



# 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  
27 February 2023 at 13:00**

**Welkom by die  
Gradeplegtigheid van die  
Universiteit van Johannesburg  
27 Februarie 2023 om 13:00**

**Le a Amogelwa  
Moletlong wa Dikapešo wa  
Yunibesithi ya Johannesburg  
27 Dibokwana 2023 ka 13:00**

**Niyamukelwa  
eMcimbini wokweThweswa kweZiqu  
weNyuvesi yaseJohannesburg  
27 kuNhlolanja 2023 ngele-13:00**

# **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 T Marwala

*(Until 28 February 2023)*

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

Prof LG Mpedi

*(From 1 March 2023)*

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

## **DEPUTY VICE-CHANCELLOR: ACADEMIC**

Prof LG Mpedi

*(Until 28 February 2023)*

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

Prof S Khan

*(From 1 March 2023)*

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**

Ms X Kakana

### **DEPUTY CHAIRPERSON**

Dr Y Ndema

### **MEMBERS**

Prof H Abrahamse

Mr FM Baleni

Ms S Dlamini



Ms K Gugushe  
Prof D Hildebrandt  
Ms K Khumalo  
Ms B Madikizela  
Mr M Mahlasela  
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 mfundi;  
Phambili ngenhlangano yonke;  
Maziqhubeke ngonaphakade!

# FACULTY OF SCIENCE

## QUALIFICATIONS

### 1. Bachelor of Science (BSc)

**Arends**, Tasneem Nazreen (Physics and Applied Mathematics)

**Baba**, Noluthando Octavia (Zoology and Biochemistry)

**Bagdadi**, Omar (Computer Science and Informatics)

**Bench**, Lianne (Computer Science and Informatics)

**Bennett**, Jevohn Merique (Computer Science and Informatics)

**Botes**, Kyle Thomas (Computer Science and Informatics)

**Bukasa**, Mayombo Valery (Computer Science and Informatics)

**Camango**, Nyiko (Computer Science and Informatics)

**Chibawe**, Mkwenya (Computer Science and Informatics)

**Chichwadia**, Aaliya Ebrahim (Information Technology)

**Chikomo**, Bryne Tinashe (Computer Science and Informatics)

**Chopdat**, Mohammed Yaseen (Computer Science and Informatics)

**Cloete**, Ethan Keanu (Computer Science and Informatics)

**Daniels**, Myles Llewellyn (Information Technology)

**Daniels**, Xiavyan Chadler Dondre (Computer Science and Informatics)

**De Klerk**, Xante (Physiology and Biochemistry)  
**Dewa**, Vishek Rawjee (Chemistry and Physics)  
**Dhlakama**, Kamogelo Lloyd (Computer Science and Informatics)  
**Dhlomo**, Edwick Babongile (Computer Science and Informatics)  
**Diallo**, Maimouna (Computer Science and Informatics)  
**Ditibane**, Reabetswe (Zoology and Biochemistry)  
**Dlamini**, Brendon Nkosinathi (Computer Science and Informatics)  
**Dollie**, Umar Nagdee (Computer Science and Informatics)  
**Evans**, Megan Rebecca (Computer Science and Informatics)  
**Evans**, Sarah Robyn (Computer Science and Informatics)  
**Germani**, Lorenzo Michele (Computer Science and Informatics)  
**Gunguta**, Liyema (Computer Science and Informatics)  
**Hadebe**, Nelisiwe Princess (Biochemistry and Botany)  
**Kabinde**, Ingrid Thandeka (Physics and Applied Mathematics)  
**Kalombo**, Diyoka (Biochemistry and Zoology)  
**Ketshabile**, Onalenna Abner (Computer Science and Informatics)  
**Khan**, Muawiyah (Computer Science and Informatics)  
**Khumalo**, Teboho (Physiology and Biochemistry)  
**Kieser**, Oliver John (Physiology and Biochemistry)  
**Kisling**, Jarrod John (Physiology and Biochemistry)  
**Komo**, Nduduzo Gift (Applied Mathematics and Computer Science)

**Kubaye**, Hlulani Prince (Computer Science and Informatics)  
**Langa**, George Manjungwa (Computer Science and Informatics)  
**Lau**, Maria Magdalena (Physiology and Biochemistry)  
**Lechaba**, Jacob Mpho (Computer Science and Informatics)  
**Legong**, Isaac Chris (Computer Science and Informatics)  
**Lehloenya**, Thabang (Computer Science and Informatics)  
**Luvhengo**, Gumani Dakalo (Computer Science and Informatics)  
**Mabaire**, Ashleigh Lilly (Computer Science and Informatics)  
**Mabasa**, Msovo Woodrow (Computer Science and Informatics)  
**Maboa**, Tsietsi Bojane (Computer Science and Informatics)  
**Macheli**, Malefetsane James (Computer Science and Informatics)  
**Madzivadondo**, Precious (Computer Science and Informatics)  
**Mafukasaga**, Mulalo (Biochemistry and Chemistry)  
**Maharaj**, Sonaly (Computer Science and Informatics)  
**Makhubela**, Success (Computer Science and Informatics)  
**Maluleka**, Jeffrey Solomon (Computer Science and Informatics)  
**Maluleke**, Rirhandzu Patience (Computer Science and Informatics)  
**Mamabolo**, Mapula Veronnica (Computer Science and Informatics)  
**Mampa**, Tebogo Maishe (Computer Science and Informatics)

**Masakona**, Wavhothe (Computer Science and Informatics)  
**Maseko**, Bongekile Natasha (Computer Science and Informatics)  
**Masemola**, Mahlatse Hunadi (Physiology and Biochemistry)  
**Mashishimise**, Thivhileli Rodney (Computer Science and Informatics)  
**Mathebula**, Boitshepo (Computer Science and Informatics)  
**Mathode**, Phumudzo Benedict (Computer Science and Informatics)  
**Matyobeni**, Yolanda (Computer Science and Informatics)  
**Mavhona**, Khuthadzo Prudence (Biochemistry and Botany)  
**Mavhungu**, Thompho Victoria (Computer Science and Informatics)  
**Mazibuko**, Sithembiso (Computer Science and Informatics)  
**Mbatha**, Busani (Computer Science and Informatics)  
**Mchunu**, Mholi Nkosinathi (Computer Science and Informatics)  
**Mckenzie**, Shahir Hassan (Computer Science and Informatics)  
**Mistry**, Himal Kaushik (Computer Science and Informatics)  
**Mkabi**, Ben (Computer Science and Informatics)  
**Mlambo**, Mondli Samkelo (Computer Science and Informatics)  
**Mngadi**, Ntokozo (Computer Science and Informatics)  
**Mntambo**, Kelvin (Computer Science and Informatics)  
**Moiloa**, Motheo (Computer Science and Informatics)  
**Mokolo**, Thapelo (Computer Science and Informatics)  
**Molope**, Peter (Computer Science and Informatics)

**Molvi**, Husnaa (Computer Science and Informatics)  
**Monchwe**, Omphile (Computer Science and Informatics)

**Morake**, Prosper (Computer Science and Informatics)  
**Moshidi**, Ramasela Yasmeeen (Physiology and Biochemistry)  
**Mosiea**, Thabang Sylvester (Computer Science and Informatics)  
**Motsei**, Lehlohonolo (Applied Mathematics and Computer Science)  
**Motsie**, Kamogelo (Computer Science and Informatics)  
**Moyane**, Lindekunhle Shenon (Physiology and Biochemistry)  
**Moyo**, Solomon (Computer Science and Informatics)  
**Mpala**, Glad (Computer Science and Informatics)  
**Mpayase**, Moses (Computer Science and Informatics)  
**Mphayi**, Hitler Manthokgo (Computer Science and Informatics)  
**Mthamo**, Khanyiso (Computer Science and Informatics)  
**Mtotywa**, Okuhle Andisiwe (Computer Science and Informatics)  
**Muavha**, Ivhani (Computer Science and Informatics)  
**Mufamadi**, Anwani Nicolas (Computer Science and Informatics)  
**Muhali**, Tshiala (Computer Science and Informatics)  
**Mukwevho**, Mukhethwa Charles (Computer Science and Informatics)  
**Mulaudzi**, Gracious Rofhiwa (Information Technology)  
**Mutavhatsindi**, Ndivhuwo Teenage (Computer Science and Informatics)

**Naidoo**, Krieolin Navindran (Computer Science and Informatics)

**Ncembu**, Vakele (Physiology and Biochemistry)

**Ndlovu**, Neo Peter (Applied Mathematics and Computer Science)

**Ndobela**, Caivil Tshegofatso (Physiology and Biochemistry)

**Ndumo**, Nontsikelelo Nonhlanzeko (Computer Science and Informatics)

**Nemauluma**, Khuthadzo Robinson (Computer Science and Informatics)

**Nethavhani**, Murendeni Rachel (Biochemistry and Chemistry)

**Netshirungulu**, Mufunwa Hollick (Computer Science and Informatics)

**Ngobeni**, Gabaza Nkateko (Biochemistry and Botany)

**Ngwaluko**, Siphwe Linda (Computer Science and Informatics)

**Nhlabathi**, Sphamandla Eugene (Computer Science and Informatics)

**Nondiza**, Mazulwandile (Applied Mathematics and Computer Science)

**Noor**, Muaaz (Computer Science and Informatics)

**Ntibane**, Sibusiso Matoya (Computer Science and Informatics)

**Nzimande**, Sithembile Vanessa (Computer Science and Informatics)

**Ogun**, Koyinsola Ifeoluwa (Physiology and Biochemistry)



**Otto**, Mattheus Johannes Greeff (Computer Science and Informatics)  
**Patel**, Hussain Ebrahim (Computer Science and Informatics)  
**Patel**, Uwais (Computer Science and Informatics)  
**Pathan**, Mohamad Abrarkhan Sajidkhan(Computer Science and Informatics)  
**Phiri**, Thandekile Antoinette (Computer Science and Informatics)  
**Phogole**, Kgotso (Physics and Applied Mathematics)  
**Radebe**, Ndumiso Gordon (Physiology and Biochemistry)  
**Rakgori**, Paseka Thabo (Computer Science and Informatics)  
**Ramasindi**, Thalukanyo (Computer Science and Informatics)  
**Randima**, Hataluli (Computer Science and Informatics)  
**Ranwaha**, Mbuelo (Physics and Applied Mathematics)  
**Rapotu**, Tumiso (Computer Science and Informatics)  
**Ravhudzulo**, Unarine Ernest (Applied Mathematics and Computer Science)  
**Saib**, Wasim (Computer Science and Informatics)  
**Saidi**, Taonga (Physiology and Biochemistry)  
**Sajjad**, Azan (Computer Science and Informatics)  
**Seatlholo**, Steven Katleho (Computer Science and Informatics)  
**Sedu**, Mohammed Sajid Abdul Samad (Computer Science and Informatics)  
**Sefoloshe**, Tiego Gwen (Biochemistry and Botany)  
**Sejaphala**, Reazeni (Computer Science and Informatics)  
**Selane**, Masilo Joseph (Computer Science and Informatics)  
**Simende**, Kundai Shaun (Computer Science and Informatics)

**Sindana**, Sylvia (Physiology and Biochemistry)  
**Sithole**, Andile (Computer Science and Informatics)  
**Sizane**, Luvuyo (Computer Science and Informatics)  
**Stephen**, Lerato (Physiology and Biochemistry)  
**Swanzen**, Jared Chad (Computer Science and Informatics)  
**Swarts**, Jody (Chemistry and Physics)  
**Taliwe**, Thina (Computer Science and Informatics)  
**Thabethe**, Mandla (Applied Mathematics and Computer Science)  
**Tshabalala**, Siphos Joseph (Physics and Applied Mathematics)  
**Tshirumbula**, Lufuno (Computer Science and Informatics)  
**Van der Westhuizen**, Sean (Computer Science and Informatics)  
**Volschenk**, Francois (Computer Science and Informatics)  
**Wadee**, Tasneem (Applied Mathematics and Computer Science)  
**Weideman**, Connor (Computer Science and Informatics)  
**Zinyemba**, Nodji Kezia (Physiology and Biochemistry)  
**Zitha**, Richard Given (Computer Science and Informatics)

## **2. Bachelor of Science Hons (BSc Hons)**

**Adebayo**, Mercy Adewumi Kehinde (Computer Science with Cyber Security)  
**Baig**, Zeerak Mohammad (Information Technology)  
**Baloyi**, Katekani Abigail (Biochemistry)  
**Bornman**, Hendrik Barend (Information Technology)

**Chhaya**, Ibrahim Mohamed Anis (Information Technology)  
**De Castro**, Marcio Flavio (Computer Science with Cyber Security)  
**De Lange**, Marthinus Gerhardus (Computer Science)  
**Dlamini**, Fanelesibonge Noluthando (Computer Science)  
**Du Plessis**, Antzel (Biochemistry)  
**Du Plessis**, Claudius (Computer Science with Cyber Security)  
**Hattingh**, Susanna Johanna (Biochemistry)  
**Heusdens**, Danica (Biochemistry)  
**Hibbert**, Caylee (Computer Science with Cyber Security)  
**Janse van Rensburg**, Daniel Hendrik (Physics)  
**Joannou**, Nicholas (Computer Science with Artificial Intelligence)  
**Kabatusuila**, Balekelayi Beaudry (Computer Science with Cyber Security)  
**Mabunda**, Isac Goodman (Biochemistry)  
**Madisha**, Lekau Dan (Biochemistry)  
**Mahasha**, Kgaugelo Tshiitamunne (Computer Science with Cyber Security)  
**Makhubela**, Rorisang Victor (Biochemistry)  
**Maluleke**, Mikateko Sheldon Gift (Computer Science)  
**Mamabolo**, Felicia Moshala (Computer Science)  
**Mamogale**, Clementine (Information Technology)  
**Mansuri**, Muhammad Mansuri (Computer Science)  
**Manzambi**, Mena Miguel (Biochemistry)  
**Marciano**, Victoria (Information Technology)  
**Mashika**, Mpho (Computer Science)  
**Masisi**, Keamogetswe (Computer Science)

**Matlou**, Maria Don Bosco (Biochemistry)  
**Mayer**, Brandon (Information Technology)  
**Mcalpine**, Thomas Adam (Information Technology)  
**Mkhize**, Asanda Sphelele (Biochemistry)  
**Mkwanazi**, Bongekile (Biochemistry)  
**Mmotla**, Kamogelo (Biochemistry)  
**Mogadime**, Moreti Jacob Mpho (Informatics)  
**Mokoena**, Motshidisi Ashleigh (Biochemistry)  
**Mokone**, Kgosietsile Daniel (Information Technology)  
**Mothibi**, Matsobane Alex (Physics)  
**Motlhatlhedhi**, Kagiso (Biochemistry)  
**Motsa**, Phetolo (Biochemistry)  
**Mthethwa**, Abigail (Physics)  
**Mulaudzi**, Musiwalo Samuel (Biochemistry)  
**Ndaba**, Tshepang (Biochemistry)  
**Ndlovu**, Ali (Biochemistry)  
**Nxasane**, Sihle Innocent (Computer Science with Cyber Security)  
**Omar**, Alyaa (Computer Science)  
**Pillay**, Shenice O'Neil (Biochemistry)  
**Qalinge**, Mbali (Computer Science)  
**Riemer**, Byron Travis (Information Technology)  
**Roscher**, Anton Johan (Information Technology)  
**Sekonya**, Nkata (Computer Science with Cyber Security)  
**Sookoo**, Sheetal (Biochemistry)  
**Tambe**, Ayanda Amos (Biochemistry)  
**Tsanwani**, Munei (Biochemistry)  
**Tshabalala**, Dimpho Jeanette (Biochemistry)

**Tshililo**, Vhahangwele Grace (Biochemistry)  
**Walls**, Andrew Goddard (Information Technology)  
**Zubair**, Muhammad Zukhraf (Computer Science)  
**Zulu**, Mvikeli Muzikawupheli (Biochemistry)

### 3. Master of Philosophy (MPhil)

**Masebinu**, Roseline Oluremi (Energy Studies)  
**Dissertation:** Assessing the potential for flexible demand side management in the steel industrial sector in South Africa  
**Supervisor:** Dr N Kambule

### 4. Master of Science (MSc)

**Chamasula**, Victoria (Geography)  
**Dissertation:** Reconciling indigenous and scientific knowledge to address the issue of land degradation: A case study of Balaka in Malawi  
**Supervisor:** Ms M Rabumbulu

**Du Piesanie, Catharina Elizabeth (Biotechnology)**

**Dissertation:** Cross protection of a *Mannheimia haemolytica* bovine respiratory disease vaccine against *Mannheimia haemolytica* serotypes causing pasteurellosis in sheep in South Africa

**Supervisor:** Dr K Kondiah

**Co-Supervisor:** Dr B Nthangeni (Onderstepoort Biological Products)

**Lekoane, Tlhogelo (Nanoscience)**

**Minor Dissertation:** Quarternized polysulfone zeolite-blended membrane as a separator for aluminium air batteries

**Supervisor:** Dr P Msomi

**Macheke, Ntshembo Chris (Biotechnology)**

**Dissertation:** Physicochemical, bacteria community and composition of sorghum sourdough

**Supervisor:** Prof O Adebo

**Co-Supervisor:** Dr AB Oyedeji

**Co-Supervisor:** Dr N Ngobese

**Magampa, Harold Sthembiso (Nanoscience) (with distinction)**

**Minor Dissertation:** Catalytic conversion of bioderived molecules into fuel range chemicals

**Supervisor:** Dr LC Matsinha

**Co-Supervisor:** Dr NS Bingwa

**Co-Supervisor:** Prof BCE Makhubela

**Mahomed, Nasima Banu (Biochemistry) (with distinction)**

**Dissertation:** Investigation of histone methylation of Tomato Curly Stunt Virus (ToCSV) in resistant and susceptible tomato lines

**Supervisor:** Dr F Allie

**Co-Supervisor:** Dr G Koorsen

**Mukange, Tsumbedzo (Computer Science) (with distinction)**

**Dissertation:** The alignment between DevOps and Business Outcomes

**Supervisor:** Prof JJ Langerman

**Mukendi, Ntambua Joel (Biotechnology)**

**Dissertation:** A comparative genomics approach to the role of the sil operon in silver resistance and biosynthesis of AgNPs in bacteria: A case study of *Enterobacter xiangfangensis* Pb204

**Supervisor:** Prof K Kondiah

**Musoliwa, Rofhiwa (Biotechnology)**

**Dissertation:** Assessing the effectivity of combining biogenic silver nanoparticles and antibiotics in the treatment of ESKAPE pathogens

**Supervisor:** Prof K Kondiah

**Ncube, Buyile** (Food Technology)

**Dissertation:** Effect of common cooking and drying methods on *Corchorus olitorius*' phenolic compounds, antioxidant activity and mineral profile

**Supervisor:** Dr D Beswa

**Co-Supervisor:** Dr BC Dlamini

## 5. Doctor of Technology (DTech)

**Fanoro, Olufunto Tolulope** (Biotechnology)

**Thesis:** Antimicrobial Activities of Silver, Gold and Platinum Nanoparticles synthesized using Combretum erythrophyllum's Extracts, Endophytes and Secondary Metabolites

**Supervisor:** Prof SO Oluwafemi

**Co-Supervisor:** Dr VB Mavumengwana (Stellenbosch University)

## 6. Philosophiae Doctor (PhD)

**Greaves, Brian Rex** (Computer Science)

**Thesis:** Proximity-Based Access Control for Cyber-Physical Spaces

**Supervisor:** Prof M Coetzee

**Co-Supervisor:** Prof WS Leung



**Juga, Maureen Lenna (Applied Mathematics)**

**Thesis:** A Treatise of Ebola Virus Disease Models  
Incorporating Human Behaviour and Interventions

**Supervisor:** Prof F Nyabadza

**Co-Supervisor:** Dr F Chirove

**Letswalo, Machaba Leanyatsa Abraham (Physics)**

**Thesis:** Influence of anionic  $\text{SO}_4^{2-}$  substitution in  
luminescence properties of  $\text{Ce}^{3+}$ ,  $\text{Eu}^{3+}$  and  $\text{Eu}^{2+}$ -doped ZnO  
and  $\text{Ce}^{3+}$  co-doped ZnO:RE (RE =  $\text{Eu}^{3+}$  and  $\text{Eu}^{2+}$ ) phosphors  
for enhanced visible emission

**Supervisor:** Prof OM Ntwaeaborwa (University of the  
Witwatersrand)

**Co-Supervisor:** Prof L Reddy

**Co-Supervisor:** Dr B Avula

**Fanoro, Olufunto Tolulope (DTech)**

Olufunto Tolulope Fanoro was born in Akure, Nigeria. She obtained a B.Sc (Honours) in Microbiology from the Obafemi Awolowo University (OAU), Ile-Ife, Nigeria, in 2008. In 2014, she obtained an M.Sc in Environmental Control and Management from the same university. She worked as a Senior Scientific Officer with the Ondo State Government of Nigeria. Thereafter, she enrolled for the doctoral degree at the University of Johannesburg in 2017.

In her doctoral study, Mrs Fanoro investigated the antibacterial activity, and the mechanism of antibacterial action of green synthesized silver, gold and platinum nanoparticles from the biological products of *Combretum erythrophyllum* (CE). The leaf extract, the four isolated endophytic bacteria and the secondary metabolites of CE served as the bioreductants and stabilizers in the production of the novel nano-antibiotics. The isolated bacteria are the first-ever reported endophytes of CE. The synthesized nanoparticles and the secondary metabolites of the endophytes showed a broad-spectrum activity against Gram negative and gram-positive bacteria. This study could serve as a starting point for the exploration of indigenous CE in nanomedicine for treating dermatological and nosocomial infectious diseases. The candidate has presented her work at five international conferences and symposiums; and published six peer-reviewed journal articles. She was awarded the best poster presentation at the first-ever Postgraduate IUPAC Summer School in Africa.

**Supervisor:** Prof. S. O. Oluwafemi

**Co-Supervisor:** Dr. V. Mavumengwana

**Greaves, Brian Rex (PhD)**

Mr Greaves was born and raised in Johannesburg South Africa. He holds an MSc in Information Technology from the University of Johannesburg, where he also served as a Lecturer for Computer Science and Information Security undergraduate and postgraduate courses. He now handles Information Security Engineering for a Cambridge-based Artificial Intelligence company that offers the world's most advanced AI for legal process automation, contract drafting, and negotiation.

In his doctoral study, Mr Greaves explored the intricacies of modelling human beings as high-fidelity Digital Twins to track their movements in office environments to dynamically control access to physical and information resources. The study incorporated bleeding edge stereovision camera systems in conjunction with Computer Vision technologies and Bigraphical Reactive Systems to model the topology of a 3D office environment. A novel Cyber-Physical Access Control (CPAC) framework was proposed to integrate the technologies required for access control decisions to be made dynamically in response to topology changes in the environment. The framework was successfully demonstrated and validated by a prototype system that enables dynamic access control for office inhabitants. This study has international significance as the CPAC framework contributes a new and innovative model incorporating Digital Twin technology with access control. The candidate has presented his work at five international peer-reviewed conferences and the BRICS Young Scientist Forum.

**Supervisor:** Prof M Coetzee

**Co-supervisor:** Prof WS Leung

## **Juga, Maureen Lenna**

Ms Juga was born in the western Cameron and holds an MSc in Applied Mathematics from the University of Johannesburg. She enrolled for her doctoral studies at the University of Johannesburg in 2019. She has been a temporary lecturer at the University of Johannesburg during her studies. In addition to the work done during her studies, Ms Juga has published 8 journal articles.

In her doctoral study, Ms Juga studied the Ebola virus disease (EVD) transmission dynamics using systems of differential equations. Three mathematical models, of the deterministic type, which incorporate human behavior and interventions to study the dynamics of EVD spread, transmission, and eradication were formulated. The role of fear (through a fear dependent saturating function), environmental transmissions, the impact of EVD survivor stigmatisation (using a stigmatized survivor-dependent function) and the effects of changes in the number of habitable and uninhabitable beds (using a dynamic hospitalisation function) on the disease transmission dynamics are investigated. The results obtained in the thesis can be used to pivot EVD management and control. The candidate has presented her work at one local and 2 international conferences and has published three peer reviewed journal articles.

**Supervisor:** Prof F Nyabadza

**Co-supervisor:** Prof F Chirove

## **Letswalo, Machaba Leanyatsa (PhD)**

Machaba Leanyatsa Abraham Letswalo was born in Mohlabaaneng village Bolobedu (Ga-Modjadji, Limpopo province) on 9th September 1991. He started school at Lebaka primary school and matriculated from Kheale High School in 2009. He obtained his Bachelor's (Chemistry and Physics) in 2014 and BSc (Hons) degrees in Physics in 2015, both from University of Limpopo. He obtained MSc (Nanoscience) degree in Physics in 2017 from the University of Johannesburg. In 2017, he began his career as an Assistant Lecturer in the Physics department at the University of Johannesburg followed by appointed in a permanent position as lecturer in the same department.

In his thesis, the candidate contributes to the quest to widen applications of nano-phosphor materials for displays and lighting. The objectives of this study were to evaluate the influence of the ZnO host on the radiative transitions of  $\text{Ce}^{3+}/\text{Eu}^{3+}/\text{Eu}^{2+}$  dopant ions and the influence of incorporating the  $\text{SO}_4^{2-}$  high electron mobility group on the PL intensity and emission colour tunability of these ions. Mr Letswalo was able to develop new nano-phosphor materials with improved chemical stability and luminescent properties that can be used in different types of light-emitting devices. His findings were published in accredited high-impact journals.

**Supervisor:** Prof OM Ntwaeaborwa (University of Witwatersrand)

**Co-Supervisor:** Prof L Reddy

**Co-Supervisor:** Dr B Avula



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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.