NELSON MANDELA



April 2021

Virtual Autumn Graduation

Session 3 Faculty of Engineering, The Built Environment and Technology

26 APRIL 2021 09:30

VISION

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

MISSION

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

VALUES

Excellence Diversity Ubuntu Social justice and equality Integrity Environmental stewardship



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Congratulatory Message

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

Today your joy is our joy too. Such a significant moment – your graduation day – must be celebrated for it not only recognises all that you have achieved but also focuses on all the potential and possibilities to come. It offers us great hope for the

> Sadly, we are unable to celebrate with you in person because of the COVID-19 pandemic that has transformed our lives – the way we work, study and live. It has changed the way we celebrate your graduation too. For safety reasons,

future – for you are that

future.

Dr Geraldine Fraser-Moleketi Chancellor our Autumn 2021 Graduation season is being hosted virtually.

This should not stop you from marking this milestone occasion from the safety of your homes with your loved ones.

As a student who had to navigate your studies in unprecedented circumstances, we especially salute and applaud your achievement. It could not have been easy.

We wish you all the very best for your future endeavours wherever they may take you as a proud alumnus of Nelson Mandela University.

Never stop learning. Do not let your spark of curiosity die out, for education is not only your passport to the future – but also to the future hopes of our country, our continent and is indeed a foundation for a better world, as Nelson Mandela so eloquently put it:

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

Congratulations!

Uthweso sidanga ngumsitho obaluleke kunene kwimpilo yomntu. Yinkcochoyi kuhambo lwemfundo enomsila echaza ukunxanwa kwakho, ukuzimisela, ukuzinikela, ukunyamezela kwanomsebenzi onzima. Siyayazi ukuba lo msebenzi, kumaxesha amaninzi, ayingowakho kuphela, nanjengoko uninzi luthe lwakhenketha nawe – abahlobo bakho, abahlohli bakho, abaphathi bakho, amakhankatha akho kwakunye nosapho lwakho. Babinze kuwe ngokwezimali, bakukhuthaza ukuba unyamezele, bakukhokela kwizifundo zakho, kwaye, kuyo yonke into, bakholelwa kumxakatho wakho wokuphumelela kwanokuzuza eli phupha lokuthweswa isidanga.

Namhlanje uchulumanco lwakho luchulumanco lwethu. Ilixa elibaluleke kunene – usuku lothweso sidanga – kufuneka lubhiyozelwe kuba aluqapheli nje kuphela konke othe wakuzuza kodwa likwagxila nakumandla kwanakumathuba azayo. Lisinika ithemba elikhulu kwikamva – kuba elo kamva nguwe.

Ngelishwa, asikwazi ukubhiyoza kwakunye nawe njengesiqu

ngenxa yobhubhane weCOVID-19 othe watshintsha ubomi bethu-indlela esisebenza ngayo, esifunda kwakunye nesiphila ngayo. Lo bhubhane ukwatshintshe indlela esibhiyoza ngayo uthweso sidanga kwakunye nawe. Ngenxa yemiba yokhuseleko, ixesha lethu loThweso Sidanga laseKwindla ngo2021 liza kwenziwa ngezixhobo zobuxhakaxhaka (virtually).

Oku akufanelanga ukuba kukunqande ekuqapheleni lo msitho obaluleke kangaka, kukhuseleko lwamakhaya enu kwakunye nabo basondele kuni.

Njengomfundi oye waqhuba izifundo zakhe ngeendlela ebezingalindelekanga, sikothulela umnqwazi ngokukhethekileyo futhi sikuqhwabela izandla kokuzuzileyo. Akukhange kubelula.

Sikunqwenelela okuhle kodwa, kwiinzame zakho zekamva elizayo, naphi na apho ziza kuthatha zikuse khona njengobesakuba ngumfundi ozingcayo weYunivesithi iNelson Mandela.

Ungaze uyeke ukufunda. Ungavumeli intlantsi yokunxanelwa ulwazi ukuba ife, kuba imfundo ayilogwiba lekamva kuphela – koko ikwalithemba lekamva kwilizwe lethu, izwekazi lethu futhi kwanesiseko sehlabathi elingcono, nanjengokuba uNelson Mandela eyibeka ngokucacileyo:

"Imfundo lelona krele lakhe lanamandla ongathi ulisebenzise ukutshintsha ihlabathi."

Huntshu!

Gradeplegtigheid is 'n belangrike mylpaal in enigeen se lewe. Dit is die hoogtepunt van 'n akademiese reis wat u ambisie, vasberadenheid, toewyding, deursettingsvermoë en harde werk weerspieël. Ons weet dat hierdie werk dikwels nie net u eie is nie, omdat baie mense saam met u gereis het - u vriende, lektore, studieleiers, mentors en u gesin. Hulle het finansieel in u belê, u aangemoedig om te volhard, u studies gelei en bowenal geglo in u vermoë om te slaag en hierdie gradedroom te bereik. Vandag is u vreugde ook ons vreugde. So 'n belangrike oomblik - u gradedag - moet gevier word, want dit erken nie net alles wat u bereik het nie, maar fokus ook op al die potensiaal en moontlikhede wat kom. Dit bied ons groot hoop vir die toekoms - want u is die toekoms. Ongelukkig kan ons nie persoonlik met u vier nie weens die COVID-19-pandemie wat ons lewens verander het - die manier waarop ons werk, studeer en leef. Dit het die manier waarop ons u gradeplegtigheid vier ook verander. Om veiligheidsredes word ons Herfs 2021-Gradeplegtigheidseisoen virtueel aangebied.

Dit moet u nie verhinder om hierdie mylpaalgeleentheid in die veiligheid van u huise met u geliefdes te vier nie. As 'n student wat in ongekende omstandighede deur u studies moes gaan, salueer ons veral u prestasie. Dit kon nie maklik gewees het nie.Ons wens u alle sterkte toe vir u pogings in die toekoms, waar hulle u ook al as 'n trotse oudstudent van Nelson Mandela Universiteit mag neem.

Moet nooit ophou leer nie. Laat u vonk van nuuskierigheid nie uitsterf nie, want onderwys is nie net u paspoort tot die toekoms nie

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- maar ook die toekomstige hoop van ons land en kontinent en is inderdaad 'n grondslag vir 'n beter wêreld, soos Nelson Mandela dit so welsprekend gestel het. :

"Onderwys is die kragtigste wapen waarmee u die wêreld kan verander."

Veels geluk!

Professor Sibongile Muthwa Vice-Chancellor

About Nelson Mandela University



Nelson Mandela University is the only university in the world to carry the name of Nelson Rolihlahla Mandela. With this honour comes the responsibilities of leading our university into a new era of transformative innovation, development and change in line with the ethos and values of our namesake.

Living the legacy of Mandela should be reflected in the way we teach, learn, do research, engage with our partners, and work, study and live as staff, students and alumni. We are on a journey to achieve this and become the learning destination for staff and students who:

- Are pioneering change agents for a better world;
- Are committed to creating jobs in an entrepreneurial economy
- Work together across disciplines in seeking solutions and innovations to achieve quality of life and a health environment for all people, and
- Are instilled with a deep need to serve and give back.

Fast Facts

AVENUE (IN SUMMERSTRAND) MISSIONVALE

(MISSIONVALE), BIRD STREET (CENTRAL), GEORGE (GEORGE CAMPUS IN THE GARDEN ROUTE







400 PROGRAMMES (from certificate through to doctoral qualifications)

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

STRATEGIC PRIORITIES

- Student access and success
- Resource stewardship
- Engaged innovative scholarship
- Transformative institutional culture
- Talented high-performing staff
- Enabling systems, processes and infrastructure

2.89% OF THE **STUDENTS** COME FROM

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Exciting Prospects



Ocean Sciences Campus

Our new generation university is set to become the leading "go-to" destination in Africa for all marine and maritime teaching, learning, engagement, innovation and research at postgraduate level.

This follows the launch of the Ocean Science Campus in Summerstrand in September 2017 as part of the University's strategic drive to unlock the potential of the blue economy in a sustainable manner to benefit all South Africans.The development and expansion of our academic programmes will offer new opportunities to all South Africans.

Intentional Design

The new campus at the former CSIR offices has been intentionally designed and revamped to embrace a transdisciplinary way of working. It has also been specifically branded to reflect its purpose – that of a dedicated creative and innovative hub for postgraduate studies, and its physical spaces revamped to allow scientists from all disciplines to work as teams. Phase two of the infrastructure project is now underway.

Partnerships

This transdisciplinary research strategy does not stop with the academic project. Instead, it also seeks to embrace a 'blue commons' partnership with the metro, local government, big business, civic society and all those who live, work and play at the water's edge and the oceans. It also includes several international partner universities.

By bringing all players together, all basic, formative and applied professional knowledge competencies in Ocean Sciences are exposed, developed and shared in novel ways. Strategically, this approach offers better options for both discovery research and that of solving real world problems arising from economic need, while always ensuring ecological sustainability.



New Medical School

The University has accepted its first intake of medical students for 2021 at the country's tenth medical school based on Missionvale Campus.

Innovative Teaching Model

The University's interprofessional education (IPE) teaching model sees students across the health sciences disciplines, inclusive of the MBChB, study together while also leveraging the benefits of technology.

This model (IPE) sees our student doctors work and study alongside nurses, radiographers, psychologists, environmental health practitioners, pharmacists, emergency medical care students and the like in the community, to offer holistic and integrated health care.

Mandela University Healthcare Graduates

Mandela University has an underlying philosophy of delivering graduates who are attuned for primary healthcareoriented practice. Like today's graduates, the University's Medical School graduates will carry on the legacy of the late, great man the institution is named after. This is why the University has paid particular attention to what kind of doctor it would like to develop through its new medical programme. "We want community-oriented, fit-for-purpose doctors who are skilled to practice medicine that meets the needs of our communities," says Dr Yoshna Kooverjee, who is teaching Theory and Practice of Medicine to the first-year students in 2021.

This graduate profile is based on the seven core competencies listed by the Health Professions Council of South Africa for undergraduate students in medical teaching and learning programmes in South Africa.

Missionvale Campus

The MBChB programme has been intentionally located on Missionvale Campus, because of its proximity to several clinical platforms, including Dora Nginza Hospital, and because this is the type of environment where accessible healthcare is needed most.

Additionally, it is hoped that the Medical School will serve as a catalyst for positive change in terms of urban renewal in an impoverished area.



Office-Bearers of the University

CHANCELLOR

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

CHAIRPERSON OF COUNCIL

AMBASSADOR NP JANUARY-BARDILL: BA, Cert in Ed(UBL), MA(Essex University, UK), Dip HR Management (Damelin)

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 Mang, Law and Policy) (UP)

DEPUTY VICE-CHANCELLOR: LEARNING AND TEACHING

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

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)

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EXECUTIVE DIRECTOR: FINANCE

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

EXECUTIVE DIRECTOR: HUMAN RESOURCES

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

REGISTRAR

MR EB DE KOKER: BA(UCT), BAHons(UNISA), MA(Pub Admin) (University of Warwick, UK)

DEAN OF STUDENTS

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

PRESIDENT OF ALUMNI ASSOCIATION

MR K BLOSE BSc(Construction Economics), BScHons(Quantity Surveying)(NMMU)

Executive Deans of Faculties

BUSINESS AND ECONOMIC SCIENCES

PROF HR LLOYD: 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 TECHNOLOGY

PROF BJ VAN WYK: NHDip(Technikon Pretoria), NHDip(Ed)(Technikon Wits), BTech(Technikon Pretoria), BCom(UNISA), MTech(Technikon Pretoria), MSc(Southern Mississippi), MBA(Haaga-Helia), PhD(Wits)

HEALTH SCIENCES

PROF D VAN ROOYEN (ACTING): BCur, BCurHons, MCur, PhD, PGD Edu & CC, ACGM, ANSAf

HUMANITIES

PROF P MASEKO: BA, BAHons (UWC), MA, Cert in Assessor's Course (Curriculum Development and Assessment in HE), PhD, PGDip in Higher Ed(RU)

LAW

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 LEARNING AND TEACHING

DR P KOTA-NYATI (ACTING): BA(Vista), BAHons, MA Couns Psych (UPE), DPhil (Mandela Uni)

Order of Proceedings

Academic Procession

Constitution of Congregation Dr GJ Fraser-Moleketi (Chancellor)

Welcome Prof SW Muthwa (Vice-Chancellor)

Choral Performance Nelson Mandela University Choir

Conferring of an Honorary Doctoral Recipient Dr GJ Fraser-Moleketi (Chancellor)

Awarding of Qualifications Dr GJ Fraser-Moleketi (Chancellor) **Conferring of Doctoral Degrees** Dr GJ Fraser-Moleketi (Chancellor)

Message of Congratulations and Dissolution of Congregation Dr GJ Fraser-Moleketi (Chancellor)

National Anthem Nelson Mandela University Choir

Departure of Academic Procession

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

FACULTY OF ENGINEERING, THE BUILT ENVIRONMENT AND TECHNOLOGY

HIGHER CERTIFICATE IN INFORMATION TECHNOLOGY IN USER SUPPORT SERVICES

ABRAHAMS, Muhammad Noor APPELS, Jade Franklyn BAXA, Xabiso BHOKO, Nonjongo BOTHA, Amanda CHUENE, Thabang Edward DAYIMANI, Nwabisa DLAKWE, Phumelela Sivuyile DLAMINI, Wanele DUDULA, Hlulelwa DUNGA, Lihle DWENGA, Zizipho FALAKAHLA, Zoleka GCANGA, Mihlali GOBO, Linamandla GOQO, Njabulo Mbekezeli Morris GORA, Ayabonga GOWANA, Athenkosi GROOTBOOM, Oyama GWANGWA, Mmathapelo Ramasela Lekinah HINI, Cebisa HLANJWA, Siyabulela Tebogo JAKUJA, Xolela JARANA, Simbongile JILI, Sandile Elvis JOJO, Noncedo KALIPA, Nombasa KEMA, Luntu KRUTANI, Anele LABASE, Sinemitha Sibabalo LECOGE, Didintle MAFUDUKA, Asive MAGAZI, Sibongakonke MAGODA, Odwa MAGWENTSHU, Siyanda MAHLAKO, Mololo Peter MAKHUBELA, Karabo MALI, Sinoxolo MANTSHONGO, Lindokuhle MASANGO, Yanga MATLOU, Seboye Catherine MATSHAYA, Aphiwe MAUDU, Mpho Tshawe MAZIBUKO, Thabo Frank MBOTHO, Lindokuhle MDALANA, Siphesihle

MDLIVA, Zipho MDUBEKI, Ongeziwe MENSAH, Samuel METELERKAMP, Rory Charles MFAKADOLO, Hlomla MGOQI, Leonard MOKGALE, Katlego Delight MOKHACHANE, Lehlohonolo Lebohang MOKOTEDI, Moeketsi Evidence MOSEKI, Gontse MPOFU, Siphosethu Sinazo MRAMBA, Zimkhitha MSIPA, Aphiwe Nangamso MTANA, Zikhona MTHEMBU, Thabiso Siyabonga MTHETHWA, Bongiwe Nomthandazo MTSAKWE, Aphiwe MTSWAYI, Yanga MULAUDZI, Fhumulani Whity MURRAY, Robyn Hannah MXUNYELWA, Onesimo NAIDOO, Seth Selwyn Jr NDIKE, Xabiso NDIKI, Asandiswa NDLALA, Nikeziwe NDZAMELA, Emihle NGOGELA, Siphiwokazi Ora-Lee NGOLOMI, Yandiswa NGUBENI, Nhlakanipho NGUZA, Mihlali NJAMELA, Athenkosi Simthabele NJENKELE, Simthandile NJUZE, Lwando NJWAYISE, Amlindile NKANGALA, Pelisa NKOSIYANE, Iviwe NOMBULA, Vuyani NOPECE, Lihle NQOKISO, Landile NTSHABO, Asenathi NTULI, Siphosethu NTUNGO, Samkelisiwe PHETLHE, Kgaugelo PLANGA, Tando QANDEKA, Salinda RANTSOELE, Napo Godfrey ROBERTS, Cay-Lynne Monique SATSHWA, Mthetheleli SEKHAOLELA, Tshiamo SEKHWARI, Pfarelo SESE, Kamvelihle

SHEEP, Anele SHONGWE, Sphamandla SIBIYA, Thandeka Mathildah SIGABI, Mbasa SIKO, Luphiwo SINYENYELA, Aviwe SMILES, Zaid Lukin SOMDAKA, Lilitha Sinoyolo SONKOSI, Mawande SOTYANTYA, Tshepiso Matthews TELANE, Karabo Raymond TENGA, Nompumelelo THORNE, Sue-Maré TSHABALALA, Lindiwe TSITSI, Busiseko TUTSHENI, Siphosethu UWAH, Nnamdi Lerotholi WAYISA, Somila ZONDANI, Lelethu

CUM LAUDE

BACELA, Sisipho BEUZANA, Siyamamkela BUSO, Thabisile KGOPA, Mothupi Lethabo KILI, Afikile LUMKO, Amanda MAKAPELA, Ovayo MAKUBALO, Mzuvukile MAQOJANA, Amzolele MDEKAZI, Nkcubeko MONKI, Asanda MORUTLHO, Lerato MPINGWANA, Silindokuhle MULAUDZI, Mashudu Kerslee NGCAMU, Thabiso NODALI, Zisanda NONXUBA, Mbiko PLANGA, Liyabona QILINGANA, Kamva SIFILE, Mihlali SIKOKO, Zandile SKOSANA, Silindile Cynthia SOBEKWA, Liyabona Philasade SOGAYISE, Siyamamkela THWALA, Thembinkosi

HIGHER CERTIFICATE IN MECHATRONIC ENGINEERING

ABRAHAMS, Juninho **BALANGA**, Enrique James BARA, Bulela Kuhle DALI, Lisakhanya GULWA, Naledi HAMS, Yandisa INGRAM, Keanu Cohl JELE, Sydney JUKU, Sinethemba KANKU, Olga LEBITSA, Thuso MADUNA, Thapelo Kith MAKALUZA, Somnikwa MANONA, Siyabulela MATHIBEDI, Oageng Naphtale MATIWANE, Alwaba Livingstone MBAZIMATYE, Athenkosi MGOQI, Siyanda MKOKELI, Amanda Nozighamo MOKOENA, Kamohelo Clement NDAYI, Asive NOMPETSHENI, Aphindiwe NTSHONGWANA, Sinesethu NTSONDWA, Anita NXUZA, Hlalanathi SENGCE, Oyamile SIKENDLE, Mihlali SONDLANE, Nzuzo STHUKUZA, Londeka THELEDI, Floyd THWALA, Sakhi Comfort

CUM LAUDE

ABRAHAMS, Gihahn BALIE, Ethan BUTLER, Luke DU PREEZ, Ruan JACOBS, Ruwellen MAJOLA, Xolelwa RAMAKGASHA, Vusimuzi Nation SPIERS, Chadwin Yuul VENTER, Daniel Francois WEYER, Nicholas James

NATIONAL DIPLOMA: INFORMATION TECHNOLOGY (COMMUNICATION NETWORKS)

CHOONARA, Ebraheem Sulayman CHRISTIAN, Lumen DABANE, Anele Andries GXOTO, Sivikele HLALUKANA, Benathi HORN, Shane Fazel JOJIYASI, Nkululeko KONA, Xhamla KUBUKELI, Ntando KUNENE, Jessica Rethabile MANGQASHA, Isivile Msa MAXENGANA, Yandisa MAZIBUKWANA, Mso MBEWU, Lwandile MBINGELELI, Afikile MFINCI, Zizo MGXABAYI, Anovuyo MKHAMBAPHI, Teresse MKHETO, Anoxolo MNYAMANA, Fezeka MOYO, Chitra Tanaka MZAMO, Zibele NEL, Olwethu NJENJE, Inga Buhle Mpumezi NJOKWENI, Lelethu NOBOMVU, Zukisa Tsoseletso NQABENI, Prudence Anelisa NTENGO, Ayanda QATA, Athule SOYA, Viwe THOMAS, Victor Oladapo YOSE, Qhama ZAMANI, Azola ZWANE, Nothando

CUM LAUDE

MATHE, Pollet Lucia VAN VUUREN, David WOOLF, Nicholas

NATIONAL DIPLOMA: INFORMATION TECHNOLOGY (SOFTWARE DEVELOPMENT)

ABRAHAMS, Niyaaz BACKLUND, Sean Douglas BARRON, Ozayr BOOYSEN, Jason Stuart BUTLER, Patrick Andrew Lochhead CASTON, Keenan Francis CLARKE, Kerwin CUPIDO, Caleb Nathanael CUTHBERT, Gregory David DAYA, Janak DE FRANCA, Fabio Miguel Paulo DE KOCK, Matthew DE WAAL, Dewaldt DLAMINI, Sikhulile Letticia DUNGA, Lisa FOURIE, Jean-Luc GEYER, Donovan GOLIATH, Curtley Charles GOLIATH, Wendell GROBBELAAR, Matthew Joe GWARUBE, Xolelwa GWIJA, Sabelo HATTINGH, Ryan Alec HENDRICKS, Yaaseen JACOBS, Robin Lee JORDAAN, Marcel KASHA, Mongezi KELLER, Benjamin David KLAASSEN, Vincent-Lee KUMALO, Sivuyile Romeo MABANGULA, Thembelihle MADATT, Fredl Jaco MAHLANGU, Themba Richard MAJOLA, Lwandile Hilton-Junior MAKHETHA, Aheng MANGANYI, Tshembho Glen MASILA, Nildo MASOMBUKA, Thobile Martin MAXELA, Lizwi MAZOMBA, Stombo MEYER, Sabrina Fayre MFINI, Luphiwe Alfred MFO, Chulumanco MGQUBA, Siphelo MJANYELWA, Ayabonga Sivuyise MTSOLONGO, Ntomboxolo MUNSHIE, Muhammed MVULANKULU, Zikhona

MZINGELI, Zovuyo NGALIMANE, Samkelwe NGIBE, Nikelwa NGOMA, Akhona Andrews NKANGENI, Aphelele NTOKO, Ntebueng Portia NTSHOLO, Lukhanyo Caiphus NWAUCHE, Chibukem Bryan NXAKALA, Zipho **OBERHOLZER**, Brenton Gary PAPU, Siphesihle Esam PATRICIO, Claudio Dos Santos PETER, Nondwe Lovedelia PHILLIPS, Richard Ronaldo PILLAY, Jarryd Chad PRICE, Matthew David QABO, Mngweneli Mlungiseleli RAMALIGELA, Junior Nhlamulo ROBILE, Courtney RODOLO, Vuyo SABA, Siziphiwe Sibulele SALAMNTU, Akha SALIWA, Lusanda SEYISI, Phelelani SINONO, Lwando SIZANI, Anda SOMLOTA, Okuhle SOWAZI, Siyabonga SWARTBOOI, Sakhanya TALJAARD, Mia TALMAGGIES, Ryan VILJOEN, Micah Kyle WATERS, Kevin WICHERS, Jarrod Tyrone WILDEMAN, Luke Wells WILLIAMS, Keagan XUMA, Zipho Nomfundo YALEZO, Yondela

CUM LAUDE

BARTIES, Curtis James Gabriel BASIWE, Daniel Dumisani CLAASEN, Sean Daniel DU PLESSIS, Conrad Johannes GREEN, Nichole Eden HOFFMAN, Saajidah INGRAM, Keenan KEETSI, Florence Karabo KEMP, Calvin KHUMALO, Nlakaniplo Siboniso KOMENI, Anathi KUMM, Kyle Faron LESUME, Marryrose NEL, Johan NKAYI, Lubambo NKEPU, Viwe PURU, Uviwe ROSSI FALCON, Chiara SCHOEMAN, Jessica Christine VALENZUELA, Rian Hersan

NATIONAL DIPLOMA: INFORMATION TECHNOLOGY (SUPPORT SERVICES)

BAART, Siphosethu BALIWE, Lukhona Zandile BILANKULU, Lungile Gladstone BONGOZA, Ayavuya BONGWA, Andisiwe Ezra BUNN, Hlela Keneoue CHABALALA, Ponani CHUMBE, Noluthando Sarah DAMBA, Somila **DIBANISA**, Viwe DUBA, Sisanda FELKERS, Dylan Robin FERGUSON, Desire Michelle FORTUIN, Dorando Trevor GANGANI, Chuma GOBO, Ayabulela GROOM, Lusanda Pikolomzi GUSHMAN, Olwethu GXARISA, Lisenkosini GXONONO, Sinazo JOBELA, Athi JOUBERT, Gideon KAYINGO, Andiswa KLAASSENS, Jayde Ambrose KOLISI, Sandisiwe KONDILE, Lunga KULA, Xhanti-Lomzi LIVI, Alutha MAGWENTSHU, Amahle MAKINTA, Ramatsobane Hope MANAKE, Sihle MANN, John MAPAPU, Liyabona MAQHASHU, Nkosekhaya Moses MASELANA, Ntombikhona MATROSE, Zikhona

MAVUSO, Somila MAZWI, Bathobile Lilitha MBATHA, Sicelo MBIKO, Samantha MCENGE, Athenkosi MDODANA, Anathi MELENI, Mandilakhe MGONGO, Siphesihle Jennifer MINI, Nomawonga MNCOTSHO, Siyamamkela MNGQIBISA, Asisipho MOGOMOTSI, Vincent George Somahlathi Sibusiso MOHLELENG, Nomathongo Virginia MOKGOKONG, Koketso Maropeng MOLEKO, Katleho Lee-Roy MOMOTI, Yonela MOUERS, Sherney Shereen MPHASHA, Lesolo Kamogelo MQOKWANA, Aphelele MVUZA, Phiwe MXOTWA, Ayabonga MZAMANE, Khulasande Zusiphe NAZO, Sivuyiwe NCETHWA, Zanekhaya NGCEKE, Amahle Tandokazi NGELE, Sanelisiwe NGQOKWE, Lindokuhle Milile NGUBANE, Luleko Collen NKONE, Vuyokazi Virginia NKONJANE, Pumlani NKOSI, Bonga Nicholus NOKANDA, Sibulele NOYIKA, Aphiwe NTELANI, Lukhanyiso NTLANGULA, Letukuthula QWETHA, Thumeka SAULI, Ntombikayise SEPTEMBER, Anathi SETI, Busiswa SHONGWE, Londiwe Happiness SHUTA, Nobuhle SITOTO, Thandisizwe SIXAKA, Lutho SIZANI, Pamela SMITH, Nerine SOMHLAHLO, Nonopha STUURMAN, Carlene Simone SWARTS, Warren Bradley TISO, Phelokazi TSHISEKA, Sibonise WAGENAAR, Sherwin Nico

YABO, Ovuyonke

CUM LAUDE

BLANI, Anele Happyboy KWANINI, Nikita RHADEBE, Olwando Mziwanele

DIPLOMA IN ARCHITECTURAL TECHNOLOGY

BLANE, Jamie Nathan CHAUKE, Thabang Benedict DE LANGE, Angelique Lesley DEYSEL, Zander Etienne GREYLING, Jean-Pierre GRIEVE, Gabriella Tarryn KLEINGELD, Mariske LANGEVELD, Dillan John MAPONGA, Sanele Nicholas MAZIBUKO, Sibusiso Thuthukani MHLONGO, Lunghile NGCOBO, Unathi NODADA, Nyameko RASMUSSEN, Chad Michael **REDDY**, Britany SCHOONRAAD, Caleb **TERHOEVEN**, Stian TSHILILO, Mukundi TYALI, Mihlali

CUM LAUDE

BAYNES, Joshua

DIPLOMA IN BUILDING

ADONIS, Awonke Alfred AYFORD, Kayle Amber BAMBENI, Sisikelelwe BROWN, Zara BROWNE, William Peter DLAMINI, Yanga DUMANI, Pamela Tandokazi GIDA, Nomsa GUQAZA, Sinovuyo Nceba GWARUBE, Zimnandi HLATSHWAYO, Londiwe Penelope HUMAN, Nicolene Anastasia JINI, Nonkoliso Chuma KALA, Singatha Konke Okuhle KASCHULA, Dylan Kyle KHOZA, Katekani Yolanda Mhlaba KLASSEN, Nomtha Angela KONSTABEL, Thursbe Dorian MADOKWE, Cwenga Theodore MADOLO, Qaqambile Vuyo MADOLO, Sange Kanvisa MAGWENTSHU, Sinathemba MAKANA, Bulelani MARAIS, Jan Bellingan MASICOTOZE, Yandani MAY, Zukhanye MBIZA, Siyamanga MBOLEKWA, Sinelizwi MELWA, Aviwe MGUCA, Mayande MNDAYI, Sive MNYUTE, Khanya Siphosethu MONQO, Yonwaba MTHOMBENI, Selbourne Selby MVANDABA, Yakha MYEKO, Silindokuhle NDONGENI, Zimkita Chritia NHLENGETHWA, Sabelo Emmanuel NONKONYANA, Sihle NQULO, Yonela NSE ONDO, Dulcinee PANDLE, Sicelo Benneth QANKQISO, Yola QASANA, Sinelethu QOKOQA, Azola RAPHAHLELA, Malegasa Ntheto SITHOLE, Andile SOKUTU, Xhanti Abonga SUNDANI, Khumbudzo TAMBWALI, Kelitah Nasibeko THABEDE, Thanda TIERVLEI, Bulelani Stephen TSHAKA, Ayabonga VATSHA, Aphelele WHITTOCK, Michael XANASI, Anelisa Mpumezi XOSA, Nombulelo Zizipho

CUM LAUDE

MABOA, Ramolokwane Violin MANYENGE, Luyanda MDUTSHANE, Odwa RAMMEKWA, Mamodiki Jacobeth TIBA, Khanya YENI, Zibuyile Zamayeni

DIPLOMA IN INTERIOR DESIGN

DIPPENAAR, Lara Maria MATSI, Nakedi Daisy RENZE, Celine Yvonne ZWIEGERS, Maricke-Louise

NATIONAL DIPLOMA: ENGINEERING: CIVIL

DUDULA, Sibusiso LUKHELE, Ian MCLEOD, Dwayne MOODLEY, Ashleen MOYAKE, Sitsaba NONYANA, Kutloano Theodore NTSHOKOMA, Simamkele TSHANGELA, Sive TYAKUME, Zikhona

NATIONAL DIPLOMA: ENGINEERING: ELECTRICAL

CITI, Zethu CWABE, David DU PLESSIS, Emille Christo FIHLANI, Avela GURA, Siyabonga IMRAN, Mohammed Zain KALEBE, Omolemo MABUNDA, Neo MAISTRY, Saieshan MAMBA, Mpho MAMBURU, Lutendo Lloyd MAPHEKA, Tapiwa Thando MAPONONO, Mseki MDLUDLU, Mawande MELANE, Mawande MKHABELE, Jabulani MNXEBA, Asinakho MTIMKULU, Thokozani NDAWOMBINI, Sivuyile Craig NGAM, Qhamani NGQULA, Sivuyile NICHOLSON, Grant Daniel NTSHONGA, Yonela NYENYEKU, Mawande

PAUL, Kim SEKO, Lesiba Thabiso SITHOLE, Sipho Siyabonga SWARTS, Vinchenso Alfred THALA, Siyamthanda TYIBILIKA, Nomatenza VAN SCHALKWYK, Adriaan Willem VELABAHLEKE, Mnoneleli VEVANE, Benedictus Luvuyo YENGE, Mveli

NATIONAL DIPLOMA: ENGINEERING: INDUSTRIAL

HLUNGWANI, Akani Precious MALULEKE, Vukosi Providence MKUMATELA, Sothembela Mtha MNTUKATANDWA, Siseko MZILENI, Kwanele NKUNA, Fumani Karyn RHAYI, Thokozani Thabang SINUKA, Nontobeko SOMHLABA, Lwando TSOSI, Badibedi Joseph ZINGELWA, Ayabonga

NATIONAL DIPLOMA: ENGINEERING: MECHANICAL

CONNACHER, Chaz William D'ASSONVILLE, Henri Emile DE WAAL, Hendrik DOKODA, Ayanda ERASMUS, Carl HARRIS, Elandrue MAHANGE, Dzunisani Jean-Louis MAKOPI, Lindokuhle Thembile MALIWA, Lusanda Sinethemba MASETI, Yolanda MAYEKISO, Aluve MEYER, Kenton Daniel MGODELI, Zipho Zizo MGQATSA, Nobuhle MJOJWA, Zukisani NOGWAJA, Andisiwe NOMBONA, Prince Percy Nkosana NTYIKWE, Budebuphangwa ROBERSON, Ronald Mcgyver SIBUQASHE, Mzwanele Christopher SMITH, Timothy Luke SOGAULA, Snovuyo

SOMYA, Thabiso Lyncon STEYN, Dane SWANEPOEL, Marcel TIMOTI, Sinovuyo Pracious TYAM, Sibulele WAIT, John Alexander WRIGHT, Elrich Martin YOTWANA, Mongameli Nelson

NATIONAL DIPLOMA: OPERATIONS MANAGEMENT

AMOD, Kemeshnee BAILES, Darren BOB, Linda Wendy CAMPHER, Kurt Ruchiene CORNEY, Jay Victor DINGANA, Thabisa Hermangilter FREDERICKS, Leyana Ronwyn **GERVAIS**, Daniel Patrick HARRISON, Edward Graeme HEUVEL, Roland JOBELA, Nkululeko Jonathan KIVEDO, Israel Elisa LINDI, Samuel Xolani LOUIS, Evan Noel MAHLANGU, Sipho MLUMBI, Siyanda MOFOKENG, Nthode Wiseman MTSHOZENI, Thandisizwe NOMBOMBO, Mivuyo O'REILLY, Eurica Cecelia POTGIETER, Marco SIBHENGILE, Mfundo Patrick SMITH, Rhameez Michael SYSAAR, Nickfred TSHAKA, Nomfundo Pretticia VAN LOGGERENBERG, Christo Juan VAN VUUREN, Brian Melvin WILLIAMS, Sven Giovanni XAKUSHE, Dumani Churchill

CUM LAUDE

VAN BILJON, Marli

BACHELOR OF TECHNOLOGY: INFORMATION TECHNOLOGY (COMMUNICATION NETWORKS)

BAMBENI, Esihle Lungile DAVIS, Rushdeen DLEMBULA, Nonophela DUMA, Siboniso GWIBA, Thandolwethu GWIJI, Thando JILILI, Sive MOKOENA, Relebohile MOLOI, Samkele NDEVU, Lulutho NJOMBOLWANA, Zintle NKAYI, Ntombizandile PETER, Lutho Lamla PETERS, Kenleigh Linton Lance RUBUXA, Mawethu SITHOLE, Shadrack WATERS, Nathan Daniel XAKWE, Sive Precious ZENANI, Athanathi

BACHELOR OF SCIENCE IN CONSTRUCTION ECONOMICS (QUANTITY SURVEYING)

BOY, Ryan Allan BURRI, Markus Cedric FOLOSE, Lwandile HAPANYENGWI, Vimbayi Rutendo HOBBS, Brandon Philipp KABALIKA, Erica Charles KASESE, Mwimba Symphrose LAGERDIEN, Ilyaas LINDA, Bulelani Athini MAGEZA, Fumani Brumilda MANAKA, Busisiwe MARAMBANA, Anovuyo MOKOENA, Lehlohonolo NEKUMBE, Minkie Refilwe NKALA, Clifford NKINTI, Simbizile NONDABULA, Loyiso PUTTERGILL, Joshua David RAMUSI, Makgabo SHROSBREE, Nathan John VAN WYK, Jean-Ralph VIKA, Lusindiso Mvuyisi WEYER, Nathan Bryce

CUM LAUDE

BADENHORST, Jean-Wenzel CHIKOCHI, Melissa GOVENDER, Brendan Jenaide VICTOR, Danielle

BACHELOR OF SCIENCE IN CONSTRUCTION STUDIES

BAILIE, Ross David BANGANI, Zonwabele BUHLUNGU, Lukhanyo ENGOLE, Joshua LATEGAN, Andre LONG, Darren Jon MARAMBANA, Aviwe MAZIBUKO, Nobukhosi Sakhele MEMANI, Sitshabasobom Ebenezer MKONTWANA, Siphokazi MSHUDULU, Sibulele MTILENI, Nsovo MULCKHUYSE, Kieran Leen NDABA, Siphe Sihle Nariluna NZUNGENI, Utsile Samuel RAMARIKHOANE, Teboho **RESHA**, Isivile Junior SEPTEMBER, Zizipo SHARP, Leslie SHIMANGE, Benny Derrick Nsuku SMUTS, Damien SWART, Josia Petrus VAN ROOYEN, Kaylin Olivia XOMA, Lusanda

BACHELOR OF TECHNOLOGY: INFORMATION TECHNOLOGY (SOFTWARE DEVELOPMENT)

BEKEBU, Zenande Somemore BUHE, Sive BURJINS, Craig Etienne CHIVERS, Sarah Jane DARIER, Joel Marcel Jacques GALLANT, Clyde GANTSHO, Chuma GWEGWE, Lukhona HASHATSE, Tefo Ntsako HEIN, Justin KISTEN, Keanu Dylan LABITI, Siphumze

LUKWE, Andisiwe MAJIKIJELA, Ezile MAKISI, Asekhona Innocent MALEFANE, Tebogo MASINYANE, Nontuthuzelo Mavis MBOKOTHO, Vuyisa MKOSI, Alungile Gladysia MNDELA, Suku Khanyiso MSIKINYA, Daluxolo MTSHIZANA, Chulumanco Lithambile Cedric MULLER, Razeen NDLOVU, Ntuthuko Fanini NQALA, Busiswa NTSHINTSHI, Thandolwethu Matthew NUKERI, Keith Thabang OWUSU-ANSAH, Paa Kwesi Assan PIO, Abre Reinier SONTO, Luxolo SWANEPOEL, Roan Eddie THOMAS, Michael Sean TSHINGANA, Xolelwa TUKELA, Baphiwe TUTU, Entle Sipiwe VISENYOUE, Rowan Bramlin YON, Ailan Caleb ZONKE, Thanduxolo ZOZO, Cwenga Nkcubeko

BACHELOR OF TECHNOLOGY: ENGINEERING: CIVIL (URBAN ENGINEERING)

KUHLANE, Tembisa MKOTWANA, Yamkela MOSEKI, Tsholofelo Patience NDESI, Nwabisa Onelisa NETSHIFHEFHE, Fulufhedzani NYEPA, Lithalethu QUNTA, Nomtha SONGQUSHWA, Akho TALMAGGIES, Raymond Marden

ADVANCED DIPLOMA IN QUALITY MANAGEMENT

FATA, Sisanda FOSTER, Mandlakayise Charles MAGOBIYANE, Masixole MASIBIGIRI, Masindi MBETE, Zimkita McDONALD, Carolynn Jill NUNGE, Noluvo OLIPHANT, Siphokazi RAJAAL, Faaiza SILEKU, Puleng TOMAS, Mxolisi TSOEU, Tsoeu Morgan VAZI, Sakumzi VENA, Siphosenkosi

ADVANCED DIPLOMA IN ARCHITECTURAL DESIGN

DELPORT, Brendon MAHOMED, Ameen PROUDMAN, Andrew Ian Park RALANE, Philile ROBSON, Malcolm George

ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY

BRANDT, Aidan Harry CWATHI, Abenathi DANSTER, Siyamthanda DE VRIES, Tristan Douglas DLABOM, Khuthala FILANA, Sanele GANISO, Ntombekhaya Mirriam GCEYA, Aviwe GEORGE, Tatenda GONGO, Vuyisa Christopher GWAGWA, Yanga HINI, Atenkosi JACKLENS, Zanele JERU, Sivuyile Kenneth KARIEM, Tauriq KHANYILE, Nokubongwa Samkelisiwe KHONZANI, Simbulele KUMBACA, Asonge Kamva LINDLEY, Cameron Lee LUZIPO, Khanyiso MABALA, Siyasamkela MABYANA, Itumeleng MAJIBA, Andile MAKHUBALO, Tshegofatso Blessing MALINGA, Lindokuhle MANELI, Mfundo Andrew MAPHUTHA, Mamotsoko Precious MAYOLI, Pamela MBALO, Siphamandla

ADVANCED DIPLOMA IN QUANTITY SURVEYING

MBELWANA, Yonwaba MBOBO, Inga Odwa MDAKANE, Nkosephayo Boufo MELA, Phelo MFINI, Masonwabe MNYAMANA, Okuhle Zimasa MONA, Phelela MSUTWANA, Nhlakanipho MUNZHEDZI, Gundo MUSITU, Constantine Tafara NAIDOO, Rashaylin NGAM, Asisipho Patiance NGCOBO, Sabelo Boys NOGAYA, Vusumzi NOPOTE, Lusanda NTSHOFU, Thobeka NTULI, Siphelele Nkululeko NYATHI, Siphosethu PETENI, Uviwe SAQHUDE, Luyanda SMITH, Hein STEMERE, Andisiwe Mihlali STOKWE, Lonwabo SWART, Rochelle Eleanor TSHIKORORO, Dali Lutendo VAN DEN BERG, Ashleigh VUMAZONKE, Avela WANTU, Yandiswa

CUM LAUDE

ADAMS, Khwezi Theophillus GROBBELAAR, Frank Glynne HASSAN, Junaid James HUFKIE, Abigail Laverne MADIKIZELA, Asanda MLUNGUZI, Lihle Harrison MOLAPO, Maafane Boitumelo Brenden MOLEFE, Bafana Christophar MOSS, Trudy Renica MULOVHEDZI, Confidence NDABA, Nomalungelo Ntombizodwa NYELENZI, Nwabisa PETERS, Cornelia Francis SCHWAB, Karel Henry TROLLIP, Dean Jonathan YALEZO, Lwandile

DU TOIT, Christiaan FIGLAN, Mbasakazi FRIEND, Keegan Tony **GQIBELA**, Sixolile Moses GWELANA, Samkelo HIGGINS, Chadley Garth KUPA, Sibabalwe Salizwa LILA, Ongezwa MANXIWA, Ezi Zizipho MATWA, Mcokisi Nceba MAXONGO, Azile MIYA, Zamakahle Zisebenzele Vusumuzi NDLOVU, Phumlani Johannes NGALO, Siphamandla NOMFEMBE, Avela NOZINTWANA, Esethu NXUSA, Ukhona PANTSI, Bulumko SHUSHU, Masixole VISSER, Marne WUCHERPFENNIG, Bradley John

CUM LAUDE

ASENI, Sakhumuzi Willington ERASMUS, Juandre MTALO, Onwaba PANSEGROUW, Peter John Hildebrandt WATSON, Ruaan

BACHELOR OF ARCHITECTURAL STUDIES

BALA, Luvo BOTHA, Delise BOTMA, Natasha CARSTENS, Ruben CHURCHMAN, Michael Oliver Samuel DUNCAN, William James EBRAHIM, Aadilah FERREIRA, James Jordan HARWOOD, Ashley Claire HILL, Robert Alex HLALUKANA, Sinothando JORDAAN, Tyniele KLEYNHANS, Hermanus Leonard KRIEL, Cornelius Wilhelm LALLA, Tirtha LANDMAN, Michael Christo

LOOTS, Gerhard Joseph MAKUBALO, Mivuyo Buhle MANGWENDE, Lionel Tapiwa MATABANE, Mmapilane Makgosi MATAI, Mivuyo Lithakazi MUKU, Lithemba MULLER, Gillian Sarah NIGRINI, Henco NOGANTSHI, Siphesihle Cwayita NORTJÉ, Bianca OOSTHUIZEN, Rozanne PUTTERGILL, Rachel Roxy **RICHTER**, Helena Johanna ROBERTS, Crissio SHONE, Danielle STRYDOM, Juan-Pierre STRYDOM, Mieke SWANA, Asemahle Andisiwe THOMPSON, Julene VAN DER MERWE, Alex Robert VAN DER WATH, Cameron VAN STADEN, Morgan WATERSON, Megan

CUM LAUDE

HAGEMANN, Katelin

BACHELOR OF ENGINEERING TECHNOLOGY IN CIVIL ENGINEERING

AFRICA, Kirsten Earl DE FREITAS, Leonardo Jose JANSE VAN RENSBURG, Atthea KATUREEBE, Humphrey James KONA, Melumzi Langalake KONZAPI, Aviwe KWINTSHI, Khanyisa MADIYA, Olwethu MANDAZA, Elton Tafadzwa MXOLI, Inam NDYALUVANA, Lorna NOGEMANE, Maliviwe NOKHOMBOYI, Athethile RUUNDUKA, Pepukai Sebber SHONHIWA, Grace Tsitsi SIZE, Cetomkhulu Tutu SOBEKWA, Oyama TAMAKO, Neo TSHAMASE, Katleho Kelello

WILLEM, Sinebongo Lusapho

CUM LAUDE

KEITH-BANDATH, Ridhwaan

BACHELOR OF ENGINEERING TECHNOLOGY IN ELECTRICAL ENGINEERING

BHAYI, Lihle KHUMALO, Nennie KLATE, Jesse Jerome LOTTERING, Michael-Anthony SLATER, Emiel UBISI, Nandos

CUM LAUDE

CHITONGO, Zvikomborero

BACHELOR OF ENGINEERING TECHNOLOGY IN INDUSTRIAL ENGINEERING

PRAM, Sindiswa

CUM LAUDE

GERBER, Adriaan Roedolf

BACHELOR OF ENGINEERING TECHNOLOGY IN MARINE ENGINEERING

AUGUST, Aidan Keith Larnelle NEL, Matthew Ryan

BACHELOR OF ENGINEERING TECHNOLOGY IN MECHANICAL ENGINEERING

FOURIE, Jode TALJARD, Gideon Harold TEMBO, Blessed TRASK, Daniel Llewellyn

BACHELOR OF TECHNOLOGY: CONSTRUCTION MANAGEMENT

BASSON, Alard Dominic BASSON, Alaric Bennedict BOSMAN, Sesethu CLAASSEN, Luvo Tevin HULU, Bongamandla KETELO, Nonkululeko Primrose LANGFORD, Savannah MAFADZA, Mutshinyani Peggy

BACHELOR OF TECHNOLOGY: ENGINEERING: ELECTRICAL

BALENI, Phakamisa **BELLINGAN**, Benjamin Johannes ERASMUS, Ryan Anton FATMAN, Luphelo FERREIRA, Elandre FROST, Daniel Graham GINGER, Mandiso JAKO, Sihle MANSOOR, Yusuf Rashid MASETI, Ayabonga MASHWABI, Tebogo Letlhogonolo MHLANA, Siboleke MKHOSI, Zukisa MLINDELWA, Sifiso MRASI, Siyabulela MSI, Mawande NKOANA, Alpheus Matome NOFEMELE, Solomzi NONJOVA, Unathi PLATYIE, Zukisani Artwell PRAM, Nondiliseko Felicity RANGANA, Thina TELADIA, Mohammed Husain TYELO, Mdumiseni Clement VOLMER, Gerard

CUM LAUDE

BARNARD, Edden MUKALAY, David llunga

BACHELOR OF TECHNOLOGY: ENGINEERING: INDUSTRIAL

DE MAAR, Faiek DUNJWA, Khona Justice GANCA, Sive GOEZAAR, Josh Robin HACKULA, Ovisa Onela HLETYIWE, Lwando HOYI, Gloria Noluvuyo KALIPA, Gladman Luvuyo KOBESE, Banele KUHLANE, Anthony Lizo MAFUNZWAINI, Asatuwi MAKWETU, Sisipho MATO, Odwa MONSURU, Mubarak Akindayo MZWAKALI, Siphokazi NAMZI, Sonwabo NONTSWABU, Linda NTLIZIYO, Nomakhosi OLIVIER, Ryan PICANE, Oyena SAMIE, Luqmaan SHOLOKO, Ithabeleng SIFUNDZA, Sabelo Gcina SOBEKWA, Cwenga SOUTHEY, Trevor Louis VAN DER MERWE, Paul WAKABA, Baxolile WALSH, Kurn Alec ZIHLANGU, Sive ZOLELO, Lufezo

CUM LAUDE

BHAVANBHAI, Kabir Shailesh FERREIRA, Daniel GRUNDLINGH, Chaseson Roy MEYER, Amber-Ann SERFONTEIN, Jeannie

BACHELOR OF TECHNOLOGY: ENGINEERING: MECHANICAL

AYENUMELO, Joseph Oyetayo BACA, Phelelani CHINN, Danniel Dagan DE BEER, Stephanus Johannes DE JONGH, Jan Hendrik

DUFFIELD, Duran Logan FLYNN, Dale GROOTBOOM, Ntsika GUDMANZ, Matthew Damon IMRAN, Mohammed Zaahid JACK, Nosipho JOSAYI, Aphiwe **KEYIZANA**, Bantu KRUGER, Michael MABUZA, Banele Sonkhe MAGAZI, Phaphama MAMAYO, Sibulele MANDLA, Sibulele MAYEKISO, Aluve MDLELENI, Luvo Duncan MIYANTE, Victor Ovotatainem MPURWANA, Kabelo Bulali NGODWANA, Litha Samkele RANTHO, Thabang Mokgale SISWANA, Bongo SMITH, Aston Brad

BACHELOR OF TECHNOLOGY: OPERATIONS MANAGEMENT

COETZEE, Carmeno Nathanial HOTE, Mncedisi Christopher LUDICK, Llewelyn John MANELI, Xolisa

BACHELOR OF TECHNOLOGY: QUALITY

MTINI, Moyisi

BACHELOR OF TECHNOLOGY: QUANTITY SURVEYING

KENNY, Dayne William MAHANJANA, Samelangolwazi MNISI, Xabisa NZIMA, Lwando

BACHELOR OF ENGINEERING IN MECHATRONICS

ALBERTS, Jaydee HOWARTH, Jason Milner JEGEDE, Emmanuel Demola KAUFMAN, Jason

LINDER, Britney Simone MAKU, Cumani MBAM, Vuyo MGXABAYI, Lupiwe MKIVA, Ferlando Thembelani Tumisho MKONKQWANA, Lutando Teddy MOMBERG, Garion SIBINDI, Nokuthula SITUMANE, Ayanda SOGA, Akhona STRYDOM, Tiaan THERON, Schalk Willem Petrus **TINDIRIKA**, Tinashe Divine VAN GOEVERDEN, Brody Anthony VARGHESE, Sthuthi Boban VILJOEN, Erwin VILJOEN, Reinart WEBB, Nicholas

CUM LAUDE

TULLEKEN, Justin

BACHELOR OF HUMAN SETTLEMENT DEVELOPMENT

MAPOLISA, Sanelisiwe Vuyisanani MARAM, Nomacebiso Eunice MASHALABA, Yonela NGCOBO, Mpendulo Rebecca Hope NOMTYALA, Chulumanco Lonwabo NQWALA, Avela PAPU, Litha WILLIAMS, Athandile Nombasa XUBA, Konwaba

CUM LAUDE

BRUCE, Kelsey

BACHELOR OF ARCHITECTURAL STUDIES HONOURS

ALBEST, Yves Jean-Michel T. BEZUIDENHOUT, Vicky Lee BOSCH, Rickus BURGER, Ferdinand DAVIDS, Maretha DE LANGE, Natasha DE VILLIERS, Sanette DE VOS, Tahrene



DUSTAN, Cameron Mitchell FOUCHE, Daniel GWANA, Sithe HEUER, Morgan Lynn HOBBS, Megan KELSEY, Chanel L'ANGE, Jonathan Christopher MAKHELE, Busang POTGIETER, Kendal Neil STEYN, Anli TSIOTSIOPOULOS, Alexandros WEST, Aletta Maria ZITUMANE, Asanda

CUM LAUDE

POORUN, Zara

BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT

GILMORE, Joshua Edward MAGO, Hannah Tsitsi MBANGI, Nozipho Zipporah NEUBERT, James Derek

CUM LAUDE

KATIVU, Rutendo Rachael

BACHELOR OF SCIENCE HONOURS IN QUANTITY SURVEYING

BOTHA, Michael Barry GEYER, Ruan GWADELA, Ntsika HENDRICKS, Ray Carl HOLMES, Daniel Anthony JILI, Pumeza Zimasa KLAAS, Usisipho MAGENGENENE, Singabakho MANSFIELD, Shane Earl MBIZA, Sandisiwe MDLOVU, Siphesihle Temlandvo MENOE, Boineelo Bridget MORUMUDI, Manoko Reshoketswe Valentina MOYENI, Nangamso NOQAYI, Abongile NTOMBELA, Bandile Siyabonga PUZI, Mbasa SALI, Sivelele SCHONKEN, Luke Mark TSHABALALA, Tumelo Chris TUNZI, Kanyisile VERMAAK, Dylan

CUM LAUDE

BESTIC, Olivia Amy SURAJBALI, Jivesh VERWEY, Janita

MASTER OF ARCHITECTURE PROFESSIONAL (COURSEWORK)

BURGER, Sean Title of treatise: THE DESIGN OF A HIGH SCHOOL STEM CENTRE IN ZWIDE, NELSON MANDELA BAY	Supervisor: Mr AG Palframan
CONRADIE, Inge Christine Title of treatise: THE DESIGN OF A "PADSTAL" ON THE CROSSING OF ROUTE 62 AND THE S KAROO	SEWEWEEKSPOORT PASS, KLEIN Supervisor: Mr AG Palframan
DE VILLIERS, Juan Title of treatise: THE DESIGN OF A NEW CORRECTIONAL FACILITY FOR NELSON MANDELA BAY	Supervisor: Mr AG Palframan
DUKADA, Qhamani Nande Matholengwe Title of treatise: THE DESIGN OF AN AGRICULTURAL EDUCATIONAL CENTRE NEAR VLEKPOORT, EAS	TERN CAPE Supervisor: Dr M Minguzzi
EDMAYR, Alexandra Charlotte Title of treatise: THE DESIGN OF A VIRTUAL ECO-PARK FOR PORT ELIZABETH	Supervisor: Mr AG Palframan
FALATSI, Sera Edgar Title of treatise: THE DESIGN OF A PUBLIC LIBRARY IN HLOTSE TOWN, LERIBE, LESOTHO	Supervisor: Mr AG Palframan
HANSEN, Keane Mark Title of treatise: THE DESIGN OF A RHINO SANCTUARY IN THE KRUGER NATIONAL PARK	Supervisor: Mr AG Palframan

Title of treatise: THE DESIGN OF A RESEARCH HOSPITAL FOR MBOMBELA MAZIBUKO, Nibonge

MARULE, Neo Allan

Title of treatise: THE DESIGN OF A MEMORIAL LITERARY RESOURCE CENTER NEAR SOPHIATOWN, JOHANNESBURG Supervisor: Mr AG Palframan

MCILROY, Glen Quentin Title of treatise: THE DESIGN OF A MENTAL-HEALTH CARE FACILITY IN DIEPSLOOT, JOHANNESBURG

MLENZANA, Mihle Title of treatise: THE DESIGN OF AN INDIGENOUS AFRO-PHARMACY IN CENTRAL, PORT ELIZABETH

Supervisor: Mr AG Palframan

NEL, Joslin Antoinette - Cum Laude Title of treatise: THE DESIGN OF A PORT OPERATIONS FACILITY FOR THE BUFFALO RIVER HARBOUR, EAST LONDON

Supervisor: Mr AG Palframan

NTSHONTSI, Tumelo Jasper B Title of treatise: THE DESIGN OF TERMINAL BUILDING AT MAUN INTERNATIONAL AIRPORT IN THE OKAVANGO DELTA, BOTSWANA

Supervisor: Mr AG Palframan

NPATSALOS, Daniella Chrystalla - Cum Laude Title of treatise: THE DESIGN OF A MEMORYSCAPE FOR SOUTH END, PORT ELIZABETH

Supervisor: Mr AG Palframan

Supervisor: Mr AG Palframan

Supervisor: Mr AG Palframan

Supervisor: Mr AG Palframan

PRETORIUS, Hanri Title of treatise: THE DESIGN OF AN INTERNATIONAL CONVENTION CENTRE FOR PORT ELIZABETH

RITCHIE, Brittney Tanneth Title of treatise: THE DESIGN OF A FUNERARY LANDSCAPE IN SHARK RIVER VALLEY, PORT ELIZABETH

SMIT, Blake Sean Title of treatise: THE DESIGN OF A WASTE-RECYCLING FACILITY FOR ARLINGTON LANDFILL

TSHELAMETSI, Gorata Title of treatise: THE DESIGN OF A STUDENT RESOURCE CENTRE IN CENTRAL PORT ELIZABETH

VAN NIEKERK, Neil Title of treatise: THE DESIGN OF SUSTAINABLE LOW-INCOME HOUSING WITHIN THE CAPE TOWN INNER-CITY

VAN ZYL, Adam Title of treatise: THE DESIGN OF A VIHARA IN PINELANDS, CAPE TOWN

VOS, Charne Title of treatise: THE DESIGN OF A HYDROTHERAPY FACILITY AT MANGOLD'S POOLS, PORT ELIZABETH

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Supervisor: Mr AG Palframan

WEISS, Sarah Title of treatise: THE DESIGN OF AN ARTIST COLONY IN CENTRAL, PORT ELIZABETH Supervisor: Mr AG Palframan

MASTER OF ENGINEERING (RESEARCH)

BOTHA, Sheldyn Jaye (Mechanical) Title of dissertation: INFLUENCE OF A SALINE TEST ENVIRONMENT ON THE FATIGUE PROPERTIES OF LASER METAL DEPOSITION Ti-6AI-4V SPECIMENS

> Supervisor: Prof DG Hattingh Co-supervisor: Dr IN Wedderburn

GILI, Aphelele Bonani (Mechanical) Title of dissertation: DEVELOPMENT OF PIN-LESS FRICTION STIR WELDING FOR THIN ROLLED TITANIUM PRODUCTS

Supervisor: Prof DG Hattingh

NGUGI, Michelle Wanjiku - **Cum Laude** (Electrical) Title of dissertation: DESIGN OF A POLARISATION-BASED OPTICAL FIBRE SENSOR FOR VIBRATION MONITORING OF A WIND TURBINE TOWER

> Supervisor: Prof PA Freere Co-supervisor: Prof TB Gibbon Co-supervisor: Dr S Wassin

MASTER OF ENGINEERING IN MECHATRONICS (RESEARCH)

ADELEKE, Adeniyi Kehinde - *Cum Laude* Title of dissertation: *ULTRAPRECISION DIAMOND TURNING OF MONOCRYSTALLINE GERMANIUM*

Supervisor: Prof K Abou-El-Hossein

DU PREEZ, Jacques Francois Title of dissertation: DOCKING STATION WITH CHARGING AND COMMUNICATION SYSTEMS TO ENABLE AN AUTONOMOUS SECURITY DRONE

Supervisor: Prof TI van Niekerk Co-supervisor: Mr R Stopforth

Supervisor: Prof TI van Niekerk

GILFILLAN, Cullen Leo Title of dissertation: DYNAMIC MODELLING AND IMPLEMENTATION OF AN OPTIMIZED CONTROL SYSTEM FOR AN AUTOMATED GUIDED VEHICLE

> Supervisor: Prof TI van Niekerk Co-supervisor: Mr JM Fernandes

GREGOIRE, Mbangu Tambwe Title of dissertation: OPTIMIZATION OF SURFACE ROUGHNESS OF ALUMIMIUM GRADE (RSA 443) IN DIAMOND TOOL TURNING

Supervisor: Prof K Abou-El-Hossein

LE ROUX, Francis Anne - **Cum Laude** Title of dissertation: MODELLING AND STATE-OF-HEALTH PREDICTION OF LITHIUM-ION BATTERIES UNDER DYNAMIC HIGH-CURRENT APPLICATIONS

> Supervisor: Prof TI van Niekerk Co-supervisor: Prof EE Ferg

LIEBENBERG, Elbert - **Cum Laude** Title of dissertation: INTELLIGENT PROPULSION CONTROL SYSTEM FOR A BIOMIMETIC UNDERWATER ROBOTIC DEVICE

Supervisor: Prof TI van Niekerk Co-supervisor: Prof RL Phillips Co-supervisor: Mr AB Young

TUMWESIGYE, Mark Title of dissertation: TESTING OF SINGLE EVENT UPSETS AND TOTAL IONISING DOSE IN A POLARFIRE FIELD PROGRAMMABLE GATE ARRAY Supervisor: Prof F Smith

MASTER OF INFORMATION TECHNOLOGY (RESEARCH)

MOGANEDI, Mapoung Sophia Title of dissertation: INFORMATION SECURITY CONTROLS FOR FITNESS WEARABLE MANUFACTURERS: VULNERABILITY MITIGATION Supervisor: Prof D Pottas

STRYDOM, Anton Title of dissertation: A FRAMEWORK FOR THE IMPLEMENTATION OF THE HMS² SYSTEM IN PUBLIC HEALTHCARE FACILITIES IN THE EASTERN CAPE

Supervisor: Prof D van Greunen

MASTER OF PHILOSOPHY IN INFORMATION TECHNOLOGY GOVERNANCE (COURSEWORK)

JIZANA, Phambili Mzwandile Title of treatise: A STRATEGY FOR IMPLEMENTING THE GOVERNANCE OF ICT IN THE PUBLIC SECTOR

> Supervisor: Mr T Jagwanth Co-supervisor: Prof H Fourie

KHOSA, Makhapule Winners Title of treatise: A FRAMEWORK TO INTEGRATE INFORMATION TECHNOLOGY RISK MANAGEMENT INTO ENTERPRISE RISK MANAGEMENT IN THE CITY OF EKURHULENI

> Supervisor: Ms JC Christian Co-supervisor: Mr M Labuschagne

MEHLOMAKULU, Yamkela Title of treatise: A STRATEGY TO ADDRESS THE FACTORS THAT IMPEDE THE IMPLEMENTATION OF IT GOVERNANCE IN INSURANCE COMPANIES IN DEVELOPING COUNTRIES: A CASE OF A SOUTH AFRICAN COMPANY

Supervisor: Mr TH Speckman

MSHWESHWE, Andisa Title of treatise: A FRAMEWORK OF FACTORS INFLUENCING SOFTWARE DEVELOPMENT AND OPERATIONS FOR DEPLOYMENT IN THE STATE IT AGENCY

Supervisor: Dr RG Leppan

MTHIMUNYE, Pauline Thandi Title of treatise: IMPLEMENTATION OF AN IT GOVERNANCE FRAMEWORK IN STATE OWNED ENTERPRISES

> Supervisor: Mr M Labuschagne Co-supervisor: Ms JC Christian

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MUNAKANDAFA, Constandious Takura											
Title of treatise:											
ANNOTATED	PATHOLOGY	LABORATORY	WORKFLOWS	ТО	COMPLY	WITH	THE	PROTECTION	OF	PERSONAL	
INFORMATIO	N ACT										

Supervisor: Prof D Pottas Co-supervisor: Prof A Mukheibir

MUYUYA, Rodgers Title of treatise: A FRAMEWORK TO EDUCATE EXECUTIVE MANAGEMENT ON CYBER RISK RESPONSIBILITIES IN SOUTH AFRICAN SMEs Supervisor: Dr PMJ Delport

MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (COURSEWORK)

CHIKANDIWA, Memory Yeukai (Project Management) Title of treatise: A PROJECT DELIVERY FRAMEWORK WITHIN THE CONSTRUCTION INDUSTRY

Supervisor: Prof B Botha

DINGILIZWE, Nondumiso (Project Management) Title of treatise: SAFETY PRACTICES ON ESKOM POWER PROJECTS

Supervisor: Ms E Ayesu-Koranteng

GWABAVU, Mandisi (Facilities Management) Title of treatise: FACILITIES MANAGEMENT: ITS EFFECTS ON EMPLOYEE AND STUDENT EXPERIENCE

Supervisor: Prof WWM Shakantu

JENJE, Alexio Tamburayi (Project Management) Title of treatise: FACTORS INFLUENCING COST AND SCHEDULE OVERRUNS ON CONSTRUCTION PROJECTS IN THE NELSON MANDELA METROPOLE

Supervisor: Mr RC Cumberlege

MABASO, Muziwandile Joy (Project Management) Title of treatise: THE CAUSES OF FATAL TRENCH COLLAPSES IN SEWER RETICULATION PROJECTS IN THE CONSTRUCTION INDUSTRY Supervisor: Prof JJ Smallwood

MAHULUHULU, Mukondeleli (Construction Health and Safety Management) Title of treatise: BRIDGING THE GAP BETWEEN OCCUPATIONAL HEALTH AND SAFETY CULTURE AND PRACTICE IN THE CONSTRUCTION ENVIRONMENT: A CASE OF GROOTVLEI POWER STATION

Supervisor: Ms E Ayesu-Koranteng

MAPHAZI, Thandeka (Facilities Management) Title of treatise: EFFECTIVENESS OF THE COMPUTERISED MAINTENANCE MANAGEMENT SYSTEM AT COMPANY X

Supervisor: Prof WWM Shakantu

MAVHUNGU, Gabriel Fhimani (Project Management) Title of treatise: THE EFFECTS OF GENERIC CONTRACTING STRATEGIES IN THE CONSTRUCTION INDUSTRY: A CASE OF ESKOM'S CONSTRUCTION BUILDING PROJECTS

Supervisor: Mr RC Cumberlege

MBADAMANA, Sinethemba Nkosinathi (Project Management) Title of treatise: THE ROLE AND EFFECTIVENESS OF CONSTRUCTION PROCUREMENT IN STATE OWNED ENTERPRISES

Supervisor: Prof JJ Smallwood

MDALAVU, Yanga (Project Management) Title of treatise: THE UTILITY OF THEORY OF CONSTRAINT METHODOLOGY IN HUMAN SETTLEMENTS SERVICE DELIVERY

Supervisor: Prof GJ Crafford

MDIKANE, Nzwane Nimrod (Construction Health and Safety Management) Title of treatise: THE ROOT CAUSES OF ACCIDENTS AND FATALITIES RELATIVE TO SOUTH AFRICAN CONSTRUCTION

Supervisor: Prof WWM Shakantu

MOTSHEGARE, Molifi Abram (Construction Health and Safety Management) Title of treatise: TRANSNET FREIGHT TRAIN DERAILMENTS

Supervisor: Prof JJ Smallwood

SHEZI, Dumisani Siyabonga Charles (Construction Health and Safety Management) Title of treatise: FACTORS CONTRIBUTING TO HEALTH AND SAFETY NON-COMPLIANCE BY CONTRACTORS ON TRANSNET SITES

Supervisor: Prof JJ Smallwood

TEMBANI, Sitha (Project Management) Title of treatise: EMERGING CONTRACTORS' MANAGEMENT OF TIME, COST AND QUALITY ON PUBLIC SECTOR PROJECTS IN THE NORTH WEST PROVINCE

Prof WWM Shakantu

DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT

JIBRIN, Ibrahim Mohammed Title of thesis: VALUE REENGINEERING IN THE NIGERIAN CONSTRUCTION INDUSTRY

Supervisor: Prof WWM Shakantu

MOLLO, Lesiba George Title of thesis: FRAMING THE REDUCTION OF HUMAN FAILURES IN CONSTRUCTION: A MIXED METHODS, TRAINING-WITHIN-INDUSTRY STUDY

> Supervisor: Prof FA Emuze Co-supervisor: Prof JJ Smallwood

NGESI, Hlekani Ntombizakithi Title of thesis: TOWARDS AN EFFICIENT AND EFFECTIVE CONTRACTOR DEVELOPMENT FRAMEWORK FOR SMALL AND MEDIUM SIZED ENTERPRISES

Supervisor: Prof WWM Shakantu

DOCTOR OF PHILOSOPHY IN ENGINEERING

CAWOOD, John Henry (Mechanical) Title of thesis: ENHANCEMENT OF DOMESTIC SOLAR PHOTOVOLTAIC UNIT PRODUCTIVITY THROUGH THE USE OF A COST-EFFECTIVE TRACKING SYSTEM

Supervisor: Prof RL Phillips

SEWELL, James Alderton (Mechatronics) Title of thesis: SENSOR-BASED DEEP LEARNING SYSTEM FOR APPLICATION IN SMALL-SCALE SOUTH AFRICAN FARMS

Supervisor: Prof TI van Niekerk Co-supervisor: Prof RL Phillips

DOCTORAL CITATIONS

THE DEGREE OF DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMNT

IBRAHIM MOHAMMED JIBRIN

Previous qualifications:

- 1998 Bachelor of Technology (Building)
- 2002 Postgraduate Diploma (Environmental Management)
- 2011 Master of Science (Construction Management)

Federal University of Technology, Minna, Nigeria Federal University of Technology, Minna, Nigeria University of Jos, Nigeria

Thesis:



VALUE REENGINEERING IN THE NIGERIAN CONSTRUCTION INDUSTRY

Production improvement techniques in use in the Nigerian construction industry are yielding sub-optimal value for customers. This necessitated investigation of techniques to engender maximum efficiency gains. The subjectivist methodology was utilised to establish critical success factors in ten purposefully sampled contractors. The results revealed a significant need for the process to be reengineered through utility of change enablers and introduction of assistive technologies. A framework to roadmap the reengineering process was developed. The study recommends that the framework developed in this research should be usefully adopted to improve customer value optimisation in the Nigerian Construction Industry.

Supervisor: Prof WWM Shakantu

THE DEGREE OF DOCTOR OF PHILOSOPHY IN **CONSTRUCTION MANAGEMENT**

LESIBA GEORGE MOLLO

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Previous qualifications:

- 2014 National Diploma Building
- Baccalaureans Technologiae Quantity Surveying 2015
- 2017 Master of Technology Quantity Surveying

Central University of Technology Central University of Technology Nelson Mandela University



Thesis:

FRAMING THE REDUCTION OF HUMAN FAILURES IN CONSTRUCTION: A MIXED METHODS, TRAINING-WITHIN-INDUSTRY STUDY

The study determined how the Training-within-industry (TWI) informed framework could help contractors reduce human failure on construction sites. The framework improves deployed safety management system (SMS) on construction sites. The construction team could limit hazards and risks that lead to accidents in construction using the framework. The contributions to knowledge in practice and theory have been published widely in journals and conferences.

> Supervisor: Prof FA Emuze Co-supervisor: Prof JJ Smallwood

THE DEGREE OF DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT

HLEKANI NTOMBIZAKITHI NGESI

Thesis:

Previous qualifications:

- 2001 Bachelor of Science
- 2002 Bachelor of Science (Hons)
- 2010 Master of Science
- 2012 Master of Arts

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

TOWARDSANEFFICIENTANDEFFECTIVECONTRACTORDEVELOPMENT FRAMEWORK FOR SMALL AND MEDIUM SIZED ENTERPRISES

Construction Small and Medium sized Enterprises are touted as drivers of economic opportunities and innovation. However, more than 70% of these enterprises do not survive their first three years of operation. This research investigated the reasons for this high level of mortality. The findings show that there are environmental, financial, managerial and associated structural impediments that cause this mortality. The research suggested that training, focused mentorship, financial opportunities and the development of an efficient and effective Contactor Development Framework could assist to alleviate the mortality. The research recommends that SMEs should implement the Contractor Development Framework for continued viability beyond the mortality period.

Supervisor: Prof WWM Shakantu

THE DEGREE OF DOCTOR OF PHILOSOPHY IN ENGINEERING (MECHANICAL ENGINEERING)

JOHN HENRY CAWOOD

Previous qualifications:

- 1985 National Diploma, Engineering: Mechanical
- 1990 GCC Mechanical Engineer Factories and Works
- 1994 MDP Operations and Productivity Management
- 2012 Baccalaureus Technologiae: Mechanical Engineering
- 2018 Master of Technology: Engineering: Mechanical

Vaal Triangle Technikon RSA Dept. of Manpower UNISA School of Business University of South Africa Nelson Mandela University

Thesis:

ENHANCEMENT OF DOMESTIC SOLAR PHOTOVOLTAIC UNIT PRODUCTIVITY THROUGH THE USE OF A COST-EFFECTIVE TRACKING SYSTEM

The study investigated various methods of tracking the solar path for development of tracking technologies in Africa for acceptable performance, simplicity and affordability. The study produced experimental results using a low pressure hydraulic system which produced an increase of 58% of electrical production over an equivalent horizontal panel. The research included several innovations including, amongst others, the development and testing of a proprietary hydraulic cylinder for low pressure hydraulics, as well as a high head and low flow pump for hydraulic actuation in small applications. The study concluded with a final specification of the prototype device.

Supervisor: Prof RL Phillips

THE DEGREE OF DOCTOR OF PHILOSOPHY IN ENGINEERING (MECHATRONICS)

JAMES ALDERTON SEWELL

Previous qualifications:

22018 Bachelor of Engineering (Mechatronics)

2019 Master of Engineering (Mechatronics) (Cum Laude)

Nelson Mandela University Nelson Mandela University

Thesis:

SENSOR BASED DEEP LEARNING SYSTEM FOR APPLICATION IN SMALL-SCALE SOUTH AFRICAN FARMS

This research proposed the design and development of a sensorinfused off-grid autonomous agricultural robot with a low input user interface for application in small scale South African horticultural farms to mitigate additional resource consumption and prior computational knowledge to operate the system. The research focused on creating a system through which intelligent precision farming techniques could be implemented to maximise crop yields using a sensor infused agricultural robot which implemented a custom delta robot to maintain crops. The use of this system does not require prior computational knowledge of the system to operate optimally. It provided ease of use and integration into the South African agricultural sector. Implementation of a deep learning algorithm achieved crop plant detection without the need for large reference databases and use of a real time crop database. Automated precision

farming could be implemented.

Supervisor: Prof TI van Niekerk Co-supervisor: Prof RL Phillips

Academic Dress

Special academic attire has been 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 sleevespleated 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 cord 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:** Blackgown, 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:** Blackgown, 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

Humanities: Business & Economic Sciences: Health Sciences: Law: Education: Science: Engineering, the Built Environment and Information Technology: Business School: Yellow Plum Apple green Grey blue Orange Dark green Light blue Black and magenta



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

Congratulatory Message from The Alumni Assocation

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 Relations Office is responsible for the day-today 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 alumni engagement events, be active alumni ambassadors, support your alma mater in a variety of ways including sharing news about your achievements, sharing your expertise and skills, and contributing supporting your alma mater's fundraising programmes. We encourage a culture of giving back especially for student bursaries, which can be accessed on our alumni website.

Support the University Shop

The Alumni Association established the University Shop in support of institutional brand development. Your support of the University Shop makes it possible for the Association to also support its own and other institutional programmes. The University Shop issituated at the Sanlam Student Village on University Way, Summerstrand. Visit the University Shop for all Nelson Mandela University branded clothing, corporate gifts, bags and memorabilia! More info: T +27 41 504 3935 E alumni@mandela.ac.za Join us: O Nelson Mandela University Alumni O Nelson Mandela University Alumni www.alumni.mandela.ac.za O @MandelaUni

Lifetime connection with Nelson Mandela University

We are proud of our alumni and we value your connection. We encourage you to stay in touch by updating your graduate profile. We will keep you informed regarding University developments and alumni news through our event invitations, project and campaign updates and regular e-newsletters.

Join the Nelson Mandela University Alumni Connect community. Visit our website and follow or connect to our social media channels for more information regarding our alumni digital networking platform.

> More info: T +27 41 504 4371 E shop@mandela.ac.za Join us: O UniversityShopMandelaUni O Universityshop_mandelauni www.shop.mandela.ac.za O @ShopMandelauni

Stay connected to your alma mater! #MandelaAlumni4Life!



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.

Change the World

mandela.ac.za

PO Box 77000, Nelson Mandela University, Port Elizabeth, 6031. T 041 504 1111 (Port Elizabeth) T 044 801 5111 (George) E info@mandelauniversity.ac.za

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