



Postgraduate degrees in the Pharmaceutical Sciences conferred in 2019/2020

The Academy of Pharmaceutical Sciences takes pleasure in sharing postgraduate students' success. The titles of the research projects provide insight into the scope and nature of pharmaceutical research that is happening in the country. Unfortunately, due to space limitations, only one supervisor of each research project has been listed.

Please note that this list is incomplete, as not all universities have submitted details of graduates and their research to the SAPJ.

The Academy congratulates all graduates and wishes them well in their future careers.

North-West University

MSc (Pharmaceutics)

L Bodenstein

Development of a mini-tablet-in-capsule dosage form for macromolecular drug delivery

Supervisor: Prof. JH Steenekamp

AM Jordaan

Utilising SeDem to develop a multiple-unit pellet solid dosage form containing a fixed-dose combination of metformin and gliclazide

Supervisor: Prof. JH Steenekamp

E Oosthuysen

Transdermal delivery of selected statins formulated in grapeseed oil emulsions

Supervisor: Prof. M Gerber

JM Redelinghuys

In vitro efficacy of cations incorporated in Absorbatox® for wound healing

Supervisor: Prof. J du Plessis

T Smit

Developing a three-dimensional colorectal cell model for biotransformation and anticancer activity evaluation

Supervisor: Prof. C Gouws

KR Snyman

In vitro investigation of wound dynamics using Absorbatox® containing organic acid(s)

Supervisor: Prof. J du Plessis

M Snyman

Topical delivery of selected female hormones from different formulations

Supervisor: Prof. M Gerber

AD Steenkamp

Comparative study of the topical delivery of selected female hormones

Supervisor: Prof. M Gerber

MSc (Pharmacology)

J Gericke

Evaluating the antidepressant-like properties of *Sceletium tortuosum*, alone and as adjunctive treatment

Supervisor: Prof. BH Harvey

A Lombaard

Nest building and marble burying: Dopaminergic phenotyping of the deer mouse model of obsessive-compulsive disorder

Supervisor: Dr PDW Wolmarans

C Pieters

Evaluating the addictive properties of efavirenz: Risk, resilience and the role of redox-inflammatory pathways

Supervisor: Dr M Möller-Wolmarans

C van Staden

Development and validation of a novel pharmacological animal model of compulsive-like behaviour in the zebrafish (*Danio rerio*)

Supervisor: Dr PDW Wolmarans

PhD (in Pharmacy with Pharmaceutics)

W Gerber

Enhancement of nasal drug delivery by means of beneficial pharmacokinetic interactions

Supervisor: Prof. JH Hamman

Rhodes University

MSc Pharmacy

KG Makoni (Pharmaceutics)

Preparation, characterization and optimization of carbamazepine-based pellets prepared by extrusion-spheronization

Supervisor: Prof. SMM Khamanga

A Manda (Pharmaceutics) *with distinction*

Application of Quality by Design to the manufacture of a multi-particulate prednisone dosage form

Supervisor: Prof. SMM Khamanga

TT Mandava (Pharmaceutics) *with distinction*

Development and assessment of a fixed dose combination of perindopril arginine and indapamide loaded microparticles

Supervisor: Prof. SMM Khamanga

FN Mungoshi (Pharmaceutics)

The development, manufacture and characterization of tenofovir encapsulated liposomes

Supervisor: Prof. SMM Khamanga

T Nqowana (Pharmaceutical Chemistry)

Science engagement with school learners for microbial quality testing of water in Makhanda

Supervisor: Dr S Paphitis

S Vumazonke (Pharmaceutical Chemistry) *with distinction*

Environmental effects of pharmaceutical active compounds in freshwater

Supervisor: Dr N Ngqwala

MPharm**OM Agbor Ambang**

Knowledge paradigms and their implications for environmental bio-ethics
Supervisor: Prof. R Tandlich

C Mapfumo (Pharmacology)

A drug utilisation review of lithium at a public sector psychiatric hospital
Supervisor: Prof. J Bodenstein

VM Mukoko (Pharmacology)

An evaluation of the prescribing and monitoring of clozapine at a public sector psychiatric hospital
Supervisor: Prof. J Bodenstein

B Naidu (Pharmacology)

Evaluating the prescribing and management practices of venlafaxine at a public sector psychiatric hospital
Supervisor: Prof. J Bodenstein

Degree of Doctor of Pharmacy**YY Wang****PhD****MTR Chikukwa** (Pharmacy)

Formulation and characterization of a combin captopril and hydrochlorothiazide microparticulate dosage form
Supervisor: Prof. SM Khamanga

PV Ntemi (Pharmaceutics)

Formulation, development and assessment of devil's claw loaded phyto-elastosomes in thermo-responsive hydrogels
Supervisor: Prof. SM Khamanga

S Rath (Pharmacy)

Application of In Vitro Release Testing (IVRT) and dematopharmacokinetic methods to assess the bioequivalence of topical drug products
Supervisor: Prof. I Kanfer

BA Witika (Pharmacy)

Formulation development, manufacture and evaluation of a lamivudine-zidovudine nano co-crystal thermo-responsive suspension
Supervisor: Prof. RB Walker

Tshwane University of Technology**MTech Pharmaceutical Sciences****MM Djokam-Kamga** (Cum laude)

Quality assessment of selected commercially important herbal teas and tea blends
Supervisor: Dr I Vermaak

VB Maphanga (Cum laude)

Investigation of medicinal plants used in the treatment of central nervous system related diseases for anxiolytic activity using an in vivo Zebrafish model
Supervisor: Prof. A Viljoen

MP Moremi (Cum laude)

Chemical profiling of *Croton gratissimus*
Supervisor: Dr GPP Kamatou

RJ Moshoeshe (Cum laude)

Investigating the legislative and policy framework in combating counterfeit medicines in South Africa
Supervisor: Prof. D Katerere

BN Nsuala (Cum laude)

Phytochemical variation and the in vitro permeation of pyrolysis products of *Leonotis leonurus* in the respiratory nasal mucosa
Supervisor: Prof. G Enslin

RT Segone (Cum laude)

Quality control of *Piper methysticum* (kava) raw material using vibrational spectroscopic and chromatographic techniques
Supervisor: Prof. A Viljoen

LST Sekele

In vitro studies of the anti-diabetes effects of traditional medicines in South Africa
Supervisor: Prof. D Katerere

KD Serabele

Phytochemical analysis, quality control and antimicrobial activity of two species of 'Imphepho'
Supervisor: Prof. A Viljoen

DM Tswaledi (Cum laude)

Investigating the effect of selected plant products on modulation of diabetes and obesity
Supervisor: Prof. D Katerere

DTech Pharmaceutical Sciences**B Komane**

Quality control, safety and efficacy of selected African seed oils used in cosmetics
Supervisor: Prof. A Viljoen

University of KwaZulu-Natal**MPharm****AKM Aljoundi** (Cum laude)

In silico study of the mechanistic pan-inhibitory activities of masitinib towards SRC kinases; LYN, FYN and BLK, in the treatment of diffuse large B-cell lymphoma
Supervisor: Prof. MES Soliman

R Balliram

The knowledge, attitudes and practices of doctors, pharmacists, nurses and veterinarians on antimicrobials and antimicrobial resistance within South Africa
Supervisor: Prof. SY Essack

KL Cassar (Pharmacoeconomics)

A case study: On the impact of international benchmarking on the price of medicines in South Africa using immunosuppressive medicines for transplant recipients for comparison
Supervisor: Prof. F Suleman

R Cruickshank (Pharmacoeconomics)

Direct treatment costs of invasive candidiasis in haematology patients at a South African private hospital
Supervisor: Prof. F Suleman

AP Dlungela

Design, synthesis and biological evaluation of antimicrobial agents: Bromopyrole -Cinnamaldehyde
Supervisor: Prof. R Karpoomath

K Govender

Potential hepatoprotective effects of naringenin in Nucleoside Reverse Transcriptase Inhibitor-induced oxidative stress and apoptosis in vitro
Supervisor: Prof. PMO Owira

S Hoosain (Pharmacy Practice)

De-escalation as a strategy in the management of sepsis
Supervisor: Prof. SY Essack

HL Jali

Comparison of adherence to treatment, safety and effectiveness of fixed dose combination ARV drugs to multiple dose regimens in adult patients in public sector
Supervisor: Dr M Nlooto

P Kadare (Pharmacoeconomics)

Implications of out-of-pocket expenses incurred by breast cancer patients in Harare, Zimbabwe
Supervisor: Rev LJ Mathibe

MG Kadima (Cum laude)

Concurrent use of traditional medicine and prescribed antibiotics and/or antiviral medicines and their effects on antimicrobial resistance and treatment failure in Ilembe district, Kwazulu-Natal province
Supervisor: Dr M Nlooto

A Kuudzadombo (Pharmacy Practice)

Management and control of hypertension and associated co-morbidities in an ambulatory care setting – a medicines utilization review
Supervisor: Mr AL Gray

MF Lawal (Cum laude)

A cure for alzheimer's in sight: Molecular modellings studies on novel compounds, naringenin and naringenin-7-O-Glucuronide, in the development of a potent anti-alzheimer
Supervisor: Prof. MES Soliman

LL Maharaj

Assessment of factors affecting health care workers involved in the centralised Chronic Medicines Dispensing and Distribution (CCMDD) programme: The case of eThekweni, Metropolitan Health District, South Africa

Supervisor: Dr M Nlotoo

NV Mchunu (Pharmacoeconomics)

Consumer knowledge and perceptions on medicines in terms of generics and medicine pricing in Kwambonambi, Northern KwaZulu-Natal

Supervisor: Prof. F Suleman

A Moosa (Pharmacy Practice)

Long term adherence to antiretroviral therapy in a South African cohort

Supervisor: Dr TN Gengiah

GA Mushebenge

Triangulation study on the use of Traditional Medicine and prescribed antischistosomal medicines in communities with high prevalence schistosomiasis infections: Perspectives from traditional healers, patients and healthcare workers

Supervisor: Dr M Nlotoo

KNaidoo (Pharmacoeconomics)

Evaluating the impact of single exit pricing (SEP) on medicine product withdrawal from the private health care market in South Africa

Supervisor: Prof. F Suleman

VC Naidoo

Evaluation of the pharmacokinetics of ketamine for the treatment of major depressive disorder

Supervisor: Prof. P Naidoo

MA Naidoo Pillay

Assessment of factors affecting adherence to chronic medicines among stable patients registered onto the centralized chronic medicines dispensing and Distribution (CCMDD) programme: The case of eThekweni Metropolitan Health District, South Africa

Supervisor: Dr M Nlotoo

S Prosad (Cum laude)

Experiences of implanon NXT[®] users at public health facilities in South Africa

Supervisor: Dr EB Ojewole

TNQ Siyaya (Pharmacoeconomics)

Cost-analysis of Misoprostol and Mifepristone versus Misoprostol and Methotrexate when used for medical termination of pregnancy in women of gestational age of 7 weeks and less at Embhuleni Hospital in Elukwatini, Mpumalanga

Supervisor: Prof. F Suleman

ZB Tsegay

Prescription pattern monitoring of outpatient pediatric patients

Supervisor: Prof. F Oosthuizen

RAS Wadee

Continuous quality improvement in antimicrobial stewardship:

A case study of a private hospital in Durban, South Africa

Supervisor: Prof. SY Essack

ST Xulu

Investigating the anti-diabetic and anti-dyslipidemic effects of the Narigin

Supervisor: Prof. PMO Owira

NP Zwane (Pharmacy Practice)

The influence of parents/guardians expectations on doctors antibiotics prescribing patterns for children with upper respiratory tract infections in Pietermaritzburg, KwaZulu-Natal

Supervisor: Rev LJ Mathibe

Master of Health Sciences**P Badree** (Pharmacovigilance)

Knowledge, attitudes and practices of public hospital pharmacists towards pharmacovigilance and adverse drug reactions reporting process in eThekweni, KwaZulu-Natal

Supervisor: Prof. F Oosthuizen

MA Baksh (Pharmacovigilance)

An investigation into the knowledge of South African pharmacists on identification and management of drug and drug interactions

Supervisor: Prof. F Oosthuizen

S Ramasir (Pharmacovigilance)

The incidence of drug induced liver injury and nephrotoxicity in HIV/TB co-infected patients in a regional hospital in the Ugu district of KwaZulu-Natal

Supervisor: Prof. F Oosthuizen

Master of Medical Science**A Boadu** (Pharmaceutical Chemistry)

A comparative Chemistry of COA Herbal Medicine and herbal extracts of *Vernonia amygdalina* (Bitter Leaf) and *Persea americana* (AVOCADO)

Supervisor: Dr M Nlotoo

DN Govender (Pharmaceutical Chemistry)

Molecular characterization studies of New Delhi metallo- β -lactamases

Supervisor: Prof. T Naicker

AKG Hlophe (Pharmaceutical Chemistry)

Synthesis and evaluation of novel metallo- β -lactamase inhibitors for the treatment of antibiotic resistance bacteria

Supervisor: Prof. T Naicker

PZ Kubone (Pharmaceutics)

Molecular epidemiology of urinary tract infections (UTIs) in urban and rural settings of KwaZulu-Natal (KZN)

Supervisor: Prof. SY Essack

H Lubanyana (Pharmaceutical Chemistry)

Improved synthesis and isolation of bedaquiline

Supervisor: Prof. T Naicker

TH Malinga (Pharmaceutical Chemistry) **(Cum laude)**

L LC-MS/MS method development and validation for simultaneous quantification of first-line HIV drugs and second-line TB drugs in rat plasma

Supervisor: Dr S Baijnath

JT Mhlongo (Pharmaceutical Chemistry) **(Cum Laude)**

The synthesis of antimicrobial peptide derived from the analogue 107-115 of lysozyme

Supervisor: Prof. F Albericio

SN Mthembu (Pharmaceutical Chemistry) **(Cum laude)**

New disulfide reducing reagent for solid phase peptide synthesis

Supervisor: Prof. F Albericio

TW Muzumbukilwa (Pharmacology)

Hepatoprotective potential of *Moringa Oleifera* leaf extracts in streptozotocin induced diabetic rats

Supervisor: Prof. PMO Owira

NP Myeza (Pharmacology)

Effects of Z-venusol on cancer-related inflammatory cytokines in human breast cancer cells in vitro

Supervisor: Rev LJ Mathibe

S Noki (Pharmaceutical Chemistry) **(Cum laude)**

Thiobarbituric acid a useful scaffold for medicinal chemistry

Supervisor: Prof. F Albericio

JC Nwabuife (Pharmaceutical Chemistry)

A comparative chemistry of CAO[®] Herbal Medicine and Herbal Extracts of *Azadirachta indica* and *Carica papaya*

Supervisor: Dr M Nlotoo

H Nzama (Pharmaceutical Chemistry)

Synthesis and evaluation of potential metallo- β -lactamase inhibitors to combat antibiotic resistance

Supervisor: Prof. T Govender

KF Omolabi (Pharmaceutical Chemistry)

In vitro and in vivo evaluation of metal-chelating agents as novel metallo beta-lactamase inhibitors against carbapenem-resistant Enterobacteriaceae

Supervisor: Prof. T Govender

XQ Peters (Pharmaceutical Chemistry)

The development of a rapid LC-MS/MS method for simultaneous quantification of first line HIV and TB drugs

Supervisor: Dr S Baijnath

S Ramkisson (Pharmaceutical Chemistry) **(Cum laude)**

VT Sabe (Pharmaceutical Chemistry)
(*Cum laude*)

Entropy-based pathway analysis for *Mycobacterium tuberculosis* (MTb)
Supervisor: Prof. HG Kruger

PR Syed (Pharmaceutical Chemistry)
(*Cum laude*)

Cytochrome P450 monooxygenase CYP139 family involved in the synthesis of secondary metabolites in mycobacterial species
Supervisor: Prof. R Karpoormath

Doctor of Philosophy
(*Health Sciences*)**EA Adeniji** (Pharmaceutical Chemistry)

Molecular modelling paradigm towards the investigation of potential anticancer targets using combinatorial computational tools
Supervisor: Prof. MES Soliman

N Agyepong (Pharmaceutics)**DG Amoako** (Pharmaceutics)

Molecular and Genomic Profiling of *Staphylococcus aureus* from 'Farm-to-Fork' in an intensive poultry production system in uMgungundlovu District, KwaZulu-Natal (KZN) South Africa
Supervisor: Prof. SY Essack

TE Chiwunze (Pharmaceutical Chemistry)

Synthesis, characterization and application of novel nano-materials for the electrochemical determination of antimalarial drugs
Supervisor: Prof. R Karpoormath

N Devnarain (Pharmaceutical Chemistry)

The methyltransferase and helicase enzymes as therapeutic targets of Zika virus: A bio-computational analysis of interactions with potential inhibitors
Supervisor: Prof. MES Soliman

AKM Faya (Pharmaceutics)

Novel antimicrobial peptides for enhanced antimicrobial activity against methicillin resistant *Staphylococcus aureus*: Design, synthesis and formulation
Supervisor: Prof. T Govender

K Jain (Pharmaceutical Chemistry)

Synthesis and antimicrobial evaluation of novel 2,4-Dihydro-3H-pyrazol-3-one hybrids: A new class of antibiotics
Supervisor: Prof. R Karpoormath

S Khan (Pharmaceutical Chemistry)

Comparative studies of covalent and non-covalent drug inhibitory mechanisms of ERK2 and PTP1B proteins in cancer therapy using Bioinformatics and molecular modelling techniques
Supervisor: Prof. MES Soliman

MM Lawal (Pharmaceutical Chemistry)

A computational perspective on the concerted cleavage mechanism of the HIV-1 protease and its natural targets
Supervisor: Prof. HG Kruger

SB Maseko (Pharmaceutical Chemistry)

Molecular analysis of HIV-I resistance: Biosynthesis, kinetic and thermodynamic study of resistant HIV-Protease (C-SA) mutants
Supervisor: Prof. J Lin

EP Mofo Mato (Pharmacology)

Effects of naringenin on metformin disposition in a diabetic rat model
Supervisor: Prof. PMO Owira

G Munsamy (Pharmaceutical Chemistry)

Structural and functional characterization of the egress and invasion machinery of malaria: Proposing a new way forward in malaria therapeutics from an atomistic perspective
Supervisor: Prof. MES Soliman

FA Olotu (Pharmaceutical Chemistry)

Delving the cancer world: Combinatorial in silico modeling and investigations of crucial oncogenic targets and potential therapeutic approaches in cancer treatment
Supervisor: Prof. MES Soliman

CA Omolo (Pharmaceutics)

Synthesis of oleic acid conjugated polyethylene glycol and its application as an amphiphilic polymer for nano delivery of vancomycin
Supervisor: Prof. T Govender

SA Saka (Pharmacy)

A transnational validation study on the American Geriatric Society-Beers criteria among older persons in Africa: Reflections from Nigeria and South Africa
Supervisor: Prof. F Oosthuizen

L Shunmugam (Pharmaceutical Chemistry)

In silico investigation of Hepatitis C virus: A novel perspective into targeted viral inhibition of NS3 Helicase, NS3/4A Protease and NS5B RNA-Dependent RNA polymerase
Supervisor: Prof. MES Soliman

GF Tolufashe (Pharmaceutical Chemistry)

Investigating the inhibition mechanism of L,D-transpeptidase 5 from *Mycobacterium tuberculosis* using computational methods
Supervisor: Dr B Honarparvar

P Walvekar (Pharmaceutics)

Nanotherapeutics to combat infections
Supervisor: Prof. T Govender

P Yamoah (Pharmacy)

Knowledge, perceptions, practice and pattern of adverse events following immunization (AEFI) reporting in Africa
Supervisor: Prof. F Oosthuizen

M Yaseen (Pharmaceutics)

Impact of evidence-based interventions on the incidence of multidrug resistant gram negative bacteria in a hospital setting - A case study of a 500-bed hospital in Jeddah, Saudi Arabia
Supervisor: Prof. SY Essack

University of the Western Cape**MPharm****AT Adeola Adeleye**

Service learning in Pharmacy: Evaluation of tuberculosis screening by pharmacy students in public sector primary health care facilities
Supervisor: Dr M van Huyssteen

EC Ichoku

Isolation and bioassay evaluation of angiotensin converting enzyme inhibitory compounds of *Centella asiatica*
Supervisor: Dr K Obikeze

O Mokwelu

Bioassay guided isolation of ace inhibitory compounds from *Asystasia gangetica*
Supervisor: Dr K Obikeze

Y Tchakounte Noutchang

Design and evaluation of fast dispersible tablets of lamivudine using selected natural superdisintegrants
Supervisor: Dr H Samsodien

L Tenghe

Formulation, evaluation and comparison of polymeric micelles for improved oral delivery of Tenovofir disoproxil and Zidovudine using poly-lactic-co-glycolic acid nanoparticles
Supervisor: Dr H Samsodien

MSc Pharm Sciences**Z Mukaddam**

Discovery of anti-mycobacterial natural products from South African marine algae
Supervisor: Prof. D Beukes

MSc Pharm Admin**B Chawatama**

Knowledge-based integration of Zimbabwean traditional medicines into the national healthcare system: A case study of prostate cancer
Supervisor: Dr S Egieyeh

J Hockin

Knowledge, perceptions and practices of risk-based monitoring among clinical trial practitioners in the United States
Supervisor: Dr S Egieyeh

S Kisoma

Review system of registration of medicines in Tanzania
Supervisor: Dr K Obikeze

R Mayne

Community pharmacist's knowledge, attitude and practices on adverse drug reaction reporting in South Africa
Supervisor: Prof. A Bheekie

T Modau

The availability of persons nominated for adverse drug reporting and associated challenges in Gauteng regional and district public hospitals

Supervisor: Dr M van Huyssteen

PhD

M Mulubwa

Population pharmacokinetics of terizidone and cycloserine in patients with drug resistant tuberculosis

Supervisor: Prof. P Mugabu

FT Zindo

Polycyclic propargylamine derivatives as multifunctional neuroprotective agents

Supervisor: Prof. J Joubert

**University of the
Witwatersrand**

MPharm

K Kharsany

The antimicrobial properties of the major compounds found in South African propolis

Supervisor: Prof. S van Vuuren

M Lediga

Interactive efficacies between fever-reducing plants and silver nanoparticles

Supervisor: Prof. S van Vuuren

J Richter-Johnson

A dissolve-co-diffuse microneedle array for transdermal drug delivery

Supervisor: Prof. V Pillay

MSc (Medicine)

H Shirinda

PhD

P Komane

A functionalised carbon nanotube system for targeting of inflammatory biomarkers in ischemic stroke

Supervisor: Prof. V Pillay

P Kondiah

Design and development of a novel 3D bioprinted bone tissue engineered drug delivery scaffold for the treatment of bone fractures

Supervisor: Prof. V Pillay

G M'Bitsi-Ibouily

Design of metal-linked organic directing molecules (ODMs) for enhanced efficacy of neuro-actives through pharmacokinetics

Supervisor: Prof. V Pillay

G M'Bitsi-Ibouily

Design and evaluation of metal-liganded bioactive delivery system for enhanced oral bioavailability

Supervisor: Prof. V Pillay

A Orchard

Analysis of essential oils used in dermatological infections

Supervisor: Prof. S van Vuuren

M Sithole

In situ conjugation-co-fabrication of bioarchetypes employing 3D print processing

Supervisor: Prof. Y Choonara