Qhayisa
NDAKU, Alulutho Busiswa
NGQAMFANA, Simthembile
NODAZA, Siposethu Lubabalo
RALULIMI, Omphulusa
SIKHAKHANE, Nothando
TOMOSE, Sinazo
TUNDE, Amahle Asakhe

CUM LAUDE

MGODLO, Siphokazi

ADVANCED DIPLOMA IN ANALYTICAL CHEMISTRY

BOMELA, Sisipho
DU PREEZ, Michael
MAKELENI, Abongile Lolwethu Akhona
MDYOBHENI, Billy Sibuso
MSUTU, Khulisiwe
McDONALD, Carolyn Jill
NCUBE, Bonginkosi
RAMAKATSA, Kedibone Francina
VAN SENSIE, Ashne Christolene
YOBA, Sibulele Zabo

ADVANCED DIPLOMA IN GAME RANCH MANAGEMENT

MEYER, Melissa
NGCEKE, Sinazo Awonke
NGONGWANE, Thuto Boago

CUM LAUDE

VISAGIE, Marna

BACHELOR OF TECHNOLOGY: AGRICULTURAL MANAGEMENT

SIGUDLA, Gugulethu Adorable

BACHELOR OF SCIENCE HONOURS IN BIOCHEMISTRY

ARNOLDS, Matthew Cecil Christopher
DUDLEY, Shanè
MAZIBUKO, Siyanda
SARAGNESE, Daniella Nadia

BACHELOR OF SCIENCE HONOURS IN BOTANY

CLARK, Selina Eileen
GOVENDER, Marishka
LANGA, Boitumelo Gladys
NEL, Luke Sean

BACHELOR OF SCIENCE HONOURS IN CHEMISTRY

AGHERDIEN, Rafeeq
ASIEMA, Christian Amollo
KLAAS, Lulama
KOTZE, Tyla
MACKAY, Jason
MATINKETSA, Lebogang
MBUMBULWANA, Luzuko
MTAKATI, Lwandile
NGXOVU, Ntombekhongo
NTSINGILA, Inga Natacia
OLIVANT, Ryan James
PRINSLOO, Petrus Jacobus Christopher
RETYU, Buzani
SWARTBOOI, Simthandile
VISAGIE, Shahlaa
VORGERS, Jarryd Allister
VORSTER, Lodewikus Francois

CUM LAUDE

BUNU, Atupele Anisa
MCFARLANE, Duncan William
MOREKU, Clementine
MYBURGH, Lisa
RECCHIA, Daniella Lorida



BACHELOR OF SCIENCE HONOURS IN ENVIRONMENTAL GEOGRAPHY

BOKOMFU, Aphile
ESSENDROP, Amiel
LUZIPO, Abongile Siposethu
NDLELA, Alande Hlakaniphile
NETSHITANZWANI, Vhulenda
TOLA, Nkosazana

BACHELOR OF SCIENCE HONOURS IN FORMULATION SCIENCE

DANGAZELE, Aviwe
MTAYISI, Sineyethu Princess
NGCOKO, Zamokuhle Jimmy
NQAYI, Qhawekazi
SEKOME, Miracle
WITBOOL, Cecile

CUM LAUDE

DYANI, Sanelisiwe Anelisa
LETSOALO, Sefenya Lesego Simon
VAN DEN HEEVER, Chrizé

BACHELOR OF SCIENCE HONOURS IN GEOGRAPHICAL INFORMATION SYSTEMS

MACALA, Chwayita
MANKUNTYWANA, Asemahle
MATTHEWS, Cailyne
MUSHAPHI, Dzulani Patience
RANELA, Nqobile Bulelwa Nontuthuko
SHIPALANA, Matsavu Sagwati

CUM LAUDE

LONI, Litha

BACHELOR OF SCIENCE HONOURS IN GEOLOGY

MCLAREN, Cameron
MDAKANE, Zaina Sisonke
MDLONGWA, Mthabisi Enat Junior

NZIMA, Sikhulile
PARKER-NANCE, Michael Keir
SIBANDA, Silibaziso
SWANEPOEL, Francois Jakobus
TAMAKLOE, Esinam Kokui Abla
VERWEY, Ruben Alexandre

BACHELOR OF SCIENCE HONOURS IN MICROBIOLOGY

CHIBUDA, Leonah Panashe
CLOETE, Shalin Matthew
NYAHUYE, Perpetua

BACHELOR OF SCIENCE HONOURS IN PHYSIOLOGY

BONANI, Sinalo Olothando
GQAMANA, Khanya
KOSAN, Hussein
VAN DER MERWE, Dylan
VIKWA, Ayathandwa Thubelihle

CUM LAUDE

JOHNSTON, Lauren
JOUBERT, Lise
MORGAN, Erin Jessica
NKUMANDA, Ondela

BACHELOR OF SCIENCE HONOURS IN ZOOLOGY

BENJAMIN, Saudiqa
BURGER, Margaretha Magdalena
DE BEER, Nathan Philip
KASSIEM, Amina
MAKAPELA, Lindiwe
MBUYAZI, Dumisile Engel
WOLVAARD, Jesse-Lynn

CUM LAUDE

AH SING, Tamlin
WIENAND, Lauren Rachel

MASTER OF ARTS (RESEARCH)

ZALWANGO, Joanita

(Geography)

Title of dissertation:

ASSESSING THE ROLE OF WOMEN IN SMALL-SCALE AGRIBUSINESS AT WINCANTON ESTATE IN KARIEGA, SOUTH AFRICA

Supervisor: Dr LL Williams-Bruinders

MASTER OF SCIENCE (RESEARCH)

BURGHHER, Nasreen

(Chemical and Physical Oceanography)

Title of dissertation:

AN INVESTIGATION OF THE VARIABILITY OF OCEANIC TURBULENCE IN THE AGULHAS CURRENT: FOCUS ON THE DURBAN EDDIES AND NATAL PULSES

Supervisor: Prof MJ Roberts

Co-supervisor: Dr L Braby

Co-supervisor: Dr JC Hermes

DE MENEZES, Lyle

(Zoology)

Title of dissertation:

DIET AND PLASTIC INGESTION IN TWO ABUNDANT, PLANKTIVOROUS SEABIRDS BREEDING AT MARION ISLAND

Supervisor: Dr MA Connan

Co-supervisor: Prof PG Ryan

FRANS, Pelokazi

(Biochemistry)

Title of dissertation:

THE ANTI-OBESITY EFFECTS OF CANNABIS SATIVA AND LEONOTIS LEONURUS ON THE INHIBITION OF PANCREATIC LIPASE

Supervisor: Prof C Frost

Co-supervisor: Prof B Pletschke

HARTLEY, Oliver

(Zoology)

Title of dissertation:

INVESTIGATING THERMOREGULATORY RESPONSES OF RHABDOMYS PUMILIO AT HIGH WET-BULB TEMPERATURES

Supervisor: Dr S Welman



HAWKES, Sarah Ann - **Cum Laude**

(Zoology)

Title of dissertation:

FOOD QUALITY AS A PREDICTOR OF MACROINVERTEBRATE DIETARY CONSUMPTION IN MODERN SUPRATIDAL MICROBIALITE ECOSYSTEMS OF NELSON MANDELA BAY, G●EBERHA

Supervisor: Dr GM Rishworth

Co-supervisor: Dr S Welman

ISMAIL, Abdul-Lateef - **Cum Laude**

(Botany)

Title of dissertation:

SEEING THICKET FOR THE FOREST: A FLORISTIC INVESTIGATION OF THE BOUNDARY BETWEEN MESIC THICKET AND FOREST

Supervisor: Prof AJ Potts

Co-supervisor: Dr CJ Geldenhuys

KENNEDY, Chante Leigh-Ann - **Cum Laude**

(Microbiology)

Title of dissertation:

AN INVESTIGATION INTO THE DISRUPTION OF NEUROTRANSMISSION BY 2-AMINO-3-METHYLAMINO PROPIONIC ACID

Supervisor: Prof TG Downing

Co-supervisor: Dr R van Onselen

KING, Michaela Jade - **Cum Laude**

(Zoology)

Title of dissertation:

NEST SITE SELECTION AND NEST SITE FIDELITY IN SEA TURTLES

Supervisor: Prof R Nel

Co-supervisor: Dr DZM Le Gouvello

Co-supervisor: Dr LR Harris

KOTZE, Gregory Benjamin

(Biochemistry)

Title of dissertation:

EXPLORING THE ANTI-CANCER POTENTIAL OF A NOVEL FLAVONOID GLYCOSIDE, ALTISSIMIN

Supervisor: Dr N Dambuza

Co-supervisor: Prof M van de Venter

Co-supervisor: Dr BG Hlangothi

LAKANE, Chuene Priscah

(Botany)

Title of dissertation:

QUANTIFYING THE NUTRIENT STORAGE CAPACITY OF INVASIVE ALIEN AQUATIC PLANTS IN THE UPPER SWARTKOPS ESTUARY

Supervisor: Prof JB Adams

Co-supervisor: Dr DA Lemley

MACHITE, Anesu

(Botany)

Title of dissertation:

CHANGES IN MANGROVES ALONG THE EASTERN CAPE COAST OF SOUTH AFRICA

Supervisor: Prof JB Adams

MAFEMERA, Jacqueline Jessiemen

(Biochemistry)

Title of dissertation:

EFFECTS OF PHYTOCANNABINOIDS ON THE REGULATORY MECHANISMS OF MUSCLE LIPOGENESIS

Supervisor: Prof CL Frost

Co-supervisor: Dr R-A Levendal

MAPHETO, Tihologelo James

(Geography)

Title of dissertation:

DISTINGUISHING ELEPHANT AND CLIMATIC VARIABILITY INDUCED THICKET DEGRADATION IN ADDO ELEPHANT NATIONAL PARK, EASTERN CAPE, SOUTH AFRICA

Supervisor: Mr S Mlamla

Co-supervisor: Dr AH de Wit

MDHLALOSE, Mantshadi

(Botany)

Title of dissertation:

AN ASSESSMENT OF THE SHALLOW BENTHIC SEAWEED COMMUNITIES IN AN ABALONE RANCHING CONCESSION ALONG THE EASTERN CAPE COASTLINE

Supervisor: Dr P Steyn

MUSA, Sameera

(Geology)

Title of dissertation:

THE APPLICATION OF CARBONATE CLUMPED ISOTOPE GEOCHEMISTRY ON PALEOCLIMATES RECONSTRUCTION IN SOUTH-CENTRAL AFRICA

Supervisor: Dr B Linol

MYEKI, Nonkwekhwezi Princess

(Agriculture)

Title of dissertation:

TOWARDS DEVELOPING A FRAMEWORK FOR FARMERS COMPLIANCE IN A BEEF VALUE CHAIN IN EASTERN CAPE

Supervisor: Prof AR Palmer

Co-supervisor: Dr TM Pittaway

PENALUNA, Julia Elizabeth

(Zoology)

Title of dissertation:

FACTORS AFFECTING PINNIPED SKULL MORPHOLOGY

Supervisor: Dr GJG Hofmeyr

Co-supervisor: Dr SG Ngqulana

Co-supervisor: Prof P Pistorius

PRINGLE, Geena - **Cum Laude**

(Geography)

Title of dissertation:

COSTS AND CONSEQUENCES AT THE POPULATION-ENVIRONMENT-DEVELOPMENT INTERFACE IN ST FRANCIS BAY: EXPLORING THE LINKAGES OF A COMPLEX SYSTEM

Supervisor: Dr AH de Wit

SEPATO, Tshiamo Tsholofelo

(Botany)

Title of dissertation:

ASSESSING DIATOM COMMUNITY COMPOSITION AND STRUCTURE IN PALAEOSEDIMENTS OF A SOUTHERN CAPE COAST WETLAND

Supervisor: Dr PT Gama

Co-supervisor: Dr LJ Quick

SEYISI, Thulethu

(Chemistry)

Title of dissertation:

ISOLATION, CHARACTERIZATION AND FUNCTIONALIZATION OF CELLULOSE FIBERS DERIVED FROM THE WASTE PINEAPPLE LEAF FIBERS BY HYDROLYSIS TO PRODUCE CELLULOSE ACETATE

Supervisor: Dr Z Tywabi-Ngeva

SMIT, Leigh-Ann - **Cum Laude**

(Zoology)

Title of dissertation:

TOP-DOWN CONTROL BY GRAPSOID CRABS IN SOUTH AFRICAN ESTUARINE SALT MARSHES

Supervisor: Dr GM Rishworth

Co-supervisor: Prof JB Adams

TROLLIP, Danica Brione - **Cum Laude**

(Chemistry)

Title of dissertation:

AN INVESTIGATION OF ALTERNATIVE SEPARATION STRATEGIES FOR COMMON CHEMICAL MIXTURES BY MEANS OF HOST-GUEST CHEMISTRY PROTOCOLS WITH HOST COMPOUNDS N,N'-BIS(5-PHENYL-5 DIBENZO[A,D]CYCLOHEPTENYL)ETHYLENEDIAMINE AND N,N'-BIS(5-PHENYL-10,11-DIHYDRO-5 DIBENZO[A,D]CYCLOHEPTENYL)ETHYLENEDIAMINE

Supervisor: Prof B Barton

VAN AARDT, Kaylah-Robin

(Microbiology)

Title of dissertation:

COMPARISON OF IN VITRO ACTIVITIES OF SELECTED GANODERMA SPECIES IN RELATION TO SKIN DISEASES

Supervisor: Dr S Govender

Co-supervisor: Prof M van de Venter

WESSON, Cameron Frank - **Cum Laude**

(Geography)

Title of dissertation:

INVESTIGATING THE ROLE OF UAVS AND CONVOLUTIONAL NEURAL NETWORKS IN THE IDENTIFICATION OF INVASIVE PLANT SPECIES IN THE ALBANY THICKET

Supervisor: Dr HW Britz

Co-supervisor: Mr R Duker

WILLIAMS, Arushan

(Chemistry)

Title of dissertation:

CONTINUOUS FLOW SYNTHESIS OF A KEY INTERMEDIATE TOWARDS THE ANTI-DIABETIC DRUG REPAGLINIDE

Supervisor: Prof P Watts

MASTER OF SCIENCE IN NANOSCIENCE (COURSEWORK)

BOOI, Banele

Title of treatise:

EVALUATION OF IN VIVO EFFECT OF TARGETED AND NON-TARGET GOLD NANOPARTICLES ON TRIPLE-NEGATIVE BREAST CANCER (TNBC)

Supervisor: Prof S Roux

LEE, Lameez

Title of treatise:

OPTIMISING THE SYNTHESIS OF STERILE CURCUMIN ENCAPSULATED SOLID LIPID NANOPARTICLES FOR BURN WOUND HEALING

Supervisor: Prof S Roux
Co-supervisor: Ms V Ntsalu



DOCTOR OF PHILOSOPHY

AGBAKOBA, Victor Chike

(Chemistry)

Title of thesis:

DEVELOPMENT OF BIO-BASED COMPOSITE FILAMENTS FROM POLY(LACTIC ACID) AND CELLULOSIC NANOMATERIALS DERIVED FROM FORESTRY WASTE RESIDUES FOR 3D PRINTING APPLICATIONS

Supervisor: Dr MJ John

Co-supervisor: Prof SP Hlangothi

GAQA, Sibongiseni Gloria

(Chemistry)

Title of thesis:

SYNTHESIS OF THIAZOLIDINEDIONES (ROSIGLITAZONE AND PIOGLITAZONE) USING FLOW CHEMISTRY SYSTEMS

Supervisor: Prof P Watts

GORDON, Allen Tauya

(Chemistry)

Title of thesis:

CU(II)-CATALYZED VISIBLE-LIGHT-DRIVEN HYDROCARBOXYLATION OF SCHIFF BASE DERIVATIVES WITH CO₂

Supervisor: Dr AS Ogunlaja

HELM, Charles William

(Geography)

Title of thesis:

PLEISTOCENE VERTEBRATE TRACE FOSSILS FROM THE CAPE SOUTH COAST OF SOUTH AFRICA: INFERENCES AND IMPLICATIONS

Supervisor: Dr JC De Vynck

Co-supervisor: Dr H Cawthra

Co-supervisor: Dr M Lockley

Co-supervisor: Prof JA Venter

MAZWANE, Sixolile Leonora

(Oceanography)

Title of thesis:

COMPOSITION, DYNAMICS AND PRODUCTIVITY OF PHYTOPLANKTON ON THE EASTERN AND CENTRAL AGULHAS BANK

Supervisor: Dr M Noyon

Co-supervisor: Prof AJ Poulton

Co-supervisor: Prof MJ Roberts

MHLANA, Kanyisile

(Chemistry)

Title of thesis:

CONTINUOUS FLOW SYNTHESIS OF NEVIRAPINE USING MICROFLUIDIC SYSTEMS

Supervisor: Prof P Watts

MNYANGO, Jabulani Innocent

(Chemistry)

Title of thesis:

UTILIZATION OF CRUDE EXTRACTS OF TULBAGHIA PLANT SPECIES AS POTENTIAL DEVULCANIZATION AGENTS TO RECYCLE RUBBER IN A SUPERCRITICAL FLUID CO₂ REACTOR

Supervisor: Dr BG Hlangothi
Co-supervisor: Prof CD Woolard
Co-supervisor: Prof SP Hlangothi

NQEKETO, Sinazo

(Chemistry)

Title of thesis:

AN EFFICIENT APPROACH FOR THE SYNTHESIS OF DOLUTEGRAVIR AND ITS ANALOGUE EXPLOITING FLOW CHEMISTRY

Supervisor: Prof P Watts

RAMLUGON, Sonaal

(Biochemistry)

Title of thesis:

THE EFFECT OF CANNABIS EXTRACT ON THE MORPHOLOGICAL AND METABOLIC CHARACTERISTICS OF VARIOUS FAT DEPOTS IN DIET-INDUCED OBESE AND STZ-INDUCED MALE WISTAR RATS

Supervisor: Prof CL Frost
Co-supervisor: Dr R-A Levendal

SCHOEMAN, Stiaan

(Chemistry)

Title of thesis:

THE DESIGN AND SYNTHESIS OF NOVEL FLUORESCENT COUMARIN-BASED DERIVATIVES AS CHEMOSENSORS FOR THE APPLICATION OF TOXIC METAL ION DETECTION

Supervisor: Dr N Mama

SONTI, Thembela Celia

(Chemistry)

Title of thesis:

USE OF FLOW REACTORS FOR AN IMPROVED SYNTHESIS OF TENOFOVIR DERIVATIVES

Supervisor: Prof P Watts
Co-supervisor: Dr BG Hlangothi

VON STADEN, Lize

(Botany)

Title of thesis:

AN EVALUATION OF THE EFFECTIVENESS OF AREA-BASED CONSERVATION INTERVENTIONS IN AVOIDING BIODIVERSITY LOSS IN SOUTH AFRICA

Supervisor: Prof AT Lombard
Co-supervisor: Dr SD Holness



ZIVANAYI, William

(Chemistry)

Title of thesis:

*EVALUATION OF THE TOXICITY OF SECONDARY METABOLITES IN SOLANUM INCANUM L. TO ADVANCE
COMMUNITY KNOWLEDGE*

Supervisor: Dr BG Hlangothi

Co-supervisor: Dr NH Rasana

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

VICTOR CHIKE AGBAKOBA

Previous qualifications:

2013 BSc Chemistry (Hons)

2015 BSc (Hons) (Chemistry)

2018 MSc Chemistry (*Cum Laude*)

University of Abuja

Nelson Mandela Metropolitan University

Nelson Mandela University



Thesis:

DEVELOPMENT OF BIO-BASED COMPOSITE FILAMENTS FROM POLY (LACTIC ACID) AND CELLULOSIC NANOMATERIALS DERIVED FROM FORESTRY WASTE RESIDUES FOR 3D PRINTING APPLICATIONS

In this work, 3D printable bio-based composites were successfully produced using polylactic acid (PLA) biopolymer and micro-/nano- cellulose derived from forestry waste biomass. This study contributes new knowledge in the production of FDM 3D printing application, mechanical recycling, and hydrolytic degradation of bio-based composites made from renewable resources. The findings from this research have yielded various outputs in the form of a patent (under preparation), journal papers in internationally accredited scientific journals and presentations in both local and international conferences. This study resulted in the development of technology demonstrators at "Technology Readiness Levels (TRLs) of 6 and 7". Other notable awards include an honourable mention as 1st runner-up at the "FIBRENAMICS" award ceremony of the 5th International conference on natural fibres (ICNF, Portugal, 2021).

Supervisor: Dr MJ John

Co-supervisor: Prof SP Hlangothi

THE DEGREE OF THE DOCTOR OF PHILOSOPHY (CHEMISTRY)

SIBONGISENI GLORIA GAQA

Previous qualifications:

2008 BSc
2011 BSc (Hons) (Chemistry)
2013 MSc (Chemistry)

University of Fort Hare
University of Fort Hare
University of Fort Hare



Thesis:

SYNTHESIS OF THIAZOLIDINEDIONES (ROSIGLITAZONE & PIOGLITAZONE) USING FLOW CHEMISTRY SYSTEMS

Diabetes is a metabolic disease characterized by chronic hyperglycaemia due to impairment of insulin secretion or defective insulin action. In 2019, approximately 463 million adults were living with diabetes and it caused 4.2 million deaths worldwide. The number of patients in South Africa affected by diabetes is rapidly increasing. Thiazolidinediones are a class of established antidiabetic drugs, however these are not manufactured on the continent and need to be imported at substantial cost. This research established integrated continuous flow procedures to produce both rosiglitazone and pioglitazone in very high yield.

Supervisor: Prof P Watts

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

ALLEN TAUYA GORDON

Previous qualifications:

2014 Bachelor of Science in Maths and Chemistry
2016 Bachelor of Science Honours in Chemistry
2018 Master of Science in Chemistry

University of Venda
University of Venda
University of Venda



Thesis:

*CU(II)-CATALYZED VISIBLE-LIGHT-DRIVE
HYDROCARBOXYLATION OF SCHIFF BASE
DERIVATIVES WITH CO₂*

Climate change takes place due to increases in carbon dioxide concentration, hence, great efforts have been made on transforming CO₂ into useful chemicals in the field of synthetic chemistry. The study investigated the use of a series of novel copper (II) complexes for the photocatalytic hydro carboxylation of Schiff Bases with CO₂ via direct insertion of CO₂. It demonstrated CO₂ fixation by hydro carboxylation of imine (C=N) bonds. Good to excellent yields of a broad range of α -substituted-amino acid derivatives were obtained under mild conditions such as room temperature, atmospheric pressure of CO₂ and blue LED light. Preliminary bioassays showed that the fixation of CO₂ into Schiff Bases influences its biological properties. The method for the synthesis of these unnatural amino acids is facilitating investigations onto protein/peptide modifications, which is viewed as excellent candidate for further study. Three articles have been published from this work in international peer-reviewed journals and one conference paper has been presented.

Supervisor: Dr A Ogunlaja

THE DEGREE OF DOCTOR OF PHILOSOPHY (GEOGRAPHY)

CHARLES WILLIAM HELM

Previous qualifications:

1981 MBChB.
2011 F.C.F.P.C.

University of Cape Town
College of Family Physicians of Canada



Thesis:

*PLEISTOCENE VERTEBRATE TRACE FOSSILS FROM
THE CAPE SOUTH COAST OF SOUTH AFRICA:
INFERENCES AND IMPLICATIONS*

Palaeoichnology (the study of fossil tracks and traces) has had a relatively late start on South Africa's Cape south coast. This thesis integrates the findings of the Cape south coast ichnology project, through which 326 vertebrate ichnosites have been identified. It considers how ichnology can inform the understanding of the regional Pleistocene environment, and how the trace fossil record complements the body fossil record. Palaeoenvironmental, palaeoecological and palaeoanthropological inferences are discussed, in the context of geochronology. Attributes that make Cape south coast Pleistocene ichnology globally exceptional or unique are presented, in particular regarding hominin palaeoichnology.

Supervisor: Dr JC De Vynck
Co-supervisor(s): Dr H Cawthra
Dr M Lockley
Prof JA Venter

THE DEGREE OF DOCTOR OF PHILOSOPHY (OCEANOGRAPHY)

SIXOLILE LEONORA MAZWANE

Previous qualifications:

2014 BSc (Biochemistry and Botany)
2015 BSc Hons (Botany)
2018 MSc (Botany)

Nelson Mandela Metropolitan University
Nelson Mandela Metropolitan University
Nelson Mandela University



Thesis:

*COMPOSITION, DYNAMICS AND PRODUCTIVITY OF
PHYTOPLANKTON ON THE EASTERN AND CENTRAL
AGULHAS BANK*

The Agulhas Bank is a moderately productive Shelf of great economic and ecological importance to the Agulhas region on the Southern African coastline. The study aimed to investigate the composition and productivity of phytoplankton on the Agulhas Bank. It applied several techniques to investigate the magnitude and distribution of the net primary production (NPP) and phytoplankton composition on the Agulhas Bank. The study provided complementary and invaluable background information into the structure of NPP and phytoplankton community of the bank. This was the first comprehensive study to use an algorithm to determine long-term NPP, and Flow Cytometry to investigate Picoplankton on the bank.

Supervisor: Dr M Noyon
Co-supervisor(s): Prof AJ Poulton
Prof MJ Roberts

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

KANYISILE MHLANA

Previous qualifications:

2015	National Diploma Analytical Chemistry	Nelson Mandela Metropolitan University
2016	BSc (Hons) Formulation Sc (<i>Cum Laude</i>)	Nelson Mandela Metropolitan University
2017	MSc Chemistry	Nelson Mandela University



Thesis:

*CONTINUOUS FLOW SYNTHESIS OF NEVIRAPINE
USING MICROFLUIDIC SYSTEMS*

This research developed an improved approach for synthesising the antiretroviral drug Nevirapine, utilizing microfluidic continuous flow systems. Nevirapine was the first non-nucleoside reverse transcriptase inhibitor approved by the Food and Drug Administration and is still used in South Africa as monotherapy for infants to prevent HIV transmission during breastfeeding. The microfluidic technology made the synthesis more cost effective by reducing the reaction times and improving the drug yield. The implementation of this technology will assist in improving essential drug accessibility in South Africa and many low-income countries.

Supervisor: Prof P Watts

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

JABULANI INNOCENT MNYANGO

Previous qualifications:

2014 BSc (Biochemistry, Chemistry and Microbiology)
2017 BSc (Hons) (Chemistry)
2019 MSc (Chemistry)

University of South Africa
Nelson Mandela University
Nelson Mandela University



Thesis:

UTILIZATION OF CRUDE EXTRACTS OF TULBAGHIA PLANT SPECIES AS POTENTIAL DEVULCANIZATION AGENTS TO RECYCLE RUBBER IN A SUPERCRITICAL FLUID CO₂ REACTOR

This study focused on utilization of a South African indigenous plant, Tulbaghia species, as a readily available and non-toxic devulcanization agent to recycle waste tyre rubber in an eco-friendly and effective reaction medium. The research was necessary because devulcanization, a process that seeks to recover rubber from end-of-life tyres, is a widely preferred process of recycling end-of-life tyres but unfortunately it requires utilization of expensive and eco-unfriendly devulcanization agents. Findings from this study showed that the Tulbaghia crude extracts can significantly devulcanize rubber vulcanizates to produce high-quality rubber that can be re-used to produce both primary and secondary rubber products. The combination of the detailed analysis of the plant extracts and their effectivity for devulcanization made this study unique. Two journal articles were published in 2022 in the Journal for a Sustainable Circular Economy, and Journal of Cleaner Production.

Supervisor: Dr BG Hlangothi
Co-supervisor: Dr CD Woolard
Co-supervisor: Prof SP Hlangothi

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

SINAZO NQEKETO

Previous qualifications:

2017 BSc Chemical Science (*Summa Cum Laude*)

University of the Western Cape

2018 BSc (Hons) Chemical Science (*Cum Laude*)

University of the Western Cape



Thesis:

AN EFFICIENT APPROACH FOR THE SYNTHESIS OF DOLUTEGRAVIR AND ITS ANALOGUE EXPLOITING FLOW CHEMISTRY

This research explored the application of flow chemistry for the synthesis of a newly approved HIV drug, namely dolutegravir. This drug is a major breakthrough in HIV treatment as the dose may be substantially reduced from 600 mg to 50 mg per day, compared to current treatment regimes. The efficient seven-step continuous flow procedure afforded dolutegravir in reduced reaction times and improved yields compared to traditional batch procedures. Furthermore, the methodology was extended for the synthesis of a third-generation inhibitor analogue named cabotegravir. The vision is that continuous manufacture will enable the local cost-effective manufacture of AIDS drugs within South Africa.

Supervisor: Prof P Watts

THE DEGREE OF DOCTOR OF PHILOSOPHY (BIOCHEMISTRY)

SONAAL RAMLUGON

Previous Qualifications:

2011 BSc Biochemistry and Zoology
2012 BSc (Hons) Biochemistry
2014 MSc Biochemistry

Nelson Mandela University
Nelson Mandela University
Nelson Mandela University



Thesis:

THE EFFECT OF CANNABIS EXTRACT ON THE MORPHOLOGICAL AND METABOLIC CHARACTERISTICS OF VARIOUS FAT DEPOTS IN DIET-INDUCED OBESE AND STZ-INDUCED MALE WISTAR RATS

Diabetes and obesity are global epidemics, hence the crucial need to develop or discover effective and safe anti-diabetic and anti-obesity drugs with no unwanted side-effects. For thousands of years, cannabis has been used extensively both for recreational and medicinal purposes. This study aimed to investigate the mechanism of action of the anti-diabetic or anti-obesity properties of cannabis in fat tissue depots. The findings indicate that cannabis treatment required a specific dosage. The effectiveness of the cannabis treatment was also influenced by the type of diet and the mechanism of action varied for different fat depots.

Supervisor: Prof CL Frost
Co-supervisor: Dr R-A Levendal

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

STIAAN SCHOEMAN

Previous qualifications:

2017 BSc
2017 BSc (Hons)
2020 MSc

Nelson Mandela Metropolitan University
Nelson Mandela University
Nelson Mandela University



Thesis:

THE DESIGN AND SYNTHESIS OF NOVEL FLUORESCENT COUMARIN-BASED DERIVATIVES AS CHEMOSENSORS FOR THE APPLICATION OF TOXIC METAL ION DETECTION

This study focused on the design, synthesis, and application of novel coumarin-based fluorescent and colorimetric chemosensors for use in the detection of toxic metal ions in water. These novel chemosensors were modified with functional groups such as Schiff bases, enone and hydrazide linkers, which formed part of the binding sites where metal ions could interact during complexation. This interaction induces a chemical change that can be observed using fluorescence and UV-vis spectroscopies. Furthermore, the thionation of the coumarin backbone produced a chemosensor that could interact exclusively with mercury (II) in the presence of other metal ions. Lastly, real-world applications of these compounds were investigated using various water samples from the NMB area and showed promising results.

Supervisor: Dr N Mama

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

THEMBELA CELIA SONTI

Previous qualifications:

2002 BSc (Chemistry and Statistics)
2004 BTech (Chemistry)
2018 MTech (Chemistry)

Vista University
PE Technikon
Nelson Mandela University



Thesis:

*USE OF FLOW REACTORS FOR AN IMPROVED SYNTHESIS OF
TENOFVIR DERIVATIVES*

Tenofovir diisoproxil fumarate (TDF) is a prescription drug used to treat and prevent HIV infections. In this research, a highly efficient integrated synthesis of TDF using continuous flow reactors was developed affording tenofovir in 65 % overall conversion from readily available starting materials. The TDF prodrug was subsequently synthesised in 100 % conversion. We are currently investigating ways to commercialise this technology, with the vision to reduce the cost of drugs to enable more people to have access to these life saving medicines.

Supervisor: Prof P Watts
Co-supervisor: Dr BG Hlangothi



THE DEGREE OF DOCTOR OF PHILOSOPHY (BOTANY)

LIZE VON STADEN

Previous qualifications:

2002 Bachelor of Science (Biodiversity and Ecology)
2003 Bachelor of Science (Hons) (Botany)
2006 Master of Science (Botany)

University of Stellenbosch
University of Stellenbosch
University of Stellenbosch



Thesis:

*AN EVALUATION OF THE EFFECTIVENESS OF AREA-BASED
CONSERVATION INTERVENTIONS IN AVOIDING BIODIVERSITY
LOSS IN SOUTH AFRICA*

This study evaluated three area-based interventions that together aim to avoid the loss of areas most important for the persistence of biodiversity as evidence towards the effectiveness of South Africa's landscape approach to biodiversity conservation. It included the first evaluation of the biodiversity impacts of systematic conservation planning, a method used globally to prioritize areas for conservation actions, as well as the first assessment of the effectiveness of regulations to protect threatened ecosystems. The study found that land use decisions guided by maps of biodiversity priorities contribute most substantially to avoiding the loss of areas important for the persistence of biodiversity in South Africa.

Supervisor: Prof AT Lombard
Co-supervisor: Dr SD Holness

THE DEGREE OF DOCTOR OF PHILOSOPHY (CHEMISTRY)

WILLIAM ZIVANAYI

Previous qualifications:

1990 Certificate in Education (Chemistry)
1996 BEd (Hons) (Chemistry)
2006 MSc Ed

University of Zimbabwe
University of Zimbabwe
University of Zimbabwe



Thesis:

*EVALUATION OF THE TOXICITY OF SECONDARY METABOLITES
IN SOLANUM INCANUM L. TO ADVANCE COMMUNITY
KNOWLEDGE*

This study evaluated the knowledge, opinions, and attitudes of the farming community in Gweru regarding the use of the indigenous plant (*S. incanum*) as a pesticide. The investigations included bioassay (efficacy and toxicity) and phytochemical (extraction, phytochemical analysis, isolation and structure elucidation) studies. In terms of phytochemical investigation, the study resulted in the isolation and characterization of nine compounds, one of which was a new compound, and two were reported for the first time from this plant. The study has overall contributed towards the community's understanding of the use of *S. incanum* in terms of its efficacy and associated toxicity issues. It has also contributed towards a better understanding of the chemistry of the plant by isolating and characterizing secondary metabolites using a combination of chromatographic and spectroscopic techniques. One journal article has been published from this work, and another is under journal review.

Supervisor: Dr BG Hlangothi
Co-supervisor: Dr NH Rasana

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

The Alumni Relations Office (ARO) is responsible for alumni engagement and the day-to-day management and running of the Alumni Association, the University Shop and all matters related to alumni as a stakeholder group. 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 <https://mandela.ac.za/giving-to-mandela-university>

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Join the Mandela Alumni Connect community - to stay in touch with fellow alumni, get informed about events, career guidance, mentorship initiatives and expand your network.

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At any given time, when you happen to be on Campus, we welcome your visit to the Alumni Relations Centre on North Campus in Gqeberha (former Port Elizabeth).

More info: T +27 41 504 3935 E alumni@mandela.ac.za

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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,
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