

## The Future Reimagined

# **GRADUATION PROGRAMME**



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#### Dear UJ Graduate

Today represents the start of a new chapter. It has without a doubt been a long and arduous but incredible journey for you. Your graduation is a significant milestone, not only academically, but it represents your emergence as a leader with societal impact. At the University of Johannesburg (UJ), we are acutely aware of the hard work, dedication and perseverance you have displayed in order to reach this point. In a rapidly changing world, undergoing seismic shifts, our goals have been not only to support you in this journey but also to empower you as leaders. We strive for excellence, and we are committed to leading through ideas, actions, and programmes in ways that deliberately seek to positively impact the world around us. We hope that your time at UJ will serve as a source of inspiration and contribute to your mark in the world. Our focus at UJ has been to create graduates who are agile, curious, and able to be active participants committed to societal impact.

Your graduation signifies all of this and more. This is a momentous celebration and an incredible achievement, indeed! As you emerge from our institution, we hope you tap into your power to make a difference.

In your time with us, you have encountered the finest academic minds from diverse backgrounds, you have been exposed to technologically rich approaches to teaching and learning while gaining an enviable understanding of the world around us. UJ's global stature and academic robustness are recognised by the most prestigious global higher education ranking systems in the world and we have emerged as a formidable player globally. You are an important and intrinsic part of this story.

We also welcome you as new members of our esteemed alumni community. We encourage you to join the UJ Alumni Network and become an active member of the University Convocation, both of which afford you an opportunity to transform into collaborators, mentors, and advocates who can significantly contribute to our vision. Our promise in return to you is that we will continue to reimagine the future with societal impact. Congratulations on this achievement – you have done us proud!

Prof Letlhokwa Mpedi Vice-Chancellor and Principal University of Johannesburg Welcome to the Graduation Ceremony of the University of Johannesburg 30 May 2024 at 13:00

Welkom by die Gradeplegtigheid van die Universiteit van Johannesburg 30 Mei 2024 om 13:00

Le a Amogelwa Moletlong wa Dikapešo wa Yunibesithi ya Johannesburg 30 Mopitlo 2024 ka 13:00

Niyamukelwa eMcimbini wokweThweswa kweZiqu weNyuvesi yaseJohannesburg 30 kuNhlaba 2024 ngele 13:00

## **UNIVERSITY OF JOHANNESBURG**

## CHANCELLOR

Dr P Mlambo-Ngcuka BA Ed (NUL, Lesotho), MPhil (UCT), DTech Ed (Warwick, UK)

## MEMBERS OF THE MANAGEMENT EXECUTIVE COMMITTEE

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

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#### FACULTY OF ART, DESIGN AND ARCHITECTURE

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

## 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), BA (Cur) (UNISA), 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, New York), SJD (Wisconsin, Madison)

## **FACULTY OF SCIENCE**

Prof A Moteetee BSc (NUL, Lesotho), MPhil (University of London, UK), PhD (RAU)

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## JOHANNESBURG BUSINESS SCHOOL

Dr R Carolissen BSc, BSc Hons, MSc (UWC), BBA Hons, MBA (SUN), MCom (NWU), PhD (UWC)

## **MEMBERS OF COUNCIL**

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Ms X Kakana

#### **DEPUTY CHAIRPERSON**

Dr Y Ndema

#### **MEMBERS**

Mr FM Baleni Dr H Coovadia Ms K Gugushe Prof S Khan Ms L Khumalo Mr B Malotane Mr N Magoro Ms L Mateza **Prof TA Meyer** Dr A Mokoena Mr A Mokua Ms N Molope **Prof A Moteetee** Prof LG Mpedi Mr LM Mpunzi Ms NP Myubu Prof A Strydom

#### PRESIDENT OF CONVOCATION

Mr LM Mpunzi

## **GAUDEAMUS IGITUR**

Gaudeamus igitur, Juvenes dum sumus; Post iucundum iuventutem, Post molestam senectutem Nos habebit humus. Vivat academia, Vivat 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; Mazighubeke ngonaphakade!

## FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT QUALIFICATIONS

## 1. Bachelor of Engineering Technology

Chitumwa, Tanatsvanashe Mbulelo (Mechanical Engineering) **Dhlamini**, Wandile Mpumelelo (Mechanical Engineering) **Dube,** Banele (Mechanical Engineering) Gasa, Ntobeko (Mechanical Engineering) **Goliath**, Malcolm Eugene (Mechanical Engineering) **Gwaza**, Bradley (Mechanical Engineering) Hapadziwi, Givens Tapiwa (Mechanical Engineering) Haydock, Caleb Lawrence (Mechanical Engineering) Hlongwa, Remember Julius (Mechanical Engineering) Khosa, Phamela Marvelous (Mechanical Engineering) **Khoza**, Manuel (Mechanical Engineering) Khumalo, Andile Monwabisi Castro (Mechanical Engineering) Lekhuleni, Ntomfuthi (Mechanical Engineering) Lewele, Tshepho (Mechanical Engineering) Likhonela, Tsireledzo (Mechanical Engineering) Machika, Given Nkosinathi (Mechanical Engineering) **Magagula**, Nhlanhla Lethabo (Mechanical Engineering)

Mahlangu, Sibusiso Innocent (Mechanical Engineering) Mahlangu, Tshepo Nelson (Mechanical Engineering) Mahlobo, Jabulile Cynthia (Mechanical Engineering) Makua, Madiete Thami (Mechanical Engineering) Makwela, Nicholas Nakedi (Mechanical Engineering) Malinga, Qiniso Samukelisiwe (Mechanical Engineering) Maluleke, Kutlwano (Mechanical Engineering) Mamogale, Kagiso Advice (Mechanical Engineering) Maposa, Ndeme Trevor (Mechanical Engineering) Marobane, Hector Potego (Mechanical Engineering) Maroga, Leago Jacob (Mechanical Engineering) Maswanganye, Theophillus Vukona (Mechanical

Engineering)

Mathebula, Possible Mpfuneko (Mechanical Engineering)
Mathiloli, Vuledzani (Mechanical Engineering)
Mativandlela, Themba Denis (Mechanical Engineering)
Matlala, Thapelo Phatlhe (Mechanical Engineering)
Matloga, Tshepo (Mechanical Engineering)
Matsenjwa, Muzi Petro (Mechanical Engineering)

## 2. Bachelor of Engineering

Kaggwa, Lukwago Robert (Electrical & Electronic) Kanhukamwe, Kundai Valentine (Electrical & Electronic) Ndwandwe, Bongumusa Sbongiseni (Electrical & Electronic)

## 3. Baccalaureus Ingeneriae

Holloway, Duncan Andrew (Electrical and Electronic)
Moyo, Karabo Donald (Electrical and Electronic)
Ngema, Siyabonga Sizuyise Khayelihle (Electrical and Electronic)
Phahlamohlaka, Privilege Mamadingwane (Electrical and

Electronic)

## 4. Bachelor of Engineering Technology Honours

**Balovi**, Cavin (Electrical Engineering) Beya, Sedra Mulumba (Electrical Engineering) **Bina**, Ercilia (Metallurgical Engineering) **Bologo**, Muvhulawa (Metallurgical Engineering) **Chauke**, Pfunani Walvis (Industrial Engineering) **Chauke**, Prince (Civil Engineering) **Chintsiza**, Sonwabile (Metallurgical Engineering) Chukwu, Onyibuchi Kester (Civil Engineering Dau, Dakalo (Industrial Engineering) (with distinction) Dlamini, Kwenzokwakhe Lwazilwakhe (Industrial Engineering) Gadisi, Vhuhwavho (Civil Engineering) **Gumede**, Wandile Sibaphiwe Thido (Electrical Engineering) **Hlongwa**, Naledi (Industrial Engineering) Jambo, Chido Takudzwa (Electrical Engineering) Jiyane, Njabulo (Industrial Engineering)

**Kalenga**, Moise Mahmoud (Metallurgical Engineering) (with distinction) Kekana, Letsatsi (Civil Engineering) Kgoahla, Reneilwe Martha (Metallurgical Engineering) Khipa, Wisani (Industrial Engineering) **Khoza**, Bontle Antoinette (Industrial Engineering) **Khoza**, Imilio (Industrial Engineering) Khoza, Portia (Industrial Engineering) Khwatshube, Siphokuhle (Industrial Engineering) Lebambo, Leago Elelwane (Civil Engineering) (with distinction) **Lekwana**, Makgwale Dinah (Industrial Engineering) **Lesufi,** Khutjo Floyd (Industrial Engineering) Lubisi, Given (Industrial Engineering) Luthuli, Mndeni Leroy (Industrial Engineering) Mabe, Thato (Industrial Engineering) Mabe, Tholane (Electrical Engineering) (with distinction) Mabessa, Tumelo Errol (Electrical Engineering) Maenetja, Elizabeth Rarang (Metallurgical Engineering) **Maepa**, Agnecia (Metallurgical Engineering) Mafoho, Dimakatso (Industrial Engineering) Mahlangu, Phillemon Sifiso (Industrial Engineering) Mahlase, Bianca (Metallurgical Engineering) Mahunisi, Nhluvuko Yolanda (Metallurgical Engineering) Makgaka, Precious Olebogeng (Industrial Engineering) Makin, Hope Rachel (Metallurgical Engineering) Makobe, Themba (Industrial Engineering) Makofane, Karabo Daniel (Civil Engineering) (with distinction)

## Makondo, Mlunghisi Blade (Industrial Engineering) Maluleke, Masingita Nkateko Faith (Civil Engineering)

Maluleke, Tsundzukani (Civil Engineering) Mamabolo, Mamateane Katlego (Industrial Engineering) Mamafha, Zwavhudi (Industrial Engineering) Manengu, Ndonji (Industrial Engineering) **Mapena**, Anthia Kagiso (Metallurgical Engineering) Maphangule, Dakalo Vinoliah (Metallurgical Engineering) Maphosa, Gcinile Cordecia (Industrial Engineering) Marakalala, Boitshepho Ivy (Metallurgical Engineering) Marufu, Kupakwashe Vanessa (Civil Engineering) Masango, Neliswa Surprise (Industrial Engineering) Maseloa, Oratile (Metallurgical Engineering) Mashamba, Wangoho (Electrical Engineering) Mashapu, Koketso Pheladi (Civil Engineering) Mashigo, Jessie Naledi (Civil Engineering) Masilela, Muhle Pertunia (Metallurgical Engineering) Masombuka, Thabo (Civil Engineering) Matabane, Lethabo Kagiso (Civil Engineering) Mateza, Loyola Rob (Industrial Engineering) Mathebula, Khanyisa Samantha (Metallurgical Engineering)

Mathebula, Masingita Alicia (Civil Engineering)
Matlala, Mmaphuthi Mmafulane (Civil Engineering)
Matlhola, Otlotleng (Metallurgical Engineering)
Matseba, Koshane Daphney (Metallurgical Engineering)
Matswalela, Mahlatse Gerson (Civil Engineering)
Matuwane, Zolani Gift (Civil Engineering)
Mavaleliso, Vaneswa (Civil Engineering) (with distinction)

**Mbeche**, Jerome Philip (Electrical Engineering) Mcunu, Sinegugu Samkelisiwe Lehlohonolo (Civil Engineering) Mfaba, Ngaba Mekahle (Electrical Engineering) Mfokozanah, Munashe (Civil Engineering) Mhlongo, Nkateko (Industrial Engineering) Mkansi, Thapelo (Electrical Engineering) Mkhwebane, Chantel Lerato (Metallurgical Engineering) Mkololo, Zandile Joana (Metallurgical Engineering) **Mlotshwa**, Syabonga Thabiso (Industrial Engineering) Mochali, Rethabile Leah (Industrial Engineering) Modipa, Mack Wa Makapane (Civil Engineering) Mohamed, Taaieb (Civil Engineering) Mohlala, Reagile (Metallurgical Engineering) Mokoena, Phindile (Civil Engineering) Moleleki, Reitumetse Francina (Civil Engineering) (with distinction) **Mooketsi,** Realeboga Lucky (Industrial Engineering) **Moriri,** Lebone (Industrial Engineering) Motai, Moemedi (Civil Engineering) Moyo, Edmund Nhlanhla (Electrical Engineering) Mphogo, Peter Ernest (Electrical Engineering) (with distinction) Mthombeni, Mondli (Civil Engineering) (with distinction) Mthombeni, Reneilwe Bridgette (Metallurgical Engineering) Mudzusi, Vhahangwele (Civil Engineering) (with distinction)

Mulamula, Selelo Petunia (Electrical Engineering) Mulaudzi, Tshilidzi Thifulufheli Nicolette (Metallurgical Engineering) Munduku, Kabundji Daniel (Civil Engineering) **Mwale**, Ntombi (Electrical Engineering) Naledzani, Tshilidzi Debra (Industrial Engineering) Ndebele, Ignatious (Industrial Engineering) Ndebele, Phillipine Mabuyise (Metallurgical Engineering) Ndlangamandla, Vuyo Mthunzi (Industrial Engineering) Nemaguvhuni, Phindulo Muolovha (Industrial Engineering) **Nemauluma**, Lutendo (Civil Engineering) Netshituka, Vhugala Charity (Civil Engineering) (with distinction) Netsiendeulu, Tshedza (Metallurgical Engineering) Ngobeni, Tshepo (Electrical Engineering) Ngonyama, Amukelani Lloyd (Civil Engineering) Ngoveni, Twarisani (Civil Engineering) Ngwato, Thabile (Metallurgical Engineering) **Nkogatse**, Nhlomang Judith (Industrial Engineering) Nkosi, Dhumlani Sicelo (Civil Engineering) Nkuna, Armando Innocent (Industrial Engineering) Nkuna, Kabelo Given (Metallurgical Engineering) (with distinction) Nkuna, Mahlori (Industrial Engineering) Nyandeni, Mbita Loveness (Civil Engineering) (with

- distinction)
- Nyathi, Deans David (Electrical Engineering)

Nyevera, Simbarashe (Civil Engineering)

**Odia**, Mwanga Deborah (Electrical Engineering) **Oyewo**, Sijuade Theresa (Metallurgical Engineering) Phetla, Ngobile Cleophatra (Civil Engineering) Phoswa, Mthobisi (Electrical Engineering) Pokane, Molai David (Metallurgical Engineering) **Popa**, Andra-Maria (Industrial Engineering) Qwathekana, Mkhanyisi Mzolisi (Industrial Engineering) **Ralarala**, Omphemetse Ursula (Industrial Engineering) **Ramaila**, Nhlayiso (Electrical Engineering) **Ramaru**, Tshamano (Electrical Engineering) **Ramasenya**, Tshepiso (Industrial Engineering) **Ramphele**, Malehu Lucy (Electrical Engineering) Ratshiedana, Clifort (Electrical Engineering) Sakuneka, Sewela Lauren (Metallurgical Engineering) Sakwana, Thakgalo (Electrical Engineering) Sambo, Thulani (Civil Engineering) Sejake, Thabiso Andy (Civil Engineering) Sekwaila, Helman Molobane (Civil Engineering) Shabalala, Carol Keathy (Civil Engineering) Shusha, Khwezi Romeo (Industrial Engineering) Sihlobo, Sanele Siyabonga (Industrial Engineering) Sikhosana, Karl Walter (Civil Engineering) Sikhuza, Ayanda (Civil Engineering) Simelane, Hlengiwe Vuyiswa Bongiwe (Industrial Engineering) Simelane, Mongezi (Metallurgical Engineering) **Simelane**, Sicelo Sipho Simphiwe (Electrical Engineering)

Sithole, Thandeka (Civil Engineering)

Takarinda, Tanaka Caleb Bekhezela (Civil Engineering) (with distinction)

Theko, Brilliant Thakgalo (Industrial Engineering)
Themba, Shammirah Nomfundo (Electrical Engineering)
Thokwane, Mape Nelsiwe (Metallurgical Engineering)
Tjabadi, Maotoane Caswell (Industrial Engineering)
Tladi, Khutjo Sepampe (Electrical Engineering)
Tlali, Steve (Metallurgical Engineering)
Tongwane, Gontle Felicia (Civil Engineering)
Tsele, Asive (Industrial Engineering)
Tshikororo, Zwivhuya Esther (Electrical Engineering)
Tsolo, Ramabele Nkoli (Civil Engineering)
Tsotetsi, Nfaladi Mavis (Metallurgical Engineering)
Wehmeyer, Wynand (Civil Engineering)
Yongo, Afitho Giovanni (Metallurgical Engineering)
Zondi, Eugene Joseph (Industrial Engineering)
Zungu, Ntandoyenkosi Welcome (Electrical Engineering)

## 5. Bachelor of Science Honours

Hadebe, Nqobile Happy (Mine Surveying)
Kganyago, Ayanda Shibe (Mine Surveying)
Manamela, Caiphus (Mine Surveying)
Manganye, Gift Nyiko (Mine Surveying)
Mokoena, Advice Senzo (Mine Surveying)
Muavha, Vhuhwavho Sharlyn Michelle (Mine Surveying)
Ramulondi, Munei (Mine Surveying)

## 6. Master of Technology

Ejiogu, Emmanuel Okechukwu (Operations Management)
Dissertation: An assessment of safety management in warehousing: a case of Nigeria
Supervisor: Prof CO Aigbavboa
Co-supervisor: Dr ID Ohiomah and Dr BM Arthur-Aiddo

Jingina, Laren Cletus (Operations Management) Dissertation: An assessment of the impacts of the Fourth Industrial Revolution on the Nigeria economic growth Supervisor: Prof CO Aigbavboa Co-supervisor: Dr EE Agbenyeku and Dr BM Arthur-Aiddo

Malgas, Noxolo Maureen (Metallurgy Engineering)
Dissertation: Sliding wear studies on a spark plasma sintered titanium-aluminium alloy
Supervisor: Prof PA Olubambi
Co-supervisor: Dr MA Ukpong

Umba, Mutombo Christian (Metallurgy Engineering) (with distinction)
Dissertation: Heat treatment characteristics of hot-rolled 316L stainless steel
Supervisor: Prof PA Olubambi
Co-supervisor: Dr K Mutombo

## 7. Master's

Adeniyi, Adetola Oluwatosin (Operations Management)
(with distinction)
Dissertation: An assessment of the applications of modern technologies for food storage in South Africa
Supervisor: Prof CO Aigbavboa
Co-supervisor: Dr K Mushavhanamadi

## 8. Master of Engineering

Kaseba, Ndoe Ya Leza (Extraction Metallurgy) Dissertation: Optimisation of chromite recovery from a South African Chromite Middle Group seems plant tailings Supervisor: Prof W Nheta

Tloubatla, Lucky Nhlanhla (Extraction Metallurgy) Dissertation: The effect of residual flocculant on flotation performance of UG-2 ore Supervisor: Prof W Nheta Co-supervisor: Mr MK WA Kalenga

## 9. Doctor of Philosophy (PhD)

Akilimalissiga, Save (Operations Management) Thesis: The impact of service delivery automation on the South African banking industry Supervisor: Prof N Sukdeo

**Bitire,** Sarah Oluwabunmi (Mechanical Engineering) **Thesis:** Implementation of nanoparticles for enhanced biodiesel production and sustainability **Supervisor:** Prof T Jen

Mathane, Tlou Phillemon (Urban and Regional Planning) Thesis: A municipal technological innovations framework for urban sustainability: A case of City of Tshwane free wi-fi programmes Supervisor: Prof T Gumbo

Co-supervisor: Dr E Makoni

Mazhandu, Zvanaka Senzeni (Chemical Engineering) Thesis: Comparative life cycle impacts assessment of plastic waste management practices in South Africa, using the city of Johannesburg as a case study Supervisor: Prof E Muzenda Co-supervisor: Dr TP Mashifana Nemtajela, Ndivhuwo (Engineering Management) Thesis: Developing a supplier selection framework for competitiveness and organisational performance for South African family-owned enterprises in manufacturing Supervisor: Prof JC Pretorius Co-supervisor: Dr A Vermeulen

Okika, Michael Chuba (Engineering Management)
Thesis: Risk analysis framework to minimise risks in construction projects
Supervisor: Dr A Vermeulen
Co-supervisor: Prof JC Pretorius

Oluwafemi, Jesusetemi Funmi (Operations Management) Thesis: Impact of Industry 4.0 technologies adoption on agricultural sector performance in Nigeria Supervisor: Prof ET Akinlabi Co-supervisor: Prof P Kholopane

Phoofolo, Mamonono Adel (Operations Management)
Thesis: Framework on Firm Performance as a function of Entrepreneurial Orientation and Technopreneurship on SME's in Lesotho
Supervisor: Dr. El Edoun
Co-supervisor: Prof A Pradhan

**Tshephe,** Thato Sharon (Metallurgical Engineering) **Thesis:** Nanomechanical and biocorrosion studies on 3D printed zirconia reinforced titanium-aluminium- vanadium alloy

Supervisor: Prof PA Olubambi Co-supervisor: Prof E Olevsky

## **10.** Honorary Doctor of Philosophy

Huang, Wei

## Akilimalissiga, Save PhD (Operations Management)

Save Akilimalissiga holds a Master of Technology in Operations Management from the University of Johannesburg (UJ). He has a Bachelor of Technology in Quality Management from UJ.

His thesis employed several statistical methods to examine the effects that the implementation of service delivery automation has on the banking industry in South Africa. The key results showed that the South African banking industry is gradually moving away from a traditional banking operating system to a more technologically advanced operating landscape, and adopting advanced technologies has become the norm. Furthermore, the results revealed that the more banking institutions prioritise the adoption of service delivery automation, the more efficient and flexible they become, as well as the overhead incidentals tend to decrease significantly.

Supervisor: Prof N Sukdeo

## Bitire, Sarah Oluwabunmi PhD (Mechanical Engineering)

Sarah Oluwabunmi Bitire obtained her bachelor's degree (B.tech) in Biochemistry (2014) from the Federal University of Technology Akure Nigeria, and her master's degree (MPhil) in Mechanical engineering from the University of Johannesburg (2021) with a distinction. Sarah is a member of the JENANO Research group in the Department of Mechanical Engineering Science and was recognized for the Outstanding Academic Excellence Award in 2021 as the best master's researcher in her faculty. She published six journal articles and two conference articles with three additional journal articles in collaboration with her colleagues (All indexed in the ISI/SCOPUS database).

The research studv conducted focused on the implementation of nanoparticles for enhanced biodiesel production and sustainability. The sustainability of the produced nanofuel was examined by assessing its impact on the performance and emission characteristics of a diesel engine. The engine's output and emission patterns were analyzed as a function of responses like brake-specific fuel consumption, brake thermal efficiency, Brake-specific energy consumption, Oxides of nitrogen, hydrocarbon, carbon monoxide. and carbon dioxide emissions respectively. An optimization study was also carried out to effectively understand the impact of process parameters (nano fuel blend, engine speed, and load) on responses to engine fuel. The obtained result revealed the produced nano fuel can potentially be utilized in diesel engines as a

sustainable fuel to increase efficiency and reduce hazardous emissions brought on by using diesel fuels. Also, the investigated parameters had a significant influence on the performance and emission behavior of the engine.

Supervisor: Prof T.C Jen

## Mathane, Tlou Phillemon PhD (Urban and Regional Planning)

Tlou Phillemon Mathane holds a Bachelor of Administration degree, and an Honors degree from the University of Limpopo. He holds a Master of Commerce Degree, and a Master of Sustainable Urban Planning & Development Degree (with distinction) both the University of Johannesburg. He also holds a Master of Town and Regional Planning Degree from the University of Pretoria, and a Masters of Urban Studies Degree from Wits University. In 2022, he enrolled for a PhD in Urban and Regional Planning at UJ.

The study employed a pragmatist research approach to develop an *Integrated Sustainable Urban Digital Technologies Framework* for metropolitan-scale planning – with the City of Tshwane's free Wi-Fi programme used as a unit of analysis. The study's main objective was to get a nuanced understanding of the impact of publicly accessible municipal Wi-Fi on the lives of the city's inhabitants, including small-scale entrepreneurs. Using the Lefebvrean theory on the Production of Space and the Right to the City; the study demonstrates the salience of social and physical infrastructures , as well as network integrity in the making of capable, smart and just cities in this age of accelerated advancements in digital technologies. Mathane has published four papers from his PhD thesis in internationally peer-reviewed conference proceedings.

Supervisor: Prof T Gumbo Co-supervisor: Dr EN Makoni

## Mazhandu, Zvanaka Senzeni PhD (Chemical Engineering)

Zvanaka Mazhandu graduated with a BEng. Honours in Chemical Engineering in the first division from the National University of Science and Technology in Zimbabwe and attained an MSc degree in Chemical Engineering at the University of the Witwatersrand, South Africa. In 2019, she enrolled for a PhD in Chemical Engineering at the University of Johannesburg, South Africa. One of her conference papers won the Emilian Bratu Doctoral Student Award. Zvanaka also received the FEBE Postgraduate Prestigious Award for her academic achievements in 2022.

Zvanaka's research is environmental life an cvcle assessment that sought to design options for managing plastic waste in South Africa, using the City of Johannesburg as a case study. Five plastic waste management scenarios were developed. SimaPro 9.1.1 software and associated databases were used in the modelling. The ReCiPe 2016 v1.04 endpoint method, Egalitarian version, was used to calculate impact potentials in 22 categories. To determine the least impactful scenario, 13 categories which included global warming, human toxicity potential, marine ecotoxicity, fossil depletion, and fine particulate matter were considered followed by a sensitivity analysis. Damage assessments on human health, ecosystems, and resources were also evaluated. Scenario 5 encompassing 50% mechanical recycling, 20% gasification, 22% cement kiln, and 8% incineration with energy recovery had the lowest

environmental impact. This study contributes to the body of knowledge, as it is the first study of such scope to be conducted in South Africa.

Supervisor: Prof E. Muzenda Co-Supervisor/s: Prof M. Belaid and Dr T. Nhubu

## Nemtajela, Ndivhuwo PhD (Engineering Management)

Ndivhuwo Nemtajela graduated with a National Diploma in Operations Management from the University of Johannesburg (UJ) in 2006, followed by a BTech degree in the same field from the University of South Africa (UNISA) in 2011, and an MTech degree in the same field from UJ in 2016. In 2006, she started her career as a production trainee at CingPet plastic packaging manufacturer. Since 2017, she has been employed as a lecturer at UNISA. After completing her master's degree, she co-authored two conference papers and one journal paper. She is a professional member of Society of Operations Management in Africa (SOMA).

The candidate's research addressed supplier selection for competitiveness and organisational performance in familyowned enterprises in manufacturing sector using economic, environmental, and social criteria. The research study aimed supplier selection framework for develop to а competitiveness and organisational performance for familyowned enterprises in manufacturing industry. The candidate followed a sequential explanatory mixed method approach, where quantitative data were analysed through statistical methods and qualitative data were analysed through a content analysis validated by supply chain offered recommendations experts. She on supplier selection criteria to be used for competitiveness and organisational performance. The research contributes to the existing body of knowledge by presenting an integrated

supplier selection framework based on the literature and empirical data for the study.

Supervisor: Professor JHC Pretorius Co-Supervisor/s: Dr A Vermeulen

## Okika, Michael Chuba PhD (Engineering Management)

Michael Chuba Okika received his B.Eng in Electrical Electronics Engineering in 2006 from Nnamdi Azikiwe University Awka, Nigeria and his Master's degree in Electrical Engineering from the University of the Witwatersrand, Johannesburg, South Africa in 2019, In 2021, he commenced his PhD in the Postgraduate School of Engineering Management at the University of Johannesburg, South Africa.

His research aimed to develop frameworks to effectively minimise risks in construction projects in South Africa so that quality baselines, cost, safety, time and other project objectives are not negatively influenced by these risks and uncertainties associated with construction projects. In his research, he identified, assessed and analysed the various sources of risks in construction projects and developed frameworks to effectively manage these risks, uncertainties and their sources. The research focused on interface risks, uncertainties, supply chain risks and unidentified risks associated with construction activities and other challenges construction industry professionals encountered while executing construction projects. These risks and uncertainties were carefully identified, assessed, analysed and effective risk mitigation methods proposed by evaluating how these risks and uncertainties influence construction projects and the overall project objectives. These risks will be greatly mitigated if the proposed frameworks are fully implemented in every construction project.

**Supervisor:** Dr A. Vermeulen **Co-Supervisor:** Prof JHC Pretorius

## Oluwafemi, Jesusetemi Funmi PhD (Operations Management)

Jesusetemi Oluwafemi completed her B.Sc. in Economics at Ajayi Crowther University, Oyo State, Nigeria, in 2012 and an M.Sc. in Economics at Afe Babalola University Ado Ekiti, Nigeria, in 2016. She worked as a planning officer at the Kwara State Ministry of Planning and Economic Development before commencing her PhD in July 2018 at the University of Johannesburg.

The rising population in Nigeria has led to problems such as hunger and malnutrition, highlighting the need to develop the agriculture sector. Traditional farming practices hinder productivity, making adopting modern technologies like Industry 4.0 crucial. The candidate examined the impact of Industry 4.0 technologies on Nigeria's agricultural sector. The research used qualitative and quantitative data, with focus group discussions and 306 respondents. The findings revealed that the COVID-19 pandemic caused a 20% decrease in sales for farmers and disrupted farming activities. Factors influencing the adoption of Industry 4.0 technologies included farm size, farmers' experience, partnerships, access to extension services, education, group membership, household size, perception of technology, and insurance. The adoption positively influenced agricultural outputs, income, and profits without negatively affecting employment generation. It is recommended that the government raise awareness about the benefits of Industry 4.0 technology adoption in agriculture so as to leverage on

this technology and reap the enormous benefits that could result from its adoption.

Supervisor: Prof. E.T Akinlabi Co-Supervisor: Prof P Kholopane

## Phoofolo, Mamonono Adel PhD (Operations Management)

Ms Phoofolo is from Maseru Lesotho, she works for the Government of Lesotho as a Finance Manager, handling and managing public funds. She is also a part time Lecturer at the National University of Lesotho and a consultant in business and finance. She holds a Masters in Entrepreneurship from Wits University. Phoofolo has attended many workshops and presented many papers in her field of expertise.

In relation to her thesis, she posits that, the concept of Entrepreneurial Orientation (EO) is widely recognised as a crucial factor in achieving organisational performance. The current study employed the positivist research philosophy and a quantitative research approach. The empirical findings after presentation and interpretation of related data indicated that the dimensions of entrepreneurial orientation (EO) do not have a discernible impact on the performance of small and medium-sized enterprises (SMEs) in Lesotho. The current investigation is poised to make a valuable contribution the field of operations to by exploring the management potential of technopreneurship to enhance entrepreneurial exposure to ignite economic growth. Two articles were drafted and submitted to DHET accredited Journals for publication.

Supervisor: Dr E I Edoun Co-Supervisor/s: Prof A Pradhan

## Tshephe, Thato Sharon PhD (Metallurgical Engineering)

Thato Sharon Tshephe earned her bachelor's degree in Engineering Metallurgy at the Tshwane University of Technology in 2011. Her commitment to academic excellence continued as she obtained a Master's degree with Cum-Laude at TUT in 2013. In 2016, Thato joined the University of Johannesburg as a Lecturer. In 2018, she enrolled for a PhD in Engineering Metallurgy and was awarded the NRF Thuthuka grant to support her doctoral studies. Between 2018 and 2019, She participated in a student exchange program at San Diego State University, broadening her horizons and global perspective.

The candidate's PhD research focused on developing a zirconia- titanium-aluminium-vanadium composite for biomedical applications using Direct Metal Laser Sintering (DMLS) technology. The study explored the influence of 3Dprinting the microstructural. parameters on nanomechanical and biocorrosion behaviour of the composite. The preferred crystallographic orientation and basketweave microstructure with well-distributed needleshaped  $\alpha$ -phase and retained fine-structured  $\beta$ -phase between  $\alpha$ -phase revealed by SEM-EBSD analysis confirmed the tailored suitable for bone scaffold application. The enhanced passivation obtained from potentiodynamic polarization and the resistivity through electrochemical impedance spectroscopy provided valuable insights into its biocompatibility in simulated body fluid, making it a promising material for bio-implant application. Notably, the

research introduced the concept of "reverse Hall-Petch" in nanohardness, challenging conventional expectations. This work underscores the critical role of optimizing processing parameters to tailor microstructure and mechanical properties for biomedical applications, paving the way for exciting future research in DMLS-printed alloys and composites. Two peer-reviewed articles have been published

Supervisor: Prof. PA Olubambi Co-Supervisor/s: Prof. E Olevsky and Dr. SO Akinwamide

## Huang, Wei PhD (honoris causa)

Professor Wei Huang, a distinguished scholar and scientist, has made significant contributions to the fields of organic optoelectronics and flexible electronics. He has received numerous accolades and honours throughout his career, highlighting his exceptional achievements. Born in Hebei, China, Professor Huang's educational journey began at Peking University, where he earned his BSc, MSc, and PhD degrees in Chemistry.

Prof Wei Huang embarked on a remarkable professional career that included teaching Physical Chemistry at Peking University and conducting postdoctoral research at the National University of Singapore (NUS). Professor Huang played a pivotal role in the establishment of the Institute of Materials Research and Engineering (IMRE).

His academic journey continued as he joined Fudan University as a Chair Professor in 2001, where he founded and chaired the Institute of Advanced Materials (IAM). He initiated a platform for advanced materials research at Fudan University, contributing significantly to technology innovation and talent development in the field.

Professor Huang's leadership extended to Nanjing University of Posts and Telecommunications (NUPT), where he served as Deputy President. During this period, he initiated the Institute of Advanced Materials (IAM) and the Key Laboratory for Organic Electronics and Information Displays (KLOEID). During this period, he was elected to the Chinese Academy of Sciences (CAS). In July 2012, he became the President of Nanjing Tech University (NanjingTech) and founded the Key Laboratory of Flexible Electronics (KLOFE) and the Institute of Advanced Materials (IAM). He further expanded his influence through the establishment of research centers and initiatives, such as the International Research Centre of Flexible Electronics (CoFE) and the Joint International Laboratory of Flexible Electronics (LoFE). Professor Huang's dedication to innovation culminated in the creation of "The Discipline Innovative Engineering Plan on Flexible Electronics" in October 2016.

His commitment to research excellence is exemplified by his impressive publication record, including over 900 papers in esteemed journals such as *Science*, *Nature*, and *Advanced Materials*. Professor Huang's research has garnered over 100,000 citations (ISI Web of Knowledge) and he has an impressive h-index of more than 160, cementing his status as one of the most cited researchers in the field of material science and chemistry.

In addition to his research contributions, Professor Huang has held editorial positions in top international journals and has secured over 360 patents in the USA, Singapore, and China.

Notably, Professor Huang's innovative work includes the development of a novel p–n semiconducting copolymerization strategy, which has advanced the

efficiency and performance of organic semiconductors. His contributions have expanded the application of organic semiconductors to fields such as organic laser technology, bio-sensing, information storage, and photoelectric conversion.

Throughout his career, Professor Huang has received recognition and praise from esteemed colleagues, including Nobel Laureate Dr Alan J. Heeger, who commended his groundbreaking contributions to polymer light-emitting diodes (PLEDs) and plastic electronics.

Beyond his scientific endeavours, Professor Huang has been dedicated to social service, actively participating in over 60 social organizations and holding leadership positions in various engineering and academic committees. He has delivered over 160 keynote, plenary, and invited talks at international conferences, fostering collaboration and knowledge exchange on a global scale.

As an educator, Professor Huang advocates for a bottom-up approach to education and has published a book outlining principles for establishing a first-class international university. He emphasizes the importance of ambition, diligence, teamwork, and other attributes in student development.

Professor Huang's close ties with the University of Johannesburg (UJ) have resulted in significant collaborations, including the establishment of the UJ-

NanjingTech Confucius Institute and joint research efforts, including the Centre for Africa China Studies. His dedication to education, research, and international collaboration aligns with UJ's values of imagination, conversation, regeneration, and ethical foundation.

In conclusion, Professor Wei Huang's exceptional contributions to the fields of organic optoelectronics, flexible electronics, and materials science, coupled with his commitment to education and global collaboration, make him a deserving recipient of this honorary degree. His impact on scientific research, technological innovation, and the education of future generations is both profound and enduring. Professor Huang's legacy continues to shape the landscape of materials science and engineering, inspiring students and researchers worldwide.



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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