



Graduation Programme

The Future. Reimagined.



**Welcome to the
Graduation Ceremony
of the
University of Johannesburg
24 April 2019**

**Welkom by die
Gradeplegtigheid
van die
Universiteit van Johannesburg
24 April 2019**

**Le a Amogelwa
Moletlong wa Dikapešo wa
Yunibesithi ya Johannesburg
24 Moranang 2019**

**Niyamukelwa
eMcimbini wokweThweswa kweZiqu
weNyuvesi yaseJohannesburg
24 kuMbaso 2019**

UNIVERSITY OF JOHANNESBURG

CHANCELLOR

Prof NS Ndebele
BA (Lesotho), MA (Cambridge UK), PhD (Denver USA)

SENIOR OFFICE-BEARERS OF THE UNIVERSITY

VICE-CHANCELLOR AND PRINCIPAL

Prof T Marwala
BS Eng (Case Western Reserve USA), MEng (UP), PhD (Cambridge UK)

DEPUTY VICE-CHANCELLOR ACADEMIC

Prof A Parekh
BA, BA Hons, MA (UDW), MA (Kansas USA), DPhil (UDW)

DEPUTY VICE-CHANCELLOR: RESEARCH AND INTERNATIONALISATION

Prof S Sinha
BEng, MEng, PhD (UP)

REGISTRAR

Prof IC Burger
BA, HEd, BA Hons, MA, PhD (RAU)

CHIEF FINANCIAL OFFICER

Ms N Mamorare
BCom (Rhodes), BCom Hons (UKZN), CA (SA)

DEPUTY VICE-CHANCELLOR: EMPLOYEES AND STUDENT AFFAIRS

Ms KC Mketi
BA (Bophut), BA Hons (RAU), MBL (Unisa)

CHIEF OPERATING OFFICER

Prof A Swart
NDip, NHDip (TWR), BEd, MEd (RAU), DTech (TWR)

GENERAL COUNSEL

Prof PH O'Brien
BCom, LLB, LLM, LLD (RAU)

SENIOR EXECUTIVE DIRECTOR IN THE VICE-CHANCELLOR'S OFFICE

Dr N Vukuza
BA (Fort Hare), BA Hons (Rhodes), DTE (UNISA), MA (Wits), PhD (Stellenbosch)

EXECUTIVE DEANS

COLLEGE OF BUSINESS AND ECONOMICS

Prof D van Lill
BSc, BSc Hons, MSc, PhD (US)

FACULTY OF ART, DESIGN AND ARCHITECTURE

Prof F Freschi
BA (Wits), BA Hons (UCT), PhD (Wits)

FACULTY OF EDUCATION

Prof SJ Gravett
BA, HEd (PU for CHE), BEd, MEd, DEd (RAU)

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Prof DJ Mashao
BSc Eng (UCT), MSc Eng (UCT), MSc AM (Brown, USA), PhD (Brown, USA)

FACULTY OF HEALTH SCIENCES

Prof S Khan
BSc, BSc Hons, MSc, PhD (UWC)

FACULTY OF HUMANITIES

Prof AB Broadbent
BA, BA Hons, MPhil, PhD (Cambridge UK)

FACULTY OF LAW

Prof LG Mpedi
B Juris, LLB (Vista), LLM (RAU), LLD (UJ)

FACULTY OF SCIENCE

Prof D Meyer
BSc, BSc Hons, MSc (RAU), PhD (California USA)

MEMBERS OF COUNCIL

CHAIRPERSON

Mr MS Teke

DEPUTY CHAIRPERSON

Dr Y Ndema

MEMBERS

Prof H Abrahamse
Mr FM Baleni
Ms S Dlamini
Ms K Gugushe
Prof D Hildebrandt
Ms X Kakana
Mr G Khosa
Ms B Madikizela
Mr M Mahlasela
Prof T Marwala
Mr T Mati
Ms Z Matlala
Ms BJ Memela-Khambula
Mr K Mophutha
Prof A Parekh
Dr WP Rowland
Prof A Strydom
Dr M Tom

Programme

Wednesday, 24 April 2019 at 17:00

To ensure good order during the ceremony all those present are requested to leave the Auditorium only after the ceremony has been concluded.

The academic procession enters the Auditorium and the members of the procession take their seats on the stage.

The choir sings Gaudeamus Igitur (or a CD is played) while those present remain standing.

The Chancellor constitutes the congregation.

Choir.

Welcome.

The relevant Executive Dean presents the candidates to the Chancellor for the conferment of a degree/diploma/certificate.

Singing of the National Anthem.

The Chancellor dissolves the congregation.

The academic procession leaves the Auditorium while those present remain standing.

Lenaneo

Laboraro, 24 Moranang 2019 ka 17:00

Go kgonthiša gore dilo di sepela ka tshwanelo nakong ya moletlo, bohle bao ba tlilego moletlong ba kgopelwa go tšwa ka Holong ya kopano feela ka morago ga ge moletlo o phethilwe.

Sehlopha sa dirutegi se tsena ka Holong ya kopano gomme maloko a sehlopha se a dula ditulong tša ona sefaleng.

Khwaere e opela Gaudeamus Igitur (goba CD e tlo bapalwa) mola bao ba lego gona ba tšwela pele go ema.

Mokhanseliri o kopanya phuthego.

Khwaere.

Dikamogelo.

Hlogophethiši ya maleba ya lefapha e hlagiša dialoga go Mokhanseliri gore di newe tikrii/diploma/setifikeiti.

Go opelwa ga Koša ya Setšhaba.

Mokhanseliri o phatlalatša phuthego.

Sehlopha sa dirutegi se tšwa ka Holong ya kopano mola bao ba lego gona ba tšwela pele go ema.

Program

Woensdag, 24 April 2019 om 17:00

Ter wille van die ordelike verloop van die plegtigheid
word alle aanwesiges vriendelik versoek
om die Ouditorium nie voor die einde van die plegtigheid te verlaat nie.

Die akademiese proses kom die Ouditorium binne en neem op die verhoog plaas.
Die koor sing Gaudeamus Igitur (of 'n CD word gespeel) terwyl die aanwesiges staan.

Die Kanselier stel die kongregasie saam.

Koor.

Verwelkoming.

Die betrokke uitvoerende dekaan stel die kandidate aan die Kanselier voor vir die
toekenning van 'n graad/diploma/sertifikaat.

Sing van die volkslied.

Die Kanselier ontbind die kongregasie.

Terwyl die aanwesiges bly staan, verlaat die akademiese proses die Ouditorium.

Uhlelo

uLwesithathu, 24 kuMbaso 2019 ngele-17:00

Ukuze kuqinisekwe ukuthi konke kuhamba kahle ngesikhathi somcimbi, bonke abakhona
bacelwa ukuba baphume eHholweni kuphela lapho umcimbi usuphuthuliwe.

Udwendwe lezifundiswa lungena ehholweni bese amalungu odwendwe ahlala phansi
esiteji.

Ikwaya icula i-Gaudeamus Igitur (noma kudlalwa iCD) ngalenkathi labo abakhona
besamile.

UShansela uhlanganisa ibandla.

Ikwaya.

Ukwamukelwa.

Izinhloko Eziyiziphathimandla ezithintekayo zethula abafundi kuShansela weNyuvesi
ukuze bathole idigiri/idiploma/isitifiketi.

Kukulwa iHubo Lesizwe.

Gaudeamus Igitur

Gaudeamus igitur,
Juvenes dum sumus;
Post iucundum iuventutem,
Post molestam senectutem
Nos habebit humus.

Vivat academia,
Vivant professores,
Vivat membrum quodlibet,
Vivat membra quaelibet;
Semper sint in flore!

English

Let us rejoice, therefore,
While we are young.
After a pleasant youth
After a troubling old age
The earth will have us.

Long live the academy!
Long live the professors!
Long live each student;
Long live the whole fraternity;
For ever may they flourish!

Sesotho sa Leboa

Ka gona, a re thabeng,
Re sa le ba bafsa.
Ka morago ga bofsa bjo bo bose
Ka morago ga go tšofala mo go nago le
mathata
Lefase le tla ba le rena.

Phela thuto phela!
Phelang diprofesa phelang!
Phelang baithuti phelang;
Phela kagišano ka botlalo phela;
O ka re ba ka phela gabotse goyagoile!

Afrikaans

Laat ons dan vrolik wees,
Terwyl ons jonk is;
Na 'n aangename jeug.
Na 'n onaangename oudag,
Sal die aarde ons hou.

Lank lewe die universiteit,
Lank lewe die professore,
Lank lewe elke student,
Lank lewe al die studente,
Mag hulle vir ewig hul jeug behou!

Zulu

Ngakho, masithokoze
Sisebasha nje.
Emva kobumnandi bobusha
Emva kwezinkinga zobudala
Umhlaba uzosithatha.

Phambili ngemfundo!
Phambili boSolwazi!
Phambili nakuwe mfundi;
Phambili ngenhlangano yonke;
Maziqhubeke ngonaphakade!

QUALIFICATIONS

1. National Diploma (NDip)

Balibali, Lushaka Aluwani (Engineering: Metallurgy)
Baloyi, Matimba Victor (Engineering: Civil)
Baloyi, Simphiwe Rosetta (Mining Engineering)
Biyela, Andiswa (Engineering: Metallurgy)
Biyela, Phiwayinkosi Kholwane (Engineering: Metallurgy)
Boshomane, Tshepo (Engineering: Civil)
Chauke, Kevin (Mining Engineering)
Chauke, Vukosi Paris (Engineering: Civil)
Chifamba, Pretty Tapiwa (Engineering: Civil)
Diako, Obed Morake (Mining Engineering)
Digoro, Thabang (Mining Engineering)
Dikobo, Dineo Francina (Engineering: Civil)
Dube, Nomathemba Patricia (Engineering: Civil)
Eksteen, Caspar Pierre (Engineering: Civil)
Fourie, Mikaela (Engineering: Civil)
Gobiwa, Ratlou Thomas (Mining Engineering)
Gunguvha, Rolivhuwa Brighton (Mining Engineering)
Kgaile, Mokgosi Jacob (Mining Engineering)
Kganyago, Mmatshupo Kearabetsoe Germinah (Mining Engineering)
Kgasago, Brenden (Engineering: Civil)
Langenhoven, Cameron Jade (Engineering: Civil)
Legoale, Omolemo Legoale (Mining Engineering)
Legodi, Tshiamo (Engineering: Metallurgy)
Leremi, Mpolo Peggy (Engineering: Metallurgy)
Letsoalo, Ignatius Madishe (Mining Engineering)
Mabasa, Mahlori Thomas (Engineering: Civil)
Mabasa, Nkateko Mishack (Mining Engineering)
Mabaso, Sibusiso Michael (Engineering: Metallurgy)
Mabunda, Fumani Cassius (Engineering: Civil)
Mabunda, Hlulani (Engineering: Metallurgy)
Madonda, Andrew Siboniso (Engineering: Metallurgy)
Magakwe, Matsheng Castro (Mining Engineering)
Magoma, Laurence (Mining Engineering)
Magwai, Gonyaditswe Timothy (Mining Engineering)
Magwala, Ongani (Engineering: Metallurgy)
Mahalefa, Jacob Pontsho Matlotleng (Mining Engineering)
Mahlasela, Makgauta Jeanett (Engineering: Metallurgy)

Maja, Mercy Ramatsimele (Mining Engineering)
Makgato, Esther Setlola (Mining Engineering)
Makgwale, Ursula Nkhumishe (Engineering: Metallurgy)
Makhado, Limani (Engineering: Civil)
Makhaya, Joseph (Mining Engineering)
Makopo, Tokologo Nelcia (Mining Engineering)
Makua, Thapedi Nancy (Engineering: Metallurgy)
Malepe, Rethabile Happiness (Mining Engineering)
Maloi, Mbali Zinhle Goodness (Engineering: Metallurgy)
Mammila, Makganya Evah (Mining Engineering)
Manabalala, Sello (Engineering: Metallurgy)
Manala, Leshabakele Benjamin (Mining Engineering)
Manamela, Kgothatso (Mining Engineering)
Manhengeneni, Vukosi (Engineering: Civil)
Mannngwe, Roshudufhadzwa (Engineering: Civil)
Maphakane, Maripe Mahlatse (Mining Engineering)
Maragele, Ofentse Cabrain (Mining Engineering)
Marumo, Boingotlo Mosa (Mining Engineering)
Maseko, Refiloe Nonkululeko (Engineering: Metallurgy)
Maseola, Lebogang Olebogeng Stephen Kennedy (Mining Engineering)
Masetloa, Siphawe (Mining Engineering)
Mashabela, Lebogang Anita (Engineering: Metallurgy)
Mashiloane, Bongani John (Mining Engineering)
Masina, Thokozane Melody (Mining Engineering)
Masinga, Sifiso Bonginkosi (Mining Engineering)
Mathe, Sbusiso Isaac (Engineering: Metallurgy)
Mathoma, Thabiso Andries (Mining Engineering)
Matlading, Kgopotjo Donald (Engineering: Civil)
Matsinhe, Fortunate (Engineering: Civil)
Mavimbela, Bobo Frans (Engineering: Metallurgy)
Mavimbela, Mveli Joseph (Mining Engineering)
Mbedzi, Prosper Buzu (Mining Engineering)
Mbewe, Mohau Tshogofatso Romeo (Mining Engineering)
Mbokazi, Sbhongokuhle Siyabonga (Engineering: Civil)
Mbuli, Madoda Lindelihle (Engineering: Metallurgy)
Mchunu, Zenande Monwabisi (Mining Engineering)
Mdlalose, Thokozani Percival (Mining Engineering)
Mdutyana, Ntoyam Shakespear (Engineering: Civil)
Mhangane, Tsundzukani (Mining Engineering)
Mkhabela, Fikile Efficient (Engineering: Metallurgy)
Mkhabela, Nkosikhona (Engineering: Civil)
Mlambo, Noxolo Pearl (Mining Engineering)
Mnyandu, Sabelo Lwazi (Mining Engineering)
Moagi, Mpsafe Theonar (Engineering: Metallurgy)
Modike, Precious Mapula (Engineering: Civil)
Mogale, Kgaugelo Conny (Mining Engineering)
Mogomogane, Gift (Mining Engineering)

Mogotsi, Lebogang Gladness (Engineering: Metallurgy)
Mokgonyana, Tshepiso Maabale (Mining Engineering)
Mokoena, Nkosinathi Christopher (Mining Engineering)
Mokoena, Thapelo Edwin (Mining Engineering)
Mokone, Tebogo Lehlogonolo (Engineering: Civil)
Mokotsolane, Paseka (Mining Engineering)
Molefe, Tsholofelo Cathrine (Mining Engineering)
Moliko, Edwin Motlatsi (Mining Engineering)
Morifi, Tebatso Tlabo (Mining Engineering)
Motha, Mxolisi Sibusiso (Engineering: Civil)
Mothotse, Machuene Ezekiel (Mining Engineering)
Motlhala, Joe Lebogang (Engineering: Metallurgy)
Mphasha, Ngwakwana Millicent (Mining Engineering)
Mpungose, Sibusiso Emmanuel (Engineering: Metallurgy)
Msongo, Kwanele (Mining Engineering)
Msweli, Nondumiso Prudence (Engineering: Metallurgy)
Mtawu, Lucky Sabelo (Mining Engineering)
Mtsweni, Edwin Bonginkosi (Engineering: Metallurgy)
Mueti, Nthabiseng Ocia (Mining Engineering)
Mufamadi, Todani (Mining Engineering)
Mulaudzi, Thabelo (Engineering: Metallurgy)
Muluvhu, Hulisani (Engineering: Civil)
Musuyu, Muyombo Vince (Mining Engineering)
Mwenge, Mukalay Blaise (Engineering: Metallurgy)
Ndala, Prince Mandla (Mining Engineering)
Ngakane, Dimpho Rejoyce (Mining Engineering)
Ngubane, Mandla (Mining Engineering)
Ngwane, Nosipho Xoliswa (Mining Engineering)
Nhlapo, Bongani Alfred (Engineering: Metallurgy)
Nkabinde, Collins Neo (Mining Engineering)
Nkovani, Ntshembho (Engineering: Metallurgy)
Nkuna, Douglas Jeffrey (Engineering: Metallurgy)
Nngwana, Tshilidzi (Engineering: Metallurgy)
Ntuli, Thobile (Engineering: Civil)
Oldjohn, Siphesihle Oldjohn (Engineering: Metallurgy)
Phahlane, Thabang Arthur (Engineering: Metallurgy)
Pilane, Thari Elton (Mining Engineering)
Radebe, Trish (Engineering: Civil)
Ramasodi, Zodwa Clyde (Engineering: Civil)
Ramathuthu, Khathutshelo (Engineering: Civil)
Rammalane, Letlotlo David (Engineering: Metallurgy)
Rathupetsane, Kabelo Teddy (Mining Engineering)
Rikhotso, Thuso (Engineering: Metallurgy)
Ringani, Kurhula (Mining Engineering)
Sedumedi, Itemogeng Boesman (Mining Engineering)
Segale, Letlhohonolo Blondie (Mining Engineering)
Shangase, Thobelani Thengamehlo (Mining Engineering)

Sibambo, Nozipho Tresiah (Engineering: Metallurgy)
Sibanyoni, Tshepo Lungelo (Mining Engineering)
Sikhosana, Hlubi Sabelo (Engineering: Metallurgy)
Siphoro, Khodani (Engineering: Civil)
Sono, Oratile Inocent (Mining Engineering)
Taylor, Brunice Shannon (Engineering: Metallurgy)
Tlaamela, Tebatso Solomon (Engineering: Metallurgy)
Tshikovhi, Tsireledzo (Engineering: Metallurgy)
Usinga, Nomthandazo (Mining Engineering)
Vukeya, Mpfuxeto Lincoln (Mining Engineering)
Zulu, Manqoba (Mining Engineering)

2. **Baccalaureus Technologiae (BTech)**

Bhabha, Kgotso (Engineering: Metallurgy)
Canei, Fabrizio (Engineering: Metallurgy)
Chauke, Julieth Langutani (Engineering: Metallurgy)
Cossa, Themba Edmond Mahlombe (Engineering: Metallurgy)
Dlamini, Nondumiso Felicia (Engineering: Metallurgy)
Kabasele, Jonathan Kabadjundi (Engineering: Metallurgy)
Komape, Tumishi Johny (Engineering: Metallurgy)
Kubai, Mapula Beatrice (Engineering: Metallurgy)
Malgas, Noxolo Maureen (Engineering: Metallurgy)
Malundu, Menus Tongonoshi (Engineering: Metallurgy)
Manganye, Keamogetswe Desiree Nhleko (Engineering: Metallurgy)
Maseko, Mpumelelo Jessica (Engineering: Metallurgy)
Matlwa, Ramadimetja Johanna (Engineering: Metallurgy)
Mayevu, Tiyani Xirhami (Engineering: Metallurgy)
Mhlongo, Prudence Sibongile (Engineering: Metallurgy)
Mmola, Amanda (Engineering: Metallurgy)
Mnyakeni, Thandi Nkumbuzo (Engineering: Metallurgy)
Modikwane, Tshepiso (Engineering: Metallurgy)
Modise, Phemelo (Engineering: Metallurgy)
Mohlake, Masego Innocent (Engineering: Metallurgy)
Molapo, Khomotso Jabu (Engineering: Metallurgy)
Mothlabeng, Sewela Victoria (Engineering: Metallurgy)
Motlhabane, Accolade Tiisetso (Engineering: Metallurgy)
Motsa, Buhle Gladness (Engineering: Metallurgy)
Ndou, Maemu Rolivhuwa (Engineering: Metallurgy)
Ndou, Rilinde (Engineering: Metallurgy)
Netshia, Mukhethwa (Engineering: Metallurgy)
Netshifhire, Vhulenda (Engineering: Metallurgy)
Netshikhwete, Engedzani Gershwin (Engineering: Metallurgy)
Phala, Makgatje Jacob (Engineering: Metallurgy)
Phale, Kabelo (Engineering: Metallurgy)
Seoka, Lerato Ranny (Engineering: Metallurgy)

Thaba, Thapelo Precious (Engineering: Metallurgy)
Tshabalala, Neo Vincent (Engineering: Metallurgy)
Tshanwakani, Aluwani Jeany (Engineering: Metallurgy)
Tsotetsi, Maloi Tshediso (Engineering: Metallurgy)
Wageqa, Bonga (Engineering: Metallurgy)

3. **Magister Technologiae (MTech)**

Amankwa, Eric (Operations Management)

Dissertation: Factors influencing sustainable operations management development in the dairy manufacturing sector in Johannesburg

Supervisor: Prof PA Kholopane

Co-Supervisor: Mr NY Mulongo

Bampole, Lukumu David (Extraction Metallurgy) **(with distinction)**

Dissertation: Bioleaching of chalcopyrite and pyritic chalcocite using indigenous mesophilic microorganisms

Supervisor: Prof AF Mulaba-Bafubiandi

Chauke, Syria Sibongile (Operations Management) **(with distinction)**

Dissertation: Total quality management and operations performance at a bakery firm in the City of Tshwane

Supervisor: Dr EI Edoun

Co-Supervisor: Prof C Mbohwa

Gogo, Siphwe Emmanuel (Operations Management) **(with distinction)**

Dissertation: Development of an optimised risk management model for improved construction project operational performance

Supervisor: Dr KO Sanusi

Co-Supervisor: Mr NS Madonsela

Machesa, Mosa Georgina Kristen (Engineering: Mechanical)

Dissertation: Development of low-cost heat-driven thermo-acoustic generators

Supervisor: Dr LK Tartibu

Co-Supervisor: Dr DVV Kallon

Masetlwa, Nkube Eva (Operations Management)

Dissertation: Reengineering effective communication between management employees: A case of the energy department at City of Ekurhuleni

Supervisor: Dr EI Edoun

Co-Supervisor: Prof C Mbohwa

Masipa, Caesar Setepi (Engineering: Metallurgy)

Dissertation: The development of high Manganese steel casting using vanadium and chromium as macro alloys

Supervisor: Dr X Pan

Motsai, Tebogo Matheti (Engineering: Metallurgy)

Dissertation: Parametric study of loose sintering of Titanium powders

Supervisor: Prof ME Makhatha

Co-Supervisor: Dr S Chikosha

Mouchou Tchamdjeu, Rosine (Engineering: Industrial)

Dissertation: Retention of engineering students in South African Higher Education Institutions

Supervisor: Prof AL Nel

Co-Supervisor: Ms H Steenkamp

Msibi, Makhosasana (Engineering: Mechanical)

Dissertation: Development of a composite material for 3D printing

Supervisor: Dr M Mashamba

Co-Supervisor: Dr PM Mashinini

Murivhula, Makeetse Phollen (Extraction Metallurgy)

Dissertation: The impact of coal particulates emitted during the laboratory determination of coal abrasiveness index values

Supervisor: Prof AF Mulaba-Bafubiandi

Ndebele, Robert (Construction Management) **(with distinction)**

Dissertation: Leveraging Transit Oriented Development (TOD) through public private partnerships: South Africa

Supervisor: Prof CO Aigbavboa

Co-Supervisor: Mr A Ogra

Ngqase, Mbulelo (Engineering: Metallurgy)

Dissertation: Validation of physical properties of 30% Cr, hypoeutectic high chrome white cast iron alloys towards comprehension casting process simulation capabilities

Supervisor: Dr X Pan

Co-Supervisor: Mr J Moema

Ope Tairu, Adejoke Busola (Construction Management)

Dissertation: Effective communication among construction project teams as a tool for achieving project success: A case study of Nigeria

Supervisor: Prof WD Thwala

Co-Supervisor: Prof CO Aigbavboa

Radingoane, Leutle Frank (Operations Management) **(with distinction)**

Dissertation: Implementation of HACCP food safety system at Anheuser-Busch Inbev traditional African beverages plants

Supervisor: Dr KK Sobiyi

Co-Supervisor: Mr NS Madonsela

Siluthanyi, Marubini Martin (Operations Management)

Dissertation: The role of transport in logistics and freight movement of liquid fuels in Gauteng province

Supervisor: Prof C Mbohwa

Singh, Suraya (Chemical Engineering) **(with distinction)**

Dissertation: Optimisation of biogas production from city of Johannesburg market waste by anaerobic digestion for sustainable energy development

Supervisor: Prof M Belaid

Co-Supervisor: Prof E Muzenda

Thaimo, Florindo (Engineering: Civil)

Dissertation: Effects of soil types, dispersing agents and different test methods in geotechnical testing

Supervisor: Prof SO Ekolu

Ugwu, Chukwuebuka Moses (Quantity Surveying)

Dissertation: Evaluation of risk management in the Nigerian construction industry

Supervisor: Prof CO Aigbavboa

Co-Supervisor: Prof WD Thwala

Willemse, Hanno (Construction Management) **(with distinction)**

Dissertation: An assessment of the relevance of feasibility studies in public projects in South Africa

Supervisor: Prof CO Aigbavboa

Co-Supervisor: Dr AE Oke

Zulu, Mthobisi Cyprian (Engineering: Mechanical)

Dissertation: An Investigation on the performance of rotary friction welding of titanium Alloy (Ti-6Al-4V)

Supervisor: Dr PM Mashinini

4. **Doctor Ingenieriae (DIng)**

Nyemba, Wilson Rufaro (Mechanical Engineering)

Thesis: Modelling the integration of engineering design and manufacture for capacity building and sustainability

Supervisor: Prof C Mbohwa

Olaogun, Olayinka (Mechanical Engineering)

Thesis: Cold rolling technology: modelling and characterisation of the evolving properties

Supervisor: Prof ET Akinlabi

Co-Supervisor: Dr OO Oluwole

5. Doctor Philosophiae (DPhil)

Chiromo, Forbes (Mechanical Engineering)

Thesis: An investigation into the relationship between performance and product/supply chain alignment in the clothing and textile industry in Gauteng

Supervisor: Prof AL Nel

Kleinhans, Ashley Naomi (Mechanical Engineering)

Thesis: Robotic grasping inspired by neuroscience using tools developed for deep learning

Supervisor: Dr D Sabatta

Co-Supervisor: Prof AL Nel

Masebinu, Samson Oluwasegun (Mechanical Engineering)

Thesis: Anaerobic digestion process stabilisation and In-situ upgrading of a biogas system

Supervisor: Prof ET Akinlabi

Co-Supervisor: Prof E Muzenda

Co-Supervisor: Dr A Aboyade

6. Philosophiae Doctor *honoris causa* (PhD *hc*)

Murenzi, Romain



Nyemba, Wilson Rufaro (DIng)

Wilson R. Nyemba holds a BSc Honours degree in Mechanical Engineering from the University of Zimbabwe and a Master of Science degree in Advanced Mechanical Engineering from the University of Warwick in England. He has over 27 years of experience both in industry and academia. He designed and developed a wide range of engineering products in different capacities in industry as well as formulated and led a number of successful ventures at the University of Zimbabwe. He served as Dean of Engineering at the University of Zimbabwe for ten years, Chairman of WaterNet for nine years and Project Manager, Southern Africa, for the Royal Academy of Engineering Programme for two years. He has consulted in Engineering Systems, Systems Thinking, Modelling and Simulation, Computer Aided Engineering Design and Manufacture. He was awarded the Turnall Holdings Open Engineering Scholarship and the City of Harare Bursary for undergraduate studies, the British Overseas Development Authority Scholarship for the Master's degree and, more recently, the National Research Fund of South Africa Doctoral Innovation Scholarship for the Doctor of Engineering studies.

This research focused on modelling the integration of engineering design and manufacture for capacity building and sustainability. The methodology involved research gap identification, systems modelling, observations, document review and case studies involving the Royal Academy of Engineering, manufacturing and processing companies and research institutions at the Universities of Leicester, Zimbabwe and London. The data of the results enabled the development of systems thinking sub-models that were integrated into the novel Technology, Training and Policies (TTP) model. Model validation and verification was through a looping feedback, control and adjustment of system elements. The major contribution of the research was the successful development, testing and implementation of a production enterprise model using the TTP model. The other contributions of the research included new approaches in reorganisation of the plants and process flows to improve layout designs and productivity and the development and testing of models that assist in bridging the gap between industry and academia.

Supervisor: Prof C Mbohwa



Olaogun, Olayinka (DIng)

Olayinka Olaogun obtained a BEng in Mechanical Engineering from the University of Ilorin, Nigeria, in 2006, where he graduated with a second class upper division. He further attended the University of Ibadan, Nigeria, between 2010 and 2011, where he obtained a Master's of Science degree in Mechanical Engineering with distinction. In September 2014, he obtained a Postgraduate Diploma in Education from the National Teachers' Institute, Nigeria. He then registered for a doctoral degree at the University of Johannesburg in February 2016. Olayinka is a registered engineer with the Council of Regulation of Engineers in Nigeria (COREN) and the Engineering Council of South Africa (ECSA).

His doctoral research study is industrially based, with the objective of investigating the structural integrity of rolled aluminium 8015-alloy. Experimental studies on the mechanical, metallography, and electrochemical corrosion testing of hot- and cold-rolled aluminium 8015-alloy were examined by using the Instron Universal Testing machine, the Vickers micro-hardness tester, optical and scanning electron microscope, and the Ivium potentiostat, in order to determine the effect of strain hardening on the cold-rolled aluminium 8015-alloy in comparison to the hot-rolled alloy. Furthermore, 2-D and 3-D modelling and simulation of the cold rolling process using MSC Marc Mentat software was conducted to further account for the strong coupling of aluminium 8015-alloy strip plastic and the roll thermos-elastic deformation in the industrial cold rolling process of aluminium 8015-alloy and to validate the experimental results. This study has increased knowledge base in this field to hands-on engineers and researchers in the rolling industry.

Supervisor: Prof ET Akinlabi

Co-Supervisor: Prof OO Oluwole



Chiromo, Forbes (DPhil)

Forbes Chiromo graduated with a Bachelor of Technology Degree in Mechanical and Production Engineering from the University of Zimbabwe in 1992, and he obtained a Master's in Manufacturing Systems Engineering from Queen's University (Belfast) in 1995. Before assuming a lecturing post in Mechanical and Industrial Engineering at the University of Johannesburg in 2008, Forbes worked in Zimbabwe at Zimbabwe Iron and Steel Company, The Scientific and Industrial Research and Development Centre, UNIDO, National Printing and Packaging, and at Harare Institute of Technology.

The candidate investigated the relationship between performance and product and supply chain alignment in the clothing and textile industry in Gauteng. He aimed to determine whether these companies, using supply chain management processes, demonstrated above average performance. The study was cross-sectional, empirical, quantitative and non-experimental using a purposeful sampling technique from the selected provincial companies. The study determined, using descriptive statistical, factor, and reliability analysis, that the performance was only minimally impacted by supply chain processes and alignment. Findings have made contributions to Gauteng clothing and textile companies by enabling a discussion around the product/supply chain alignment as a potential driver for improving performance. The research also made a valuable contribution by validating a framework for supply chain management by Stavroulakis and Davis (2010) that unconditionally claims that companies with products that are aligned with supply chains perform better than those with unaligned products.

Supervisor: Prof AL Nel



Kleinhans, Ashley (DPhil)

Ashley Kleinhans obtained both her BScEng (Mechatronics) and MSc (Electrical Engineering) in Neuromorphic Engineering *cum laude* from the University of Cape Town, while working at Volkswagen in Uitenhage, Port Elizabeth. She then joined the CSIR as a robotics scientist and while at the CSIR began her PhD (Mechanical). Ashley is now employed at Ford Motor Company in Dearborn, Michigan, USA.

The primary contributions of this thesis are a neural computational model using published electrophysiology studies of two of the three primate brain regions that form the primate grasping network; and a deep convolutional network that was trained on depth information extracted from a database developed to provide the necessary grasp confidence measure given the current robotic end-effector position. Secondary contributions include a database that uses a physics-based method to record the probability of grasp success or failure, a grasp confidence measure, and pre-shape end-effector positions that provide object information associated with grasp positions. This database stands as a complete usable dataset for future researchers. The convolutional model was then used to investigate intelligent grasping, that being the placement of the robotic end-effector to find a more robust grasp for the presented object and the generalisation to a previously unseen object within a class of known objects.

Supervisor: Dr D Sabatta

Co-Supervisor: Prof AL Nel



Masebinu, Samson (DPhil)

Samson Masebinu obtained a BEng in Mechanical Engineering from the Federal University of Technology, Akure, in 2011. In 2015, he received an MTech in Chemical Engineering (*cum laude*) from the University of Johannesburg and subsequently registered for a doctorate degree. He was a recipient of the Vice-Chancellor's gold medal for the most outstanding master's research in the Faculty of Engineering and the Built Environment.

His research study focused on anaerobic digestion process stabilisation and in-situ upgrading of a biogas system using biochar. The research study highlighted three persistent challenges associated with anaerobic digestion, the conventional approaches for mitigating them and properties of biochar that could be considered as an alternative. Previous research using biochar have mainly focused on thermophilic batch anaerobic digestion conditions. The candidate implemented a hybrid design of experiment, combining both Taguchi and Principal Component analyses, and obtained optimum biochar production conditions and its dosage into a batch mesophilic anaerobic digestion process. The optimum conditions were further investigated in a semi-continuous experiment over 200 days. Not only did he succeed in stabilising the process through the monitoring of the important variables, he also increased the concentration of methane in the biogas. His research suggested biochar as a viable stabilising agent for anaerobic digestion and confirmed its role in reducing CO₂ concentration in biogas.

Supervisor: Prof ET Akinlabi

Co-Supervisors: Prof E Muzenda & Dr AO Aboyade



Murenzi, Romain (PhD *hc*)

Romain Murenzi was born in Rwanda in February 1959 and was raised in Burundi where he earned a bachelor's degree from the University of Burundi in 1982. In 1986, he received his Master's degree in Physics and in 1990 a doctorate from the Catholic University of Louvain in Belgium. In 1990, he was named Postdoctoral Researcher at the European Center for Advanced Training and Research in Scientific Computation (CERFACS) in Toulouse, France. Two years later, he moved to the United States to become Principal Investigator at the Clark Atlanta University Center for Theoretical Studies of Physical Systems in Georgia. In 1993, he was named Associate Professor of Physics and, in 1999, he was selected Chair of the Physics Department in which capacity he served until 2001. In 2000, he was confirmed as a full professor.

Murenzi's research has focused on quantum mechanics; image and video processing; and science and technology policy. More precisely, in his PhD thesis, he introduced the full two-dimensional continuous wavelet transform, including the rotation parameter. This opened the door to the notion of directional wavelets, among them the Cauchy wavelet, which are crucial in applications where directionality and feature orientation is non-uniform in an image. In particular, this approach permits directional filtering, a technique that has been used, for instance, in image processing applications in fluid dynamics and measurements related to this. Murenzi has published a number of articles in scientific journals and has contributed to many conferences, in general, in collaboration with his former supervisor in Louvain, Prof J-P. Antoine. Finally, he has co-authored a textbook on two-dimensional wavelets.

In 2001, Rwandan President Paul Kagame appointed him to serve as Minister of Education, Science, Technology and Scientific Research. From March 2006 to July 2009, he also served as Minister in the President's Office in Charge of Science, Technology, and Scientific Research, with responsibilities including Information and Communications Technology. According to the Science and Development news website (SciDev.Net), as a minister, Murenzi "participated in driving the country's scientific renaissance". At an international level, along other scientists, such as Andrea Zitolo and Bai Chunli, he advocates for supporting the career of young researchers in science. In 2009, he left Rwanda to serve as Director of the American Association for the Advancement of Science (AAAS) Center for Science, Technology and Sustainable Development, which focuses especially on the developing world. He was elected a fellow of TWAS in 2005 and a fellow of the African Academy of Sciences in 2012. He has also served as Visiting Professor at the University of Maryland in the Institute of Advanced Computer Studies in College Park, Maryland. In 2013, he earned a Master of Law degree in Information Technology and Telecommunication from the University of Strathclyde (UK).

Prof Murenzi, who was elected a member of TWAS in 2005, has served as Vice-President of TWAS for Africa. Romain Murenzi is currently the Executive Director of TWAS, the academy of sciences for the developing world. He is also a member of the Board of the African Institute of Mathematical Sciences (AIMS) and Dian Fossey Gorilla Fund International. He has been a member of the Fossey Fund's board of trustees since 2002. He is also active on the Advisory Board of Scientists without Borders, and on the Scientific Board of UNESCO's International Basic Science Programme. He is currently Visiting Professor at the Maryland Institute of Advanced Computer Studies, Senior Scholar at the American Association for the Advancement of Science, and Vice-President of the Third World Academy of Sciences.



See the back cover for the words of the National Anthem.



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