



December 2019

GRADUATION CEREMONY BLOEMFONTEIN CAMPUS

All Faculties
Master's and Doctoral Degrees

WEDNESDAY, 11 DECEMBER 2019 | 14:30



UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA



PROGRAMME

CALLIE HUMAN CENTRE, BLOEMFONTEIN CAMPUS

CONSTITUTION OF THE CONGREGATION

Chancellor
Dr K Mokhele

OFFICIAL WELCOME

Rector and Vice-Chancellor
Prof FW Petersen

INTRODUCTION OF GUEST SPEAKER

Vice-Rector: Research
Prof RC Witthuhn

GUEST SPEAKER

Supreme Court of Appeal Judge, CUT Chancellor and
UFS Honorary Doctor of Laws
Justice MB Molemela

MUSICAL ITEM

PRESENTATION OF MASTER'S DEGREE CANDIDATES

Deans and Vice-Deans of the respective faculties

CONFERRAL OF MASTER'S DEGREES

Chancellor
Dr K Mokhele

PRESENTATION OF DOCTORAL CANDIDATES

Deans and Vice-Deans of the respective faculties

CONFERRAL OF DOCTORAL DEGREES

Chancellor
Dr K Mokhele

CONGRATULATORY MESSAGE

Chancellor
Dr K Mokhele

NATIONAL ANTHEM OF SOUTH AFRICA

DISSOLUTION OF THE CONGREGATION

Chancellor
Dr K Mokhele

11 DECEMBER 2019 | 14:30



NATIONAL ANTHEM OF SOUTH AFRICA

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 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.

In order to maintain the dignity of the ceremony, you are requested to take note of the following:

- | | |
|---|---|
| <ul style="list-style-type: none">▪ Please stand as the procession enters the hall▪ Do not move around during the ceremony in order to take photos▪ Please refrain from unacceptable actions such as whistling▪ Please put your cellphone on silent so as not to disturb the proceedings▪ We strive to conduct the ceremonies in a dignified manner | <ul style="list-style-type: none">▪ Please do not leave the hall before the graduation proceedings have been concluded▪ Family and friends unable to attend may watch the full graduation ceremonies through our livestream link at http://livestream.ufs.ac.za. |
|---|---|

ABOUT THE UFS

The University of the Free State (UFS) is one of the oldest institutions of higher education in South Africa.

It opened its doors in 1904 in Bloemfontein as the Grey University College, with six students in the Humanities. Since then, the institution has grown to more than 40 000 students, spread over three campuses and across seven faculties (Economic and Management Sciences, Education, Health Sciences, the Humanities, Law, Natural and Agricultural Sciences, Theology and Religion).

Most of the students are located on the Bloemfontein Campus, with the Qwaqwa Campus situated in the picturesque Eastern Free State, serving a rapidly-growing number of rural students from the immediate area and surrounding provinces. The South Campus – also situated in Bloemfontein – serves as the centre for distance-learning programmes offered by the UFS, as well as alternative access to higher education for promising students who have not obtained the required marks in their final school examinations.

Over the years, the university has grown into an education hub which has positioned itself on the global stage, promoting research excellence, with exceptionally talented scholars and students who are recognised the world over, as well as alumni who have grown into influential leaders in society.



DEVELOPMENT OF THE UFS CREST OVER MORE THAN A CENTURY



1904

Up to 1935, the same coat of arms was used as the Grey College School.



1935

By 1935, with the name change to University College of the Orange Free State, the coat of arms fell into disuse, especially among students.



1947

In 1947, an agreement between management and students led to the new motto Per Fidem ad Sapientiam (Through faith to wisdom).



1950

In 1952, it was changed to In Deo Sapientiae Lux (In God is the light of wisdom). The traditional orange, white and blue, linking the UFS to the South African national colours, changed in the late 1990s. The orange was replaced by cherry red.



2011

The academic brand – the historic University of the Free State crest that has been the symbol of the university since 1952, has evolved to embrace the aesthetic expectations of the stakeholders. The shape of the traditional academic shield has been simplified and contemporised. Much of the symbolism of the crest remains intact, acknowledging the location of the UFS brand as one of the country's premier institutions of higher education, with a proud history of academic excellence and an ever evolving, vibrant culture.

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA



GRADUATION CEREMONY 2019

Honorary Awards | Honorary Doctorates

1950	GLP Moerdyk – DLitt (h.c.)				
1951	NC Havenga – LLD (h.c.)				
1952	Thos Blok – DEd (h.c.)				
	SHS Rubidge – DSc (h.c.)				
1955	CR Swart – LLD (h.c.)				
	CA v Niekerk – LLD (h.c.)				
1958	CPB Brink – LLD (h.c.)				
	CF Visser – DEd (h.c.)				
1959	DB Bosman – DLitt (h.c.)				
	SP le Roux – DScAgric (h.c.)				
	DF Malherbe – DLitt (h.c.)				
	GH v Rooyen – MA (h.c.)				
1960	SPE Boshoff – DLitt (h.c.)				
1961	T Boydell – DPhil (h.c.)				
1962	ES Botes – DEd (h.c.)				
	PE Rousseau – DSc (h.c.)				
1963	EH Louw – LLD (h.c.)				
	EN Roberts – DSc (h.c.)				
	JGF (Kaalkop) vd Merwe – DCom (h.c.)				
	HF Verwoerd – DLitt et Phil (h.c.)				
1966	PSZ Coetzee – DPhilTh (h.c.)				
	PJ du Toit – DSc (h.c.)				
	MS Louw – DCom (h.c.)				
1967	SM Naudé – DSc (h.c.)				
	LC Steyn – LLD (h.c.)				
	BJ Vorster – LLD (h.c.)				
1968	SJ Naudé – DCom (h.c.)				
1969	CW (Nellie) Swart – DPhil (h.c.)				
	AJJ Wessels – DCom (h.c.)				
1970	GS Nienaber – DLitt (h.c.)				
	HO Mönig – DSc (h.c.)				
1971	N Diederichs – DCom (h.c.)				
	RS Verster – DPhil (h.c.)				
1972	LW Hiemstra – DPhil (h.c.)				
	PJ Meyer – DPhil (h.c.)				
1975	PJ Nienaber – DLitt (h.c.)				
	De la H de Villiers – DScAgric (h.c.)				
	GJ Stander – DSc (h.c.)				
1976	AJA Roux – DSc (h.c.)				
1978	SP Botha – DSc (h.c.)				
	EM van Zinderen Bakker – DSc (h.c.)				
	HB Thom – DEd (h.c.)				
1979	FCL Bosman – DPhil (h.c.)				
	G Cronjé – DSocSc (h.c.)				
	CJF Human – DCom (h.c.)				
1980	G Boonzaier – DPhil (h.c.)				
1981	PW Botha – DPhil (h.c.)				
	B Human – DCom (h.c.)				
	SG Shuttleworth – DSc (h.c.)				
1982	BLS Franklin – DPhil (h.c.)				
	GvN Viljoen – DEd (h.c.)				
1983	L Luyt – DCom (h.c.)				
	SF Zaaime – DPhil (h.c.)				
1984	HS Steyn – DSc (h.c.)				
	FR Tomlinson – DScAgric (h.c.)				
	JH vd Berg – DMed (h.c.)				
1985	L Alberts – DSc (h.c.)				
	GG Cillie – DPhil (h.c.)				
	SPD le Roux – DLitt (h.c.)				
	A Polson – DPhilMed (h.c.)				
1986	J du P Scholtz – DPhil (h.c.)				
	S Grové – DMus (h.c.)				
	FP Retief – DMed (h.c.)				
	JA Stegmann – DCom (h.c.)				
1987	WA Joubert – LLD (h.c.)				
	B Kok – DPhil (h.c.)				
	WP Venter – DCom (h.c.)				
1988	JJN Cloete – DAdmin (h.c.)				
	FC Fensham – DLitt (h.c.)				
	JW vd Riet – DPhil (h.c.)				
1989	BJ Meyer – DSc (h.c.)				
	N van Uden – PhD (h.c.)				
1990	MG Corbett – LLD (h.c.)				
	JS Rabie – DLitt (h.c.)				
1991	SS Brand – DCom (h.c.)				
	JWL de Villiers – DSc (h.c.)				
	GT Fagan – DArch (h.c.)				
	JH Hofmeyer – PhD (h.c.)				
	E v Heerden – DLitt (h.c.)				
1992	JP Louw – DLitt (h.c.)				
	H Olivier – DSc (h.c.)				
1993	JD Anderson – DMed (h.c.)				
	RR Arndt – DSc (h.c.)				
	SJ Naudé – LLD (h.c.)				
1994	JJ Human – DPhil (h.c.)				
	JA Myburgh – DMed (h.c.)				
	JP vd Walt – DSc (h.c.)				
1995	WA Landman – DEd (h.c.)				
	WL Mouton – DPhil (h.c.)				
1996	WDO Marasas – DSc (h.c.)				
	NE Wiehahn – LLD (h.c.)				
1997	AP Brink – DLitt (h.c.)				
	B Hurwitz – DPhil (h.c.)				
1998	FC Müller – DMed (h.c.)				
1999	FM Claerhout – DPhil (h.c.)				
	JJF Hefer – LLD (h.c.)				
	S Nigam – DSc (h.c.)				
	WL Nkuhlu – DCom (h.c.)				
	MA Ramphela – DPhil (h.c.)				
	HJO van Heerden – LLD (h.c.)				
	FJ van der Merwe – PhD (h.c.)				
2000	MH Daling – DCom (h.c.)				
	TN Liversedge – PhD (h.c.)				
	I Mahomed – LLD (h.c.)				
2001	BP Gilbertson – DCom (h.c.)				
	NR Mandela – LLD (h.c.)				
	EC Taglauer – DSc (h.c.)				
2002	BH Meyer – PhD (h.c.)				
	BAK Rider – LLD (h.c.)				
	CF Slabbert – PhD (h.c.)				
	JM Stetar – DEd (h.c.)				
2003	EWA de Corte – DEd (h.c.)				
	HA Serebro – DPhil (h.c.)				
	AG Sykes – DSc (h.c.)				
2004	S Badat – DPhil (h.c.)				
	R Bringle – DPhil (h.c.)				
	J de Wet – DMus (h.c.)				
	CF Fauconnier – DSc (h.c.)				
	GJ Gerwel – DPhil (h.c.)				
	WD Jonker – DTh (h.c.)				
	A Krog – DLitt (h.c.)				
	K Mokhele – DPhil (h.c.)				
	CJC Nel (Postuum) – PhD (h.c.)				
	L Quayle – DMus (h.c.)				
	T (Karel) Schoeman – DLitt (h.c.)				
	YK Seedat – DMed (h.c.)				
	MK Seely – DSc (h.c.)				
	C Seerveld – DPhil (h.c.)				
	F van Z Slabbert – DPhil (h.c.)				
	JC Steyn – DLitt (h.c.)				
	PA Verhoef – DTh (h.c.)				
	L van den Heever – LLD (h.c.)				
	HA Wessels – LLD (h.c.)				
2005	A du P Heyns – DMed (h.c.)				
	JJF Durand – DPhil (h.c.)				
	JA Groenewald – DSc (h.c.)				
	WH Neuser – DTh (h.c.)				
	M Ramos – PhD (h.c.)				
	SJ Terreblanche – DCom (h.c.)				
2006	T Moss – PhD (h.c.)				
	PV Cox – PhD (h.c.)				
2007	BJ (Bannie) Britz – DArch (h.c.)				
	KPD Maphalla – PhD (h.c.)				
2008	D Ferreira – DSc (h.c.)				
2009	JC Look – PhD (h.c.)				
	LTC Harms – LLD (h.c.)				
	P Gordhan – PhD (h.c.)				
2010	BBS Ngubane – PhD (h.c.)				
	AH Strydom – PhD (h.c.)				
	M Jones – PhD (h.c.)				
2011	D Tutu – DTh (h.c.)				
	P Fourie – DLitt (h.c.)				
	OG Winfrey – DEd (h.c.)				
	RWM Frater – PhD (h.c.)				
	A Sawyer – DEd (h.c.)				
2012	RJ Goldstone – LLD (h.c.)				
	ER v Heerden – DLitt (h.c.)				
	M Nussbaum – DLitt (h.c.)				
	OW Prozesky – MD (h.c.)				
	FDJ Brand – LLD (h.c.)				
2013	ZKG Mda – DLitt (h.c.)				
2014	ML Blum – PhD (h.c.)				
	L Mulvey – DLitt (h.c.)				
2015	L Brahimi – DPhil (h.c.)				
	JM Samuel – DEd (h.c.)				
	MA Odudoye – DTh (h.c.)				
	JD Sacks – DEcon (h.c.)				
2016	RJ Khoza – DEcon (h.c.)				
	TA Manuel – DEcon (h.c.)				
	M du Preez – PhD (h.c.)				
	J Samoff – DPhil (h.c.)				
	F Haffajee – PhD (h.c.)				
2017	PH Holloway – DSc (h.c.)				
	M Botha – LLD (h.c.)				
2019	BL Fanaroff – DSc (h.c.)				
	J Mofokeng wa Makhetha – DLitt (h.c.)				
	MB Molemela – LLD (h.c.)				

Shields of Honour, Council and Chancellor's Medals

1994	Prof FO Müller (Shield of Honour)	2003	Prof HC Janse van Rensburg (Council's Medal)
	RE Schoombie (Shield of Honour)		Prof SA Petersen (Shield of Honour)
1995	Prof FO Müller (Chancellor's Medal)	2008	Ludo Helsen (Shield of Honour)
	RE Schoombie (Chancellor's Medal)	2009	Prof JU Grobbelaar (Council's Medal)
1996	Prof S Mittman (Shield of Honour)	2010	Mrs AM Dippenaar (Chancellor's Medal)
1997	Prof M Jansens (Shield of Honour)	2014	Dr H Verster (Chancellor's Medal)
1998	Prof CJC Nel (Chancellor's Medal)	2014	Mr JL Pretorius (Chancellor's Medal)
	Prof C Swanepoel (Chancellor's Medal)	2016	Mr AD Osler (Chancellor's Medal)
1999	WJ (Hansie) Cronje (Shield of Honour)		Ms M van der Merwe (Chancellor's Medal)
	Prof David Justice (Shield of Honour)	2017	Ms JS Isaacs (Chancellor's Medal)
2000	Prof P Rosseel (Shield of Honour)	2019	Mr JF de Villiers (Chancellor's Medal)
	Prof MJ Viljoen (Chancellor's Medal)		Ms EM Oosthuizen (Council Medal)
2001	Prof PC Potgieter (Chancellor's Medal)		
2002	T Moss (Shield of Honour)		
	Prof CD Roode (Chancellor's Medal)		

MESSAGE FROM THE RECTOR AND VICE-CHANCELLOR

Dear Student

Congratulations on obtaining your degree! As a postgraduate student, you have become part of a fraternity of exceptional individuals who have graduated before you at the University of the Free State (UFS). Graduation is a significant and memorable day and a culmination of the time you spent here at the UFS.

As a university recognised for academic excellence and quality education, we are proud to confer this degree upon you and we salute you for the years of hard work, perseverance, and dedication.

I acknowledge and thank those who are here with you today, and those who have helped you along the way to this big day – including your promoter, fellow students, friends, and loved ones – in applauding you for all the hard work and perseverance that has made this moment possible. Enjoy and celebrate this exceptional day with your family and friends.

I wish you every success as you enter this exciting next stage of your life and career; I invite you to stay connected with Kovsies in the years to come, and to give back by supporting your alma mater. The continued involvement of our alumni strengthens the special community of alumni of this 115-year old university.

When looking back at your time at the UFS, may you experience a great sense of achievement, knowing that you had a challenging and enriching learning experience.

The UFS is, after all, a place that inspires excellence and transforms lives.

I wish you well in your career and with your future endeavours.

PROF FW PETERSEN
RECTOR AND VICE-CHANCELLOR | UNIVERSITY OF THE FREE STATE

Beste Student

Baie geluk met die verwerwing van jou graad! As nagraadse student het jy deel geword van 'n gemeenskap van uitsonderlike individue wat voor jou aan die Universiteit van die Vrystaat (UV) gegradueer het. Jou gradeplegtigheid is 'n betekenisvolle en onvergeetlike dag en 'n hoogtepunt van die tyd wat jy hier aan die UV deurgebring het.

As 'n universiteit wat erken word vir akademiese uitnemendheid en gehalte-onderrig, is ons trots om hierdie graad aan jou toe te ken en ons bring hulde aan jou vir die jare van harde werk, deursettingsvermoë en toewyding.

Ek gee erkenning aan en bedank diegene wat vandag saam met jou hier is, asook diegene wat jou gehelp het op die pad na hierdie groot dag – onder wie jou promotor, medestudente, vriende en geliefdes – om jou te loof vir al die harde werk en deursettingsvermoë wat hierdie oomblik moontlik gemaak het. Geniet en vier hierdie uitsonderlike dag saam met jou familie en vriende.

Ek wens jou alle sukses toe waar jy hierdie opwindende nuwe fase van jou lewe en loopbaan betree; ek nooi jou om in die komende jare met Kovsies in verbinding te bly en om iets terug te gee deur jou alma mater te ondersteun. Die voortgesette betrokkenheid van ons alumni versterk die spesiale gemeenskap van alumni van hierdie 115-jaar-oue universiteit.

Wanneer jy terugkyk op jou tyd by die UV, mag jy 'n wonderlike gevoel van prestasie beleef, wetende dat jy 'n uitdagende en verrykende leerervaring gehad het.



Die UV is immers 'n plek wat uitnemendheid inspireer en lewens verander.

Ek wens jou alles van die beste toe met jou loopbaan en met jou toekomstige ondernemings.

PROF FW PETERSEN
RECTOR EN VISEKANSLIER | UNIVERSITEIT VAN DIE VRYSTAAT

Moithuti ya Ratehang

Re a o lebohisa bakeng sa ho fumana degree ena! Jwalo ka seithuti sa postgraduate, o bile setho sa mokgatlo wa batho ba ikgethang ba ileng ba qeta dithuto tsa bona tsa degree pele ho wena mona University of the Free State (UFS). Graduation ke letsatsi la bohlokwa le letsatsi leo o tla le hopola le sehlohlolo sa nako eo o e qetileng mona UFS.

Jwalo ka yunivesithi re amohela ka teboho tshebetso ya hao e ipabolang ya thuto le boleng ba thuto, mme re motlotlo ho o neha degree ena le ho o rolela kgaebana bakeng sa dilemo tsa mosebetsi o thata, ho phehella, le boinehelo.

Ke amohela le ho leboha batho ba tllileng le wena kajeno, le ba ileng ba o thusa mmileng wa hao ho fihlela letsatsing lena le leholo – ho kenyeletswa le promouthara ya hao, baithuti-mmoho, metswalle, baratuwa ba hao – ba o thohotsang bakeng sa mosebetsi o thata le phehella ho etsa hore motsotso ona o kgonahale. Thabela le ho ketela letsatsi lena le kgethehileng le lelapa la hao le metswalle.

Ke o lakaletsa katileho ha e le mona o kena mokgahlelong o latelang o thabisang haholo bophelong ba hao le mosebetsing; ke o mema hore o dule o ikgokahantse Kovsies dilemong tse tlang, mme o tshehetse yunivesithi eo o kileng wa kena ho yona kapa alma mater. Ho ithela ka setotswana ho alumni ya rona ho matlafatsa mokgatlo o kgethehileng wa alumni wa yunivesithi e bileng teng ka dilemo tse 115.

Ha o hetla morao nakong eo o bileng UFS ka yona, e ka nna ya ba o na le boikutlo ba botle haholo ba phihlelo, hobane o tseba hore o bile le boiphilelo bo phephetsang le bo o entshatseng melemo.

Sa bohlokwa ka ho fetisisa, UFS ke sebaka se susumetsang tshebetso e ipabolang le ho fetola bophelo.

Ke o lakaletsa tsela tshweu mosebetsing wa hao le boitekong ba hao ba ka moso.

PROF FW PETERSEN
RECTOR AND VICE-CHANCELLOR | UNIVERSITY OF THE FREE STATE

VISION

The University of the Free State is a research-led, student-centred and regionally-engaged university that contributes to development and social justice through the production of globally competitive graduates and knowledge.

MOTTO

IN VERITATE SAPIENTIAE LUX

(In Truth is the Light of Wisdom)

OFFICE BEARERS



CHANCELLOR
Dr K Mokhele
PhD (UCD,USA)



**RECTOR AND
VICE-CHANCELLOR**
Prof FW Petersen
PhD (SU)



CHAIR OF COUNCIL
Mr W Louw
MEng (CIVIL) (SU)



**VICE-RECTOR:
INSTITUTIONAL CHANGE,
STUDENT AFFAIRS
AND COMMUNITY
ENGAGEMENT**
Prof P LenkaBula
PhD (UNISA)



**VICE RECTOR:
OPERATIONS**
Prof P Naidoo
PhD (VISTA)



**VICE-RECTOR:
ACADEMIC**
Dr EL van Staden
DPhil (UJ)



**VICE-RECTOR:
RESEARCH**
Prof RC Witthuhn
PhD (UFS)



REGISTRAR:
Mr NN Ntsababa
MPA (NMU)



**CAMPUS PRINCIPAL:
SOUTH CAMPUS**
Prof D Coetzee
PhD (UFS)



**CAMPUS PRINCIPAL:
QWAQWA**
Dr M Mandew
PhD (UN)



**PRESIDENT OF
CONVOCATION**
Prof JU Grobbelaar
DSc (UFS)



**PRESIDENT: STUDENT
REPRESENTATIVE COUNCIL**
Mr MKB Lechoo



DEANS



**DEAN:
ECONOMIC AND
MANAGEMENT SCIENCES**

Prof HJ Kroukamp
DPhil (UPE)



**DEAN:
EDUCATION**

Prof LC Jita
PhD (MSU)



**DEAN:
HEALTH SCIENCES**

Prof GJ van Zyl
PhD (UFS)



**DEAN:
THE HUMANITIES**

Prof H Hudson
PhD (UFS)



**DEAN:
LAW**

Prof JC Mubangizi
LLD (UDW)



**DEAN:
NATURAL AND
AGRICULTURAL SCIENCES**

Prof PD Vermeulen
PhD (UFS)



**DEAN:
THEOLOGY AND RELIGION**

Prof RS Letšosa
PhD (PU/CHE)



DEAN: STUDENT AFFAIRS

Mr P Mgolombane
MA (WU)

GUEST SPEAKER

JUSTICE MB MOLEMELA

Supreme Court of Appeal Judge, CUT Chancellor and UFS Honorary Doctor of Laws



Born and bred in the City of Roses – Bloemfontein – in 1965, Justice Mahube Betty Molemela returned to the Free State to serve the state as prosecutor after graduating with her first general and Law degrees. She later obtained LLB and LLM degrees from the UFS, and a number of postgraduate diplomas from various institutions of higher learning. Moreover, Molemela lectured on part-time basis in the Faculty of Law between 2001 and 2003. Her career as an attorney commenced at

a local attorney's firm where she completed her contract of articles. She practiced as an attorney in the Free State and later as a director at various private law firms.

Justice Molemela's professional career culminated in her appointment as the first female Judge President of the Free State division of the High Court – the second female to be appointed in this capacity in South Africa. In 2018, Molemela was appointed to the Supreme Court of Appeal of South Africa. She has acted as judge in both the High Court and the Labour Appeal Court in the period 2005 to 2008, before being appointed to the Free State bench in 2008. Her experience as presiding officer further extends to that of judge in the Military Court in 2004 and as Commissioner at the Commission for Conciliation, Mediation and Arbitration in the period 1999 to 2002. She has diverse experience as a presiding officer and was involved as a panellist for the South African Local Government Bargaining Council in the period 2003 to 2008, as well as the Military Arbitration Board, and Tokiso Dispute Resolution.

The diversity of her professional development and further education is evident from the career development courses which she successfully completed. She qualified as a conveyancer, completed certificate courses in Estate Agency, Advanced Military Law, and Human Rights Law. She holds postgraduate diplomas in Business Management and Advanced Labour Law. For purposes of advancing human rights, she also completed a certificate course in the judicial enforcement

of socio-economic rights in Africa and a certificate course in human rights. Justice Molemela's commitment towards the advancement of Human Rights is evident from her association with organisations and associations which aim to expose discriminatory and unjust laws.

She served as a member of the Black Lawyers Association from 1987 to 2008; as a trustee of the Black Lawyers Association Legal Education Centre for the period 2003–2008; and as an advisory board member of the Free State Centre for Human Rights from inception of the centre to date.

Justice Molemela's involvement in the community ranges from actively empowering farm workers and upcoming farmers through initiatives of the Free State Rural Development Association, to presentations and training on forms of business enterprises. Her involvement in the legal profession and legal community includes serving as a councillor for the Free State Law Society and as board member of the Free State School for Legal Practice in the Law Society of South Africa. Her direct involvement with the University of the Free State includes active support of the annual Kopsie Moot Court Competition, which is a competition for first-year Law students from various South African university law faculties.

In 2016, she received the UFS Chancellor's Distinguished Alumnus Award, and in 2019 she received an honorary Doctor of Laws degree from the UFS. She presently serves as the Chancellor of the Central University of Technology, Free State.

PLEASE NOTE

List of candidates receiving degrees, diplomas and certificates:

Degrees, diplomas, and certificates of candidates who are unable to attend the graduation ceremony will be conferred in absentia.

An * next to a name indicates that the degree, diploma or certificate is awarded with distinction.



**VICE-DEAN |
PROF P BURGER**

MASTER'S DEGREES

MASTER OF ADMINISTRATION

NAKIBUULE, Gertrude

Dissertation Title:
PROFESSIONALISING THE
SUPPLY CHAIN MANAGEMENT
OCCUPATION IN UGANDA'S
PUBLIC SECTOR

Supervisor: Dr CJ Hendriks

MASTER OF BUSINESS ADMINISTRATION

CHISVETO, Thomas Mamhene
JANSE VAN RENSBURG, Riaan

LAURENCE, Eloise

LEROTHOLI, Mpiti

MAJIKIJELA, Nondzuzo

SCHOEMAN, Benjamin Marthinus

VUTHELA, Zamagebe Siphokazi

MASTER OF COMMERCE WITH SPECIALISATION IN BUSINESS MANAGEMENT

XABA, Refilwe Palesa

Dissertation Title: THE
INTERNAL FACTORS
AFFECTING THE
PERFORMANCE OF WOMEN

ENTREPRENEURS IN THE INFORMAL SECTOR

Supervisor: Prof B Neneh

MASTER OF COMMERCE WITH SPECIALISATION IN FINANCIAL ACCOUNTING

NKEMELE, Sylvester Moeketsi

Dissertation Title: CORPORATE
GOVERNANCE IN SELECTED
SOUTH AFRICAN STATE-
OWNED ENTITIES

Supervisor: Dr C Crous

MASTER OF COMMERCE WITH SPECIALISATION IN INDUSTRIAL PSYCHOLOGY

LEBITSA, Thaabe Ignatius

Dissertation Title: THE EFFECT
OF PERSONALITY AND SELF-
LEADERSHIP ON WORK
PERFORMANCE AMONGST
FIRST-LINE SUPERVISORS
WORKING IN THE FINANCIAL
SERVICES SECTOR

Supervisor: Prof ES van Zyl

Co-supervisor: Dr P Nel

MASTER OF DEVELOPMENT STUDIES

ABONGUIE, Dora Fonmbuh

Dissertation Title:
DETERMINANTS OF FINANCIAL

INCLUSION IN SOUTH AFRICA: A DEMAND SIDE PERSPECTIVE

Supervisor: Prof B Neneh

NAMBAHU, Emilia Ndinelago



DEAN |
PROF LC JITA

MASTER'S DEGREES

MASTER OF EDUCATION WITH SPECIALISATION IN CURRICULUM STUDIES

FABER, Martelize

Dissertation Title: AN
EXPLORATION OF MOBILE
LEARNING IN SOUTH AFRICAN
ACCOUNTING CLASSROOMS: A
CASE STUDY

Supervisor: Prof LP Louw

OLIVIER, Maritza

Dissertation Title:
TEACHERS' VOICES: INSIDER
PERSPECTIVES ON LEARNER
TRANSITIONS IN SOUTH
AFRICAN PRIMARY SCHOOLS

Supervisor: Dr CD Martin

MASTER OF EDUCATION WITH SPECIALISATION IN EDUCATION MANAGEMENT AND LEADERSHIP

PADAYACHEE, Amy Sarah

Dissertation Title:
COLLABORATIVE STRATEGIES
USED BY SCHOOL
STAKEHOLDERS FOR

MANAGING DISCIPLINE IN SECONDARY SCHOOLS IN ILEMBE DISTRICT

Supervisor: Dr N Gcelu

MASTER OF EDUCATION WITH SPECIALISATION IN HIGHER EDUCATION STUDIES

NKWADIPO, Letlhone
Boitumelo

Dissertation Title: TECHNICAL
AND VOCATIONAL EDUCATION
AND TRAINING TEACHERS'
PEDAGOGICAL CHALLENGES
IN THE TEACHING AND
LEARNING OF ECONOMICS

Supervisor: Dr M Rabaza

MASTER OF EDUCATION WITH SPECIALISATION IN POLICY STUDIES AND GOVERNANCE IN EDUCATION

NUKU, Bomkazi

Dissertation Title:
INVESTIGATING THE
ESTABLISHMENT,
FUNCTIONALITY AND
SUSTAINABILITY OF PRIMARY
SCHOOL LIBRARIES

Supervisor: Dr F Kruger

Co-supervisor: Dr KLG Teise

MASTER OF EDUCATION WITH SPECIALISATION IN PSYCHOLOGY OF EDUCATION

PURCELL, Nicole*

Dissertation Title: MULTI-
SENSORY CODING AND FINGER
SPELLING AS INTERVENTION
THERAPY FOR HEARING
ENGLISH SECOND LANGUAGE
LEARNERS WITH AUDITORY
PROCESSING DELAYS AND
SPELLING IMPAIRMENTS

Supervisor: Prof A van Staden



VICE-DEAN |

**PROF JM TSOKA-
GWEGWENI**

MASTER'S DEGREES

SCHOOL FOR ALLIED HEALTH PROFESSIONS

MASTER OF ARTS IN HUMAN MOVEMENT SCIENCE

MASINGI, Phuti Samuel

Dissertation Title: TIME MOTION
ANALYSIS OF VARSITY CUP
SOCCER

Supervisor: Dr R Schoeman

MASTER OF OCCUPATIONAL THERAPY

NAUDÉ, Catherina Elizabeth
Johanna

Dissertation Title: FACTORS
INFLUENCING THE DESIGN OF
AN OCCUPATIONAL THERAPY
STROKE PROGRAM IN
PRIMARY HEALTH CARE

Supervisor: Ms E Jansen van
Rensburg

Co-supervisor: Dr A van
Jaarsveld

MASTER OF SCIENCE IN DIETETICS

HANSEN, Thelma

Dissertation Title: KNOWLEDGE,
ATTITUDES AND PRACTICE
OF PRIMARY CAREGIVERS
OF FOUNDATION PHASE

LEARNERS IN BLOEMFONTEIN
REGARDING BREAKFAST AND
LUNCHBOXES

Supervisor: Dr R Lategan-
Potgieter

Co-supervisor: Dr WC du Toit

WILLIAMSON, Hanna Eugenie*

Dissertation Title: MEASURED
HEIGHT AND HEIGHT
ESTIMATED FROM BODY
SEGMENTS IN HOSPITALISED
ADULTS IN BLOEMFONTEIN,
SOUTH AFRICA

Supervisor: Prof VL van den Berg

Co-supervisor: Prof CM Walsh

SCHOOL OF BIOMEDICAL SCIENCES

MASTER OF MEDICAL SCIENCE WITH SPECIALISATION IN PHYSIOLOGY

VENTER, Francois Petrus

Dissertation Title: THE EFFECT
OF RECEIVING MOBILE TEXT
MESSAGES ON SALIVARY
CORTISOL LEVELS IN
PHYSIOLOGY STUDENTS AT
THE UNIVERSITY OF THE FREE
STATE

Supervisor: Dr AM Gerber

Co-supervisor: Ms R Vorster

SCHOOL OF CLINICAL MEDICINE

MASTER OF MEDICINE IN ANAESTHESIOLOGY

ESTERHUIZEN, Jovan Lytton

VAN NIEKERK, Jacobus
Johannes Stephanus*

MASTER OF MEDICINE IN COMMUNITY HEALTH

MOTLOUNG, Ming-Han

MASTER OF MEDICINE IN DERMATOLOGY

MAKHAKHE, Lehlohonolo

MASTER OF MEDICINE IN DIAGNOSTIC RADIOLOGY

SPANGENBERG, Benjamin

MASTER OF MEDICINE IN FAMILY MEDICINE

MARUFU, Godwin

MASTER OF MEDICINE IN NEUROSURGERY

DE BRUYN, Martha Magdalena

SWANEPOEL, Johan Christiaan
Yssel



MASTER OF MEDICINE IN ORTHOPAEDIC SURGERY

OOSTHUIZEN, Jan Jonathan

MASTER OF MEDICINE IN RADIATION ONCOLOGY

FOURIE, Carika

SCHOOL OF NURSING

MASTER OF SOCIAL SCIENCE IN NURSING

NCHEPHE, Matsepeli Irene

Dissertation Title: THE LIVED
EXPERIENCES OF PREGNANT
WOMEN LODGING IN THE
MATERNITY WAITING HOMES
WITHIN MAFETENG DISTRICT
HOSPITAL

Supervisor: Dr TM Letsie

SCHOOL OF PATHOLOGY

MASTER OF MEDICINE IN MEDICAL MICROBIOLOGY

VAN DER WESTHUIZEN, Bonita

MASTER OF MEDICAL SCIENCE WITH SPECIALISATION IN VIROLOGY

MAOTOANA, Makgotso Golda

Dissertation Title:
CHARACTERIZATION OF T
CELL RESPONSES TO THE

NON-STRUCTURAL PROTEINS
OF THE M-SEGMENT IN
SURVIVORS OF CRIMEAN-
CONGO HAEMORRHAGIC
FEVER

Supervisor: Prof D Goedhals

Co-supervisor: Prof FJ Burt



VICE-DEAN |

DR CM TWALA

MASTER'S DEGREES

MASTER OF ARTS IN CLINICAL PSYCHOLOGY

MEYEROWITZ, Solomon Hershel

MASTER OF ARTS IN COMMUNICATION SCIENCE

BEZUIDENHOUT, Daniël Hanno

Dissertation Title:
COMMUNICATION THROUGH
MUSICAL SYMBOLS: A
COMPARATIVE STUDY OF
SELECTED PIANO PIECES OF
FRÉDÉRIC CHOPIN

Supervisor: Dr M Krige

Co-supervisor: Dr AMF de Villiers

MASTER OF ARTS IN FINE ARTS

MAARTENS-VAN VUUREN,
Cecilia Hendrina*

Dissertation Title: ROOTS,
RHIZOMES AND RADICLES:
CRITICAL REFLECTIONS ON
MEMORIES AND THE VOYAGE
OF BECOMING

Supervisors: Dr J Allen-Spies
and Prof DJ van den Berg

MASTER OF ARTS IN GENDER STUDIES

TOWA, Nombulelo Esther

MASTER OF ARTS IN GOVERNANCE AND POLITICAL TRANSFORMATION

BROWN, Sbongile Virginia

NDLOVU, Gloria Ntombikayise

NDULI, Lungelo Chrisostomus
Wordsworth

MASTER OF ARTS WITH SPECIALISATION IN ENGLISH

BARURE, Walter

Dissertation Title: THE
POLITICS OF NARRATING THE
PERFORMANCE OF POWER
IN SELECTED ZIMBABWEAN
AUTOBIOGRAPHICAL WRITINGS

Supervisor: Prof I Manase

Co-supervisor: Dr O Nyambi

ROWLEY, Michael John

Dissertation Title: ANALYSING
ONLINE ASSESSMENT VIA
BLACKBOARD IN THE CONTEXT
OF ACADEMIC WRITING
FOR SECOND-LANGUAGE
LEARNERS

Supervisor: Dr SI Brokensha

Co-supervisor: Dr MS Conradie

MASTER OF ARTS WITH SPECIALISATION IN LANGUAGE PRACTICE

MARAIS, Elri

Dissertation Title:
TRANSLATION AND NON-
TRANSLATION IN THE
CREATION OF ONLINE TEXTS
IN SOUTH AFRICA

Supervisors: Dr K Riedel and
Prof R Meylaerts

Co-supervisor: Dr C Mangerel

MASTER OF ARTS WITH SPECIALISATION IN PSYCHOLOGY

WINTER, Ruan*

Dissertation Title: THE
HOLISTIC WELLNESS OF
MARGARET THATCHER: A
PSYCHOBIOGRAPHY

Supervisor: Prof JP Fouché

Co-supervisor: Dr P Naidoo

MASTER OF MUSIC

DE WIT, Teresa*

LUDWIG, Christine Ann

Dissertation Title: THE
VALUE AND EFFECTIVENESS
OF CONTEMPORARY



COMMERCIAL MUSIC SYLLABI IN THE DEVELOPMENT OF VOCAL TECHNIQUE

Supervisor: Dr M Thom Wium

Co-supervisor: Dr AMF de Villiers

NELL, Nadia*

Dissertation Title: ADAPTING
PIANO TEACHING METHODS
FOR CHILDREN DIAGNOSED
WITH AUTISM SPECTRUM
DISORDER

Supervisor: Dr AMF de Villiers

MASTER OF PSYCHOLOGY

CRONJÉ, Johrine

Dissertation Title: PREDICTORS
OF EMOTIONAL INTELLIGENCE
AMONGST UNIVERSITY
STUDENTS

Supervisor: Dr J Jordaan

Co-supervisor: Prof KGF
Esterhuyse

MASTER OF SOCIAL SCIENCE IN CLINICAL PSYCHOLOGY

OLIVIER, Teri*

SEAKAMELA, Mpho Violet

MASTER OF SOCIAL SCIENCE WITH SPECIALISATION IN PSYCHOLOGY

PRETORIUS, Sheree Elizabeth

Dissertation Title: PREDICTORS
OF COPING AMONGST MALE
INCARCERATED OFFENDERS
IN A PRIVATE MAXIMUM-
SECURITY CORRECTIONAL
CENTRE

Supervisor: Dr J Jordaan

Co-supervisor: Prof KGF
Esterhuyse

ROGERS, Codi*

Dissertation Title:
PREDICTORS OF PRISON
ADJUSTMENT AMONGST MALE
INCARCERATED OFFENDERS
IN A PRIVATE MAXIMUM-
SECURITY CORRECTIONAL
CENTRE

Supervisor: Dr J Jordaan

Co-supervisor: Prof KGF
Esterhuyse

RUST, Bernadine*

Dissertation Title:
INGRID JONKER: A
PSYCHOBIOGRAPHY

Supervisor: Prof JP Fouché



DEAN |
PROF JC MUBANGIZI

MASTER'S DEGREES

**MASTER OF LAWS WITH
SPECIALISATION IN
INTERNATIONAL ECONOMIC
LAW**

Rabolinyane, Christopher Tefo

**MASTER OF LAWS WITH
SPECIALISATION IN MEDICAL
LAW**

MIYA, Moroana Johannes



DEAN |
PROF PD VERMEULEN

MASTER'S DEGREES

AGRICULTURAL SCIENCES

MASTER OF DISASTER MANAGEMENT

ALBERS, Thérésa
MOYO, Beauty
MUGERI, Nkhetheni
MURERWA, Regina
NETSHIDZATI, Tshilidzi Pinkie
POTO, Zukiswa Vallery
SAUNGWEME, Kuziwa Evans
VAN DER MERWE, Schalk-Willem

MASTER OF ENVIRONMENTAL MANAGEMENT

KOMANE, Itumeleng
LEKWA, Bonolo Arthur

MASTER OF SCIENCE MAJORING IN AGRICULTURAL ECONOMICS

VAN DER WALT, Luan

Dissertation Title: ANALYSING THE IMPACT OF CASHFLOW AND PRODUCTION RISK ON WHITE MAIZE HEDGING STRATEGIES

Supervisor: Dr DB Strydom

Co-supervisor: Prof B Grové

MASTER OF SCIENCE IN AGRICULTURE MAJORING IN ANIMAL SCIENCE

KAO, Mamolleloa Alice

Dissertation Title: BREED EFFECTS AND NON-ADDITIVE GENETIC VARIATION IN INDIGENOUS AND COMMERCIAL SHEEP IN AN EXTENSIVE ENVIRONMENT

Supervisor: Prof JB van Wyk

Co-supervisor: Prof SWP Cloete

MACDONALD, Jacobus Francois

Dissertation Title: THE EFFECT OF FIBRE SOURCE ON THE PRODUCTION PERFORMANCE AND MEAT QUALITY OF FINISHING LAMBS

Supervisors: Dr OB Einkamerer and Prof A Hugo

Co-supervisor: Dr A Lepori

MASTER OF SCIENCE IN AGRICULTURE MAJORING IN PLANT BREEDING

NZAMA, Promise Sifiso

Dissertation Title: GENOTYPE BY ENVIRONMENT INTERACTION OF GROWTH PARAMETERS IN *PINUS ELLIOTTI* x *PINUS CARIBAEA* F1 PROGENY

Supervisor: Dr R van der Merwe

Co-supervisor: Dr H Ham

MASTER OF SCIENCE IN AGRICULTURE MAJORING IN SOIL SCIENCE

LEBUCHWANE, Thato Gail

Dissertation Title: RESPONSE OF SOIL BIOLOGICAL INDICATORS UNDER LONG-TERM WHEAT PRODUCTION MANAGEMENT PRACTICES IN A SEMI-ARID CLIMATE

Supervisor: Dr E Kotzé

Co-supervisor: Prof CC du Preez

MNDZAWWE, Derrick Maz'Thulele

Dissertation Title: EVALUATION OF THE VARIABILITY OF SOIL SALTS: A CASE STUDY OF CENTRE PIVOT IRRIGATED SUGARCANE

Supervisors: Prof A van Antwerpen and Dr JH Barnard

Co-supervisor: Prof LD van Rensburg

SETSIPANE, Tshiamo Mcdonald*

Dissertation Title: HYDROPEDOLOGICAL PROPERTIES AND PROCESSES IN A SANDSTONE AND A TILLITE HILLSLOPE NEAR IXOPO, KWAZULU-NATAL

Supervisor: Dr JJ van Tol

Co-supervisor: Dr L Titshall



STEENEKAMP, Diandra*

Dissertation Title: SAMPLING AND EXTRACTION METHODS FOR SOIL INORGANIC N DETERMINATION TO CALIBRATE THE EM38 IN IRRIGATED FIELDS

Supervisor: Prof LD van Rensburg

Co-supervisors: Prof CC du Preez and Dr JH Barnard

BUILDING SCIENCES

**MASTER OF ARCHITECTURE
WITH SPECIALISATION IN
DESIGN**

HERBST, Marié

Dissertation Title: NEW PERSPECTIVES: HOW ABSTRACT PAINTING EVOKES SPACE

Supervisor: Prof JA Noble

MATHEWS, Pieter J

Dissertation Title: THE SPATIAL ACT OF CURATION: HOW THE INTERSECTIONAL SPATIAL RELATIONSHIP BETWEEN PLACE AND ARTWORK UNLOCKS MEANING

Supervisor: Prof JA Noble

VAN ONSELEN, Deon

Dissertation Title: ANATOMY OF HOSPITALS: AGGREGATING AND BEAGGREGATING THE BUILDING COMPONENTS AND THE PROCESS OF HEALING

Supervisors: Dr D van der Westhuizen and Prof JA Noble

**MASTER OF URBAN AND
REGIONAL PLANNING**

NTSHIKILANA, Siyanda
Mthokozisi

SHIKOYENI, David

NATURAL SCIENCES

**MASTER OF SCIENCE IN
NANOSCIENCE**

NQAYI, Sibusiso

**MASTER OF SCIENCE
MAJORING IN APPLIED
MATHEMATICS**

MAGAU, Hangwelani

**MASTER OF SCIENCE
MAJORING IN BIOCHEMISTRY**

FOURIE, Corinne*

Dissertation Title: NOVEL INSIGHT INTO PRECIPITATION OF COPPER

AND INTERACTIONS WITH
DESULFOSPOROSINUS AND
RHODANOBACTER ISOLATES

Supervisors: Dr JC Castillo Hernandez and Prof AV Portal

Co-supervisor: Dr ED Cason

POTGIETER, Gerhardus Petrus*

Dissertation Title: GENOMIC ANALYSES OF ARSENIC HYPER RESISTANT SULFATE REDUCING BACTERIA IN BIO-REMEDIATION AND BIO-RECOVERY OF ARSENIC FROM GROUNDWATER SOURCES

Supervisor: Dr JC Castillo Hernandez

Co-supervisors: Prof A Valverde Patal, Dr M Vermeulen, and Dr ED Cason

**MASTER OF SCIENCE
MAJORING IN BOTANY**

HEPPELL, Warrick Cilliers

Dissertation Title: CHLOROPHYLL-A FLUORESCENCE AND NDVI AS INDICATORS OF PLANT HEALTH

Supervisor: Dr GP Potgieter

**MASTER OF SCIENCE
MAJORING IN CHEMISTRY**

NGAKE, Tankiso Lawrence*



Dissertation Title: SYNTHESIS, COMPUTATIONAL- AND ELECTROCHEMISTRY STUDY OF N,O-BIDENTATE LIGANDS AND THEIR RUTHENIUM COMPLEXES

Supervisor: Prof J Conradie

Co-supervisor: Prof JH Potgieter

NGCEPHE, Ayanda Maria

Dissertation Title: RECOVERY OF PLATINUM GROUP ELEMENTS FROM WASTE MATERIAL

Supervisor: Prof W Purcell

OOSTHUIZEN, Ursula*

Dissertation Title: RHENIUM (I) COMPLEXES AND CANCER: SYNTHESIS AND CHARACTERISATION OF MONO- AND BI-METALLIC COMPLEXES

Supervisor: Prof HG Visser

Co-supervisor: Dr M Schutte-Smith

VAN JAARSVELDT, Jeanette*

Dissertation Title: NEW METHODOLOGY FOR THE BIOMIMETIC SYNTHESIS OF FLAVAN-3, 4-DIOLS AND DERIVATIVES

Supervisor: Prof BCB Bezuidenhout

Co-supervisor: Dr JH van Tonder

VISSER, Melanie

Dissertation Title: NEW METATHESIS BASED METHODOLOGY FOR THE SYNTHESIS OF 2- AND 3-ARYL SUBSTITUTED AND 2, 3-DIARYL SUBSTITUTED BENZO [B] FURANS

Supervisor: Prof BCB Bezuidenhout

Co-supervisor: Dr L Twigge

MASTER OF SCIENCE MAJORING IN ENTOMOLOGY

SMIT, Tanya

Dissertation Title: ECOLOGICAL TRENDS OF FRUIT FLIES (FAMILY: TEPHRITIDAE) ON TABLE GRAPES ALONG THE LOWER ORANGE RIVER, NORTHERN CAPE

Supervisor: Dr VR Swart

Co-supervisors: Dr F Chidawanyika and Mr DeV Fourie

MASTER OF SCIENCE MAJORING IN GENETICS

MOKGAKALA, Kgothatso

Dissertation title: ILLUMINA SEQUENCING OF THE DNA METHYLOME IN CULTIVARS OF CACTUS PEAR, *OPUNTIA FICUS-INDICA* L

Supervisor: Mr MF Maleka

Co-supervisors: Dr GM Coetzer and Mrs A Allen

MASTER OF SCIENCE MAJORING IN GEOGRAPHY

POHLO, Reanetsie Tutor

Dissertation Title: A COMPARATIVE ANALYSIS OF THE TREATMENT OF BIODIVERSITY IMPACTS IN MINING ENVIRONMENTAL IMPACT ASSESSMENTS BEFORE AND AFTER 2013 IN SOUTH AFRICA

Supervisor: Ms E Kruger

MASTER OF SCIENCE MAJORING IN GEOLOGY

DU PLESSIS, Pieter George

Dissertation Title: THE PARAGENESES OF SULPHIDE MINERALS IN TRANSGRESSIVE CARBONATITE OF THE PALABORA CARBONATITE COMPLEX, SOUTH AFRICA

Supervisor: Prof F Roelofse

Co-supervisor: Prof CDK Gauert

NICHOLAS, Marvin Peter

Dissertation Title: ASSESSMENT OF THE APPLICABILITY OF THE SOUTH AFRICAN WASTE CLASSIFICATIONS LEGISLATION ON GEOLOGICAL MINE WASTE - A GEOCHEMICAL PERSPECTIVE

Supervisor: Dr RN Hansen



MASTER OF SCIENCE MAJORING IN GEOHYDROLOGY

AMAKALI, Sarti Rautia*

Dissertation Title: STOCHASTIC
GROUNDWATER FLOW MODEL
FOR CONFINED AND LEAKY
AQUIFERS

Supervisor: Prof A Atangana

BEYERS, Marisca

Dissertation Title:
GEOCHEMICAL INVESTIGATION
OF THE UNION COLLIERY
UNDERGROUND MINE
WORKINGS, MPUMALANGA,
SOUTH AFRICA

Supervisor: Mr F de Lange

GOOSEN, Nadene

Dissertation Title:
GEOHYDROLOGICAL
INVESTIGATION TO FACILITATE
RURAL DEVELOPMENT IN
DROUGHT PRONE AREAS OF
THE FREE STATE – THABA
NCHU: A CASE STUDY

Supervisor: Mr F de Lange

MAHANTANE, Mohau Laurenti*

Dissertation Title: A NEW
METHOD FOR MODELLING
GROUNDWATER FLOW

PROBLEMS: FRACTIONAL-
STOCHASTIC APPROACH

Supervisor: Prof A Atangana

MAKIWANE, Nwabisa Veliswa
Andisiwe

Dissertation Title:
CHARACTERISATION OF
THE DEEP AQUIFERS OF
SOUTH AFRICA -THE KAROO
SUPERGROUP AND TABLE
MOUNTAIN GROUP

Supervisor: Dr F Fourie

Co-supervisor: Dr A Allwright

MBAH, Hans Tah*

Dissertation Title: MODELLING
REACTIVE GROUND WATER
TRANSPORT: INTERACTION OF
TWO SPECIES

Supervisor: Prof A Atangana

PRETORIUS, Adriaan

Dissertation Title: MINE WATER
INFLOW INVESTIGATION
UTILIZING WATER CHEMISTRY
AND ISOTOPE ANALYSIS AT
AN UNDERGROUND DIAMOND
MINE IN THE NORTHERN CAPE
PROVINCE, SOUTH AFRICA

Supervisor: Mr P Lourens

MASTER OF SCIENCE MAJORING IN MATHEMATICAL STATISTICS

MSOTYWA, Sabelo

MASTER OF SCIENCE MAJORING IN RISK ANALYSIS

KHABELE-MAFEREKA,
Nthabiseng Glodia

MASTER OF SCIENCE MAJORING IN ZOOLOGY

JORDAAN, Adriaan*

Dissertation Title:
GEOGRAPHIC DISTRIBUTION
AND HABITAT SELECTION
IN THE BERG ADDER, *BITIS*
ATROPOS (SERPENTES,
VIPERIDAE) ON THE
MPUMALANGA ESCARPMENT,
AND THE CONSEQUENCES
FOR CONSERVATION

Supervisor: Prof N Heideman

Co-supervisor: Dr F Buschke



VICE-DEAN |

PROF P BURGER

DOCTORAL DEGREES

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN BUSINESS ADMINISTRATION

BANDA, Zondwayo

Zondwayo Banda was born in Lundazi in Zambia in 1979. He completed his secondary school education at St Raphael's Secondary School in Livingstone, Zambia, in 1998. He is a chartered accountant with certifications from the Association of Chartered Certified Accountants and the Chartered Institute of Management Accountants in the UK. He holds a Bachelor of Science (Honours) in Applied Accounting from Oxford Brookes University, an MBA from the University of Leicester, and a master's in Development Finance from NMU. He has over 17 years of public and private sector experience and is currently working as a financial analyst for the United States Agency for International Development (USAID) in Zambia.

With his thesis, **CORPORATE GOVERNANCE STRUCTURES: THE PERFORMANCE OF ZAMBIAN LISTED COMPANIES**, the candidate makes an empirical contribution to the body of knowledge on the relationship between corporate governance structures and financial performance in listed companies in Zambia. This contribution raises awareness regarding this relationship among the board of directors and management staff of the Zambian listed companies, academics, and other stakeholders. With a pragmatic approach comprising positivism and social constructionism as philosophical assumptions, and using a concurrent mixed-methods approach, the findings revealed that internal corporate governance structures relate to company financial performance in many different ways; as such, how corporate governance is structured and operated is a critical consideration for listed companies to enhance financial performance.

Promoter: Dr L Alsemgeest

Co-promoter: Dr C Crous

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN INDUSTRIAL PSYCHOLOGY

PILLAY, Daphne

Daphne Pillay was born on 1 April 1991 in Stanger, KwaZulu-Natal. She completed her matric at the Stanger Secondary school in 2008. In 2011, Daphne graduated with a degree in Psychology and Industrial Psychology from the University of KwaZulu-Natal. In 2013, she graduated with a master's degree in Industrial Psychology. Daphne began her PhD studies in 2016 at the University of the Free State. She is currently appointed as a lecturer at the University of Pretoria.

With her thesis, **THE EFFECT OF INTERNAL RESILIENCY FACTORS ON RESILIENCE AMONGST WOMEN LEADERS IN SELECTED HIGHER EDUCATION INSTITUTIONS**, the candidate makes a contribution to the field of female leadership and



positive organisational behaviour by examining the factors that promote resilience among women leaders. The study aims to construct a model of resilience for female leaders in the higher-education sector by looking at cognitive, spiritual, behavioural, emotional, and physical aspects. With this contribution, she discovered that factors such as positive emotions, self-regulation, mindfulness, and problem-solving skills significantly influences female leader's levels of resilience. The results suggest that universities must consider adopting a holistic approach to enhancing resilience by focusing on all domains of influence, i.e. cognitive, spiritual, behavioural, emotional, and physical aspects. The study recommends that, given the under-representation of females in leadership positions, universities should prioritise resilience development among aspiring female leaders by focusing on developing psychological strengths.

Promoter: Prof ES van Zyl

Co-promoter: Prof P Nel



DEAN |

PROF LC JITA

DOCTORAL DEGREES**DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN COMPARATIVE EDUCATION AND EDUCATION MANAGEMENT**

DZIMIRI, Cynthia

Cynthia Dzimiri was born on 16 February 1965 in Zvishavane, Zimbabwe. She did her Ordinary Level at Dadaya High School in 1983 and attained a Diploma in Education from Morgenster Teachers' College in 1989. She was awarded a Bachelor of Education degree by the Zimbabwe Open University (ZOU) in 1996. She also obtained a Master of Education degree in Sociology from Midlands State University in 2000. Her career as a teacher began in 1990 and she rose to become a school head in Botswana in 2010, before joining the Great Zimbabwe University as a lecturer in 2013.

With her thesis, **FEMALE SECONDARY SCHOOL HEADS' PERCEPTIONS AND EXPERIENCES OF LEADERSHIP IN THE GWERU DISTRICT OF ZIMBABWE**, the candidate uses a feminist lens to unpack female principals' experiences of leadership in Zimbabwe. From the narratives of three women leaders, Dzimiri suggests that there is pain, frustration, disappointment and even depression in women leadership, all of which (as society expects) are often concealed from the glare of the public. It is not only hard work and qualifications that determine success for women leaders in schools, but more importantly, the relationships that begin with socialisation in the home and society that carry through to the workplace networks, mentoring, and community support. Dzimiri argues that in spite of the pain and occasional stigmatisation, women school leaders continue to rise each day because of the relationships that bring joy to their lives, and their spirituality on which they draw for inner strength.

Promoter: Prof LC Jita

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN CURRICULUM STUDIES

CHITAMBA, Norman

Norman Chitamba was born on 9 October 1960 in Masvingo, Zimbabwe. He attained his certificate in Education at Morgenster Teachers' College in 1981. He was awarded a Bachelor of Education degree in Educational Administration, Planning, and Policy Studies at the Zimbabwe Open University in 1994. He pursued further studies at the same university, where he attained a Master of Education degree in Educational Administration, Planning, and Policy Studies in 2003. He has taught and deputised at both primary and secondary schools. Currently, he is a substantive deputy head at Gutu High School.

With his thesis, **THE ROLE AND EXPERIENCES OF DEPUTY PRINCIPALS WITH INSTRUCTIONAL LEADERSHIP IN ZIMBABWE**, the candidate contributes to scholarship on instructional leadership and the role of deputy principals in improving



student learning. With the decline of superhero leadership frameworks for understanding leadership, Chitamba draws on the distributed leadership framework to characterise and explain the role played by deputies in a school organisation. The study makes the point that, in spite of role ambiguities and positional uncertainties for these often-forgotten men and women in the principal's office, they continue to play a critical role in improving teaching and student learning in many schools. The thesis, however, points to the endemic structural and policy constraints that conspire against a more visible and effective instructional leadership role for deputies, thereby suggesting a need for policy reform and better definition of the deputies' role in instructional improvement.

Promoter: Prof LC Jita

HAMILTON, Joleen

Joleen Hamilton was born in Pretoria, South Africa, and moved to Bloemfontein with her family at the age of four. Here, she completed her school career and thereafter, her post-school studies at the University of the Free State. She is married to Brent Hamilton and has two children: Bianca, a UFS student, and Brett, a high school learner. Joleen has been involved in teaching and learning since leaving high school; first as a student assistant, then as a schoolteacher for 13 years, and later as a university lecturer for four years.

With her thesis, **A FRAMEWORK FOR OPTIMIZING MATHEMATICS TEACHING ENVIRONMENTS IN THABA NCHU SECONDARY SCHOOLS**, the candidate illustrates that it is not a specific aspect that needs to be addressed to correct the Thaba Nchu mathematical teaching context. Focusing merely on pedagogy-related aspects or the knowledge aspects of the learners will not provide the required change. The developed framework, however, successfully portrays and addresses the contextual holistic picture as provided by the Thaba Nchu participants and interpreted by the candidate. It furthermore indicates that a comprehensive and holistic plan of action is required to enhance and improve the applicable Mathematics teaching environments.

Promoter: Dr KE Junqueira

MCELELI, Moses Bedeshani

Bedeshani Moses Mceleli was born on 20 June 1970 in a small town called Mount Frere in South Africa. He matriculated at Rode High School in Mount Ayliff in 1988, and later attained a Secondary Teachers' Diploma specialising in Mathematics and Physical Science in 1992. He graduated with a BEd at Nelson Mandela University in 2001, and a Master of Arts at Leads University in 2004. He started teaching in 1993 and rose through the ranks to become a school principal, Mathematics subject adviser, circuit manager, and acting chief education specialist at the Joe Gqabi Education District.

With his thesis, **ENHANCING MATHEMATICS PEDAGOGICAL CONTENT KNOWLEDGE IN GRADE 9 CLASS USING PROBLEM BASED LEARNING**, the candidate contributes to scholarship on strategies to enhance pedagogical content knowledge (PCK), focusing on how to enhance Grade nine Mathematics teachers' PCK using problem-based learning. Using critical emancipatory research, a team of ten participants participated in the study. Through problem-based learning workshops (PBLW) anchored in participatory action-research methodology, participants who later became co-researchers collectively



identified challenges that teachers faced, and enacted negotiated solutions to improve the wisdom of practice. Generated data were analysed using critical discourse analysis to understand the deeper meaning of the personal and subjective accounts of co-researchers' lived experiences in teaching Mathematics. The findings of the study illustrate that teachers worked in silos, with inadequate lesson preparation, no judicious utilisation of manipulatives, teacher-centred classroom discourse, separate assessment of instruction, and their Mathematics content gap resulted in a learning cul-de-sac.

Promoter: Dr M Qhosola

Co-promoter: Prof MG Mahlomaholo

SIBAYA, Khanyae Tom

Khanyae Tom Sibaya was born in Reitz on 1 January 1964. He matriculated at Makabelane High School in 1988 and obtained a Secondary Teachers' Diploma in 1991, a Further Diploma in Education in 1999, a BEd Honours degree (Educational Management) in 2003, and a Master of Education (Educational Management) in 2009. He started his career as a teacher at Qibing Secondary School, was appointed as Head of Department at Evungwini Secondary School, and also worked at Majara Primary as the Head of Department. He served as a part-time lecturer at the University of the Free State (Qwaqwa Campus) and is currently serving at Mafika –Ditshiu as the Head of Department.

With his thesis, **DESIGNING A CONTEXT-BASED STRATEGY FOR TEACHING AND LEARNING OF MATHEMATICS WORD PROBLEMS**, the candidate makes a contribution towards creating a context-based strategy that will enhance teaching and learning of word problems for Afromontane learners. These learners form part of a social construct of learners that live and subsist in mountainous places and who also use their indigenous knowledge and cultural wealth to sustain their livelihood. It was discovered that even though they possess this indigenous knowledge and cultural wealth of their respective homes, their indigenous knowledge and cultural wealth were marginalised in the teaching of word problems in Mathematics when they attend school where formal teaching takes place. Hence in this study, the context-based strategy is designed so as to assist Afromontane learners to master Mathematical word problems easily. For teachers, this strategy will help them to tap into the background knowledge of Afromontane learners to effectively teach word problems.

Promoter: Dr TJ Moloi

Co-promoter: Dr MS Mosia

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN EARLY CHILDHOOD DEVELOPMENT AND LEARNING

SEKONYELA, Lerato Maletlala

Lerato M Sekonyela was born in Lesotho. She received her secondary education in Harrismith, where she matriculated at the New Horizon College in 2000. In 2001, she enrolled in the University Access Programme, formerly known as the Career



Preparation Programme. She obtained a BSocSc (Human and Societal Dynamics) in 2004, a BSocSchons (Sociology) in 2009, BSocSchons (Psychology) in 2011, followed by an MA (Gender Studies) in 2014 at the University of the Free State. She started her career as academic facilitator in 2005/6 at the University of the Free State. She still holds the same position.

In her thesis titled, **A STRATEGY TO IMPROVE THE ACADEMIC SUPPORT OF FIRST-YEAR STUDENTS IN A UNIVERSITY ACCESS PROGRAMME**, the candidate aimed to improve the academic support of the access programme. Students in the access programme seem to experience inequities in academic support. These disproportions pose challenges for students to realise their potential, and hinder contests to their preferred higher-education qualifications. This intellectual piece adopted a functionalism as a theoretical framework, using participatory action research (PAR) as a methodological approach. Data was collated, using a free-attitude interview technique. Critical discourse analysis was used to analyse data. It emerged that access programme students do not have adequate academic support as compared to their counterparts in the mainstream. The findings show the need to improve academic support by introducing unsurpassed praxis used globally. Furthermore, for the University Access Programme to blossom to greater heights, the institution needs to engage and encourage students to be change catalysts.

Promoter: Dr KJ Kabi

Co-promoter: Prof MM Nkoane

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN HIGHER EDUCATION STUDIES

LEWIN, Thandi

Thandi Lewin grew up in Zimbabwe and attended school both in Zimbabwe and Wales. She completed a Bachelor of Social Science degree at the University of Cape Town in 1995, and a master's degree in Education and International Development in 2001 at the University of London on a Commonwealth scholarship. She has worked in the education sector for over 20 years. Since 2015, she has been in the Department of Higher Education and Training as a Chief Director, most recently with responsibility for university governance and management support in the University Education branch of the department.

With her thesis, **EARLY CAREER WOMEN ACADEMICS: A CASE STUDY OF WORKING LIVES IN A GENDERED INSTITUTION**, the candidate contributes to national and international scholarship on gender in higher education, focusing on the working lives of a small group of early-career academic women in one faculty at a South African institution. Using feminist theory on organisations and the capability approach, the thesis innovatively and creatively explores the working lives of the academics, using a fine-grained narrative approach. In this way, her research contributes a theorised picture of how gendered organisational cultures and ideologies impact on the professional development, career trajectories, and identities of women academics. From the narrative data, multi-dimensional capability dimensions are identified to provide an understanding of what constrains and enables early-career women academics to advance professionally, and to provide a framework for institutions to explore ways of encouraging women into academic careers and retaining them within universities.

Promoter: Prof M Walker

**MOODLEY, Susheila**

Susheila Moodley was born in Durban on 25 May 1968. She received her secondary education in Azaadville and matriculated at the Azaadville Secondary School in 1985. She obtained her Education degree in 1990 and her honours in Education in the same year, the master's degree in Higher Education Studies with distinction in 2014, and the PhD in Higher Education Studies in 2019 at the University of the Free State. She started her career as an educator in Lenasia in 1990. In 2009, she established her own private FET college where she has been the head of the institution and the managing director.

With her thesis, **AN ASSESSMENT FRAMEWORK FOR ADULT LEARNERS WITH LEARNING DISABILITIES IN POST-SCHOOL EDUCATION AND TRAINING**, the candidate contributes to scholarship on assessment development and implementation and student experiences as key themes in higher education and training research. Using a mixed-methods approach, Moodley used a limited sample of 83 participants to investigate the assessment experiences of adult learners with learning disabilities/barriers to learning in post-school education and training environments and the effect of these experiences on their learning achievement. The learners and practitioners concurred that the assessment practices experienced were not suited to adult learners with learning disabilities. The study presents an argument for an alternative assessment approach for adult learners with learning disabilities through the proposed assessment framework, which is the outcome of the research study. This proposed assessment framework is intended to provide a more equitable approach to the assessment of adult learners with barriers to learning.

Promoter: Prof FJ Nieuwenhuis

Co-promoter: Dr SP van Tonder

VAN STRAATEN, Laurika

Laurika van Straaten was born in Middelburg, Eastern Cape, on 17 September 1972, and matriculated from Middelburg High School in 1990. She obtained a BA degree and a BA Honours degree in 1995 and 1998 respectively (University of South Africa), and a master's degree in Higher Education Studies in 2014 (University of the Free State). She is a linguist by profession. She started her career at the Central University of Technology, Free State, in 1995, where she was appointed as language practitioner. Currently, she is Manager of the CUT Unit for Language Services, a position she has held since 2009.

With her thesis, **AN INTEGRATED FRAMEWORK FOR ENHANCED STAFF WELL-BEING AT SOUTH AFRICAN PUBLIC HIGHER EDUCATION INSTITUTIONS**, the candidate makes a significant contribution to the body of knowledge in the field of staff well-being at university level, specifically pertaining to the integration and improvement of staff well-being to the benefit of higher education in South Africa. The proposed integrated framework for enhanced staff well-being is based on sound theoretical and empirical research findings, validated by a panel of experts in the disciplines of industrial and educational psychology, employee well-being and higher education. It provides meaningful and clear guidance on the various dimensions of staff well-being to be addressed by South African public higher education institutions (HEIs), as well as on the importance of integrating well-being efforts, and emphasises the responsibilities of different role players in staff well-being. The framework should benefit SA public HEIs and their staff.

Promoter: Dr A du Plessis

Co-promoter: Dr SP van Tonder



DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN HIGHER EDUCATION STUDIES (INTERDISCIPLINARY)

VAN DER MERWE, Tania

Tania Rauch van der Merwe obtained her bachelor's degree at the University of the Free State, after which she worked abroad for several years. She subsequently commenced an academic career at her alma mater as lecturer, and later as head of department from 2015 to 2018. Although her professional expertise is in ethics and mental health, her research path was at inception interdisciplinary, as she completed her master's doing an ideology critique of the occupational therapy profession. Her research trajectory is undergirded by the cause for social justice, and the importance of historical deconstruction to reconceptualise curriculum as discourse, built on epistemic freedom.

With her thesis, **THE POLITICAL CONSTRUCTION OF OCCUPATIONAL THERAPY IN SOUTH AFRICA: CRITICAL ANALYSIS OF CURRICULUM AS DISCOURSE**, the candidate contributes to the scholarship of Foucauldian discourse studies and occupational therapy curriculum, focusing on how and why the occupational therapy curriculum, as a politically constructed discourse, create and sustain various patterns of inclusion and exclusion. The candidate innovatively crafted archaeology and genealogy research methods, showing how historical markers shape current forms of knowledge in the curriculum and how these markers systematically repeat the same, though differently disguised patterns of inclusion and exclusion in taken-for-granted ways of thinking, speaking, and doing. As one of the examiners remarks: "this critical analysis challenges many longstanding narratives of the historical roots of occupational therapy, challenging readers to think of alternative interpretations". The study bears significant implications for the reconceptualisation of curriculum as discourse, institutional transformation and decolonisation, and methodology in Foucauldian discourse studies.

Promoter: Prof A Keet

Co-promoter: Prof EL Ramugondo

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN PSYCHOLOGY OF EDUCATION

LEPHOTO, Malephoto Niko Ruth

Niko Ruth Lephoto was born on 12 March 1975 in Quthing, Lesotho. She matriculated at Maseribane High School in 1991 and obtained the Secondary Teacher's Certificate in 1996 at the National Teacher Training College. She graduated with a BEd degree from the National University of Lesotho (NUL) in 2003, and the BEd Honours and the MEd degrees at the University of the Free State in 2006 and 2009 respectively. She started her career as a teacher in 1997 and is currently a lecturer at NUL.

In her thesis, **A RELATIONAL LEADERSHIP STRATEGY FOR ENHANCING GUIDANCE AND COUNSELLING: TOWARDS SUSTAINABLE LEARNING ECOLOGIES**, the candidate contributes to scholarship that pertains to guidance and counselling practices at schools. Underpinned by the Ubuntu theory that espouses participation, collaboration and connectedness, the study used participatory action research to draw from the voluntary participation of a purposefully selected heterogeneous team, including professionals from the community. This study suggests working for positive change by valuing harmonious



relationships, inclusivity, collaboration, communication, purpose, empowerment, ethics, and meaning-making processes. Relational leadership is proposed as a strategy for enhancing guidance and counselling practices in Lesotho schools.

Promoter: Prof DJ Hlalele

Co-promoter: Dr JN Ramohai

MATS'UMUNYANE, Keneuoe Germina

Keneuoe Germina Mats'umunyane was born on 31 August 1980 in Ntlholohetsane, Mokhotlong, Lesotho. She received her secondary school education in Botha-Bothe and matriculated at Khukhune High School in 2000. She graduated with a BEd degree at the National University of Lesotho (NUL) in 2007, and further progressed to obtain a master's degree in Population Studies at the University of KwaZulu-Natal in 2012. She commenced her career as a teacher at St Paul's High School, Botha-Bothe in 2007. In 2012, she was promoted to Head of Department (HOD) in the same school.

With her thesis, **USING TRANSFORMATIVE DIALOGUES TO EMBRACE SEXUAL DIVERSITY IN A RURAL LEARNING ECOLOGY**, the candidate makes a contribution to previously limited literature and research that address sensitive issues of sexuality in general; and more specifically, queer sexuality in Lesotho. With this contribution, she attempts to promote a situation where all sexualities are treated equally, without normalisation, and/or even prioritisation of popular heteronormative sexuality at the expense of existing sexual minorities. Some of the participants in this study who joined community dialogues, were members of non-heterosexual groups who 'came out of the closet' about their true sexual orientation. Through her intrepid engagement with a heterogeneous group of participants in transformative community dialogues, including these minorities, we believe this study has enlightened and enhanced the understanding and embracing of sexual diversity in rural learning ecologies. An accredited journal article interrogating culture, religion, and sexual diversity was published from this study.

Promoter: Prof DJ Hlalele



VICE-DEAN |

PROF JM TSOKA-GWEGWENI

DOCTORAL DEGREES

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN MEDICAL PHYSICS

EJEH, John Enyi

John Enyi Ejeh was born on 2 March 1969 in Otukpo, Benue State, Nigeria. He matriculated at St. Francis College, Otukpo, in 1988. He proceeded to Benue State University, where he graduated with a BSc (Hons) degree in Physics in 1998. In 2006, John obtained a master's degree in Physics from the University of Ibadan, Nigeria. His medical physics career was initiated by a three-month International Atomic Energy Agency fellowship in the Department of Medical Physics at the University of the Free State in Bloemfontein. On his return to Nigeria, he was appointed as medical physicist at the University College Hospital in Ibadan.

With his thesis, **ACCURACY OF IODINE-131 ACTIVITY QUANTIFICATION AND DOSIMETRY FOR THREE-DIMENSIONAL PATIENT-SPECIFIC MODELS**, the candidate makes a significant contribution to the fundamental understanding of iodine-131 patient dosimetry. Using patient-specific models created from computed tomography images, the candidate utilised Monte Carlo simulations to mimic clinical realistic iodine-131 activity distributions in SPECT images. The reconstructed simulated iodine-131 SPECT images have enabled the candidate to determine the quantification accuracy of the iodine-131 activity distributions in the simulated patients and were also used to perform patient-specific Monte Carlo dosimetry. This novel method of evaluating the accuracy of activity quantification and patient dosimetry in simulated patient studies with Monte Carlo simulations has enabled the candidate to optimise patient dosimetry and will benefit future patients who will receive I-131 therapy. To date, one paper from this thesis has been published in an international journal, with two more in preparation.

Promoter: Prof JA van Staden

Co-promoter: Dr H du Raan

SCHOOL OF CLINICAL MEDICINE

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN PHARMACOLOGY

MOCKE-RICHTER, Martlie

Martlie Mocke-Richter was born in Nelspruit on 22 January 1987. She received her secondary education in Nelspruit, where she matriculated at the Nelspruit High School in 2005. She obtained the degree BPharm in 2009, the degree MPharm with



distinction in 2011 at the North-West University, and the PhD in Clinical Pharmacology in 2019 at the University of the Free State. She served on the Student Representative Council of the North-West University for the term 2010/2011. She started her career as pharmacist in Bloemfontein in 2012. In 2013, she was appointed at the National District Hospital and presently she is working as clinical pharmacist at the National District Hospital (Free State Department of Health).

With her thesis, **FACTORS INFLUENCING THE UTILIZATION OF BIOLOGICAL MEDICINES IN THE FREE STATE (SOUTH AFRICA)**, the candidate makes a contribution to improve the life quality of patients by addressing the factors that influence the use of biological medicines in South Africa. She developed a framework for the use of biological medicines in South Africa. The results framework of this investigation serves as an indication of the value that this type of intervention holds for attempts to find a solution to factors influencing the use of biological medicines in South Africa.

Promoter: Prof A Walubo



VICE-DEAN |

DR CM TWALA

DOCTORAL DEGREES

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN AFRIKAANS AND DUTCH

ERASMUS-ALT, Joanita

Born in Kimberley on 7 August 1969, Joanita Erasmus-Alt matriculated at the Agricultural High School in Jacobsdal in 1987. She subsequently obtained the following degrees at the University of the Free State: BMus (Ed) in 1992, BMus (Hons) (cum laude) in 2000, MMus in 2006, MA (Creative Writing) (cum laude) in 2013, and a PhD in Afrikaans Literature in 2016. Since starting her teaching career in 1992, she has taught music at various Free State schools. She has been the conductor of several choirs/vocal ensembles. Two of the latter have won prizes in international competitions held abroad: in 2012, the Grey College Indomitus Vocal Ensemble was the overall winner in Prague and in 2018, the Cisticola Cantans Vocal Ensemble was the runner-up in its category in Krakow. Joanita currently heads the music department at Fichardt Park High School.

Her thesis, **DIE BYDRAE VAN NIE-ARTISTIEKE PRAKTYKE TOT DIE LITERÊRE SUKSES VAN EKSEMPPLARIESE AFRIKAANSE TEKSTE. 'n ONDERSOEK NA BEELDVORMING**, represents the first thorough scientific investigation into the extra-contextual factors that contribute to the success of literary works written in Afrikaans. Up to now, the premise has often been that literary value is an inherent quality of literary texts. In this study (a mixed-methods approach incorporating theories such as Zohar's polysystem studies, Luhmann and Schmidt's social systems theories, Bourdieu's cultural production theory, and Van Rees and Dorleijn's reconstructive and institutional approaches to the literary field), a compelling case is made for the relevance of marketing principles in determining so-called literary value. Four different literary texts from different sub-genres and historical periods were chosen as case studies to illustrate this point of departure.

Promoter: Prof HP van Coller

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN ENGLISH

VAN REENEN, Dionne

Dionne van Reenen grew up in Durban, KwaZulu-Natal, where she completed her secondary education at Kloof High School in 1988. She obtained a Diploma in Music at the University of Cape Town in 1992, a Bachelor of Arts in Philosophy and Logic at Unisa in 2000, honours in Philosophy in 2003, a Master of Arts in Philosophy with distinction at the University of the Free State in 2013, and a PhD in Philosophy in 2019 at the University of the Free State, where she first lectured in the Department of Philosophy and now works as a researcher in the Unit for Institutional Change and Social Justice.



With her thesis, **PERFORMING THE EROTIC: (RE)PRESENTING THE BODY IN POPULAR CULTURE**, the candidate makes a contribution to the interdisciplinary field of cultural studies. With this contribution, she attempts to trace a theory of performative frames and uses this theory to critically analyse ideological formations of the body in performance and its discursive distribution in the consumption of contemporary popular media.

Promoters: Prof SA Tate and Prof HJ Strauss

Co-promoter: Dr MM Mwaniki

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN FILM AND VISUAL MEDIA

STEYN, Christa

Christa Steyn was born in Pretoria on 29 August 1989. She received her secondary education in Phalaborwa, where she matriculated at the Frans du Toit High School in 2007. Her qualifications include a bachelor's degree in Drama and Theatre Arts (2011, UFS), an honours degree in Afrikaans and Dutch (2012, UFS), an advanced diploma in Business Administration (Wits Business School), and a master's degree in Afrikaans and Dutch (with distinction) (2015, UFS). In addition, she was awarded the Marius Jooste and DF Malherbe Awards for Best Master's Student and Best Postgraduate Student at the University of the Free State, respectively. She recently made a career change and is currently employed as a journalist.

With her thesis, **'N SISTEEMTEORETIESE ANALISE VAN DIE AFRIKAANSE FILMBEDRYF**, the candidate contributes to the contextualising of the Afrikaans film industry within the broader South African framework by applying a combined theoretical interpretation of the system theoretical approaches of Itamar Even-Zohar, Siegfried Schmidt, and Pierre Bourdieu, taking into consideration not only economic profitability, but also literary and artistic value, thereby presenting an ideal platform for an academically grounded study of the value-chain model and its applicability on the Afrikaans film industry. With this contribution, she attempts to formulate an autogenous model, which is applicable specifically to the Afrikaans film industry. This research aims to create a workable film model, representative of the broader film network and which brings together all relevant elements and sub-systems for a well-grounded contextualisation. The main focus of this model is to determine the interplay between different systems or important role players in order to analyse their particular influence on the Afrikaans film industry. The result of this investigation serves as an indication of the position of the Afrikaans film industry within the broader South African domain but can also be used to predict the future and success of the Afrikaans film.

Promoter: Dr A van Jaarsveld

Co-promoter: Prof HP van Coller

DOCTOR OF PHILOSOPHY WITH SPECIALISATION IN GOVERNANCE AND POLITICAL TRANSFORMATION

PHERA, Molefinyana Solomon

Molefinyana Phera was born on 12 July 1973 in Masilo, Theunissen. He matriculated at Taiwe Secondary School in 1993 and later attained a National Diploma in Public Management and Administration in 1999, a BTech in Public Management in 2001,



LLB in 2011, LLM in 2015 from UNISA, and master's in Governance and Transformation from the UFS in 2003. His career as a public servant started in 1994 and he rose through the ranks to become a member of senior management service since 2002, and at present he is Chief Operations Officer in the Department of Economic Development and Tourism, Northern Cape.

With his thesis, **THE STATUS OF THE PUBLIC PROTECTOR WITHIN THE GOVERNANCE FRAMEWORK IN SOUTH AFRICA**, the candidate makes a contribution to the governance perspective of the public protector in South Africa. With this contribution, he establishes a governance framework consisting of the institutions that form the trias politica. This research indicates that the public protector exists outside the trias politica. As a result of this complex status of the public protector within the governance framework, the researcher defines its place as part of co-operative governance. This characterisation of the status of the public protector means that it is not part of the intergovernmental framework and not restricted by the legal and structural structures of this framework, but rather required to co-operate with other organs of state to achieve its objectives of protecting and strengthening constitutional democracy and promoting good governance.

Promoter: Dr T Coetzee



DEAN |

PROF PD VERMEULEN

DOCTORAL DEGREES

AGRICULTURAL SCIENCES

DOCTOR OF PHILOSOPHY MAJORING IN AGRICULTURAL ECONOMICS

MUCHOPA, Lucia Chiedza

Lucia Chiedza Muchopa was born in Masvingo, Zimbabwe, where she completed high school at Victoria High School in 1992. In 1995, she obtained a Bachelor of Science degree in Agricultural Economics and in 1998 attained a Master of Science degree in Agricultural Economics at the same university. Her lecturing career began in 2000 at the University of Zimbabwe and since 2010, she has lectured at the University of Limpopo. Between 2004 and 2007, she consulted for the Food, Agricultural, Natural Resources Policy Analysis Network (FANRPAN) and with SADC, where she was a regional policy economist.

With her thesis, **AGRICULTURAL MARKET ACCESS FOR SOUTH AFRICAN FRUIT PRODUCT EXPORTS IN THE EU UNDER TARIFF RATE QUOTAS (TRQs)**, the candidate makes a contribution to the body of knowledge in trade impact simulation, using computable general equilibrium (CGE) models such as the Global Trade Analysis Project (GTAP) CGE model. The candidate specifically contributes to the agricultural industry's fruit sector. With this contribution, she adapts the GTAP CGE model to determine the non-tariff factors that influence the extent to which exporters of fruit and fruit products fill agreed quotas. Her investigation indicates that when exporters fulfil their fruit product quotas under trade agreements, South Africa benefits in trade gains with increased production, exports, quota rents, and employment. The quality of her work is confirmed by the fact that excerpts from her thesis has already been published or accepted for publication in scientific journals.

Promoter: Dr YT Bahta

Co-promoter: Dr AA Ogundeji

DOCTOR OF PHILOSOPHY MAJORING IN ENVIRONMENTAL MANAGEMENT

HOLT, Sharon

Sharon Holt was born in Welkom on 26 June 1970. She received her secondary education in Welkom, where she matriculated at the Goudveld High School in 1988. She obtained her BA degree in 1991, BAHons in 1995 at the University of Pretoria, and her MSc degree in 2009 at the University of the Witwatersrand. She started her career as research assistant in Bloemfontein in 1992. In 1992, she was appointed in the Department of Archaeology at the National Museum and at present she is Collections Manager at the Florisbad Quaternary Research Department of the National Museum.



With her thesis, **AN INVESTIGATION OF THE PALAEOECOLOGY AND PAST DISTRIBUTION OF TORTOISES (CHELONIANS) IN THE ARID INTERIOR OF SOUTH AFRICA: A TOOL TO AID PRESENT DAY CONSERVATION**, the candidate makes a contribution to our understanding of past and present interactions between humans and tortoise populations. With this contribution, she attempts to determine human use of tortoises in the past, based on taphonomic studies of archaeozoological remains, and how present-day human activities place populations of this species at risk. The results of her taphonomic study provide a means for future researchers to reconstruct the rate of tortoise exploitation in the past, which can be derived from models of tortoise bone and shell preservation rate as a function of bone density. Her studies of existing tortoise populations in the central interior of South Africa led to the development of a model for evaluating population extinctions due to mortality by electrified fences.

Promoter: Dr D Codron

Co-promoter: Dr L Horwitz

DOCTOR OF PHILOSOPHY MAJORING IN PLANT BREEDING

AKHTAR, Sajjad

Sajjad Akhtar was born in Mehta Suja (Sheikhupura, Pakistan) in 1988. He attended primary school in Mehta Suja, and secondary school in Narang (Sheikhupura, Pakistan). He obtained the BScAgric (Hons) degree in 2012 and the MScAgric degree in 2014, both in Plant Breeding and Genetics, from the University of Agriculture Faisalabad, Punjab, Pakistan. He started his career at the Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad, Punjab, Pakistan, in 2014 as research associate. Currently he is a lecturer in Life Sciences at the Informatics International Group of Colleges, Bahawalnagar Campus, Punjab, Pakistan.

With his thesis, **HERITABILITY AND EXPRESSION OF IRON AND ZINC CONCENTRATION IN MAIZE UNDER ABIOTIC STRESS CONDITIONS IN SOUTH AFRICA**, the candidate addresses the possibility of biofortification of maize with iron and zinc, and the retention and bioavailability of these minerals under optimal and low nitrogen conditions. Iron and zinc deficiency is a major cause of disease and mortality among especially children under the age of five years. Bioavailability of iron and zinc, as measured by their molar ratios with phytic acid, was reduced under low nitrogen conditions. High narrow sense heritability of iron and zinc, coupled with a high level of genetic variation, indicated the possibility of increasing iron and zinc content through breeding under both optimal and low nitrogen conditions. Zinc and grain yield were significantly negatively correlated under low nitrogen conditions, indicating that increased zinc content under these conditions will lead to a yield penalty.

Promoter: Prof MT Labuschagne

Co-promoters: Prof G Osthoff and Dr K Mashingaidze

MBUMA, Ntombokulunga Wedy

Ntombokulunga Mbuma was born in Sterkspruit, Eastern Cape, on 2 May 1992. She received her secondary education in Sterkspruit, where she matriculated at the Tlokweng Senior Secondary School in 2009. She obtained her BSc (Biochemistry)



in 2014, BScHons in Agriculture (Plant Breeding) in 2015, and MSc in Agriculture (Plant Breeding) with distinction (together with a prize for the best MSc Agriculture Plant Breeding student) in 2017, at the University of the Free State. In 2019, she was appointed as a lecturer in Plant Breeding at the University of the Free State.

With her thesis, **EVALUATING FAMILIES AND BREEDING VALUES OF PARENTAL POPULATIONS IN SUGARCANE**, the candidate evaluated sugarcane families and assessed the breeding values of parental populations in order to increase crossing and selection efficiency in sugarcane breeding programmes. The study demonstrated large family genetic variability and broad-sense heritability among South African Sugarcane Research Institute (SASRI) breeding populations that may be exploited for improving breeding and selection. Seventeen genotypes with high breeding values for cane yield were identified from progeny data across SASRI populations, which can be used as testers for future crossing and to build a core germplasm pool of genotypes known to produce progenies with high cane yield. Findings from her research will be used to guide future sugarcane crossing and selection at early stages of breeding, thereby enhancing breeding efficiency of high-yielding sugarcane varieties adapted to regions of the South African sugar belt.

Promoter: Prof MM Zhou

Co-promoter: Dr R van der Merwe

MÜLLER, Olaf

Olaf Müller was born in 1967 in South Africa and completed his schooling in various provinces. He obtained a BScAgricHons (2000) and MScAgric (2004) in Plant Breeding from the UFS. He also holds a National Diploma in Agricultural Research from TUT (1987), and a BCom from UNISA (1995). He started his career in 1987 at the Department of Agriculture and was appointed as plant breeder at the ARC in 1995. He moved to Monsanto as Trait Integration Lead for Africa and then to Pioneer as maize breeder in 2005. He is currently Africa Technology Lead for Corteva Agriscience.

With his thesis, **INTEGRATION OF DIVERSE MAIZE GERMLASM POOLS BASED ON GENOMIC AND PHENOTYPIC ANALYSES**, the candidate studied the integration of gene pools of two maize-breeding companies after one company was acquired by the other, using genomic and phenotypic screening methods as tools. A standard Illumina 56K maize BeadChip was used to genotype and estimate allelic similarity between inbreds of the two companies. Both hierarchical clustering and discriminant analysis of principal components succeeded in identifying major heterotic pools and could be used to align heterotic patterns of the two companies. Hybrids were composed from lines of one company and testers from the other to explore opportunities of advancing potential high-yielding hybrids, and to determine specific combining ability to use as guide to classify inbred lines of the acquired company into heterotic groups that align with heterotic patterns of the acquiring company.

Promoter: Prof MT Labuschagne

Co-promoter: Prof L Herselman

SMIT, Armand

Armand Smit was born on 20 November 1980 in Potchefstroom. He received his secondary education in Heidelberg, where he matriculated at the Sedaven High School in 1998. He obtained his BSc (Agriculture) in 2003 and MSc (Horticulture) in 2007,



both at Stellenbosch University. He started his professional career as a junior researcher at ExperiCo (then a division of Cape Span) in 2005. In 2013, he was appointed as the Programme Manager at the Edamame Development Programme, a division of the Fair Food Company.

With his thesis, **YIELD STABILITY OF EDAMAME (*GLYCINE MAX L.*) INTRODUCTIONS UNDER SOUTH AFRICAN PRODUCTION CONDITIONS**, the candidate made a significant contribution towards the understanding of the effects of cultivar, environment, and planting date on various plant physiological, yield, and pod quality traits in order to promote edamame production in South Africa. Of the eight environments tested, Ladysmith was most stable in terms of days to harvest maturity, while Mariannhill, planted in October, was most stable for seed yield. Of the three planting dates evaluated, November was ideal for fresh pod yield and yield-related traits, while October was ideal for larger and thicker pods. Cultivars that showed adaptation to test environments and thus for successful production in various regions in South Africa, were identified. Papers are being prepared for publication that will make a contribution towards the knowledge base of edamame worldwide.

Promoter: Dr R van der Merwe

Co-promoter: Prof MT Labuschagne

NATURAL SCIENCES

DOCTOR OF PHILOSOPHY MAJORING IN AGROMETEOROLOGY

LABEJA, Richard Louis

Richard Louis Labeja was born on 11 August 1978 in Patongo Town Council, Uganda. He enrolled at Lacor Seminary in 1994 and St. Joseph's College Layibi in 1998, where he attained the Uganda Certificate of Education and Advanced Certificate of Education respectively. He graduated with a bachelor's degree in Environmental Management in 2005, and a Master of Science in Environment and Natural Resources in 2010 at Makerere University, Kampala. His career started as a teaching assistant in 2005, and he rose through the ranks to become a lecturer in the Department of Environment and Natural Resources Management at Gulu University up to date.

With his thesis, **EFFECTS OF CLIMATE CHANGE SCENARIOS ON MAIZE AND FINGER MILLET PRODUCTION OF NORTHERN UGANDA**, the candidate makes a contribution to our understanding of the impact of climate change on the productivity of smallholder production systems in northern Uganda, as well as the perception of climate change by these smallholder farmers. The research highlighted a difference between the perception of many smallholder farmers that rainfall patterns have changed with an increasing occurrence of droughts in the region due to climate change, while data from weather stations provide no evidence for such changes. Moreover, modelling studies suggested that maize and finger millet yields may decline in future due to an increasing incidence of heat stress in the region. The results of the study are important in order to develop and promote appropriate technologies that can help farmers cope with the impacts of climate change in the region.

Promoter: Prof AC Franke

Co-promoter: Prof S Walker



DOCTOR OF PHILOSOPHY MAJORING IN ANIMAL SCIENCE

MAQHASHU, Ayanda

Ayanda Maqhashu was born and raised in Engcobo in the Eastern Cape. She completed her undergraduate degree as well as her Master of Science in Animal Science at the University of Fort Hare. For her master's degree, she focused on reproduction physiology and specifically on the superovulation of Nguni cows. After this, she was enrolled as a PhD candidate at the University of the Free State and successfully contributed valuable information to the animal science fraternity with her degree titled 'Characterization and evaluation of reproductive performance in Bapedi sheep breed'.

With her thesis, **CHARACTERISATION AND EVALUATION OF REPRODUCTIVE PERFORMANCE IN BAPEDI SHEEP BREED**, the candidate evaluated genetic, phenotypic, and reproductive traits unique to Bapedi sheep for the development of strategies to conserve them. Indigenous sheep breeds are an underutilised resource that can be improved to uplift the local supply of meat. This would, in turn, assist in the conservation of adapted breeds. It was observed that Bapedi sheep still have unique genes, even though their numbers are greatly reduced. The improvement in reproduction selection of rams is based on their scrotal circumference and body weights/body condition scores. Assisted reproductive technologies such as oestrous synchronisation can be used to shorten the breeding season and uniform lamb crop in extensive production systems.

Promoters: Dr HA O'Neill and Prof TL Nedambale

Co-promoters: Prof KA Nephawe and Dr NO Napholi

DOCTOR OF PHILOSOPHY MAJORING IN GENETICS

SMITH, Rae Marvin

Rae Marvin Smith was born on 17 May 1989 in Cape Town, Western Cape, South Africa. He matriculated at Fairbairn College in 2007. He obtained a BSc (2011) and a BScHons degree in Biotechnology (2012) through the University of the Western Cape. In 2013, Rae moved to Pretoria for a postgraduate development programme run through the Agricultural Research Council, where he completed an MSc degree in Veterinary Science (2016) through the University of Pretoria. In 2016, he was taken on as an in-service student at the National Zoological Gardens in Pretoria, where he is now employed as a postdoctoral researcher.

With his thesis, **MONITORING THE IMPACT OF TRANSLOCATION ON THE GENETIC DIVERSITY AND FITNESS OF THE CAPE MOUNTAIN ZEBRA (*EQUUS ZEBRA ZEBRA*)**, the candidate contributes to the conservation of the biodiversity of the Cape mountain zebra, with four approaches. Using molecular techniques, he investigated temporal changes in genetic diversity in three important populations. He studied the risks that translocation has in the movement of piroplasms across the Cape mountain zebras' historic distribution range, as these activities occur frequently. He also characterised and annotated



the Toll-like receptor 9 gene, compared mutations within the three populations, and evaluated its use to measure adaptive potential in the species. Lastly, he evaluated the suitability of the sperm-associated cation-channel genes 1-3, which serve as a measure of reproductive health in the species. The findings in this thesis will contribute to conservation-management strategies aimed at preserving biodiversity in the Cape mountain zebra.

Promoter: Prof A Kotzé

Co-promoters: Prof DL Dalton and Prof JP Grobler

DOCTOR OF PHILOSOPHY MAJORING IN GEOHYDROLOGY

IBRAHIM, Kehinde Olojoku

Kehinde Olojoku Ibrahim was born in Ilorin, Kwara State, Nigeria, on 21 June 1981. He completed his secondary school education at the Agbeyangi Secondary School, Ilorin, in 1999. He obtained a BSc degree in Geology with second-class honours and a Master of Technology in Hydrogeology at the Federal University of Technology, Minna, Nigeria. He started his academic career as graduate assistant and rose to the rank of lecturer in the Department of Geology and Mineral Sciences at the University of Ilorin, Nigeria.

With his thesis, **ESTIMATION OF HYDRAULIC CONDUCTIVITY IN SHALLOW UNCONFINED AQUIFERS USING CONCRETE-LINED LARGE-DIAMETER HAND-DUG WELLS**, the candidate advances the science of groundwater hydraulics. Ibrahim developed a new approach for estimating aquifer horizontal hydraulic conductivity in unscreened concrete-lined large-diameter hand-dug wells. Large-diameter hand-dug wells are still considered the most feasible way of accessing groundwater for drinking, domestic, and gardening use in most African rural areas. Unscreened concrete-lined large-diameter hand-dug wells particularly poses a challenge for estimating the aquifer hydraulic conductivity. The novelty in this thesis is the development and field testing of the new approach for estimating aquifer horizontal hydraulic conductivity, using unscreened concrete-lined large-diameter hand-dug wells. The knowledge of aquifer hydraulic conductivity is important for estimating the volume of water that a hand-dug well can yield over a given time. The information of well-yield performance is vital for sustainable utilisation and management of the groundwater resources.

Promoter: Dr M Gomo

Co-promoter: Dr SA Oke

DOCTOR OF PHILOSOPHY MAJORING IN GEOLOGY

GIEBEL, Robert Johannes

Robert Johannes Giebel was born in Brandenburg, Germany in 1985. He matriculated in 2003 and later attained a Diploma in Geology at the Martin Luther University Halle-Wittenberg and an MSc degree at the University of the Free State in Bloemfontein



in 2012. He worked for three years at the State Museum of Natural History in Karlsruhe and started a REE in carbonatites PhD project at the UFS in 2015. Since 2016, he is also a researcher at the Eberhard Karls University of Tübingen in Germany, where he continued his research on REE in carbonatites and completed his joint PhD degree with the UFS.

With his thesis, **THE PETROGENESIS OF CARBONATITES: MINERAL VARIATIONS AND EFFECTS ON THE REE MINERALIZATION**, the candidate contributes to scholarship on the petrogenesis of carbonatite intrusions and on the associated ore deposits. His research resulted in a new understanding of how the carbonatite melt/siliceous host rocks interaction influences REE mineralisation in carbonatites, and how REE get enriched and remobilised during the multi-stage formation of economically important REE minerals in carbonatites at magmatic to hydrothermal conditions. Thereby, Johannes Giebel contributed significantly to the ongoing international carbonatite research.

Promoters: Prof C Gauert and Prof G Markl

Co-promoter: Dr HM Marks

DOCTOR OF PHILOSOPHY MAJORING IN MATHEMATICAL STATISTICS

MUSHORI, Sabastine

Sabastine Mushori was born on 23 September 1968 in Centenary, Zimbabwe. He matriculated at St Albert's High School in 1985. He obtained a Certificate in Education in 1990, a Bachelor of Education in Mathematics in 1994, and a Bachelor of Science honours in Mathematics in 2001, all from the University of Zimbabwe. He later graduated with a Master of Science in Operations Research from the National University of Science and Technology (NUST) in 2006. Sabastine began his career as a high school teacher in 1991. He was appointed as a Mathematics lecturer at Morgan Zintec Teachers' College in 2005 and at Walter Sisulu University in 2010. He is currently a mathematics lecturer at the Central University of Technology.

With his thesis, **OPTIMAL PORTFOLIO SELECTION WITH UNCERTAIN IMPLICIT TRANSACTION COSTS IN A DYNAMIC STOCHASTIC FRAMEWORK**, the candidate contributes scholarly to the field of stochastic financial modelling and optimisation. He proposes scenario-based approaches and decision models in investment decision-making. These include optimally investing portfolios in periods of economic booms and recessions, incorporating uncertainty in implicit transaction costs incurred in initial trading and in subsequent rebalancing of portfolios, and the development of a strategy that captures uncertainty in stock prices. The study demonstrates how uncertain implicit transaction costs can be embedded in financial optimisation models in order to have a more accurate representation of market uncertainty, instead of considering implicit transaction costs as proportional to asset prices. Validation of proposed models is done by comparing performances with those of the mean-variance, mean absolute deviation, and minimax models which are applied to real data on the Johannesburg Stock Market.

Promoter: Dr D Chikobvu



DOCTOR OF PHILOSOPHY MAJORING IN SOIL SCIENCE

MENGISTU, Achamyeleh Girma

Achamyeleh Girma Mengistu was born in Motta, East Gojjam, Ethiopia, on 23 June 1984. He matriculated at Motta Senior Secondary School in 2002. He obtained his BSc degree in Plant Science from Hawassa University, Ethiopia, in 2006 and MSc degree in Agriculture (specialising in Soil Science) from the University of the Free State in 2016. He started his career as irrigation agronomist in the Ministry of Agriculture, Ethiopia, in 2006. Currently, parallel with his PhD study, he is also serving as a part-time assistant researcher at the University of the Free State. He published four articles in international journals.

With his thesis, **APPLICATION OF SWAT MODEL TO EVALUATE THE WATER BALANCE OF AN ARID CATCHMENT**, the candidate made a substantial contribution towards modelling and analysis of the hydrology of arid and semi-arid areas in South Africa, which has limited data for calibration and validation processes. In-depth and comprehensive information on freshwater resources is needed for the effective formulation of sustainable water management and environmental monitoring practices. Hence, the candidate conceptualised and analysed the spatio-temporal variability of the components of water balance at catchment scale. The model configuration, calibration, and validation procedures are also demonstrated successfully under data-scarce catchments in a South African context. To date, one paper from this thesis has been published in an international journal, with three more in preparation.

Promoter: Prof LD van Rensburg

Co-promoter: Prof YE Woyessa

DOCTOR OF PHILOSOPHY MAJORING IN STATISTICS

CHINHAMU, Knowledge

Knowledge Chinhamu was born on 25 December 1973 in Seke, Zimbabwe. He did his secondary schooling at Sandringham High School and his advanced level schooling at Allan Wilson High School. He later obtained a BSc (Mathematics and Statistics) degree, a postgraduate diploma (Project Planning and Management), and a BScHons degree (Statistics and Operations Research). In 2010, he obtained a Master of Science in Statistics with distinction at the University of the Free State. In 2011, he was appointed as permanent lecturer in the School of Mathematics, Statistics and Computer Science at the University of KwaZulu-Natal.

With his thesis, **MODELING AND ANALYSING RISK IN PRECIOUS METALS**, the candidate contributes to scholarship on risk modelling and analysis, focusing on precious metals. The prices of precious metals are volatile and financial market participants are interested in knowing the downside of holding precious metals in their portfolios. Using several statistical models, Chinhamu analysed data on precious metals to understand and explain the risk characteristics of precious materials. The candidate identified distributions that capture extreme tails of profit and loss to improve the Value-at-Risk (VaR) estimation of precious metal price returns.

Promoter: Dr D Chikobvu



SHOKO, Claris

Claris Shoko was born on 20 July 1977 in the Zimunya area of Mutare, Manicaland, Zimbabwe. She matriculated at Dora High School in 1996 and later obtained a Diploma in Education at Mutare Teachers' College in 2000. She graduated with a BScEdHons degree majoring in Mathematics, with a University prize for first class and best student in Mathematics in 2005. She later obtained a BScHons degree in Statistics and a Master of Science degree in Statistics in 2012 and 2014 respectively. Her career as a teacher started in 2000 and she is currently a Statistics lecturer at the Great Zimbabwe University.

With her thesis titled, **CONTINUOUS-TIME MARKOV MODELLING OF THE EFFECTS OF TREATMENT REGIMENS ON HIV/AIDS IMMUNOLOGY AND VIROLOGY**, the candidate contributes to knowledge on HIV/AIDS progression for patients on antiretroviral therapy (ART). The candidate employs continuous-time Markov models and focus on the effects of including both CD4 cell count and viral load in one model to predict mortality. A retrospective study was carried out on 320 HIV+ patients on ART follow-up in a wellness clinic in Bela Bela, South Africa. The study presents the argument that inclusion of both CD4 cell count and viral load counts in the monitoring and management of HIV+ patients on ART, helps in reducing mortality rates, leading to improved life expectancy for HIV/AIDS patients.

Promoter: Dr D Chikobvu

The Main Procession graduation gowns - embroidered with rich diversity

South Africa, and the Free State in particular, has a long-standing friendship with our neighbouring country, Lesotho.

Through a shared history, we have become co-creators of our futures. For this reason, the UFS decided to incorporate our tradition with that of the Basotho in the design of our Main Procession graduation gowns.

The gowns are inspired by the Seanamarena – the traditional Basotho blanket. The different patterns on the Seanamarena indicate the status one holds in the Basotho nation or reflect the occasion being celebrated. Keeping the Seanamarena pattern in mind, we combined our traditional academic designs with that of the Basotho nation.

YOKE PATTERNS

Yoke pattern for the Chancellor and Vice-Chancellor

This Seanamarena pattern is an interpretation of a design – used exclusively for the king and chiefs – which means “to swear by the king”. This blanket has the highest status of all Basotho blankets.



Yoke pattern for the Chairperson of the Council

This Seanamarena Victorian crest motif appeared after the visit of the Prince of Wales to Lesotho in 1925, which made a profound impression on the local people. Customers refer to this blanket as ‘lesiba’ – meaning feathers – when buying it.



Yoke pattern for the Vice-Rector

This Seanamarena Poone design symbolises good crops, wealth, and fertility. The Poone is given as a present to honour an important visitor.



Yoke pattern for Registrar

The same Seanamarena Poone design used for the Vice-Rector applies to the Registrar, with some slight design and colour alterations.

The Deans wear gowns made in the colours of the faculties or others which indicate the office they hold.





CONGRATULATIONS FROM THE ALUMNI OFFICE

Warmest congratulations on your graduation and best wishes for your next adventure! We are very proud of you. We hope that you will stay in touch with your Alma Mater and share your future achievements with other Kovsie alumni.

CELEBRATE EXCELLENCE

Alumni are a real measure of a university's brand and we strive to keep you informed of the crop of exceptional young leaders and pioneers emerging from Kovies. We do this through our online platforms, social media, publications like BULT and events such as the Chancellor's Distinguished Alumni Awards.

GROW THE COMMUNITY

We exist not only to keep you, our most valued brand ambassadors, connected to your alma mater but to help you stay connected to each other. We encourage engagement and networking opportunities through events, informal visits and guest lectures. You can connect with alumni globally and reconnect with former class mates through the Alumni Office.

ONLY A KOVSIE KNOWS THE FEELING

The extraordinary achievements of Kovies, both current and past, have placed the University of the Free State on the world stage.

Read about some of those achievements at: www.ufs.ac.za/alumni/noteworthy-alumni. These alumni have gone on to inspire the next generation of Kovies and their communities.

GIVE BACK

The UFS values your financial contributions, your time and your skills. Strengthen your bond with your Alma Mater by becoming involved in projects, events and initiatives aimed at creating a fulfilling student and alumni experience for fellow Kovies.

Give to a variety of impactful projects via

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