Welcome to the
Graduation Ceremony
of the
University of Johannesburg
15 April 2015 at 17:00

Welkom by die
Gradeplegtigheid
van die
Universiteit van Johannesburg
15 April 2015 om 17:00

Le a Amogelwa
Moletlong wa Dikapešo wa
Yunibesithi ya Johannesburg
15 Moranang 2015 ka 17:00

Niyamukelwa
eMcimbini wokweThweswa kweZiqu
weNyuvesi yaseJohannesburg
15 kuMbaso 2015 ngele-17:00

UNIVERSITY OF JOHANNESBURG

CHANCELLOR

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

SENIOR OFFICE-BEARERS OF THE UNIVERSITY

VICE-CHANCELLOR AND PRINCIPAL

Prof IL Rensburg
BPharm (Rhodes), MA, PhD (Stanford USA)

DEPUTY VICE-CHANCELLOR: STRATEGIC SERVICES

Mrs ME Letlape
BSc (UFH)

DEPUTY VICE-CHANCELLOR: RESEARCH, POSTGRADUATE STUDIES AND LIBRARY

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

DEPUTY VICE-CHANCELLOR: ACADEMIC

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

DEPUTY VICE-CHANCELLOR: FINANCE

Mr J van Schoor
BCom, BCom Hons (RAU), CA (SA)

DEPUTY VICE-CHANCELLOR: INTERNATIONALISATION, ADVANCEMENT AND STUDENT AFFAIRS

(vacant)

CHIEF OF STAFF AND EXECUTIVE DIRECTOR: VICE-CHANCELLOR'S OFFICE

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

REGISTRAR

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

EXECUTIVE DEANS

FACULTY OF ART, DESIGN AND ARCHITECTURE
Prof F Freschi
BA (Wits), BA Hons (UCT), PhD (Wits)

FACULTY OF ECONOMIC AND FINANCIAL SCIENCES
Prof A Dempsey
BCom, BCom Hons, MCom (RAU), CA (SA)

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

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT
Prof S Sinha
BEng, MEng, PhD (UP)

FACULTY OF HEALTH SCIENCES
Prof A Swart
NDip, NHDip (TWR), BEd, MEd (RAU), DTech (TWR)

FACULTY OF HUMANITIES
Prof LC Posthumus (Acting)
BA, BA Hons, MA, D Litt et Phil (UOFS)

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

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

FACULTY OF SCIENCE
Prof D Meyer
BSc, BSc Hons, MSc (RAU), PhD (University of California, Davis)

MEMBERS OF COUNCIL

CHAIRPERSON

Prof RD Marcus

DEPUTY CHAIRPERSON

Mr MS Teke

MEMBERS

Prof H Abrahamse
Mr FM Baleni
Prof IC Burger
Mr JP Burger
Mr D Bvuma
Ms TA Chaka
Mr TJ Dikgole
Mr CR Gebhardt
Prof D Hildebrandt
Mr G Khosa
Prof C Landsberg
Dr DSS Lushaba
Mr DM Manganye
Dr J Manyaka
Ms K Maroga (invitee)
Ms BJ Memela-Khambula
Dr P Mjwara
Mr M Mkhonta
Mr A Mohammadali-Haji
Mrs K Mokhobo-Amegashie
Mr MJN Njeke
Prof A Parekh
Mr K Rammutla
Prof IL Rensburg
Dr WP Rowland
Mr KB Sibiya
Mr K Thomas
Mr J van Schoor
Mr M White

PRESIDENT OF CONVOCATION

Mr M Mkhonto

Programme

Wednesday, 15 April 2015 at 17:00

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

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

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

The Chancellor constitutes the congregation.

Choir.

Welcome.

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

Singing of the National Anthem.

The Chancellor dissolves the congregation.

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

Lenaneo

Laboraro, 15 Moranang 2015 ka 17:00

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

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

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

Mokhanseliri o kopanya phuthego.

Khwaere.

Dikamogelo.

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

Go opelwa ga Koša ya Setšhaba.

Mokhanseliri o phatlalatša phuthego.

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

Program

Woensdag, 15 April 2015 om 17:00

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

Die akademiese prosessie kom die Ouditorium binne en neem op die verhoog plaas.

Die koor sing Gaudeamus Igitur (of ‘n CD word gespeel) terwyl die aanwesiges staan.

Die Kanselier stel die kongregasie saam.

Koor.

Verwelkoming.

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

Sing van die volkslied.

Die Kanselier ontbind die kongregasie.

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

Uhlelo

uLwesithathu, 15 kuMbaso 2015 ngele-17:00

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

Udwendwe lezifundiswa lungena ehholweni bese amalungu odwendwe ahlala phansi esiteji.

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

UShansela uhlanganisa ibandla.

Ikwaya.

Ukwamukelwa.

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

Kuculwa iHubo Lesizwe.

Gaudeamus Igitur

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

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

English

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

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

Sesotho sa Leboa

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

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

Afrikaans

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

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

Zulu

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

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

QUALIFICATIONS

1. Baccalaureus Ingeneriae (BIng)

Baba, Janesh (Mechanical)
Baloyi, Khensane Melvin (Civil)
Baloyi, Lesiba Given (Civil)
Berry, Christaphor Patrick (Civil)
Bhagwager, Mikaash (Civil)
Blignault, Zandalee Bronwyn (Electrical And Electronic)
Blomerus, Deon (Civil)
Bramdaw, Mishkal (Civil)
Brandt, Warren (Mechanical)
Brinkmann, Tim (Mechanical)
Chuene, Cloudius Madimetja (Mechanical)
Claassens, Gerhardus Dirk (Mechanical)
Coetzee, Werner Zibley (Civil)
Coustas, Juan Claude (Mechanical)
Da Silva, Andre Joaquim Costa (Civil)
Dateling, Jeffrey Ellison (Civil)
Deoraj, Dale Kelvin (Mechanical)
Doyle, Carmen (Civil)
Dube, Sikhumbuzo (Electrical and Electronic)
Fadal, Mohammed Saadiq (Civil)
Faul, Kalinka (Electrical And Electronic)
Gololo, Mpho Gift Doctor (Electrical And Electronic)
Gqiba, Lusizo Somila (Electrical And Electronic)
Grote, Klaus Thomas (Mechanical)
Hearne, Alexandros (Civil)
Hlatshwayo, Thembinkosi Henry (Mechanical)
Jonker, Andre (Civil)
Kabai, Dimakatso (Civil)
Kalenda, Lushiku Gael (Civil)
Kanji, Aashish (Electrical And Electronic)
Karam, Roy (Mechanical)
Khoza, Nkosana James (Civil)
Khumalo, Thandeka Prudence (Civil)
Kombe, Collen Ramatuke (Electrical And Electronic)
Kouwenhoven, Byron Jean (Civil)
Kupa, Phakisho Mamolamo (Electrical And Electronic)
Lediga, Refilwe Mahlatse (Civil)
Ledwaba, Mohau Geoffrey Malesela (Electrical And Electronic)

Lumanisa Landu, Godry (Mechanical)
Mabunda, Sibusiso Desmond (Civil)
Mabuza, Sifiso Benice (Civil)
Maepho, Lehlohonolo (Electrical And Electronic)
Magidimisa, Kuvhanganani Tacia (Civil)
Mahasha, Tebogo Lawrence (Civil)
Maimela, Mahana Tshepo (Civil)
Makharamedzha, Tsumbedzo (Civil)
Makhubele, Noelette Amanda (Civil)
Malangeni, Khanyiso Momelezi (Civil)
Malik, Humna Hassan (Electrical and Electronic With Information Technology)
Malinga, Ziningi Palesa (Mechanical)
Maope, Puseletso Tebatso (Civil)
Marais, Cornelius Hermanus (Mechanical)
Marais, Marnus (Electrical And Electronic)
Mashamba, Murendeni Mberengeni (Civil)
Matu, Unathi Neo B Ing (Electrical and Electronic)
Mawasha, Oarabile Roland (Civil)
Mazibuko, Vusumuzi Meshack (Mechanical)
Mbali, Nolwazi Mildred (Civil)
Mhlanga, Luyanda Mpumelelo Irvin (Civil)
Mkhize, Humphry Sfiso (Civil)
Mkhonto, Samson (Mechanical)
Mnana, Mdumiseni Proffesor (Civil)
Mngomezulu, Bongane Cyprian (Mechanical)
Moila, Kgashane Trevor (Civil)
Moila, Tshepo Matsipa (Mechanical)
Mokoni, Palesa Priscillah (Civil)
Monyemangene, Sedya Ernest (Civil)
Morgan Smith, Byron Cody (Civil)
Mougoue Yamga, Gabriel Melchiade (Electrical and Electronic)
Mthethwa, Mthobisi John (Mechanical)
Mubikayi, Falka (Civil)
Mushwana, Paulette Sibongile (Civil)
Ndlovu, Nhlanhla Bekithemba (Civil)
Ngakane, George Mosianedi (Civil)
Ngidi, Sandile Daniel (Civil)
Ngomseu Mambou, Elie (Electrical and Electronic With Information Technology)
Nhlapho, Trevor Mongezi Happy (Civil)
Padiachy, Justin (Civil)
Palamattam, Rogers Thomas Mathews (Mechanical)
Pather, Bradley (Civil)
Phakathi, Sizwe Ian (Mechanical)
Phala, Thato Bernard (Mechanical)
Pieterse, William Frederick (Mechanical)
Pilusa, Moshohli Innocent (Electrical And Electronic)
Providas, Dimitri (Electrical and Electronic With Information Technology)

Radebe, Ronald (Civil)
Rakgate, Sylvester Mokgokone (Civil)
Ravhuanzwo, Lusani (Electrical And Electronic)
Rayners, Roshne Perene (Civil)
Sediba, Consonance Lethabo (Civil)
Shabangu, Nothando Princess B Ing (Electrical And Electronic)
Shadung, Tshehlana Allan (Mechanical)
Shange, Wandile Lungelo B Ing (Electrical And Electronic)
Sibiya, Sandile Gingela (Mechanical)
Simelane, Londiwe Nombuso (Civil)
Sinayan, Kumeshin (Civil)
Skosana, Phindile Emma (Electrical And Electronic)
Smith, Deon (Civil)
Smith, Dylan (Electrical and Electronic With Information Technology)
Snyman, Matthew (Mechanical)
Steenkamp, Anton Johan (Mechanical) **(with distinction)**
Stephane Martin, Nlom (Electrical and Electronic)
Subramani, Keshani Caylin (Civil)
Swart, Luan (Electrical And Electronic)
Tladi, Serame Israel (Civil)
Trollip, Martin (Electrical and Electronic With Information Technology) **(with distinction)**
Tshitimbi, Murendeni Osborn (Civil)
Ushe, Shingai Adrian (Mechanical)
Van Eck, Shaun (Civil)
Van Tonder, Dane Raymond (Civil)
Vaz, Nuno Figueira (Mechanical)
Young, Tristan Michael (Civil)

2. Magister Technologiae (MTech)

Akinlabi, Olaniyi Akindeji (Engineering Electrical)
Dissertation: Interference management in femtocells networks.
Supervisor: Dr B Paul
Co-supervisor: Dr M Joseph
Co-supervisor: Prof HC Ferreira

Diphare, Motshumi Joseph (Engineering Chemical)
Dissertation: Recovery of base oil from Lithium-based lubricating grease by solvent-flocculation extraction.
Supervisor: Prof E Muzenda

Dladla, Mbongiseni (Operations Management)
Dissertation: Role of metered taxis in the integrated and sustainable public transportation system in Durban.
Supervisor: Prof C Mbohwa

Mokgokong, Tharelelo Nkomo Levy (Engineering Industrial)
Dissertation: Applying bio-mimicry to design an eco-efficient supply chain model for the South African Post Office.
Supervisor: Prof C Mbohwa

Nkosi, Nhlanhla Phillipa (Engineering Chemical)
Dissertation: Waste tyre management trends and pyrolysis feasibility studies in Gauteng, South Africa.
Supervisor: Prof E Muzenda
Co-supervisor: Dr J Zvimba

O'Maker, Robert Michael (Construction Management)
Dissertation: Quality management practices of small and medium enterprise contractors in the Gauteng low-income residential sector.
Supervisor: Dr CO Aigbavboa
Co-supervisor: Prof WD Thwala

Sithole, Thembi Tiyani (Engineering Chemical)
Dissertation: Biodiesel production from waste vegetable oils using magnesium oxide catalyst supported by titania, alumina and zirconia.
Supervisor: Prof K Jalama
Co-supervisor: Prof R Meijboom

3. Magister Ingeneriae (MIng)

Ali, Ahmed Abdi Uysuf (Electrical and Electronic Engineering)
Dissertation: Monitoring and control of the performance for a photo-voltaic system DC-DC converter using frequency shift keying.
Supervisor: Mr AJ Snyders
Co-supervisor: Prof HC Ferreira

Buys, Stephanie (Electrical and Electronic Engineering)
Dissertation: Correcting bursts of adjacent deletions by adapting product codes.
Supervisor: Ms R Heymann
Co-supervisor: Prof HC Ferreira

Dos Santos, Marco Paulo Ferreira (Engineering Management)
Dissertation: Theoretical limits to risk management models: model risk.
Supervisor: Prof AL Nel

Madushela, Nkosinathi (Engineering Management)
Minor Dissertation: An integrated approach to business process reengineering management.
Supervisor: Prof JHC Pretorius

Marais, Stephen Peter (Electrical and Electronic Engineering) **(with distinction)**
Dissertation: Visually aided 3-D simultaneous location and mapping for underground applications
Supervisor: Prof AL Nel

Ncwane, Mlungisi Vincent (Engineering Management)
Minor Dissertation: Comparative study of various technologies used for electricity generation.
Supervisor: Prof JHC Pretorius

Nkwari, Patrick Kibambe Mashoko (Electrical and Electronic Engineering) **(with distinction)**
Dissertation: Cattle monitoring and theft prevention system using ZigBee and WiFi.
Supervisor: Dr S Rimer
Co-supervisor: Dr BS Paul

Pretorius, Cornelius Johannes (Engineering Management)
Minor Dissertation: Solar energy technology road map: Developing a local supply chain in South Africa for concentrated solar power plants.
Supervisor: Prof JHC Pretorius
Co-supervisor: Prof L Pretorius

Seotlo, Mpetje Vincent (Electrical and Electronic Engineering)
Dissertation: Mobile agent trajectory inference.
Supervisor: Prof B Twala
Co-supervisor: Dr W Kleyhans

4. **Magister Philosophiae (MPhil)**

Agbenyeku, Emmanuel Emem-Obong (Civil Engineering) **(with distinction)**
Dissertation: Geo-environmental study of hydraulic and mechanical properties of waste containment base barriers.
Supervisor: Dr F Okonta

Hashe, Vuyo Terrence (Engineering Management)
Minor Dissertation: Benefits to buying firms in collaborating with suppliers in new product development projects: A comparative Case Study.
Supervisor: Prof JHC Pretorius

Netshidzati, Ashley (Engineering Management)
Minor Dissertation: Analysing the implementation process of open road tolling in Gauteng.
Supervisor: Prof JHC Pretorius
Co-supervisor: Dr A Wessels

Nkosi, Mfundo Simangaliso (Mechanical Engineering)
Minor Dissertation: A study into the effect of human error on substandard maintenance performance.
Supervisor: Prof JL Coetzee

Nkosi, Siphesihle Brian (Engineering Management)
Minor Dissertation: Energy efficiency management is steam industries in South Africa.
Supervisor: Prof JHC Pretorius
Co-supervisor: Dr A Wessels

Xulu, Sicelo Goodwill (Electrical and Electronic Engineering) **(with distinction)**
Dissertation: Modelling renewable energy sources for South Africa.
Supervisor: Prof B Twala
Co-supervisor: Prof T Marwala

5. Doctor Ingeneriae (DIng)

Hurwitz, Evan (Electrical and Electronic Engineering)
Thesis: Efficient portfolio optimisation by hybridised machine learning.
Supervisor: Prof T Marwala

Kommula, Venkata Parasuram (Mechanical Engineering)
Thesis: Characterisation of native African Napier grass fibre and Napier grass fibre strands/epoxy composites.
Supervisor: Prof M Shukla
Co-supervisor: Prof T Marwala

6. Doctor Philosophiae (DPhil)

Kanakana, Mukondeleli Grace (Engineering Management)
Thesis: Lean six sigma framework to increase University of Technology engineering throughtput in South Africa.
Supervisor: Prof JHC Pretorius
Co-supervisors: Prof B du Toit

Paul, Satyakama (Engineering Management)
Thesis: Modelling of merger and acquisition target prediction for novice acquirers: A computational intelligence perspective.
Supervisor: Prof T Marwala
Co-supervisor: Prof F Buarque

Pilusa, Tsietsi Jefrey (Mechanical Engineering)
Thesis: Refined waste tyre pyrolysis fuel as diesel additive for compression ignition engine.
Supervisor: Prof E Muzenda
Co-supervisor: Prof M Shukla

Evan, Hurwitz **(DIng)** Electrical and Electronic Engineering

Evan Hurwitz obtained his BSc Engineering (Electrical) (2004) and his MSc Engineering (2006) from the University of the Witwatersrand under the supervision of Professor Tshilidzi Marwala.
Since then, he has worked in IT consultation in business process automation and business intelligence; large data analysis and strategic analysis in the non-profit sector; as well as recently lecturing at the University of Johannesburg. Mr Hurwitz's research has focused on applications of artificial intelligence, particularly in typically non-engineering fields, such as finance and game theory.

In this work, the researcher has developed and demonstrated the viability of utilising machine learning techniques in order to efficiently optimise the task of portfolio management. The work has demonstrated the ability of the techniques to optimise even flawed trading mechanisms by automatically playing to their individual strengths, favouring given trading strategies when their particular assumptions match the current market conditions and moving away from strategies when the market conditions do not match their particular assumptions.
The optimisation is performed in accordance with useful trading guidelines for fund management professionals, allowing for targeted risk/return performance in accordance with the fund manager's needs, so as to better service the particular needs of their clients while bringing a more precise offering to the marketplace.
This work allows for the interchangeability of various strategies within the overarching strategy, making for a versatile methodology that can put together a portfolio to meet specific client needs by utilising machine learning techniques for more optimal performance of the portfolio.

Supervisor: Prof T Marwala

Venkata Parasuram, Kommula **(DIng)** Mechanical Engineering

Kommula obtained his BEng in Production Engineering from Madras University and his Master's Degree in Computer Integrated Manufacturing from Anna University, India. He has 12 years of teaching experience and had worked at the Dr. M.G.R. Educational and Research Institute (Chennai, India), INTI International University College (Nilai, Malaysia) and University of Botswana (Gaborone, Botswana), before joining the University of Johannesburg for his doctorate degree in 2011. His research interests are in the field of natural fibres and natural fibre reinforced composites.

During his doctoral studies, Kommula characterised the native African Napier grass fibre strands after their treatment at various concentrations of sodium hydroxide (NaOH) and acetic acid. Various techniques, including Fourier transform infrared spectroscopy (FTIR), Scanning Electron Microscopy (SEM), X-ray diffraction analysis (XRD), Thermo gravimetric analysis (TGA) and Tensile testing, were used to characterise and test the untreated and treated fibre strands. The NaOH treated native African Napier grass fibre strands were used to produce uni-directional and randomly oriented composites, with epoxy resin as the matrix material. The microstructure, chemical resistance, water absorption and mechanical strength of the composites were also investigated. The new native African Napier grass fibre strand composites developed were found to exhibit superior properties compared to those reported in open literature. These natural fibre composites are eco-friendly in nature and can be potentially used in secondary automotive structures and household applications. The results of Kommula's research have been published in three journals (two of which are ISI listed) and in five international conference proceedings. One of the international conference papers was awarded the Best Paper Award at the Planetary Scientific Research Centre Conference in 2013.

Supervisor: Prof M Shukla
Co-supervisor: Prof T Marwala

Mukondeleli Grace, Kanakana **(DPhil)** Engineering Management

Grace Kanakana completed her National Diploma and Bachelor of Technologiae in Industrial Engineering at Pretoria Technikon (now the Tshwane University of Technology (TUT)) in 1999 and obtained her Master's degree in Business Administration from the Nelson Mandela Metropolitan University in 2006. Throughout her career, she has been involved in continued improvement initiatives, both in automotive and education sectors. She is currently Head of Department of Industrial Engineering at TUT. She is involved in process optimisation in the manufacturing and service sectors by using Lean Six Sigma tools. She is a registered professional technologist with the Engineering Council of South Africa (ECSA) and is a full member of the Southern African Institute for Industrial Engineering (SAIIE). She is also a council member at TUT and SAIIE.

The research proposes a systematic way to improve the throughput rate in engineering education. The research illustrates how Lean Six Sigma can be applied in the **engineering** education process. It also shows how resources can be optimised to ensure maximum impact, particularly in an environment where resources are scarce and maximum throughput is desired.
A system dynamic model was developed to identify key variables that impact on the engineering education process. The model indicates the impact of adjusting critical factors affecting throughput in engineering education and how these factors can be controlled to ensure continuous improvement of the throughput rate. The research demonstrates how system dynamics can be used in Lean Six Sigma. The combination of the two tools results in a robust problem-solving model which can be used in complex processes. This work has been published in four international peer reviewed conferences proceedings.

Supervisor: Prof JHC Pretorius
Co-supervisor: Prof B van Wyk

Satyakama, Paul **(DPhil)** Engineering Management

Paul Satyakama conducted his PhD in the Department of Mechanical Engineering Science, University of Johannesburg. He holds an MBA with specialisation in Human Resource Management and a BSc degree in Economics, Statistics and Mathematics from India. He also served as a researcher at the Indian Institute of Management, Indore and the Indian Institute of Technology, Kharagpur. His research interests are in solving business problems by using Computational Intelligence and Machine Learning techniques.

Takeover target screening and evaluation is an important initial step for the acquirer in merger and acquisition scenarios. Performed diligently, target screening can help an acquirer to align its strategic goals with the value drivers of the future takeover targets.
However, the area faces multiple problems, a serious one being the lack of information when novice acquirers try to acquire their targets. Thus, the challenge is to extract as much knowledge as possible from the limited takeover history in order to guide this novice acquirer during future takeover predictions. In this regard, the PhD thesis proposes three methods based on Computational Intelligence and Information Retrieval through which the problem of limited historical information can be solved. The predictive capability of the method is validated by a comparing the historical evidences of case studies. This research was awarded a Best Paper Award at the BRICS Congress of Computational Intelligence 2013 in Brazil and has been published.

Supervisor: Prof T Marwala
Co-supervisor: Prof F Buarque

Tsietsi Jefrey, Pilusa **(DPhil)** Mechanical Engineering

Tsietsi obtained both his Bachelor's and Master's Degrees in Chemical Engineering from the University of Johannesburg. He had worked in the private sector for over six years as an engineer prior to commencement with his doctorate degree in 2012.

His research interest is in the recovery and beneficiation of alternative fuels from waste resources through chemical and physical separation. During his doctoral studies, the candidate investigated gas-liquid phase oxidative distillation and the de-sulphurisation of fuel oil derived from the pyrolysis of waste tyres for application as a fuel additive for diesel engines. The study led to the design, fabrication and patent of a two-stage in-line micro molecular filter for heavy duty compression ignition engines fuelled with a refined pyrolysis fuel-diesel blend. The obtained fuel derivative was tested in a 6-cylinder ADE 407T truck engine fitted with the developed two-stage micro molecular filter. Performance parameters were found to be in agreement with those of an engine operated with conventional diesel fuel. The new fuel derivative and the developed in-line filter defined a new application for waste tyre pyrolytic liquid fuel in compression ignition engines. The research results have been published in four journals, of which three are ISI listed, one book chapter and thirteen conference proceedings. One paper was ranked as the Best Paper in Thailand at the 2nd International Conference on Agriculture, Environment and Biological Sciences in 2013.

Supervisor: Prof E Muzenda
Co-supervisor: Prof M Shukla

NATIONAL ANTHEM/VOLKSLIED/ KOŠA YA SETŠHABA/ICULO LESIZWE

Nkosi sikelel' iAfrika
Maluphakanyisw' uphondo lwayo
Yizwa imithandazo yethu
Nkosi sikelela thina lusapho lwayo

Morena boloka Setjhaba sa heso
O fedise dintwa le matshwenyeho,
O se boloke, O se boloke
Setjhaba sa heso,
Setjhaba sa South Africa, South Africa.

Uit die blou van onse hemel,
uit die dieptes van ons see,
oor die 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.