



Graduation Programme

The Future. Reimagined.





Dear UJ Graduate

At the University of Johannesburg (UJ), graduation not only signifies an academic milestone but also represents the emergence of a new cohort of leaders. Our objective has been to empower you as leaders who are primed to face the challenges of an ever-changing world defined by a plethora of challenges and opportunities. As you navigate these great societal shifts, we hope that your time at IJJ will serve as a constant source of reference and inspiration. As we have sought to demonstrate, the Fourth Industrial Revolution (4IR) presents the opportunity for the exploration of new and exciting spheres, and you are uniquely poised to navigate this terrain. Our focus at IJJ has been to create graduates who are

agile, curious, and able to be active participants against this backdrop.

Your graduation today serves as a celebration of this momentous achievement! I want to take this opportunity to remind you that you now represent the privileged few in our country. You are uniquely poised to address some of the serious challenges we face and a qualification from IJJ will stand you in good stead!

At U J, you have encountered the finest academic minds from diverse backgrounds, spanning across the world as well as innovative technology-rich approaches to teaching and learning. As a result, UJ's global stature and academic robustness are recognised by the most

prestigious global higher education ranking systems in the world. IJJ has become a competitive player, not only in South Africa but also on the continent. You are an important part of this story.

We welcome you as a new member of our esteemed alumni community, which is making a lasting impact on society. We encourage you to join the IJJ Alumni Network and become an active member of the University Convocation, which affords you an opportunity to make a significant contribution to our academic projects and beyond. Our promise in return to you is that we will continue to build IJJ as an international university of choice, anchored in Africa, dynamically shaping the future.

Congratulations on this significant achievement. We look forward to witnessing you reimagine the future!

Prof Letlhokwa Mpedi
Vice-Chancellor and Principal
University of Johannesburg

**Welcome to the
Graduation Ceremony of the
University of Johannesburg
31 March 2023 at 09:30**

**Welkom by die
Gradeplegtigheid van die
Universiteit van Johannesburg
31 Maart 2023 om 09:30**

**Le a Amogelwa
Moletlong wa Dikapešo wa
Yunibesithi ya Johannesburg
31 Hlakola 2023 ka 09:30**

**Niyamukelwa
eMcimbini wokweThweswa kweZiqu
weNyuvesi yaseJohannesburg
31 kuNdasa 2023 ngele-09:30**

UNIVERSITY OF JOHANNESBURG

CHANCELLOR

Dr P Mlambo-Ngcuka

BA Ed (Lesotho), MPhil (UCT), DTech Ed (Warwick, England)

MEMBERS OF THE MANAGEMENT EXECUTIVE COMMITTEE

VICE-CHANCELLOR AND PRINCIPAL

Prof LG Mpedi

B Juris, LLB (Vista), LLM (RAU), LLD (UJ)

DEPUTY VICE-CHANCELLOR: ACADEMIC

Prof S Khan

BSc, BSc Hons, MSc, PhD (UWC)

DEPUTY VICE-CHANCELLOR: RESEARCH AND INTERNATIONALISATION

Prof S Sinha

BEng, MEng, PhD (UP)

REGISTRAR

Prof IC Burger

(Until 31 March 2023)

BA, HEd, BA Hons, MA, PhD (RAU)

Prof B van Vuuren

(From 1 April 2023)

BSc, BSc Hons, MSc, PhD (UP)

CHIEF FINANCIAL OFFICER

Ms N Mamorare

BCom (Rhodes), BCom Hons (UKZN), CA (SA)

CHIEF OPERATING OFFICER

Dr M Ralephata

BSc Eng (Wits), MBA (UOVS), MSc, DBA (Heriot-Watt, UK)

SENIOR EXECUTIVE DIRECTOR

Dr N Vukuza

BA (Fort Hare), BA Hons (Rhodes), DTE (UNISA), MA (Wits),
PhD (SUN)

GENERAL COUNSEL

Mr D Pretorius

BCom, LLB, LLM (NWU)

EXECUTIVE DEANS

COLLEGE OF BUSINESS AND ECONOMICS

Prof L Ntsalaze

BCom, BCom Hons (NMMU), MPhil (UCT), PhD (SUN)

FACULTY OF ART, DESIGN AND ARCHITECTURE

Prof D Smal (Acting)

NDip, NHDip Clothing (TP), MTech Fashion (TUT), DTech Design
(CPUT)

FACULTY OF EDUCATION

Prof N Petersen

BA Ed (UNISA), BEd Hons, MEd (RAU), DEd (UJ)

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Prof DJ Mashao

BSc Eng, MSc Eng (UCT), MSc AM, PhD (Brown, USA)

FACULTY OF HEALTH SCIENCES

Prof A Temane (Acting)

BNSc (UNW), MCur (RAU), PhD (UJ)

FACULTY OF HUMANITIES

Prof K Naidoo

BA, BA Hons, MA (UDW), DTE (Unisa), PhD (Manchester, UK)

FACULTY OF LAW

Prof W Domingo

B SoSc (UCT), LLB (UWC), LLM (Columbia, USA),
SJD (Wisconsin-Madison, USA)

FACULTY OF SCIENCE

Prof D Meyer

BSc, BSc Hons, MSc (RAU), PhD (California, USA)

DEAN

JOHANNESBURG BUSINESS SCHOOL

Prof R Carolissen

MSc (UWC), MBA (SUN), MCom (NWU), PhD (UWC)

MEMBERS OF COUNCIL

CHAIRPERSON

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DEPUTY CHAIRPERSON

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Prof D Hildebrandt

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Mr M Manana

Prof T Marwala

Dr A Mokoena

Ms N Molope

Prof LG Mpedi

Mr LM Mpunzi

Ms NP Mvubu

Dr WP Rowland

Ms JA Schreiner

Prof A Strydom

Ms T Thobejane

PRESIDENT OF CONVOCATION

Mr LM Mpunzi

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 mfundji;
Phambili ngenhlangano yonke;
Maziqhubeke ngonaphakade!

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT QUALIFICATIONS

1. Diploma | National Diploma

Bozo, Unathi (Engineering: Metallurgy)

Buthelezi, Nomndeni Nombulelo (Mineral Surveying)

Modisenyane, Bakopanye (Extraction Metallurgy)

Radebe, Sipiwe Ian (Engineering: Metallurgy)

Sebatana, Ketumile (Mineral Surveying)

Sekokotla, Tumelo Leswika (Mineral Surveying)

Tomsana, Muzi (Mineral Surveying)

2. Bachelor's

Hadebe, Nqobile Happy (Mine Surveying)

Kganyago, Ayanda Shibe (Mine Surveying)

Mahlangu, Gugu Zinhle (Mine Surveying)

Malatji, Mahlatse John (Mine Surveying)

Manamela, Caiphus (Mine Surveying)

Manganye, Gift Nyiko (Mine Surveying)

Manyekana, Brian (Mine Surveying)

Mokoena, Advice Senzo (Mine Surveying)

Muavha, Vhuhwavho Sharlyn Michelle (Mine Surveying)

Ncube, Mthobi Ricardo (Mine Surveying)

Ramulondi, Munei (Mine Surveying)

3. Bachelor of Engineering Technology

Bhila, Nonhlanhla Idah (Extraction Metallurgy)

Bina, Ercilia (Extraction Metallurgy)

Bologo, Muvhulawa (Physical Metallurgy)

Botilo, Temogo (Mining Engineering)

Buthelezi, Thandazi Samantha (Mining Engineering)

Chauke, Lovers (Extraction Metallurgy)

Dhlahla, Bonginkosi Sizwe (Extraction Metallurgy)

Dipholo, Dintle Brice (Mining Engineering)

Dlamini, Mlungisi Brian (Extraction Metallurgy)

Galane, Raesetja Jacoline (Mining Engineering)

Haal, Tumelo Freddie (Mining Engineering)

Hlongo, Tsepo Desmond (Mining Engineering)

Kalenga, Moise Mahmoud (Extraction Metallurgy) (with distinction)

Kgare, Dithoriso (Mining Engineering)

Kgatla, Itani Shandukani (Physical Metallurgy)

Kgoahla, Reneilwe Martha (Extraction Metallurgy)

Khoahleng, Tshidiso Joseph (Physical Metallurgy)

Khosa, Vuthari Sunshine (Physical Metallurgy)

Khumalo, Luyanda (Extraction Metallurgy)

Kwaza, Songeziwe (Extraction Metallurgy)

Lehihi, Morwaeng Wesley (Mining Engineering)

Lepuru, Matome Sydney (Mining Engineering)

Letsoalo, Pillemon Kgobane (Physical Metallurgy)

Llale, Kgaugelo Victor (Physical Metallurgy)

Ludwaba, Andile (Mining Engineering)
Lugongolo, Ntando (Physical Metallurgy)
Luphondo, Lindani Witness Simon (Mining Engineering)
Mabasa, Xihluke Virtue (Mining Engineering)
Mabunda, Enjoy (Physical Metallurgy)
Machaba, Kabelo (Extraction Metallurgy)
Madikane, Sinesipho (Mining Engineering)
Maduna, Bongane (Physical Metallurgy)
Maenetja, Elizabeth Rarang (Extraction Metallurgy)
Mahunisi, Nhluvuko Yolanda (Extraction Metallurgy)
Maile, Theo Keabetswe (Mining Engineering)
Maimane, Bonolo Motlalepule (Mining Engineering)
Maleka, Mabontle (Physical Metallurgy)
Malema, Kgothatso Kgadi (Extraction Metallurgy)
Maloka, Mapule (Extraction Metallurgy)
Maluleke, Bongani (Physical Metallurgy)
Maluleke, Heighten Ndzalama (Extraction Metallurgy)
Maluleke, Nsabelo Leonardas (Physical Metallurgy)
Manxila, Motshidisi Gladys (Extraction Metallurgy)
Mapena, Kagiso (Physical Metallurgy)
Marema, Wander Watsha (Mining Engineering)
Marobane, Precious Temosho (Mining Engineering)
Maru, Mongezi Perseverance (Mining Engineering)
Masanabo, Fortunate (Extraction Metallurgy)
Maselo, Oratile (Physical Metallurgy)
Mashilo, Karabo (Extraction Metallurgy)
Masondo, Lungisani Anele (Physical Metallurgy)
Masubelele, Zandile Kimerly (Physical Metallurgy)
Masuku, Buhle Nicole (Mining Engineering)
Mathaba, Thapelo Precious Elizabeth (Physical Metallurgy)

Matseba, Koshane Daphney (Extraction Metallurgy)
Mavuso, Benele Siphelele Felicia (Mining Engineering)
Menzi, Otshepeng Romeo (Mining Engineering)
Mhlongo, Sinethemba Abdulmajid (Mining Engineering)
Mhlongo, Sipiwe (Mining Engineering)
Milisi, Mankasera (Mining Engineering)
Mkhwamubi, Londiwe Lucky (Mining Engineering)
Mkhwebane, Chantel (Extraction Metallurgy)
Mkololo, Zandile Joana (Physical Metallurgy)
Mngqingo, Wandisile Theophilus (Physical Metallurgy)
Mogoaneng, Tonny Kgamputu (Extraction Metallurgy)
Mohlala, Karabo Makuduele (Extraction Metallurgy)
Mohlala, Reagile (Extraction Metallurgy)
Mohorosi, Kananelo (Mining Engineering)
Moiloa, Rorisang (Mining Engineering)
Mokgofa, Balekane (Mining Engineering)
Mokotedi, Keoleboge Judith (Extraction Metallurgy)
Mokwena, Precious Sibongile (Physical Metallurgy)
Motshekga, Kholofelo Rodney (Extraction Metallurgy)
Moyane, Samuel Mohau (Physical Metallurgy)
Moyo, Kelvin (Mining Engineering)
Mphahlele, Tumishang Mamasegare (Mining Engineering)
Mphekgoane, Ronald Kamogelo (Extraction Metallurgy)
Msimango, Lindokuhle Nkosinathi (Extraction Metallurgy)
Mudau, Ndivhuwo (Mining Engineering)
Mulaudzi, Tshilidzi Thifulufheli Nicolette (Extraction Metallurgy)
Ndebele, Phillipine Mabuyise (Extraction Metallurgy)
Ndlela, Thubalethu Sambulo (Mining Engineering)
Netshaulu, Ndivho (Mining Engineering)

Ngoasheng, Mmakoloi Annie (Extraction Metallurgy)
Ngomane, Lucas (Mining Engineering)
Ngomane, Nhlanhla Lucky (Mining Engineering)
Ngwato, Thabile (Extraction Metallurgy)
Nkosi, Nkosingiphile Sydney (Extraction Metallurgy)
Nkuna, Kabelo Given (Extraction Metallurgy)
Nxeqo, Pequdance Rorisang (Mining Engineering)
Nyathe, Lesego Peter (Mining Engineering)
Nyathikazi, Samkelo Perseverance (Physical Metallurgy)
Radebe, Londiwe Primrose (Mining Engineering)
Radebe, Victor (Extraction Metallurgy)
Ramabulana, Khodani (Mining Engineering)
Rammabi, Frans Mashabela (Mining Engineering)
Sadiki, Tiyani Joy (Physical Metallurgy)
Sakuneka, Sewela Lauren (Physical Metallurgy)
Sawu, Lindokuhle (Mining Engineering)
Sealanyane, Mamadile Rachel (Physical Metallurgy)
Sebone, Makgolane (Physical Metallurgy)
Selolo, Regan Pitsi (Extraction Metallurgy)
Semenya, Anries Maribana (Extraction Metallurgy)
Senosha, Telekoe Kwena (Extraction Metallurgy)
Shekwa, Condry Sizwe (Extraction Metallurgy)
Shikwambana, Paseka (Mining Engineering)
Shokane, Bradley John (Physical Metallurgy)
Sikhomo, Mukhunyeledzi (Mining Engineering)
Simelane, Andile Silindile (Mining Engineering)
Simelane, Mongezi (Extraction Metallurgy)
Sipani, Lundi (Mining Engineering)
Sithole, Prisca (Mining Engineering)
Snaddon, Grant Bruce Blair (Extraction Metallurgy)

Sondag, Pelaelo Jessica (Mining Engineering)
Taibo, Saquina Momade (Mining Engineering)
Teffo, Risuna (Extraction Metallurgy)
Thamaga, Lucky Phuti (Physical Metallurgy)
Thembo, Gomolemo Dylan (Extraction Metallurgy)
Thobela, Sanele (Extraction Metallurgy)
Tlomatsana, Karabo Mathibela (Physical Metallurgy)
Tshilwane, Thato Benson (Mining Engineering)
Tsotetsi, Nfaladi Mavis (Extraction Metallurgy)
Vukeya, Maxwell (Extraction Metallurgy)
Zimu, Mpho (Mining Engineering)
Zitha, Kenneth (Extraction Metallurgy)
Zungu, Phindile Promise (Mining Engineering)

4. Bachelor of Mine Surveying Honours

Binase, Lwande (Mine Surveying)
Leso, Mpho Stampuru Gift (Mine Surveying)
Makumbila, Fortunate (Mine Surveying)
Masemula, Lerato Sonia (Mine Surveying)
Sikhosana, Sphiwe Promise (Mine Surveying)
Skosana, Nqobile (Mine Surveying)

5. Bachelor of Engineering Technology Honours

Chauke, Noah (Metallurgical Engineering)
Chokoe, Selaelo Jacob (Mining Engineering)
Dlamini, Edward Jabulani (Metallurgical Engineering)

Dube, Noncedo (Mining Engineering)
Earnshaw, Fundzile Phumelele (Metallurgical Engineering)
Gumbi, Thabang April (Metallurgical Engineering)
Kalala, Ngoy Kiboko Ezechiel (Metallurgical Engineering)
(with distinction)
Katayi, Mellis Biola (Metallurgical Engineering)
Lephoto, Tsebo Reginah (Mining Engineering)
Magadze, Theoadore (Metallurgical Engineering)
Mahase, Tlalane Iddlet (Mining Engineering)
Maluleka, Cazwin Sibusiso (Metallurgical Engineering)
Manyama, Ndevho (Mining Engineering)
Maphatsoe, Phutheho (Metallurgical Engineering) **(with distinction)**
Mashabela, Boitumelo Charmaine (Metallurgical Engineering)
Mashego, Isabell Itumeleng (Mining Engineering)
Mashiane, Clementine Veronica Mmachoeu (Mining Engineering)
Mashilo, Paballo (Mining Engineering)
Maswanganyi, Nyiko Habal (Metallurgical Engineering)
Maubane, Kgabo (Mining Engineering)
Maubane, Maropeng Precious (Metallurgical Engineering)
Mawila, Masingita Clinton (Metallurgical Engineering)
Mbadu, Sibusiso (Metallurgical Engineering)
Mbeda, Samkelo Richard (Metallurgical Engineering)
Monga, Nkulapiji Hiram (Metallurgical Engineering)
Mtabani, Lindokuhle Prince (Metallurgical Engineering)
Munyai, Mukhethwe (Mining Engineering)
Muromba, Sharon Petronella (Mining Engineering)
Mutale, Muleli Simethembe (Mining Engineering)

Mvita, Meta Jonathan (Metallurgical Engineering)
Myanga, Candice Sinenhlanhla Lorraine (Mining Engineering)
Nengwekhulu, Rudzani Perceverance (Metallurgical Engineering)
Netshisaulu, Murendeni (Metallurgical Engineering)
Netshitumbu, Mpho Marvellous (Metallurgical Engineering)
Ngoy, Dinovie (Metallurgical Engineering)
Nkosi, Nompumelelo Nonhle (Metallurgical Engineering)
Nonyana, Moselantja Alice (Mining Engineering)
Obukowho, Joshua Samuel Onoriode (Metallurgical Engineering)
Owiredu, Danielle Yaa Boakyewaa (Metallurgical Engineering)
Pezo, Kazumba Anais (Metallurgical Engineering)
Ralane, Nomfundo Simphiwe (Metallurgical Engineering)
Ramaano, Mosebo William (Metallurgical Engineering)
Rorwana, Siviwe (Metallurgical Engineering)
Sambo, Nqobile Pamela (Metallurgical Engineering)
Shotholo, Masego (Metallurgical Engineering)
Thamaga, Mosa (Metallurgical Engineering)
Tshibang, Elie Mwin Kalamb (Metallurgical Engineering)
Tshilo, Arnold Thabiso (Mining Engineering)

6. Master of Technology

Lukonga, Vusimuzi (Operations Management)

Dissertation: Evaluating the impact of business process reengineering on productivity and cost reduction

Supervisor: Dr El Edoun

Co-supervisor/s: Dr N Madonsela

Momat, Kikudji Patricia (Operations Management)

Dissertation: Environmental impacts of corporate and artisanal mining in Haut-

Katanga province of Democratic Republic of Congo

Supervisor: Dr El Edoun

Co-supervisor/s: Prof A Pradhan

Ndlovu, Sandisiwe Nqobile (Operations Management)

Dissertation: Operational efficiency using lean methodology

Supervisor: Mr SC Mukwakungu

Tjale, Mosana Prudence (Operations Management)

Dissertation: Digital transformation through business process reengineering in the manufacturing sector

Supervisor: Dr N Madonsela

Co-supervisor/s: Prof B Thwala

Tsotetsi, Maloi Tshediso (Engineering: Metallurgy)

Dissertation: Spark plasma sintering of transparent Magnesium Aluminate

Spinel for armour applications

Supervisor: Ms TS Tshephe

Co-supervisor/s: Prof I Sigalas

7. Master of Philosophy

Biyela, Charmain Gugulethu (Engineering Management)

Dissertation: Knowledge management as a contributor to project success

Supervisor: Dr S Benade

Co-supervisor/s: Prof JHC Pretorius

Mailula, Nkokoba Peter (Engineering Management)

Dissertation: Impact of high demand radio frequency spectrum in the reduction of South African mobile data prices

Supervisor: Prof TG Swart

Malinga, Nontobeko (Engineering Management)

Dissertation: Addressing socio-economic development challenges through road infrastructure projects

Supervisor: Dr S Benade

Co-supervisor/s: Prof AL Marnewick

Mbadamana, Sibongiseni (Engineering Management)

Dissertation: Evaluation of non-revenue water reduction through community involvement in raising awareness

Supervisor: Prof AL Marnewick

Co-supervisor/s: Dr TJ Mofokeng

Modiba, Matshidiso Margaret (Engineering Management)

Dissertation: Sustainability in the development of new model public transport facilities (taxi ranks) in the city of Johannesburg and the city of Ekurhuleni metropolitan municipalities

Supervisor: Dr A Maneschijn

Mvinjelwa, Pamela Nobantu (Engineering Management)

Dissertation: Benchmark of global best practice in support of women in engineering

Supervisor: Dr S Benade

Co-supervisor/s: Prof AL Marnewick

Naidoo, Mishen (Engineering Management) (**with distinction**)

Dissertation: Carbon footprint comparison of electric vehicles

Supervisor: Prof A Marnewick

8. Master of Engineering

Brits, Johan Hendrik (Extraction Metallurgy)

Dissertation: The role of heterocoagulation in the flotation of fluorite from fluoritic-hematite ore

Supervisor: Prof ME Makhatha

D Arcy, Morgan Lloyd (Engineering Management) (with distinction)

Dissertation: Application of Six Sigma type process to improve departmental output in an engineer to order environment

Supervisor: Prof JHC Pretorius

Govender, Chayvan (Engineering Management) (with distinction)

Dissertation: Opportunities and challenges of implementing industry 4.0 technologies in the South African maintenance industry

Supervisor: Prof AL Marnewick

Jaglal, Preshaan (Engineering Management) (with distinction)

Dissertation: Distribution network planning practices based on the transition toward active distribution networks

Supervisor: Prof AL Marnewick

Co-supervisor/s: Dr DJ van Vuuren

Junaid, Arif Md (Engineering Management)

Dissertation: Project success criteria in the context of South African mobile network operators – An empirical study

Supervisor: Prof JHC Pretorius

Makama, Lebogang Nelson (Engineering Management)

Dissertation: Improving maintenance management of reservoir structures using smart technological systems

Supervisor: Prof A Telukdarie

Makena, Rachel Mapitso (Engineering Management) (with distinction)

Dissertation: Measuring corporate social responsibility in the engineering industry

Supervisor: Prof AL Marnewick

Co-supervisor/s: Prof C Marnewick

Masingi, Themba Brian (Engineering Management)

Dissertation: Reliability of sewerage pipelines in South Africa

Supervisor: Prof H Nel

Matshidze, Khuliso (Engineering Management)

Dissertation: Energy management maturity in South Africa's glass container manufacturing industry

Supervisor: Dr S Benande

Co-supervisor/s: Prof JHC Pretorius

Moloto, Herman Mapiti (Engineering Management)

Dissertation: Application of linear programming and dynamic lot sizing with the Six

Sigma approach in the fast-moving consumer goods industry

Supervisor: Prof JHC Pretorius

Co-supervisor/s: Prof L Pretorius

Msweli, Nondumiso Prudence (Physical Metallurgy)

Dissertation: Bio-corrosion response of spark plasma sintered zirconia reinforced titanium in oral environment

Supervisor: Dr BA Obadele

Co-supervisor/s: Dr SO Akinwamide & Prof PA Olubambi

Murevi, Tawana Amos (Engineering Management)

Dissertation: The impact of Lean management principles in the solar mounting solutions space

Supervisor: Dr A Maneschijn

Muzorewa, Silas (Engineering Management)

Dissertation: Reliability prediction of household electro-mechanical appliances using current technology

Supervisor: Prof A Telukdarie

Ncharre Njoya, Ismael (Engineering Management)

Dissertation: Impact of project management on the construction industry

Supervisor: Dr M Munsamy

Co-supervisor/s: Prof A Telukdarie

Nenzhelele, Rendani Pearl (Physical Metallurgy)

Dissertation: Optimization of sand parameters to improve the quality of cast iron products using Taguchi method

Supervisor: Dr T Madzivhandila

Co-supervisor/s: Prof ME Makhatha

Patel, Darshan Manishkumar (Engineering Management)

Dissertation: Hybrid project management approach in construction projects

Supervisor: Prof AL Marnewick

Co-supervisor/s: Prof C Marnewick

Ramatsoma, Bongani Seeke (Physical Metallurgy)

Dissertation: Cost effective method for manufacturing ferrous metal matrix composite for commercial market

Supervisor: Dr T Madzivhandila

Co-supervisor/s: Prof E Makhatha

Ravhutsi, Tshedza (Engineering Management)

Dissertation: Optimization of maintenance strategies in a glass manufacturing plant

Supervisor: Prof H Nel

Sithole, Marrin Samuel (Engineering Management)

Dissertation: Effective quality performance improvement through robotic process automation (RPA) in rail manufacturing

Supervisor: Prof A Telukdarie

Co-supervisor/s: Dr M Munsamy

9. Doctor of Philosophy (PhD)

Kunene, Thokozane Justin (Mechanical Engineering)

Thesis: *Multiscale numerical analysis of the sticking coefficient during an atomic layer deposition process*

Supervisor: Prof TC Jen

Co-supervisor/s: Prof L Tartibu

Ntumba, Edouard Malenga (Metallurgical Engineering)

Thesis: *Gravity desliming ultrasonic assisted as a contribution to platinum group minerals sludge beneficiation*

Supervisor: Prof AF Mulaba

Co-supervisor/s: Prof W Nheta

Nwanna, Emeka Charles (Mechanical Engineering)

Thesis: *An experimental protocol for optimal fabrication of sustainable nanostructured semiconducting metal-oxide thin-film for solar cell applications*

Supervisor: Prof TC Jen

Co-supervisor/s: Dr PE Imoisili

Kunene, Thokozane Justin PhD (Mechanical Engineering)

Thokozani Justin Kunene is a lecturer in the Department of Mechanical and Industrial Engineering Technology at the University of Johannesburg in South Africa. He holds a Master of Technology (*cum laude*) degree from the Cape Peninsula University of Technology. He began his PhD at the University of Johannesburg in 2018. His first employer was the South African Navy, where he performed logistics support for naval vessels. His second employer was the Automotive Industry Development Centre as a project manager. He was executing energy efficiency and optimization projects. He is a certified Energy Management System UNIDO expert with the National Cleaner Production Centre for Compressed Air Systems, Pump Systems, Steam Systems, Fans Systems, and Chiller Systems Optimisation. He is affiliated as a candidate technologist with the Engineering Council of South Africa. He is a Junior Associate with the National Institute for Theoretical and Computational Sciences in the Data Sciences category.

His thesis focused on the numerical simulation of the multiscale atomic layer deposition (ALD) process while studying the nature of a sticking coefficient. The interest is in controlling the sticking coefficient when modelling the pulsing of the trimethylaluminum and ozone precursors to deposit alumina to preserve and delay the depletion of precursors. The critical demonstration involved the potency of short multi-pulses of the ALD super-cycles over the conventional precursor pulsing binary method for large time scales, including substrates with high aspect ratios. The small-time scale portion involved an *Ab Initio* Molecular Dynamics of

the ALD where an all-atom approach was modelled. The study revealed that the sticking coefficient for molecules dissociating on the chemisorbed surfaces at any ALD timescale largely remained unchanged. The numerical settings can be used to control the dosage of the precursors during modelling.

Supervisor: Prof TC Jen

Co-Supervisor/s: Prof LK Tartibu

Ntumba, Edouard Malenga PhD (Extraction Metallurgy)

Edouard Malenga Ntumba holds a Bachelor's in Chemical Engineering from the University of Lubumbashi in the Democratic Republic of Congo and a Master's of Technology degree in Extraction Metallurgy from the University of Johannesburg.

Culminating from an outbound research training stay in Montpellier (France), the candidate investigated the desliming of platinum group minerals using a physical separation means without altering the chemical or mineralogical attributes of the material. Unlike the conventional desliming methods, including sieving, hydrocycloning, and the use of a dense medium, the use of ultrasonic-assisted gravity desliming of PGM mine sludge removed about 15% of the clayey colloidal particles through the supernatant overflows, while the sample bearing valuable minerals was collected in the sediment. This process improved the flotation recovery of the related PGM's from the mine sludge and yielded about 85% recovery in the plant conditions. The validation of the technology with a patent being launched through the University of Johannesburg Technology Transfer Office was impressively conducted and demonstrated at the industrial partners' metallurgical plant in the Eastern Limb of the South African Bushveld Complex.

Supervisor: Prof AF Mulaba-Bafubiandi

Co-supervisor: Prof W Nheta

Nwanna, Charles Emeka PhD (Mechanical Engineering Science)

Charles Nwanna obtained his BEng degree in Mechanical Engineering (2014) from the Federal University of Technology Owerri, Nigeria. He worked with Plantgeria Company Limited for a few years. He completed a Master's degree in Mechanical Engineering Science (MEng) with distinction at the University of Johannesburg in 2020. Charles is a member of the South African Institution of Mechanical Engineering (SAIMEchE) and the American Society of Mechanical Engineers (ASME). He is also a Volunteer Champion Ambassador (VCA) of all the students at the University of Johannesburg APK Campus.

The candidate's doctoral research is on the experimental fabrication of sustainable nanostructured semiconducting metal-oxide thin films for solar cell applications. The laboratory process of this study involved the synthesis, deposition, and fabrication of the metal-oxide thin films. Organometallic precursors of tetrakis(dimethylamino) tin (IV) and bis(cyclopentadienyl) niobium (IV) dichloride were employed as the start-up materials for the spin coating deposition process of the films. Furthermore, copper (II) sulphate pentahydrate, and *allium cepa* as organic catalyst were utilised in the deposition of biosynthetic copper oxide (CuO) thin films and as dopants for the fabrication of optimal and efficient nanostructured p-n heterojunction semiconducting thin films of CuSnO_2 and CuNb_2O_6 for solar cell applications. The structural, elemental, morphological, optical, crystalline, bonding, electrical, and energy bandgap properties possessed by the fabricated films were evaluated and the findings, which were compared and assessed with previous

experimental works, demonstrated the effectiveness and sustainability of these CuSnO_2 and CuNb_2O_6 thin films. Nine peer-reviewed articles were published from this research, all indexed in the ISI/SCOPUS database.

Supervisor: Prof TC Jen

Co-supervisor: Dr PE Imoisili



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National Anthem of South Africa

Nkosi sikelel' 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 Afrika - South Afrika.

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.