



2019

RESEARCH REPORT



™

**VAAAL UNIVERSITY
OF TECHNOLOGY**

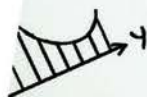
Inspiring thought. Shaping talent.

Accounting Cost Relations Philosophy Design
Food Doctorate Multimedia Technology Administration
Chain Public Electronic Service in Travel Art Systems Fine
Communication Office Service Electronic in Travel Art Systems Fine
Marketing Information
Management Business
Photography Supply Services Industrial Visual Chemistry
Graphic Arts Logistics Human Labour Mechanical Resource Electrical Civil Tourism
Marketing Information

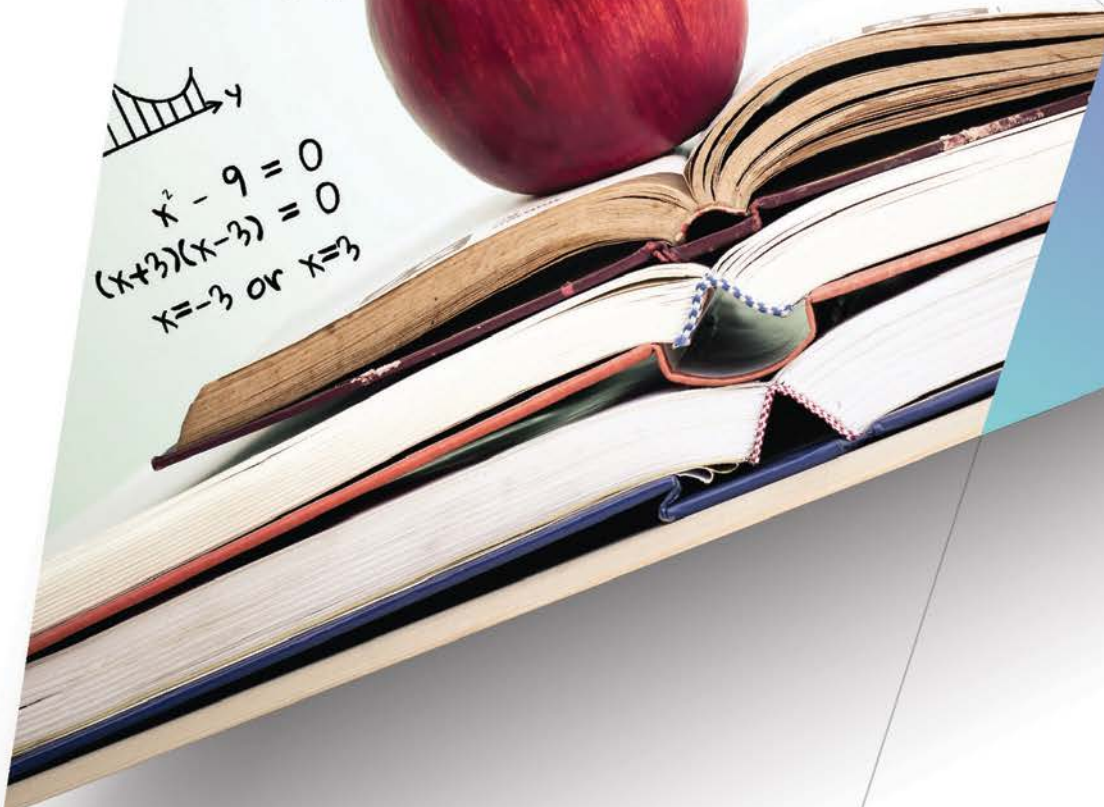
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$$\sqrt{x^2 + 4}$$



$$\begin{aligned}x^2 - 9 &= 0 \\(x+3)(x-3) &= 0 \\x &= -3 \text{ or } x = 3\end{aligned}$$



RESEARCH REPORT 2019

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Research Focus Areas

Accredited research outputs for Vaal University of Technology, 2011-2019

MESSAGE FROM THE ACTING DEPUTY VICE-CHANCELLOR:

2. RESEARCH, INNOVATION AND COMMERCIALISATION

PROF C.M. VAN DER BANK



"Our task is not to foresee the future, but to enable it." Antoine de Saint Exupéry, 1900-1944

It is my pleasure to introduce the 2019 Annual Research and Innovation Report. The report serves as an illustration of the University's shared commitment to advancing excellence in research and innovation.

It was humbling to see our researchers toiling against all odds for months to produce satisfactory research outputs and bettering the records we set ourselves in the past few years. The 2019 annual Research Report tells a tale of achievement and resilience indicative of the facts that there are no short cuts in research and innovation.

During the year 2019, the University continued with the repositioning of the research and innovation agenda. Although the advances in research and innovation were mainly guided and aligned to our University's Vision 2020 Strategy, Research Development and Technology and Innovation Plans, the University found itself having to take advantage of the exciting opportunity presented by the Fourth Industrial Revolution (4IR) – an opportunity which can potentially transform and impact positively on our research and innovation.

In addition, a strategy was developed to guide the Research and Innovation process at the University and to present the necessary commitment to relevance and competitiveness in pursuit of dynamic research and innovation. Key to the aims of this document is the establishment of the physical environment and a culture conducive to research and innovation and building capacity for research and innovation while increasing the external research output of the University as a whole.

This is done while prioritising the need for application in problem-solving that ideally lends itself to technology transfer and commercialisation. The University has gone a long way

to continuing to reflect a steady increase in its research and innovation.

The audited result of our DHET submission of accredited research outputs for 2019 has not yet been received at the time of writing, therefore the exact success rates in book and conference submissions are not yet known. The main component of VUT's publications for 2019 is Journal articles with a weighted unit of 128.103 followed by Conference Proceedings with a weighted unit of 30.063. The smaller components of our overall accredited outputs are book chapter weighted units of 1.750. VUT research is growing annually at a rapid rate. Notwithstanding the fact that the audited results have not been completed yet, an improvement of at least 35% in excess of the target is expected.

Over the years we have witnessed an increase in both internal and external financial investment in research and innovation. The continued effort to foster a research culture was supported by numerous policies, grants, incentives and capacity building initiatives.

I add my warm thanks and congratulations to all of our researchers, funders, collaborators and partners who contributed to the excellent accredited research results of 2019, as well as generated the many forms of scholarship that are not counted in the accreditation exercise, but which contribute much to the rich intellectual space that is VUT. I also thank all of the administrators who play a crucial role in preparing the University's meticulous audited submissions.

Prof C.M. van der Bank

*DVC: Research, Innovation and Commercialisation
(Acting)*

MESSAGE FROM THE:

3. DIRECTOR OF RESEARCH

DR S.M. NELANA



Research remains a core mission of the Vaal University of Technology. In the last few years, efforts have been made to improve on the research capacity of staff and students and the general research outputs and outcomes from the university. This document reports on core research activities undertaken during the year under review including research outputs; the state of research entities; summary of NRF grant holders and rated researchers; research capacity development undertaken; research achievements and recognition of researchers at VUT; and Postgraduate training.

In 2019, the research outputs from the 2018 submitted report to the DHET indicated that the research outputs from VUT increased by 22.9842 units from the 126.76 units awarded in 2017, this represents an 18% increase. The target for 2018 VUT publication units was 110, this targeted was exceeded by 39.7422 units.

On the Research Entities at VUT, an evaluation and review of the state of all research centres and institutes at VUT has started to assess their status and that if they are in the position to be considered as such. In addition, a framework to guide and streamline the operations of these entities is still been developed. The review process and framework are scheduled to be completed in 2020.

Funding is central to research and its related activities. In 2019, VUT continues to depend on both internal and external funding to undertake research including the NRF funding for its researchers and students. Only one new rating was approved in 2019, Prof Pillay was awarded a C3 rating by the NRF. VUT does have female NRF rated researchers but the research directorate has put in capacity development for female researchers at VUT to enhance their capacity to get rated. On the Thuthuka grant holders, four (4) new grants were awarded in 2019 bringing the total to seven (7). The external funding target set by the university for 2019 of R25 million was exceeded.

To strengthen the research knowledge base of staff and students, various capacity trainings were undertaken in 20019. Research Directorate organized 23 workshops on various aspects of research design and analysis and four (4) workshops on Research Ethics. More than 200 staff members participated in these workshops. Staff were also given support to enable them further their studies. The support offered to staff included Masters and Doctoral Induction programme; Payment of tuition fees of staff; Appointment of replacement lectures and In-house workshops on research skills and techniques and Writing for publication.

Forty three (43) Internal research awards were presented in 2019 to recognise staff members for their research contributions from the previous year. The annual awards are aimed at encouraging academic staff to participate in research.

Postgraduate trainings is a critical part of the VUT research system. Through PG studies, research and academic skills of new researchers are developed and enhanced. Post-graduation registration for both Masters and doctoral studies exceeded the expected targets set by the university with 100% increase in masters' students' registration and 114 doctoral students registering in 2019 exceeding the university expected target of 80 registered doctoral students for 2019.

Overall, the year 2019 saw in improvement in most parts of the VUT system. Current activities been undertaken by the Directorate of Research will see much improvement in the VUT research in the coming years.

Dr S.M. Nelana

Director Of Research

“Our task is not to foresee the future,
but to enable it.”

Antoine de Saint Exupéry, 1900-1944



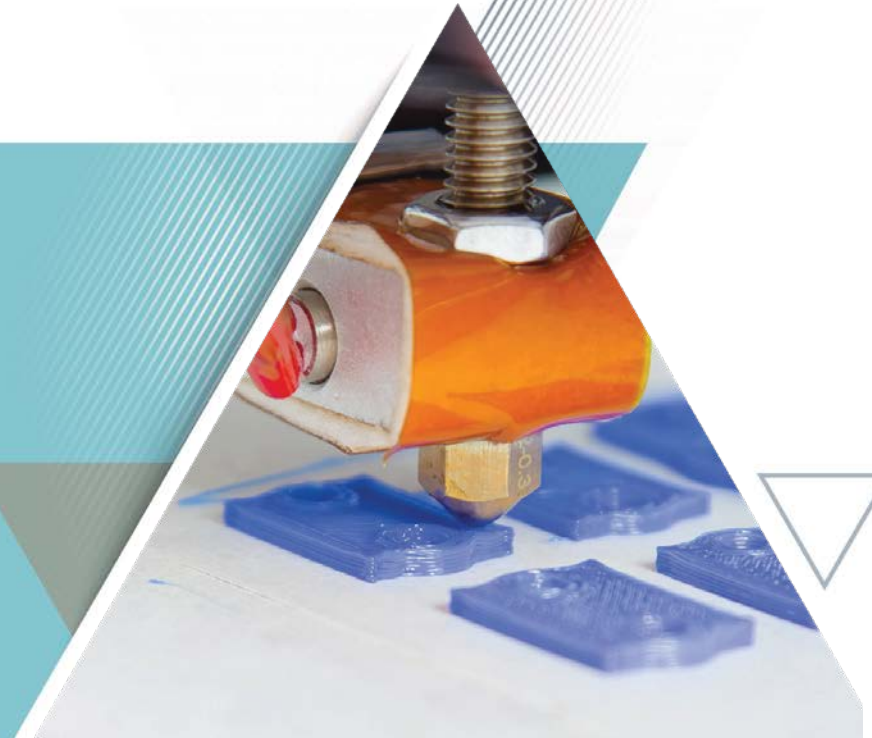


MESSAGE FROM THE
EXECUTIVE DIRECTOR:

4. TECHNOLOGY TRANSFER & INNOVATION



DR J. MOLETE



Programmes that offer new ways of thinking about and addressing local matters. It also seeks to bridge the digital divide by making available and accessible Computer-aided Design and manufacturing.



In 2019, the Technology Transfer and Innovation Directorate anticipated growth by intensifying the VUT's focus on the innovative space. To accommodate this trend, the Directorate gradually steered the research and business units' efforts towards innovation and commercialisation. The VUT, engaging through the TTI, is actively involved in the inclusion of models in Southern Gauteng to develop mutually beneficial strategies for the advancement of social, technological and economic development.

The models align with established international models, where regional agreements involving HEIs are an effective means to achieve economic growth, and for moving economies into higher skills levels. The regional efforts augmented through programmes like the I2P Lab, Casting Simulation for the foundry industry, Centre for Footwear Entrepreneurship to mention some examples. These mentioned and other programmes seek to empower communities to locally conceptualise, define, develop and design their own unique solutions to problems. Programmes that offer new ways of thinking about and addressing local matters. It also seeks to bridge the digital divide by making available and accessible Computer-aided Design and manufacturing.

The TTI endeavours to increase the VUT's international and national standing and visibility. The TTI's performance in 2019 projected VUT to the forefront, evident in the signing of 15 formal collaboration agreements both within and outside the continent. The TTI collaboration endeavours span the globe: with the Directional Composites through Manufacturing Innovation (DiCOMi) research and development project, partnerships have been established with Universities like Loughborough in the United Kingdom, The Technical University of CLUJ-Napoca in Romania, FH AACHEN University of applied science in Germany, The National Aerospace University (KhAI) in the Ukraine and Sabanci University at the Composite Technologies Centre in Turkey. It further collaborated with a variety of industry partners across the European continent, namely 5Axismaker, Fibrex, Guhring, Carboline, KordSA, Intelligentsia, CMRDi and Scion. For more information, visit www.dicomi.eu/partners.html.

The TTI is managing the VUT's partnership in the PlatForum project and endeavours to promote applied research and commercialisation, related to the 3D printing of pure platinum powder, which opens a wide range of new industrial applications for the precious metal. The TTI is also an active

partner in collaborations within the SATN and has knowledge and skills-sharing with Irish Universities like Cork Institute of Technology, Technological University Dublin, Limerick Institute of Technology and Waterford Institute of Technology. Our Innovation and Technology drive include TTI delegations visiting the international Formnext Exhibitions and attending public lectures by specialists in the field of Additive Manufacturing. Create value through innovation and technology at the TTI, and our commercialisation entities drive the commercialisation of our intellectual property and expertise.

In 2019, TTI with the Technology Transfer Office (TTO) reviewed the entire portfolio of IP to enhance effectiveness and make sure TTO's goals are aligned to the University's overall strategy. When VUT technologies are available for further development and commercialisation, TTI teams are ready to commercialise through the established commercial platform the "VUTE" (VUT Enterprise (Pty) Ltd). The Public relations team also showcased selected technologies at various national and international events.

Collaboration enables the VUT to create an entrepreneurial and innovative University environment. An environment that facilitates the transfer and commercialisation of University research products to commerce, industry and the community. At the same time develop opportunities for students (internships, jobs, entrepreneurship). Commercialise research-based know-how and innovation by students, graduates, staff and capitalises on business development realised by other potential entrepreneurs and set up spin-out companies to support future research.

The Technology Transfer & Innovation Directorate (TTI) consists of the following divisions:

1. Advanced Manufacturing Precinct with the Technology Stations:
 - a. TIA Sebokeng Technology Station for Materials Processing Technology (TTSMPPT)
 - b. TIA Northern Cape Technology Station;
2. Centre for Entrepreneurship and Rapid Incubation. (CfERI);
3. VUT Enterprise (VUTE);
4. Engineering Manufacturing Unit (EMU);
5. Enterprise Development Unit (EDU) and Technology Transfer Office (TTO)
6. The Science Park (SGSP); and
7. French South African Schneider education centre (F'SASEC).

Dr J. Molete

Executive Director





Postgraduate Staff Qualifications Completed in 2019

Name: van der Merwe, H.L.
Qualification: MEng
Dissertation/Thesis Title: Additive manufacturing costing parameter sensitivity.
University/Institution: Stellenbosch University

Name: du Rand, F.
Qualification: MTech
Dissertation/Thesis Title: Development of an additive manufacturing re-coater monitoring system for powder bed fusion systems.
University/Institution: Vaal University of Technology

Name: van Tonder, P.J.M.
Qualification: MEng
Dissertation/Thesis Title: Development of a quality assurance framework for chemical coated sand used in additive manufacturing technologies.
University/Institution: North-West University

Name: Mac Pherson, R.
Qualification: MEng
Dissertation/Thesis Title: Development and verification of a TRNSYS energy system simulation model for a combined heat and power dual-fuel system.
University/Institution: North-West University

Conferences (Papers and posters presented)

Presenter and co-presenter : Ikome, J.M. & Ikome, M.E.
Title of Paper: An enhancement of South African manufacturing industries' economic competitiveness: a comparison with China, Malaysia, India and Singapore.
Conference: International Conference on Industrial Engineering and Industrial System Applications (ICIEISA)
Place: New York, USA
Date: 09 - 10 December 2019
ISBN/ISSN: N/A

Presenter and co-presenter : van Tonder, P.J.M., de Beer, D.J. & Wichers. J.H.
Title of Paper: Establishment of a quality assurance framework through quality by design.
Conference: Rapid Product Development Association of South Africa (RAPDASA)
Place: Bloemfontein, South Africa

Date: 06-08 November 2019
ISBN/ISSN: 978-0-620-80987-0

Presenter and co-presenter : Du Rand, F., van Tonder, P.J.M. & van der Merwe, A.F.

Title of Paper: Development of an integrated powder bed fusion additive manufacturing monitoring system: a concept.

Conference: Rapid Product Development Association of South Africa (RAPDASA)

Place: Bloemfontein, South Africa

Date: 06-08 November 2019

ISBN/ISSN: 978-0-620-80987-0

Presenter and co-presenter : van der Merwe, H.L., van der Merwe, A.F., de Beer, D.J., Dube, T. & van Tonder, P.J.M.

Title of Paper: Additive manufacturing - reinventing the supply chain.

Conference: Rapid Product Development Association of South Africa (RAPDASA)

Place: Bloemfontein, South Africa

Date: 06-08 November 2019

ISBN/ISSN: 978-0-620-80987-0

Presenter: Havenga, S.P.

Title of Presentation: I2P: a strategic technology catalyst for community intervention: augmenting emerging technologies for South African FET schools' curricula.

Conference: NSTF Discussion Forum

Place: Cape Town, South Africa

Date: 12 September 2019

ISBN/ISSN: N/A

Presenter and co-presenter : Havenga, S.P., van Tonder, P.J.M., Campbell, R.I. & de Beer, D.J.

Title of Presentation: Can digital fabrication education affect the South African science, technology and innovation objectives through curriculum infiltration?

Conference: 2nd International Conference on Sustainable Smart Manufacturing (S2M 2019)

Place: Manchester, United Kingdom

Date: 09-11 April 2019

ISBN/ISSN: N/A

Presenter and co-presenter: Bresler, J. & Havenga, S.P.

Title of Presentation: Preservation of traditional culture in a 3d printed future.

Conference: RAPDASA

Place: Bloemfontein, South Africa

Date: 06-08 November 2019

ISBN/ISSN: N/A

Seminars / Workshops Presented

Title: Additive Manufacturing workshop.

Presented to: Industrial engineering students

Place: Stellenbosch University

Date: 01-03 May 2019

Title: Department of communications and digital technologies 4IR reconfiguration workshop.

Presented to: Department of Communications and Digital Technologies

Place: Huawei, Johannesburg

Date: 24-25 June 2019

Title: merSETA operator, assessor and moderator training.

Presented to: North-West university mechanical engineering students and lecturers / additive manufacturing industry

Place: Vanderbijlpark, Qwest centre

Date: 22-26 July 2019

Title: Sharpeville additive manufacturing awareness day.

Presented to: Grade 12 pupils

Place: Sharpeville, Gauteng

Date: 05 July 2019

Title: Mantserre additive manufacturing training.

Presented to: Grade 10-12 pupils

Place: Mantserre school, North West Province

Date: 23 August 2019

Research in Progress

Researcher: Mauchline, D.A.

Title: Evaluation of EOS PA2221 as a possible replacement for PA2200 in a South African context.

Field: Engineering Management

Researcher: la Grange, J.J.

Title: Development of a quality assurance framework for 3 dimensional printed moulds.

Field: Industrial Engineering

Researcher: du Rand, F.

Title: Development of a quality management framework for powder-based additive manufacturing systems.

Field: Industrial Engineering

Researcher: Mokone, L.

Title: The use of waste from additive manufacturing processes for investment casting patterns.

Field: Chemical Engineering

Researcher: Mwai, P.

Title: Novel technique of platinum catalyst deposition for polymer electrolyte membrane fuel cells.

Field: Electrical Engineering

Researcher: Jooste, J.H.

Title: Investigation into the generation of electricity via electrostatic induction.

Field: Mechanical Engineering

Research Partnerships/Collaboration

Researchers: Dady, O., Nyembwe, K. & van Tonder, P.J.M.

Title of research: Localization of silica sand for additive manufacturing applications.

Higher Education Institutions: University of Johannesburg / Vaal University of Technology

Industry: Foundry

Researchers: du Rand, F., van der Merwe, A. & van Tonder, P.J.M.

Title of research: Development of a quality management framework for powder-based additive manufacturing systems.

Higher Education Institutions: Stellenbosch University / Vaal University of Technology

Industry: Additive Manufacturing

Research Partnerships with International Universities / Collaboration

Researchers: Campbell, R.I. & Havenga, S.P.

Title of research: Directional composites through manufacturing innovation (DiCoMI).

Higher Education Institutions: Loughborough University, The technical university of Cluj- Napoca, Lund University, F.H. Aachen, National Aerospace University Sabanci University & Vaal University of Technology

Industry: 5Axisworks, Fibrex, Guhring, Carboline, Kordsa & Intelligentsia

Research institutes: Central Metallurgical Research and Development Institute, Scion

Research Partnerships with Industry or Community Groups

Researchers: van Tonder, P.J.M., de Beer, D.J., Malatsi, R., Mauchline, D.A. & van der Merwe, H.L.

Title of research: Producing local platinum powder for AM technologies.

Industry: PlatForum

Artefacts

Artefact Name: OVH smart POS (Point of sale)

Description: A compact till point for tuck-shops.

Target Group: SMME

Peer reviewed: Technology Innovation Agency

Artefact Name: SAOL Built-in cooling system lunch box

Description: Lunch box with an integrated ice compartment with the aim of keeping food fresh during warm summer days.

Target Group: Community

Peer reviewed: Technology Innovation Agency

Artefact Name: Grocery bag hanger

Description: A handle that is designed to hold multiple grocery plastic bags without hurting your fingers.

Target Group: Community

Peer reviewed: Technology Innovation Agency

Artefact Name: Gyrocopter intake manifold

Description: Optimise the design of an intake manifold for a locally manufactured gyrocopter. The design will be manufactured locally.

Target Group: Aerospace

Peer reviewed: TTO

MESSAGE FROM THE
EXECUTIVE DEAN:

5. FACULTY OF APPLIED & COMPUTER SCIENCE



PROF B.R. MABUZA



The Faculty research is geared towards our goal to lead in the development and implementation of scientific advances that form the foundation of research that matters.

As we write every year, our research in the Faculty is that which matters. Our researchers and their talented teams achieved the transformative advances in research, and this was possible because of the support of our visionary funding agencies and our Research Directorate Department.

The Faculty research is geared towards our goal to lead in the development and implementation of scientific advances that form the foundation of research that matters.

The Faculty has now appointed a Faculty Research Professor who will steer research to reach new frontiers of knowledge.

The international and national collaboration and partnerships have been established to deliver benefits to partners on both sides and to enhance the quality of doctoral training and postdoctoral experiences. This is also to benefit from transferable skills, spread excellence and deliver strengths more equitably.

The niche/focus areas are aligned to Millennium Development Goals (MDGs), Social Development Goals (SDGs) and the National Development Plan (NDP).

A total of 40 staff members (18 Masters degrees and 12 Doctoral degrees) have been registered for qualifications at Vaal University of Technology and other higher education institutions. All the necessary support will be given to those staff members.

A total of 79 research articles (Chemistry 49, Institute of Chemical and Biotechnology 15, Biotechnology 7, Health Sciences 1, Dihlare (PTY) Ltd. 4) were recorded in 2019. Some books have been published in the prestigious Proceedings.

Prof M. Moloto, Prof Pillay, Prof E. Pakade, Prof. T Zuva and Dr Xaba have received the 2019 Faculty Research Awards.

The Faculty hosted 7 Postdoctoral Research Fellows in 2019. This number is expected to increase in 2020. The Chemistry Department has achieved the highest number of Post-Graduates intake than any other Department in the Faculty. This scenario is informed by the high number of activities in this Department.

I would like to thank all the researchers and their talented students for a great year of 2019. I do appreciate all the effort that they have put in, not only completing their research projects but also making them truly outstanding.

Thank you for being the research leaders in the Faculty.

Prof B.R. Mabuza

Executive Dean



Postgraduate Staff Qualifications Completed in 2019

The following staff members received Postgraduate qualifications in 2019:

Biotechnology Department

Name: Dr S. Takaidza

Qualification: PhD Biotechnology

Thesis Title: Phytochemical analysis and biological activities of crude extracts from eight Tulbaghia species.

University/Institution: Vaal University of Technology

Name: J.R. Tagne-Wambo

Qualification: M Tech Biotechnology

Thesis Title: Establishing the correlation between R353Q Polymorphism and Homeostatic markers in a Black elderly community.

University/Institution: Vaal University of Technology

Name: J. Valentine

Qualification: M Tech Biotechnology

Thesis Title: Correlating the prevalence of C174G Polymorphism with IL-6, TNF- α and Hs-CRP in an elderly Black South African population.

University/Institution: Vaal University of Technology

Name: J.M. Masilo

Qualification: M Tech Biotechnology

Thesis Title: The evaluation of whole blood Cytokine assay for diagnosis of Mycobacterium tuberculosis infection in South African children with household Tuberculosis contact.

University/Institution: Vaal University of Technology

Chemistry Department

Name: Ms M.M. Selo

Qualification: Master of applied sciences in chemistry

Thesis Title: Green synthesis of mixed amino acid capped TiS₂ nanoparticles and their antimicrobial activity.

University/Institution: Vaal University of Technology

Name: Ms M. Vele

Qualification: Master of applied sciences in chemistry

Thesis Title: Synthesis of metal sulfide nanoparticles and thin films via thermal decomposition of benzothiazole based metal complexes.

University/Institution: Vaal University of Technology

Name: Mr H.M. Mmako

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Mr T.R. Motlokoa

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms M.M. Sebake

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms C.S. Nkutha

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms I. Tsotetsi

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms E. Mahuwa

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Mr K.E. Pule

Qualification: Doctor of Philosophy in chemistry

University/Institution: Vaal University of Technology

Name: Mr M. Phele

Qualification: Doctor of Philosophy in chemistry

University/Institution: Vaal University of Technology

Name: Ms R. Montle

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Health Sciences

Name: Ms J. Valentine

Qualification: Masters Biotechnology

University/Institution: Vaal University of Technology

Name: Ms I. Ngcakaza

Qualification: Masters Biomedical Technology

University/Institution: UJ

Name: Mr J. Tagne Wambo

Qualification: Masters Biotechnology

University/Institution: Vaal University of Technology

Institute of Chemical and Biotechnology

Name: Ms I.P. Ledwaba
Qualification: BTech Quality
University/Institution: Tshwane University of Technology

Name: Ms I.P. Ledwaba
Qualification: Postgraduate Diploma in Education
University/Institution: Vaal University of Technology

Name: Ms G. Ntseane
Qualification: Postgraduate Diploma in Education
University/Institution: Vaal University of Technology

Information & Communication Technology Department

Name: Rene van Eck
Qualification: D.Tech: Information Systems
Thesis Title: An approach to a creative pedagogy to improve the learner-content relation in tertiary ICT education in SA.
University/Institution: Vaal University of Technology

Name: Sarel Wilhelmus Jacobus
Qualification: M Tech: Information Technology
Thesis Title: Developing a formula for the comparison of athletics performance across gender, age and even boundaries based on South African standards.
University/Institution: Vaal University of Technology

Name: Ditlalanane Irene Kolo
Qualification: M Tech Information Technology
Thesis Title: The assessment of e-learning readiness in South African Schools.
University/Institution: Vaal University of Technology

Name: Tebogo Mokoena
Qualification: M Tech, Information Technology
Thesis Title: Malware Analysis and Detection in enterprise systems.
University/Institution: Vaal University of Technology

Name: Thulani Wonderboy Shongwe
Qualification: M Tech Information Technology
Thesis Title: A conceptual framework for crowd sourcing in education.
University/Institution: Vaal University of Technology

Name: Jabulani Kingsley Makhubela
Qualification: M Tech Information Technology
Thesis Title: Visual simultaneous localization and mapping in a noisy static environment.
University/Institution: Vaal University of Technology

Name: Moraba Andrew Mokwetli
Qualification: M Tech Information Technology
Thesis Title: Framework for adoption of the ICT security culture in SMMEs in the Gauteng Province, South Africa.
University/Institution: Vaal University of Technology

Name: Sello Prince Sekwatlakwatla
Qualification: M Tech Information Technology
Thesis Title: Prediction of traffic flow in cloud computing at a service provider.
University/Institution: Vaal University of Technology

Name: Thulani Wonderboy Shongwe
Qualification: M Tech Information Technology
Thesis Title: Decision support framework for the adoption of software development methodologies.
University/Institution: Vaal University of Technology

Conferences (Papers and posters presented)

Biotechnology Department

Presenter: Mokgope H.D., Walmsley T.A., Klink M.J.
Title of Paper: An investigation into the prevalence of anti-retrovirals in South African water systems and the use of a moving bed biofilm reactor to remove them [Oral Presentation]
Conference: 2nd Conference on Health Effects on Endocrine Disruptors
Place: University of Pretoria

Presenter: Moyo M.M., Nomngongo P.N., Mtunzi F.M., Klink M.J., Pakade V.E.
Title of Paper: Synthesis and characterization of magnetized quaternary activated carbon-silica composites and their performance on Cr (VI) removal from aqueous solution QhubuMC1 [Poster Presentation].
Conference: 13th International Conference on Fundamentals of Adsorption (2019)
Place: Cairns, Australia



Chemistry

Presenter: Moloto M.J.

Title of Paper: Water soluble and biologically relevant quantum dots and metal nanoparticles.

Conference: NanoToday

Place: Lisbon, Portugal 16-20 June 2019

Presenter: Pakade V.E., Mtshatsheni K.N.G., Xaba T., Maboya W.K.

Title of Paper:

Conference: African Materials Research Society

Place: Arusha, Tanzania

Presenter: Mtunzi F.M., Shooto N.D.

Title of Paper:

Conference: Green Chemistry

Place: Auckland, New Zealand

Presenter: Nkabinde C.S., Qhubu M., Mgedle N., Kubheka N.S.M., Mthombo P., Sentse O.

Title of Paper:

Conference: ANSO-MMU-SAROJEC

Place: Maasai Mara University, Narok, Kenya

ICT Department

Presenter: Harmse A.

Title of Paper: Decolonizing ICT curricula in the era of the Fourth Industrial Revolution

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Van Eck R.

Title of Paper: A creative pedagogy for learner-content interactions as work placement experience at Universities of Technology.

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Appiah M.

Title of Paper: Students' perceptions of e-assessment at a higher education institution

Conference: ICCED 2019

Place: Nanyang Technological University, Singapore

Presenter: Popela I., Zuva T. & Appiah M.

Title of Paper: Factors that influence the adoption of electronic patient's records management systems in South Africa.

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Masimba F., Appiah M. & Zuva T.
Title of Paper: A review of cultural influence on technical acceptance.
Conference: IEEE IMITEC 2019
Place: Vanderbijlpark, South Africa

Presenter: Zuva T.
Title of Paper: Employees satisfaction measurement at an university of technology in South Africa.
Conference: 10th International Conferences on Social Sciences (ICSS 2019)
Place: Vanderbijlpark, South Africa

Presenter: Agunbiade O.Y. & Zuva T.
Title of Paper: Simultaneous localization and mapping in a dynamic noisy environment in real time
Conference: IEEE 2019, WorldS4
Place: London, United Kingdom

Presenter: Thovheyi K.N. & Zuva T.
Title of Paper: Impact of I/O workloads on ram performance for virtual systems.
Conference: IEEE, IMITEC 2019
Place: Vanderbijlpark, South Africa

Presenter: Simelane L. & Zuva T.
Title of Paper: Decision support framework for the adoption of software development methodologies.
Conference: IEEE, IMITEC 2019
Place: Vanderbijlpark, South Africa

Presenter: Olaifa M. & Zuva T.
Title of Paper: Causal path planning graph based on semantic pre-link computation for web service composition.
Conference: IEEE, ICTCS 2019
Place: Amman-Jordan

Presenter: Motema J. & Appiah M.
Title of Paper: Factors affecting the adoption of cloud computing in South Africa hospital.
Conference: International conference on advances in big data, computing and data communication systems (icABCD2019)
Place: Drakensberg Sun Resort, Winterton, KwaZulu Natal, South Africa Dihlare (PTY) Ltd.

Presenter: Nkala B. A., Qwebani-Ogunleye T. & Mbongwa H.P.
Title of Paper: The evaluation of cytotoxicity and anti-inflammatory effects of South African Medicinal Plants against C2C12 cells and RAW 264.7 cells.
Conference: 4th International conference on traditional Medicine, Pharmacy and Pharmaceuticals
Place: Bangkok, Thailand (13-14 December 2019)

Presenter: Matsoso B., Pinkoane, M., Qwebani-Ogunleye, T. & Mthunzi F.M.
Title of Paper: Education and training of THPs: A case for Sedibeng in the Vaal Conference: 1st Vaal University of Technology International.
Conference on Traditional Knowledge and Traditional Medicine.
Place: Vanderbijlpark, South Africa (03-05 April 2019)

Presenter: Nkala B.A., Qwebani-Ogunleye T., Mbongwa H.P.
Title of Paper: In vitro Antibacterial evaluation of some South African plant extracts against selected bacterial strains.
Conference: 1st Vaal University of Technology International Conference on Traditional Knowledge and Traditional Medicine
Place: Vanderbijlpark, South Africa (03-05 April 2019)

Presenter: Pinkoane M., Matsoso B., Qwebani-Ogunleye T. & Mtunzi F.
Title of Poster: The Vaal THPS perceptions regarding their education and training in the use of simple biomedical equipment.
Conference: Nurse Education Association Conference.
Place: Hilton hotel, Johannesburg (4-5 September 2019)

Presenter: Pinkoane M.
Title: Curriculum design and development for a University of Technology in the Vaal region: A reflection.
Conference: 4th Annual Gauteng Nursing Research Conference (October 10th)
Place: Quest conference estate, Vanderbijlpark.

Health Sciences Department

Presenter: Selepe D.H.
Title of Paper: Nursing Education & Training for the fourth Industrial Revolution.
Conference: South African Technology Network International conference
Place: Cape Town

Presenter: Valentine J.
Title of Paper: The prevalence of G174G polymorphism and increased serum IL-6, TNF- α and HS-CRP in an elderly black South African population.
Conference: SMLTSA Medical Laboratory Professionals Congress
Place: Bloemfontein, South Africa

Presenter: Chalwe J.M., Grobler C.J., Dukas A. & Oldewage-Theron W.
Title of Paper: Correlation of plasma PCSK9 levels with the lipid profile of an elderly population from Sharpeville, South Africa.

Conference: 25th Society of Medical Laboratory Technologists of South Africa (SMLTSA) National Congress, Medical Laboratory Professionals Congress 2019
Place: Bloemfontein

Presenter: Grobler C.J.

Title of Paper: A correlation study between lipoprotein(a) and plasma atherogenicity markers of an elderly black community in South Africa.

Conference: 2019 SMLTSA Congress,

Place: Bloemfontein

Seminars / Workshops Presented

The following staff presented a seminar paper as follows:

Name: Sikakana Q.I.

Title: Customized Introductory Physics for career-focused programmes to enhance student success: Position paper.

Presented to: CAD Annual Academic Staff Development

Conference:

Place: Riverside Sun, Vanderbijlpark.

Date: 13-14 November 2019

Name: Modise S.J.

Title: Faculty Research Workshop/Seminar

Presented to: Faculty Researchers

Place: Quest Conference Centre.

Date: 27-29 November 2019

Postgraduate Staff and Students Qualifications Completed in 2019

Biotechnology Department

Name: Dr S. Takaidza

Qualification: PhD Biotechnology

Thesis Title: Phytochemical analysis and biological activities of crude extracts from eight *Tulbaghia* species.

University/Institution: Vaal University of Technology

Name: L. Dippenaar

Qualification: M Tech Biotechnology

Thesis Title: A comparative study between the prevalence of MTHFR A 1298C SNP and homocysteine metabolism in elderly black South African population.

University/Institution: Vaal University of Technology

Name: G.P. Moukangoe

Qualification: M Tech Biotechnology

Thesis Title: Synthesis and characterization of doped cobalt nanocomposite materials and their antibacterial, antifungal, and antiprotozoal activities in wastewater.

University/Institution: Vaal University of Technology

Name: KC Setlhare

Qualification: M Tech Biotechnology

Thesis Title: The effectiveness of water treatment process barriers for the removal of viruses in drinking water.

University/Institution: Vaal University of Technology

Name: K.J. Rabapane

Qualification: M Tech Biotechnology

Thesis Title: Sequence and Function-Based Screening of the Goat Rumen Metagenome for Novel Amylases.

University/Institution: Vaal University of Technology

Name: M.I. Mokoena

Qualification: M Tech Biotechnology

Thesis Title: Mining of Genes Encoding for DNA-Manipulating Enzymes from Hot Springs using Metagenomic Techniques.

University/Institution: Vaal University of Technology

Name: M.G. Mukendi

Qualification: M Tech Biotechnology

Thesis Title: Sequence and Function-Based Screening of Goat Rumen Metagenome for Novel Lipases.

University/Institution: Vaal University of Technology

Name: J.R. Tagne-Wambo

Qualification: M Tech Biotechnology

Thesis Title: Establishing the correlation between R353Q Polymorphism and Homeostatic markers in a Black elderly community.

University/Institution: Vaal University of Technology

Name: J. Valentine

Qualification: M Tech Biotechnology

Thesis Title: Correlating the prevalence of C174G Polymorphism with IL-6, TNF- α and Hs-CRP in an elderly Black South African population.

University/Institution: Vaal University of Technology

Name: J.M. Masilo

Qualification: M Tech Biotechnology

Thesis Title: The evaluation of whole blood Cytokine assay for diagnosis of *Mycobacterium tuberculosis* infection in South African children with household Tuberculosis contact.

University/Institution: Vaal University of Technology

Chemistry Department

Name: Ms M.M. Seloi

Qualification: Master of applied sciences in chemistry

Thesis Title: Green synthesis of mixed amino acid capped TiS₂ nanoparticles and their antimicrobial activity.

University/Institution: Vaal University of Technology

Name: Ms M. Vele

Qualification: Master of applied sciences in chemistry

Thesis Title: Synthesis of metal sulfide nanoparticles and thin films via thermal decomposition of benzothiazole based metal complexes.

University/Institution: Vaal University of Technology

Name: Mr H.M. Mmako

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Mr T.R. Motlokoa

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms M.M. Sebake

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms C.S. Nkutha

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms I. Tsotetsi

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Ms E. Mahuwa

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Name: Mr K.E. Pule

Qualification: Doctor of Philosophy in chemistry

University/Institution: Vaal University of Technology

Name: Mr M. Phele

Qualification: Doctor of Philosophy in chemistry

University/Institution: Vaal University of Technology

Name: Ms R. Montle

Qualification: Master of applied sciences in chemistry

University/Institution: Vaal University of Technology

Health Sciences

Name: Ms J. Valentine

Qualification: Masters Biotechnology

University/Institution: Vaal University of Technology

Name: Ms I. Ngcakaza

Qualification: Masters Biomedical Technology

University/Institution: University of Johannesburg

Name: Mr J. Tagne Wambo

Qualification: Masters Biotchnology

University/Institution: Vaal University of Technology

Institute of Chemical and Biotechnology

Name: Ms I.P. Ledwaba

Qualification: BTEch Quality

University/Institution: Tshwane University of Technology

Name: Ms I.P. Ledwaba

Qualification: Postgraduate Diploma in Education

University/Institution: Vaal University of Technology

Name: Ms G. Ntseane

Qualification: Postgraduate Diploma in Education

University/Institution: Vaal University of Technology

Information & Communication Technology Department

Name: Rene van Eck

Qualification: D.Tech Information Systems

Thesis Title: An approach to a creative pedagogy to improve the learner-content relation in tertiary ICT education in SA.

University/Institution: Vaal University of Technology

Name: Sarel wilhelmus Jacobus

Qualification: M Tech Information Technology

Thesis Title: Developing a formula for the comparison of athletics performance across gender, age and even boundaries based on South African standards.

University/Institution: Vaal University of Technology

Name: Ditalalane Irene Kolo

Qualification: M Tech Information Technology

Thesis Title: The assessment of e-learning readiness in South African Schools.

University/Institution: Vaal University of Technology

Name: Tebogo Mokoena

Qualification: M Tech, Information Technology

Thesis Title: Malware Analysis and Detection in enterprise systems.

University/Institution: Vaal University of Technology

Name: Thulani Wonderboy Shongwe

Qualification: M Tech Information Technology

Thesis Title: A conceptual framework for crowd sourcing in education.

University/Institution: Vaal University of Technology

Name: Jabulani Kingsley Makhubela

Qualification: M Tech Information Technology

Thesis Title: Visual simultaneous localization and mapping in a noisy static environment.

University/Institution: Vaal University of Technology

Name: Moraba Andrew Mokwetli

Qualification: M Tech Information Technology

Thesis Title: Framework for adoption of the ICT security culture in SMMEs in the Gauteng Province, South Africa.

University/Institution: Vaal University of Technology

Name: Sello Prince Sekwatlakwatla

Qualification: M Tech Information Technology

Thesis Title: Prediction of traffic flow in cloud computing at a service provider.

University/Institution: Vaal University of Technology

Name: Thulani Wonderboy Shongwe

Qualification: M Tech Information Technology

Thesis Title: Decision support framework for the adoption of software development methodologies.

University/Institution: Vaal University of Technology

Post-graduate induction sessions

Chemistry Department

Name: Moloto, M.J.

Title: Postgraduate Research Induction Course.

Presented to: Postgraduate students in the department of chemistry

Place: GW building (GW204)

Date: 18 February until 5 March 2019

Conferences (Papers and posters presented)

Biotechnology Department

Presenter: Mokgope, H.D., Walmsley, T.A. & Klink, M.J.

Title of Paper: An investigation into the prevalence of anti-retrovirals in South African water systems and the use of a moving bed biofilm reactor to remove them [Oral Presentation].

Conference: 2nd Conference on Health Effects on Endocrine Disruptors

Place: University of Pretoria

Presenter: Moyo, M.M., Nomngongo, P.N., Mtunzi, F.M., Klink M.J. & Pakade V.E.

Title of Paper: Synthesis and characterization of magnetized quaternary activated carbon-silica composites and their performance on Cr (VI) removal from aqueous solution QhubuMC1 [Poster Presentation].

Conference: 13th International Conference on Fundamentals of Adsorption (2019)

Place: Cairns, Australia

Chemistry

Presenter: Moloto, M.J.

Title of Paper: Water soluble and biologically relevant quantum dots and metal nanoparticles.

Conference: NanoToday

Place: Lisbon, Portugal 16-20 June 2019

Presenter: Pakade VE, Mtshatsheni KNG, Xaba T, Maboya W.K.

Title of Paper:

Conference: African Materials Research Society

Place: Arusha, Tanzania

Presenter: Mtunzi, F.M. & Shooto, N.D.

Title of Paper:

Conference: Green Chemistry

Place: Auckland, New Zealand

Presenter: Nkabinde, C.S., Qhubu, M., Mgedle, N., Kubheka, N.S.M., Mthombo, P. & Sentse, O.

Title of Paper:

Conference: ANSO-MMU-SAROJEC

Place: Maasai Mara University, Narok, Kenya

ICT Department

Presenter: Harmse, A.

Title of Paper: Decolonizing ICT curricula in the era of the Fourth Industrial Revolution

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Van Eck R.

Title of Paper: A creative pedagogy for learner-content interactions as work placement experience at Universities of Technology

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Appiah, M.

Title of Paper: Students' perceptions of e-assessment at a higher education institution

Conference: ICCED 2019

Place: Nanyang Technological University, Singapore

Presenter: Popela, I., Zuva T. & Appiah, M.

Title of Paper: Factors that influence the adoption of electronic patient's records management systems in South Africa

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Masimba, F., Appiah, M. & Zuva, T.

Title of Paper: A review of cultural influence on technical acceptance

Conference: IEEE IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Zuva, T.

Title of Paper: Employees satisfaction measurement at a university of technology in South Africa

Conference: 10th International Conferences on Social Sciences (ICSS 2019)

Place: Vanderbijlpark, South Africa

Presenter: Agunbiade, O.Y. & Zuva, T.

Title of Paper: Simultaneous localization and mapping in a dynamic noisy environment in real time.

Conference: IEEE 2019, WorldS4

Place: London, United Kingdom

Presenter: Thovhevi, K.N. & Zuva, T.

Title of Paper: Impact of I/O workloads on ram performance for virtual systems.

Conference: IEEE, IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Simelane, L. & Zuva, T.

Title of Paper: Decision support framework for the adoption of software development methodologies.

Conference: IEEE, IMITEC 2019

Place: Vanderbijlpark, South Africa

Presenter: Olaifa, M. & Zuva, T.

Title of Paper: Causal path planning graph based on semantic pre-link computation for web service composition.

Conference: IEEE, ICTCS 2019

Place: Amman-Jordan

Presenter: Motema, J. & Appiah, M.

Title of Paper: Factors affecting the adoption of cloud computing in South Africa hospital.

Conference: International conference on advances in big data, computing and data communication systems (icABCD2019)

Place: Drakensberg Sun Resort, Winterton, KwaZulu Natal, South Africa Dihlare (PTY) Ltd.

Presenter: Nkala, B.A., Qwebani-Ogunleye T. & Mbongwa H.P

Title of Paper: The evaluation of cytotoxicity and ant-inflammatory effects of South African Medicinal Plants against C2C12 cells and RAW 264.7 cells.

Conference: 4th International conference on traditional Medicine, Pharmacy and Pharmaceuticals

Place: Bangkok, Thailand (13-14 December 2019)

Presenter: Matsoso, B., Pinkoane, M., Qwebani-Ogunleye, T. & Mthunzi F.M.

Title of Paper: Education and training of THPs: A case for Sedibeng in the Vaal Conference: 1st Vaal University of Technology International Conference on Traditional Knowledge and Traditional Medicine.

Place: Vanderbijlpark, South Africa (03-05 April 2019)

Presenter: Nkala, B.A., Qwebani-Ogunleye, T. & Mbongwa, H.P.

Title of Paper: In vitro Antibacterial evaluation of some South African plant extracts against selected bacterial strains.

Conference: 1st Vaal University of Technology International Conference on Traditional Knowledge and Traditional Medicine.

Place: Vanderbijlpark, South Africa (03-05 April 2019)

Presenter: Pinkoane, M., Matsoso, B., Qwebani-Ogunleye, T. & Mtunzi, F.M.

Title of Poster: The Vaal THPS perceptions regarding their education and training in the use of simple biomedical equipment.

Conference: Nurse Education Association Conference.

Place: Hilton hotel, Johannesburg (4-5 September 2019)

Presenter: Pinkoane, M.

Title: Curriculum design and development for a University of Technology in the Vaal region: A reflection.

Conference: 4th Annual Gauteng Nursing Research Conference (October 10th)

Place: Quest Conference Estate, Vanderbijlpark.

Health Sciences Department

The Health Sciences Department presented the following papers and posters in 2019:

Presenter: Selepe, D.H.

Title of Paper: Nursing Education & Training for the fourth Industrial Revolution.

Conference: South African Technology Network International conference

Place: Cape Town

Presenter: Valentine, J.

Title of Paper: The prevalence of G174G polymorphism and increased serum IL-6, TNF- α and HS-CRP in an elderly black South African population.

Conference: SMLTSA Medical Laboratory Professionals Congress

Place: Bloemfontein, South Africa

Presenter: Chalwe, J.M., Grobler, C.J., Dukas, A. & Oldewage-Theron W.

Title of Paper: Correlation of plasma PCSK9 levels with the lipid profile of an elderly population from Sharpeville, South Africa.

Conference: 25th Society of Medical Laboratory Technologists of South Africa (SMLTSA) National Congress, Medical Laboratory Professionals Congress 2019

Place: Bloemfontein

Presenter: Grobler, C.J.

Title of Paper: A correlation study between lipoprotein(a) and plasma atherogenicity markers of an elderly black community in South Africa.

Conference: 2019 SMLTSA Congress

Place: Bloemfontein

Seminars / Workshops Presented

Dihlare Remedy (Pty) Ltd.

Name: Andu, T.

Title: ISO/IEC 17025:2017 Laboratory Quality Management System Training.

Presented by: Michem Dynamics Pty Ltd

Place: Pretoria, South Africa

Date: 27-29 October 2019

Name: Qwebani-Ogunleye, T.

Title: Science Leadership Workshop

Presented by: Global Young Academy and Inter Academy Partnerships





Place: Budapest, Hungary.
Date: 12 November 2019

Name: Andu, T. & Prof Mtunzi F.
Title: Ethics Training Workshop.
Presented by: Research Directorate, Vaal University of Technology
Place: Vanderbijlpark, South Africa.
Date: 12 and 13 September 2019

Name: Prof M. Pinkoane, Ms B. Matsoso and Dr T. Qwebani-Ogunleye
Title: Basics of Health Research Ethics.
Presented by: North West University
Place: Vanderbijlpark, South Africa.
Date: January 2019

Name: Ms B. Matsoso and Ms R. Majoro
Title: Basics of Intellectual Property Rights.
Presented by: North West University
Place: Vanderbijlpark, South Africa.
Date: 25 October 2019

NDT & Physics Department

Name: Sikakana Q.I.
Title: Customized Introductory Physics for career-focused programmes to enhance student success: Position paper.
Presented to: CAD Annual Academic Staff Development Conference
Place: Riverside Sun, Vanderbijlpark.
Date: 13-14 November 2019

Publications (Journals/Books/ Chapters in Books)

Biotechnology Department:

Author and co-authors: Lesaoana M., Mlaba R.P.V., Mtunzi F.M., Klink M.J., Edijike P., Pakade V.E.
Title: Influence of inorganic acid modification on Cr(VI) adsorption performance and the physicochemical properties of activated carbon (2019).
Journal: South African Journal of Chemical Engineering
Volume: 8
Issue:
Page numbers of article: 8-18
ISSN: 10269185

Author and co-authors: Tsolele, R., Mtunzi F.M., Klink, M.J. & Pakade V.E.

Title: An alternative low-cost adsorbent for gold recovery from cyanide-leached liquors: Isotherm and kinetic studies (2019).

Journal: Adsorption Science and Technology.

Volume: 37

Issue: (1-2)

Page numbers of article: 3-23

ISSN: 02636174

Author and co-authors: Lawal, A.I., Klink, M., Ndungu, P. & Moodley, B.

Title: Brief bibliometric analysis of "Ionic liquid" applications and its review as a substitute for common adsorbent modifier for the adsorption of organic pollutants (2019).

Journal: Environmental Research

Volume: 175

Issue:

Page numbers of article: 34-51

ISSN: DOI: 10.1016/j.envres.2019.05.005.

Author and co-authors: Klink, M.J., Mphiwa, T.E., Laloo, N., Ejidike, I.P., Pakade, V., Mtunzi, F.

Title: Modification of Quechers Method for Acidic Pesticide (Imidacloprid) in Citrus fruit (2019).

Journal: Chemistry for a Clean and Healthy Planet Springer-Nature

Volume:

Issue:

Page numbers of article: 429-446

ISBN: 978-3-030-20283-5

Author and co-authors: Kotlhao, K., Pakade, V.E., Mtunzi, F.M., Moutloali, R.M. Klink, M.J.

Title: Preparation and Characterization of Ag-TiO₂ modified Polyethersulphone (PES) Membranes for Potential Applications in Water (2019).

Journal: Chemistry for a Clean and Healthy Planet Springer-Nature

Volume: 331

Issue:

Page numbers of article: 331-337

ISBN: 978-3-030-20283-5

Author and co-authors: Kotlhao, K., Lawal, R.M., Moutloali, R.M. Klink, M.J.

Title: Antifouling Properties of Silver-Zinc Oxide Polyamide Thin Film Composite Membrane and Rejection of 2-Chlorophenol and 2,4-Dichlorophenol (2019).

Journal: Membranes

Volume: 9

Issue: 96

Page numbers of article: DOI:10.3390.

ISSN: 2077-0375

Author and co-authors: Parker-Nance S., Hilliar, S., Waterworth S., Walmsley, T., Dorrington, R.

Title: New Species in the sponge genus *Tsitsikamma* (*Poecilosclerida*, *Latrunculiidae*) from South Africa (2019).

Journal: ZooKeys

Volume: 874

Issue:

Page numbers of article: 101-126

ISSN: DOI: 10.3897/zookeys.874.32268

Author and co-authors: Lesaoana M., Mlaba, R.P.V., & Mtunzi, F.M., Klink, M.J., Edijike, P., Pakade, V.E.

Title: Influence of inorganic acid modification on Cr(VI) adsorption performance and the physicochemical properties of activated carbon (2019).

Journal: South African Journal of Chemical Engineering

Volume: 28

Issue:

Page numbers of article: 8-18

ISSN: 1026-9185

Author and co-authors: Machedi, S., Ejidike, I.P., Mtunzi, F.M., Pakade, V.E., Klink, M.J.

Title: Chlorinated Phenols: Sorption Performance by Activated and Grafted Carbon from Macadamia nutshell, Characterization, Kinetic and Thermodynamic Studies (2019).

Journal: Oriental Journal of Chemistry

Volume: 35

Issue: 5

Page numbers of article: 1469-1479

ISSN: 0970 020X

Author and co-authors: Makanyane, D.M., Ejidike, I.P.*, Ssemakalu, C.C., Mtunzi, F.M., Pakade, V.E., Klink, M.J. & Lebelo R.S.

Title: GC-MS analysis and extraction optimization of bioactive compounds from *Pelargonium graveolens* l'her methanolic extract and their activities as pharmacological agents (2019).

Journal: Int. Res. J. Pharm

Volume: 10

Issue: 9

Page numbers of article: 59-72

ISSN: 2230 – 8407

Chemistry Department

Author and co-authors: Shooto N.D., Thabede P.M., Bhila B., Moloto H., Naidoo E.B.

Title: Lead ions and methylene blue dye removal from aqueous

solution by Mucuna beans (Velvet beans) adsorbents.
Journal: Journal of Environmental Chemical Engineering
Volume:
Issue:
Page numbers of article: 2213-3437
ISSN: 103557

Author and co-authors: Shooto, N.D., Thabede, P.M. & Naidoo E.B.
Title: Simultaneous adsorptive study of toxic metal ions in quaternary system from aqueous solution using low cost black cumin seeds (*Nigella sativa*) adsorbents.
Journal: South African Journal of Chemical Engineering
Volume: 30
Issue:
Page numbers of article: 15-27
ISSN: 1026-9185

Author and co-authors: Shooto, N.D., Naidoo, E.B.
Title: Detoxification of Wastewater by Paw-Paw (*Carica papaya* L.) Seeds Adsorbents.
Journal: Asian journal of Chemistry
Volume: 31
Page numbers of article: 2249-2256
ISSN: 0970-7077

Author and co-authors: Shooto, N.D.
Title: A Convenient Synthesis of Antimony Nanorods using 1,2,4,5-Benzenetetracarboxylic Acid.
Journal: Asian journal of Chemistry
Volume: 31
Issue: 6
Page numbers of article: 1301-1304
ISSN: 0970-7077

Author and co-authors: Machedi, S., Ejidike, I.P., Mtunzi, F.M., Pakade, V.E. & Klink M.J.
Title: Chlorinated Phenols Sorption Performance by Macadamia Activated Carbon and Grafted Macadamia Activated Carbon: Characterization, Kinetics, and Thermodynamic studies.
Journal: Oriental Journal of Chemistry
Volume: 35
Issue: 5
Page numbers of article: 1469-1479
ISSN: 0970-020X

Author and co-authors: Musarurwa, H., Chimuka, L., Pakade, V.E. & Tavengwa N.T.
Title: Recent developments and applications of QuEChERS based techniques on food samples during pesticide analysis.
Journal: Journal of Food Composition and Analysis
Volume:

Issue:
Page numbers of article: 103314
ISSN: 0889-1575

Author and co-authors: Kotlhao, K., Pakade, V.E., Mtunzi, F.M., Moutloali, R.M. & Klink, M.J.
Title: Preparation and Characterization of (PES) Ag-TiO Membranes 2 Modified for Polyethersulfone.
Journal: Chemistry for a Clean and Healthy Planet
Volume:
Issue:
Page numbers of article: 331-339
ISSN: 978-3-030-20283-5
Author and co-authors: Lesaoana, M., Pakade, V.E., Chimuka, L.
Title: Crosslinker-less surface-imprinted Macadamia derived activated carbons for trace Cr (III) removal from aqueous solution.
Journal: Environmental technology & innovation
Volume: 14
Issue:
Page numbers of article: 100336
ISSN: 2352-1864

Author and co-authors: Lesaoana, M., Mlaba, R.P.V., Mtunzi, F.M., Klink, M.J., Edijike, P. & Pakade, V.E.
Title: Influence of inorganic acid modification on Cr (VI) adsorption performance and the physicochemical properties of activated carbon.
Journal: South African Journal of Chemical Engineering
Volume: 28
Issue: 1
Page numbers of article: 8-18
ISSN: 1026-9185

Author and co-authors: Tsolele, R., Mtunzi, F.M., Klink, M.J., Pakade, V.E.
Title: An alternative low-cost adsorbent for gold recovery from cyanide-leached liquors: Adsorption isotherm and kinetic studies.
Journal: Adsorption Science & Technology
Volume: 37
Issue: 1-2
Page numbers of article: 3-23
ISSN: 0263-6174

Author and co-authors: Pakade, V.E., Tavengwa, N.T. & Madiqizela L.M.
Title: Recent advances in hexavalent chromium removal from aqueous solutions by adsorptive methods.
Journal: RSC Advances
Volume: 9
Issue: 45

Page numbers of article: 26142-26164

ISSN: 2046-2069

Author and co-authors: Viljoen, E.L., Thabede, P.M.,

Moloto, M.J., Mubiayi, K.P., Dikiza, B.W.

Title: The influence of sodium hydroxide concentration on the phase, morphology and agglomeration of cobalt oxide nanoparticles and application as Fenton catalyst.

Journal: Digest Journal of Nanomaterials and Biostructures

Volume: 14

Issue: 4

Page numbers of article: 1131-1137

ISSN: 1842-3582

Author and co-authors: Evans, S.K., Wesley, O.N., Nathan, O., Moloto, M.J.

Title: Chemically purified cellulose and its nanocrystals from sugarcane bagasse: isolation and characterization.

Journal: Heliyon

Volume: 5

Issue: 10

Page numbers of article: e02635

ISSN: 2405-8440

Author and co-authors: Mofokeng, T.P., Moloto, M.J., Shumbula, P.M., Tetyana, P.

Title: Synthesis, characterization and cytotoxicity of alanine-capped CuS nanoparticles using human cervical carcinoma HeLa cells.

Journal: Analytical biochemistry

Volume: 580

Issue:

Page numbers of article: 36-41

ISSN: 0003-2697

Author and co-authors: Xaba, T., Moloto, M.J., Moloto, N.

Title: Bis (2-hydroxy-1-naphthaldehydato) zinc (II) as a precursor for the preparation of ZnO thin films through aerosol-assisted chemical vapour deposition.

Journal: Thin Solid Films

Volume: 670

Issue:

Page numbers of article: 99-104

ISSN: 0040-6090

Author and co-authors: Nyamukamba, P., Moloto, M.J., Tavengwa, N., Ejidike, I.P.

Title: Evaluating physicochemical parameters, heavy metals, and antibiotics in the influents and final effluents of South African wastewater treatment plants

Journal: Polish Journal of Environmental Studies

Volume: 28

Issue: 3

Page numbers of article: 1305-1312

ISSN: 1230-1485

Author and co-authors: Nyamukamba, P., Moloto, M.J., Mungondori H.

Title: Visible Light-Active CdS/TiO₂ Hybrid Nanoparticles Immobilized on Polyacrylonitrile Membranes for the Photodegradation of Dyes in Water.

Journal: Journal of Nanotechnology

,: 2019

Issue:

Page numbers of article: No page numbers

ISSN: 1687-9503

Author and co-authors: Opoku, F., Osikoya, A.O., Dikio, E.D. & Govender, P.P.

Title: One-step synthesized 2D heteroatom doped graphene for high throughput electrochemical biosensing: A combined experimental and computational studies.

Journal: Diamond and Related Materials

Volume: 100

Issue:

Page numbers of article: 107592

ISSN: 0925-9635

Author and co-authors: Diagboya, P.N., Mmako, H.K., Dikio E.D. & Mtunzi F.M.

Title: Synthesis of amine and thiol dual functionalized graphene oxide for aqueous sequestration of lead.

Journal: Journal of Environmental Chemical Engineering

Volume: 7

Issue: 6

Page numbers of article: 103461

ISSN: 2213-3437

Author and co-authors: Ebelegi, A.N., Ayawei, N., Wankasi, D., Dikio, E.D., Diagboya, P.N., Mtunzi, F.M.

Title: Covalently bonded polyamidoamine functionalized silica used as a Pb (II) scavenger from aqueous solution.

Journal: Journal of Environmental Chemical Engineering

Volume: 7

Issue: 4

Page numbers of article: 103214

ISSN: 2213-3437

Author and co-authors: Abasi, C.Y., Ejidike, I.P. & Dikio, E.D.

Title: Synthesis, characterisation of ternary layered double hydroxides (LDH) for sorption kinetics and thermodynamics of Cd²⁺.

Journal: International Journal of Environmental Studies

Volume: 76

Issue: 3

Page numbers of article: 441-455

ISSN: 0020-7233

Author and co-authors: Abasi, C.Y., Diagboya, P.N.E., Dikio, E.D.
Title: Layered double hydroxide of cobalt-zinc-aluminium intercalated with carbonate ion: preparation and Pb (II) ion removal capacity.

Journal: International Journal of Environmental Studies

Volume: 76

Issue: 2

Page numbers of article: 251-265

ISSN: 0020-7233

Author and co-authors: Osikoya, A.O., Opoku, F., Dikio, E.D. & Govender, P.P.

Title: High-Throughput 2D Heteroatom Graphene Bioelectronic Nanosculpture: A Combined Experimental and Theoretical Study.

Journal: ACS applied materials & interfaces

Volume: 11

Issue: 12

Page numbers of article: 11238-11250

ISSN: 1944-8244

Author and co-authors: Mohubedu, R.P., Diagboya, P.N.E., Abasi, C.Y., Dikio, E.D. & Mtunzi, F.

Title: Magnetic vaporization of biomass and biochar of a typical plant nuisance for toxic metals contaminated water treatment.
Journal: Journal of cleaner production.

Volume: 209

Issue:

Page numbers of article: 1016-1024

ISSN: 0959-6526

Author and co-authors: Sanni, S.O., Viljoen, E.L., Ofomaja, A.E.

Title: Design of ordered Ag/AgBr nanostructures coupled activated carbon with enhanced charge carriers separation efficiency for photodegradation of tetracycline under visible light.

Journal: Journal of Molecular Liquids

Volume:

Issue:

Page numbers of article: 112032

ISSN: 0167-7322

Author and co-authors: Thabede, P.M., Shooto, N.D., Abasi, C., Mtunzi, F.M., Nyamukamba, P., Dikio, E.D.

Title: Adsorption study of lead ions on nickel-metal organic framework.

Journal: Asian Journal of Chemistry

Volume: 31

Issue: 5

Page numbers of article: 1153-1157

ISSN: 0970-7077

Author and co-authors: Mokubung, K.E., Moloto, M.J., Mubiayi, K.P., Xaba, N.

Title: Synthesis and characterization of cysteine-capped CdSe nanoparticles using an alternative of selenium.

Journal: Asian Journal of Chemistry

Volume: 31

Issue: 11

Page numbers of article: 2457-2460

ISSN: 0970-7077

Author and co-authors: Kotlhao, K., Lawal, I.A., Moutloali, R.M., Klink M.J.

Title: Antifouling Properties of Silver-Zinc Oxide Polyamide Thin Film Composite Membrane and Rejection of 2-Chlorophenol and 2, 4-Dichlorophenol.

Journal: Membranes

Volume: 9

Issue: 8

Page numbers of article: 96 - 102

ISSN: 2077-0375

Author and co-authors: Pholosi, A., Naidoo, E.B., Ofomaja, A.E.

Title: Enhanced Arsenic (III) adsorption from aqueous solution by magnetic pine cone biomass.

Journal: Materials Chemistry and Physics

Volume: 222

Issue:

Page numbers of article: 20 - 30

ISSN: 0254-0584

Author and co-authors: Lawal, I.A., Klink, M., Ndungu, P.

Title: Deep eutectic solvent as an efficient modifier of low-cost adsorbent for the removal of pharmaceuticals and dye.

Journal: Environmental research

Volume: 179

Issue:

Page numbers of article: 108837

ISSN: 0013-9351

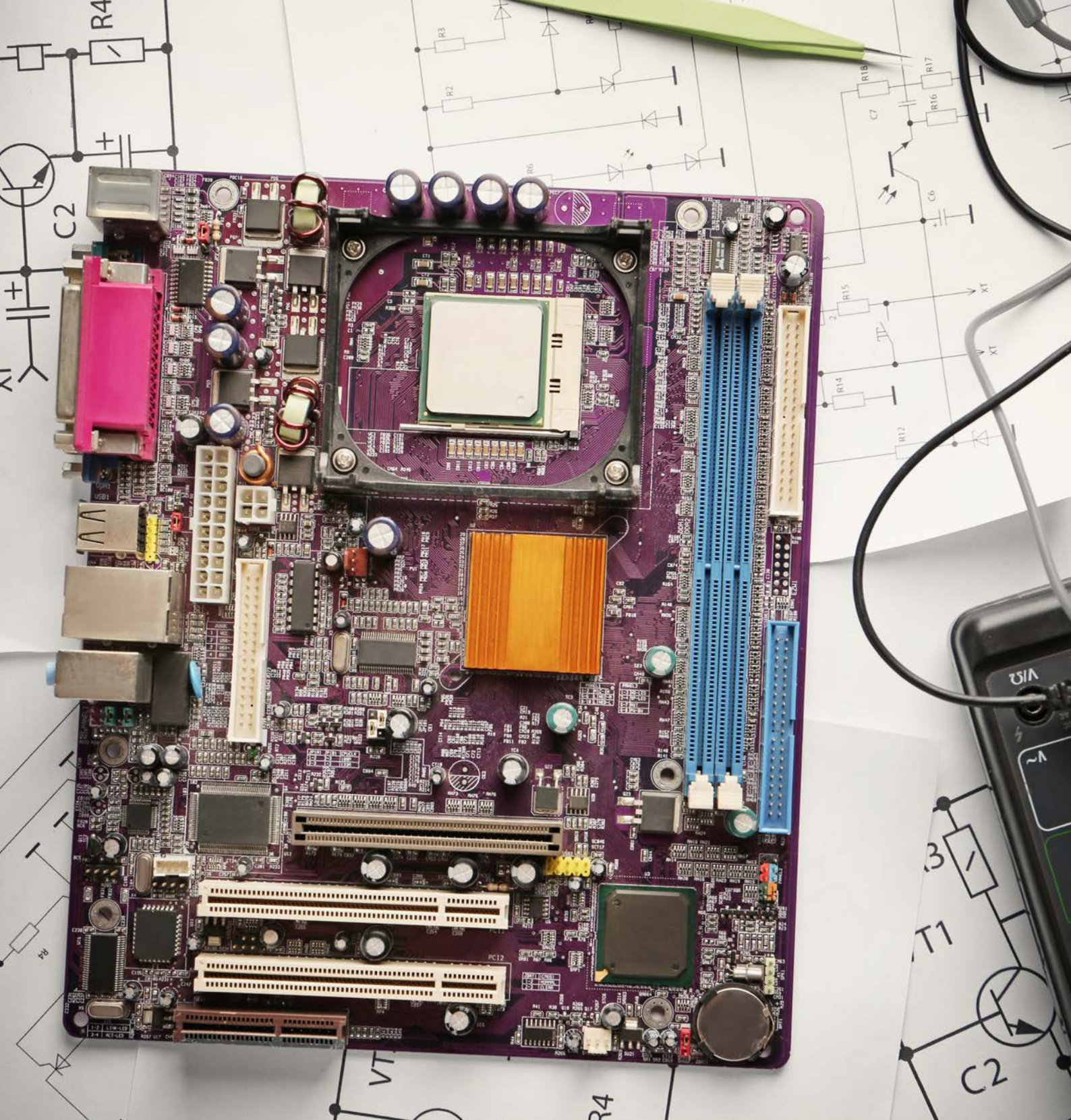
Author and co-authors: Omorogie, M.O., Ofomaja, A.E.

Title: MCM-41 templating of semiconductors onto microwave-induced KOH-modified biomass-activated carbon for photo-mineralization of tetracycline: response surface methodology.

Journal: International journal of environmental science and technology

Volume: 16

Issue: 1



Page numbers of article: 495-505
ISSN: 1735-1472

Author and co-authors: Akpotu, S.O., Moodley, B., Vamsi, B., Ofomaja, A., Maddila, S.
Title: Citric Acid/MCM-48 Catalyzed Multicomponent Reaction: An Efficient Method for the Novel Synthesis of Quinoline Derivatives.
Journal: Chemistry Select
Volume: 4
Issue: 23
Page numbers of article: 7003-7009
ISSN: 2365-6549

Author and co-authors: Mtshatsheni, K.N.G., Ofomaja, A.E., Naidoo, E.B.
Title: Synthesis and optimization of reaction variables in the preparation of pine-magnetite composite for removal of methylene blue dye.
Journal: South African Journal of Chemical Engineering
Volume: 29
Issue:
Page numbers of article: 33-41
ISSN: 1026-9185

Author and co-authors: Okoli, C.P., Ofomaja, A.E.
Title: Development of sustainable magnetic polyurethane polymer nanocomposite for abatement of tetracycline antibiotics aqueous pollution: Response surface methodology and adsorption.
Journal: Journal of cleaner production
Volume: 217
Issue:
Page numbers of article: 42-55
ISSN: 0959-6526

Author and co-authors: Igberase, E., Ofomaja, A., Osifo, P.O.
Title: Enhanced heavy metal ions adsorption by 4 aminobenzoic acid grafted on chitosan/epichlorohydrin composite: Kinetics, isotherms, thermodynamics and desorption studies.
Journal: International journal of biological macromolecules.
Volume: 123
Issue:
Page numbers of article: 664-676
ISSN: 0141-8130

Author and co-authors: Oseghe, E.O., Msagati, T.A.M., Mamba, B.B., Ofomaja, A.E.
Title: An efficient and stable narrow bandgap carbon dot-brookite composite over other CD-TiO₂ polymorphs in rhodamine B degradation under LED light.
Journal: Ceramics International

Volume: 45
Issue: 11
Page numbers of article: 14173-14181
ISSN: 0272-8842

Author and co-authors: Sanni, S.O., Viljoen, E.L., Ofomaja, A.E.
Title: Accelerated Electron Transport and Improved Photocatalytic Activity of Ag/AgBr Under Visible Light Irradiation Based on Conductive Carbon Derived Biomass.
Journal: Catalysis Letters
Volume: 149
Issue: 11
Page numbers of article: 3027-3040
ISSN: 1011-372X

Author and co-authors: Pholosi, A., Naidoo, E.B., Ofomaja, A.E.
Title: Sequestration of As (III) pollutant from water using chemically activated pine cone biomass: evaluation of interaction and mechanism.
Journal: International Journal of Environmental Science and Technology
Volume: 16
Issue: 11
Page numbers of article: 6907-6920
ISSN: 1735-1472

Author and co-authors: Oseghe, E.O., Msagati, T.A.M., Ofomaja, A.E.
Title: Photocatalytic Degradation of Tetracycline Synthesized via Using Different C/TiO₂ Hydrothermal.
Journal: Chemistry for a Clean and Healthy Planet
Volume: 489
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Akpotu, S.O., Oseghe, E.O., Ayanda, O.S., Skelton, A.A., Msagati, T.A.M.
Title: Photocatalysis and biodegradation of pharmaceuticals in wastewater: effect of abiotic and biotic factors.
Journal: Clean Technologies and Environmental Policy
Volume: 1
Issue:
Page numbers of article: 1-21
ISSN: 1618-954X

Author and co-authors: Mzinyane, N.N., Chiririwa, H., Ofomaja, A.E., Naidoo, E.B.
Title: Effect of ammonium ceric nitrate as initiator in grafting of acrylic acid onto pine cone powder.
Journal: Cellulose Chemistry and Technology
Volume: 53
Issue: 9-10

Page numbers of article: 971-979
ISSN: 0576-9787
Dihlare Remedy (PTY) Ltd.

Author and co-authors: Nkala, B.A., Mbongwa, H.P., Qwebani-Ogunleye, T.
Title: The evaluation of cytotoxicity and ant-inflammatory effects of South African Medicinal Plants against C2C12 cells and RAW 264.7 cells.
Journal: International Journal of Scientific Research Publications
Volume: 10
Issue: 2
Year: 2020
Page numbers of article: 207-220
ISSN: 2250-3153

Author and co-authors: Motsumi, P.T., Qwebani-Ogunleye, T., Ejidike, I.P., Mthunzi, F.M., Nate, Z.
Title: Teedia lucida, Root extracts: Phytochemical screening, antimicrobial and antioxidant activity.
Journal: Accepted by RASAYAN, Journal of Chemistry,
Volume: 13
Issue: 1
Year: 2020
Page numbers of article: 423-433
ISSN: 0974-1496

Author and co-authors: Nkala, B.A., Mbongwa, H.P., Qwebani-Ogunleye, T.
Title: Estimation and the preliminary screening of phytochemicals, total phenolic content, total flavonoid content, antioxidant and alpha-amylase inhibitory.
Journal: International Journal of Pharma and Biosciences
Volume:
Issue:
Year: 2020
Page numbers of article:
ISSN:

Author and co-authors: Qwebani-Ogunleye, T., Ejidike I.P., Mthunzi, F.M.
Title: Review on Tuberculosis: Trends in the Discovery of New and Efficient Chemotherapeutic Agents. Book: Chemistry for a Clean and Healthy Planet.
Journal: Springer Nature Switzerland
Chapter: 13
Year: 2019
Page numbers of article: 197-227
ISBN: 978-3-030-20283-5

Author and co-authors: Ayoola, M.D., Adebajo, A.C., Zotor, F., Pinkoane M.
Title: Antihyperglycaemic and anti-oxidant activities of Scenicio bialrae as justification of its antidiabetic ethnomedicinal claim.
Journal: Journal Annals of Complementary and Alternative Medicine.
Volume: 30
Issue: 1
Year: 2019
Page numbers of article: 1-8
ISSN:

Author and co-authors: Nkala, B.A., Mbongwa, H.P., Qwebani-Ogunleye, T.
Title: The in vitro evaluation of some South African plant extracts for minimum inhibition concentration and minimum bactericidal concentration against selected bacterial strains.
Journal: International Journal of Scientific and Research Publications.
Volume: 9
Issue: 7
Year: 2019
Page numbers of article: 996-1004
ISSN: 2250-3153

Health Sciences Department

Author and co-authors: Ramalisa, R.
Title: Intellectual disability, changes and advances that occurred over the years in terms of DSM.5 classification.
Book chapter: Mental Health Nursing - a South African Perspective 7e in the Middleton L. 2020.
Volume:
Issue:
Page numbers of article:
ISSN:
Publisher: Juta and Company

ICT Department

Author and co-authors: Maake, M., Ojo, S.O., & Zuva, T.
Title: A serendipitous research paper recommender system.
Journal: International journal of business and management sciences.
Volume: 11
Issue: 01
Page numbers of article: 38-53
ISSN: 1309-8047 (Online)

Author and co-authors: Masimba, F., Appiah, M., Zuva, T.
Title: Influencing factors of mobile technology adoption by

small holder farmers in Zimbabwe.

Journal: Computational Methods in systems and software

Volume: 1046

Issue:

Page numbers of article: 125-134

ISSN: 2194-53657

Mathematics Department

Author and co-authors: Okosun, K.O., Mukamuri, M.

Title: Two-step low-temperature oxidation for thermal stability analysis of a combustible sphere.

Journal: Alexandria Engineering Journal 2018 57:

Volume: 57

Issue:

Page numbers of article: 2829-2835

ISSN:

Author and co-authors: Okosun, K.O.

Title: Modelling the effects of heavy alcohol consumption on the transmission dynamics of gonorrhea with optimal control.

Journal: Mathematics Biosciences 2019

Volume: 309

Issue:

Page numbers of article: 1-11

ISSN:

Contract Research

None

Research Partnerships/Collaboration

Biotechnology Department

Water Research Council

Dr Ubomba-Jaswa

Solar disinfection of water

Agricultural Research Council

Dr Aiyegoro

Pro-Biotic Bioprospecting and tissue regeneration.

Tshwane University of Technology

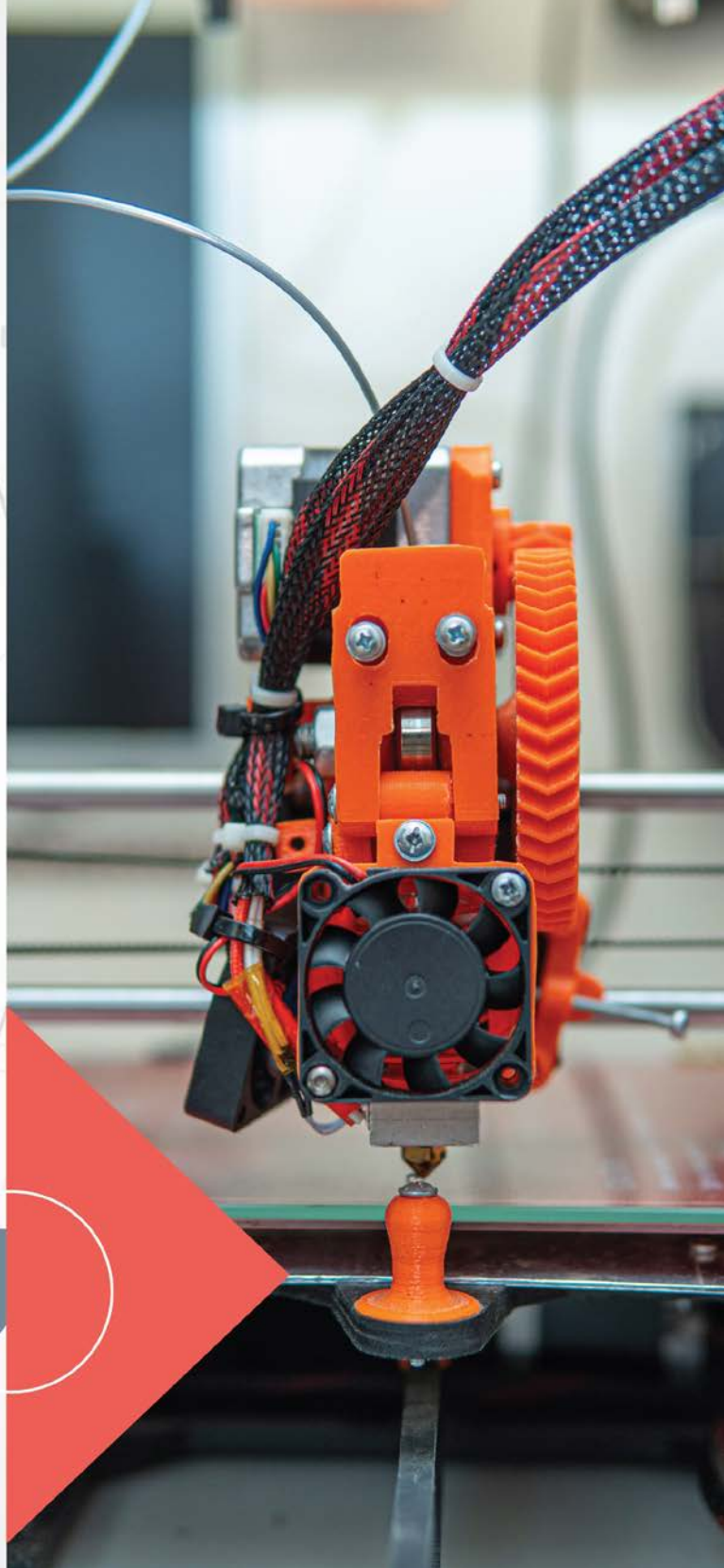
Prof Motaung

Bio-tissue regeneration

Agricultural Research Council

Dr Ncube

The effect of glyphosate on fungal inoculation of plant rhizospheres – Dr TA Walmsley (Vaal University of Technology) &



Rhodes University

Dr T.A. Walmsley (VUT) and Dr Matcher
Next Generation Sequencing analysis of soil, rhizosphere and plant associated microbial communities.

Rhodes University

Dr T.A. Walmsley (VUT) and Prof Dames
Investigating plant growth promoting fungi and fungal inoculants.

PepperFresh Agricultural Consultants

Dr T.A. Walmsley (VUT) and Mr Beckerling
Development of targeted microbial inoculant products for agricultural application in Southern Africa.

Chemistry Department

University of the Witwatersrand
University of Johannesburg
University of Pretoria
Mintek
CSIR
SASOL
ESKOM

ICT Department

IBM
HERE technologies
Open data
Geekucha

Research Partnerships with International Universities / Collaboration

Chemistry

University of Maasai Mara in Kenya Connell University

Dr Zodwa - Epigenetic effects resulting from consumption of sugar.

Biotechnology

University of Oxford

Dr Spencer - Immunological impact of SODIS water.

Colorado State University

Prof Popat - The effect of crude water extracts of *Tulbaghia violacea* on scaffolds with cardiovascular applications.

University of Chicago

Advanced Protein Characterization Facility at Argonne National Laboratory.

Istanbul Technical University

Dr N.A. Feto (VUT)

The enzyme-based production of biodiesel as well as the application of hydrogen as an alternative source of biofuel.

Research Partnerships with Industry or Community Groups

Chemistry Department

The Chemistry Department have the following relationships with Industry:

SASOL

For research collaborations, funding and teaching the BTech students specialized topic. Some of the experts gave seminars to postgraduate students

Mintek

For research collaborations in sharing of research expertise and equipment.

Health Sciences Department

Biomedical Technology has an existing workable relationship with accredited National Laboratories in the country for placement of their students to do work integrated learning. The same goes for Nursing where a healthy relationship exists between Nursing Vaal University of Technology and healthcare facilities (private and public) where students are placed for clinical learning.

ICT Department

Key individuals in different roles in the ICT industry liaise on a regular basis with academics.

Academic: Mr I. Matshego

Company: Balunga IT

Specialization: Specialize in e-waste and Digital revolution

Academic: Mr I. Matshego

Company: Standard Bank

Specialization: Engineering SME in Software Testing

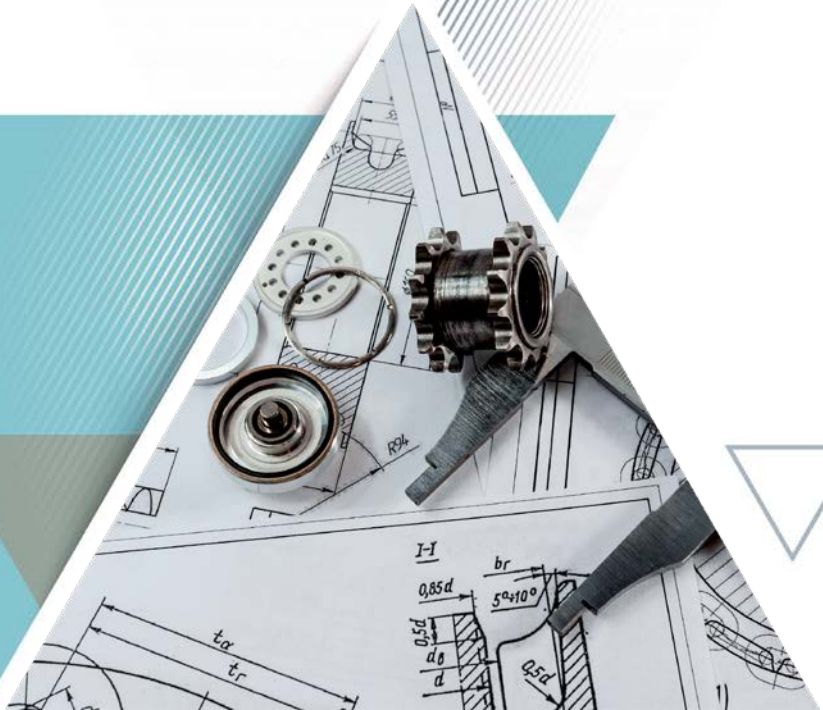


MESSAGE FROM THE
EXECUTIVE DEAN:

6. FACULTY OF ENGINEERING AND TECHNOLOGY



PROF P.O. OSIFO



The foundation of academic development is based on research which forms the bedrock of academic achievement. The Faculty of Engineering has used this thinking to strategically push research to form a greater part of the Faculty Academic Development.



The enterprise development team has graduated 40 students who were trained for 6 months as part of the Vaal University of Technology/Sasol Entrepreneurship program.

The foundation of academic development is based on research which forms the bedrock of academic achievement. The Faculty of Engineering has used this thinking to strategically push research to form a greater part of the Faculty Academic Development.

To improve innovation and commercialisation, the Faculty has refocused its research strategy to address the most challenging issues in the world today such as unprecedented energy challenges, water resources, pollution control and digital information technology. Therefore, the majority of the Faculty Research undertaken is built around renewable/alternative energy, water treatment and reuse, and air pollution control. Kindly note that research in these areas formed part of the drive in meeting the institutional strategic research objectives and the goals of the National Vision-2030. Therefore, it is evident that the Faculty has aligned its priorities to the demands/needs of future challenges. The digital technology, which addresses the 4IR skills shortage, is anchored in some of the research projects in the Faculty.

In an attempt to support our research endeavour the Faculty has developed a Masters degree of Engineering in Energy Efficiency,

in which 26 students have been registered since the start of the course being offered in January 2020. There is also an ongoing development for a Masters degree in Engineering in Engineering Education that will start in 2021.

In the pursuit to achieve the Faculty Research Strategic Objectives, we have engaged in strong collaboration with industries, institutions and research organisations. These include amongst others SASOL, Eskom, Telkom, CHIETA, TIA, WRC, NRF, CSIR, and PEESA. These collaborations have, indeed, pushed the research capacity to a higher level of achievement within the Institution. This is evidenced by an increase in the research outputs in recent years and the numbers of postgraduate students involved in the research projects as a result of the funding support from our collaborators.

Prof P.O. Osifo

*Executive Dean:
Faculty Of Engineering And Technology*

Postgraduate Staff and Students Qualifications Completed in 2019

Postgraduate Staff Qualifications Completed in 2019

Name: Madonsela, J.S.

Qualification: MTech

Dissertation/Thesis Title: The effect of nanosized sintering on the mechanical properties of Ti-Nb-Zr and Ti-Nb-Zr-Ta alloys.

University/Institution: Vaal University of Technology

Name: Mahundla, M.R.

Qualification: MTech

Dissertation/Thesis Title: Optimisation and evaluation of methods for the synthesis of Ti-Nb-Zr alloys with low elastic moduli.

University/Institution: Vaal University of Technology

Name: Mantshiu, A.M.

Qualification: MTech

Dissertation/Thesis Title: Evaluation of tribocorrosion and biocompatibility of nano-sintered Ti-15Zr-4Nb-2Ta-0.2Pd alloy for orthopaedic device applications.

University/Institution: Vaal University of Technology

Name: Muger, H.

Qualification: MTech

Dissertation/Thesis Title: Optimisation of filling and feeding of sand cast austenitic stainless-steel pump impeller using numerical modelling and additive manufacturing.

University/Institution: Vaal University of Technology

Name: Du Rand, F.

Qualification: MTech

Dissertation/Thesis Title: Development of an additive manufacturing recoater Monitoring system for powder bed fusion systems.

University/Institution: Vaal University of Technology

Name: Mabadie, P

Qualification: MTech

Dissertation/Thesis Title: Design and implementation of the telecommunications and utility cable tamper Monitoring system.

University/Institution: Vaal University of Technology

Name: Alicia, P.

Qualification: MTech

Dissertation/Thesis Title: Corrosion behavior of ferrous and

non-ferrous alloys exposed to sulphate-Reducing bacteria in industrial heat exchangers.

University/Institution: Vaal University of Technology

Name: Banza, M.J.C.

Qualification: MTech

Dissertation/Thesis Title: Cobalt and Nickel separation in Hydrometallurgy using modified clinoptilolites as ion-exchanger.

University/Institution: Vaal University of Technology

Name: Mukalay, J.N.

Qualification: MTech

Dissertation/Thesis Title: Structural Bond behaviour of Ribbed GFRP Rebars in concrete beams under dynamic loading.

University/Institution: Vaal University of Technology

Name: Matyatya, T.N.

Qualification: MTech

Dissertation/Thesis Title: Using Composite structure Techniques to Design 3D printed plastic moulds for longer mould life.

University/Institution: Vaal University of Technology

Name: Moja, M.G.

Qualification: MTech

Dissertation/Thesis Title: Evaluation of blended collectors for improved PGEs recovery from Western Bushveld UG2 deposit.

University/Institution: Vaal University of Technology

Conferences (Papers and posters presented)

Presenter: Kabuba, J.

Title of Paper: The Use of Neural Network for Modeling of Waste Activated Sludge for Solubilization and Biodegradability Enhancement Using Ozonolysis Process.

Conference: World Congress on Engineering and Computer Science 2019

Place: San Francisco, USA

Date: 22-24 October 2019

ISBN/ISSN: 978-988-14048-7-9

Presenter: Kabuba, J.

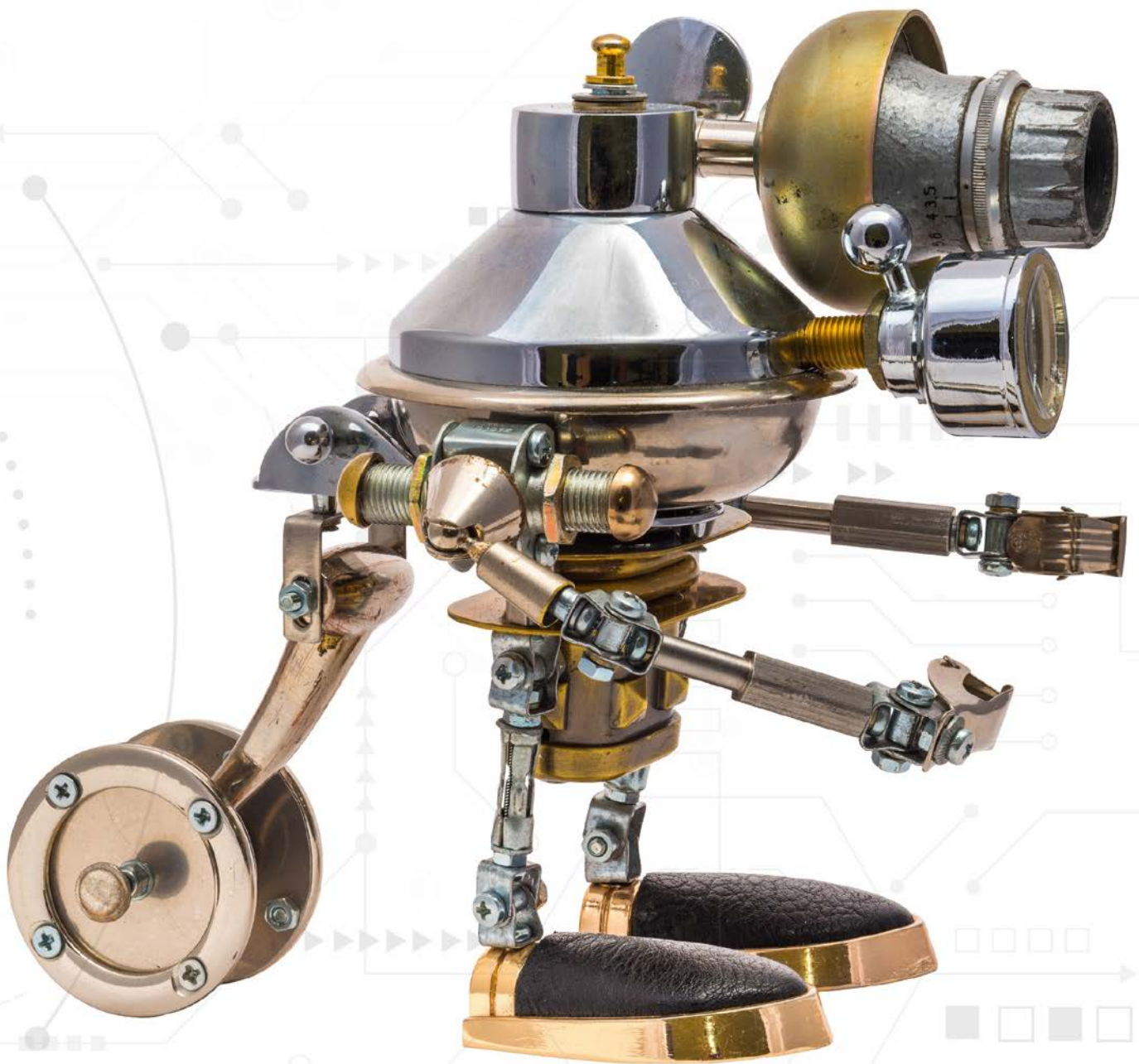
Title of Paper: Removal of Copper Ions from Aqueous Solution Using Activated Carbon Derived from Waste Tire Pyrolysis.

Conference: World Congress on Engineering and Computer Science 2019

Place: San Francisco, USA

Date: 22-24 October 2019

ISBN/ISSN: 978-988-14048-7-9



Presenter and co-presenters: Kyere, I.K., Walker, J.J., Nyamupangedengu, C.
Title of Paper: Simulation of Electric Field Effects in High Voltage Insulation Material Containing Air Voids.
Conference: 2019 SAUPEC/RobMech/PRASA Conference
Place: Bloemfontein, South Africa
Date: 28-30 January 2019
ISBN/ISSN: 978-1-7281-0369-3/19/\$31.00 ©2019 IEEE

Presenter and co-presenters: Sibanyoni, H.M.B., Walker, J.J., Djeumen, J.S.
Title of Paper: Evaluation of The Effect of The Location of The Corona Measurement Devices on The Corona Inception Voltage Under HVDC Application.
Conference: International Symposium On High Voltage Engineering 2019
Place: Budapest, Hungary
Date: 26-30 August 2019
ISBN/ISSN: 978-3-030-31676-1

Presenter and co-presenters: Sibanyoni, H.M.B., Walker, J.J., Djeumen, J.S.
Title of Paper: Sensitivity of the Electrical and UV Imaging Methods for Corona Detection under HVDC Application
Conference: 2019 SAUPEC/RobMech/PRASA Conference
Place: Bloemfontein, South Africa
Date: 28-30 January 2019
ISBN/ISSN: 978-1-7281-0369-3/19/\$31.00 ©2019 IEEE

Presenter and co-presenters: Adeniyi, A.O., Walker, J.J. & Nyamupangedengu, C.
Title of Paper: Influence of temperature on tan-delta of XLPE cables.
Conference: 2019 SAUPEC/RobMech/PRASA Conference
Place: Bloemfontein, South Africa
Date: 28-30 January 2019
ISBN/ISSN: 978-1-7281-0369-3/19/\$31.00 ©2019 IEEE

Presenter and co-presenters: Djeumen, J.S., Walker, J.J. & WEST, N.J.
Title of Paper: A Study of Spatial distribution of the Electric Field under the Influence of Temperature with DC Supply.
Conference: 2019 SAUPEC/RobMech/PRASA Conference
Place: Bloemfontein, South Africa
Date: 28-30 January 2019
ISBN/ISSN: 978-1-7281-0369-3/19/\$31.00 ©2019 IEEE

Presenter and co-presenter: Adeniyi, A.O. & Walker, J.J.
Title of Paper: Temperature Dependency of Dielectric Loss Measurements of XLPE Power Cables at 0.1 Hz and 50 Hz.
Conference: International Symposium On High Voltage Engineering 2019

Place: Budapest, Hungary
Date: 26-30 August 2019
ISBN/ISSN: 978-3-030-31676-1

Presenter and co-presenters: Coetzer, C.J., Djeumen, J.S., Becker, T., West, N., Walker, J. and Leuschner, F.W.J.
Title of Paper: Status quo and aspects to consider with ultraviolet optical versus high voltage energy relation investigations.
Conference: Fifth Conference on Sensors, MEMS, and Electro-Optic Systems
Place: Skukuza, South Africa
Date: 24 January 2019
ISBN/ISSN: 0277-786X

Presenter and co-presenter: Tukisi T.W., Mathaba, T.N.D. & Odhiambo, M.O.
Title of Paper: Multi-hop PSO Based Routing Protocol for Wireless Sensor Networks with Energy Harvesting.
Conference: The Information Communication Technology and Society Conference (ICTAS2019)
Place: Durban, South Africa
Date: March 6th – 8th 2019
ISBN/ISSN: 978-1-5386-7365-2

Presenter and co-presenter: Mabadie, P. & Ohanga, M.O.
Title of Paper: Implementation of Current Capacitance Resonant Circuit to Monitor Telecommunication and Utility Cable Tampering.
Conference: The Information Communication Technology and Society Conference (ICTAS2019)
Place: Durban, South Africa
Date: March 6th – 8th 2019
ISBN/ISSN: 978-1-5386-7365-2

Presenter and co-presenter: Mabadie, P. & Ohanga, M.O.
Title of Paper: Detection and Monitoring of Tampering in Telecommunication and Utility Cable.
Conference: The 2019 World Congress in Computer Science, Computer Engineering, and Applied Computing WORLDCOMP'19, The 20th International Conference on Internet Computing and IoT (ICOMP'19).
Place: Luxor (MGM), Las Vegas, USA
Date: July 29th - August 1st, 2019
ISBN/ISSN: ISBN: 1-60132-503-7, 2019

Presenter and co-presenter: Mvoulabolo, M., Mathaba, T.N.D. & Ohanga, M.O.
Title of Paper: Performance Analysis of Binary Search Base RFID Anti-collision Algorithms.
Conference: The IEEE International Multidisciplinary Information Technology and Engineering Conference (IMITEC) 2019

Place: Emerald Resort & Casino, Vanderbijlpark, South Africa
Date: 21st - 22nd November 2019
ISBN/ISSN: 978-1-7281-0040-1

Presenter and co-presenter: Muiruri, A.M., Maringa, M., du Preez, W.B. & Masu, L.M.
Title of Paper: Effect of Stress Relieving Heat Treatment on High Strain Rate Tensile Properties of Direct Melting Laser Sintered (DMLS) Parts.
Conference: International Conference on Competitive Manufacturing 2019 (COMA-19)
Place: Wallenberg Centre (STIAS), Stellenbosch, South Africa
Date: 30th Jan - 01 Feb 2019
ISBN/ISSN: PP174-180

Presenter and co-presenter: Daramola, O.O., Tlhabadira, I., Olajide, J.L., Daniyan, I.A., Sadiku, E.R., Masu, L.M. & Van Staden L.R.
Title of Paper: Process Design for Optimal Minimization of Resultant Cutting Force during the Machining of Ti-6Al-4V: Response Surface Method and Desirability Function Analysis.
Conference: 29th CIRP Design Conference 2019
Place: Póvoa de Varzim, Portugal
Date: (CIRP Design 2019).
ISBN/ISSN: N/A

Presenter and co-presenter: Mukalay, J.N., Salim, R.W., Masu, L.M. & Rwanga, S.
Title of Paper: Characterization of the bond strength of Glass Fibre Reinforced Polymer rebars in concrete beams; International Council for research and Innovation in Building and Construction.
Conference: 13th Built Environment Conference Durban
Place: Durban
Date: 2-3 September, 2019
ISBN/ISSN:

Presenter and co-presenter: Xavier Tchomeni, B., Alugongo, A.A. & Masu, L.M.
Title of Paper: Modelling and vibration analysis of Twin-rotor system interconnected by a Hooke's Joint (Part A).
Conference: 41st International JVE conference, Leipzig
Place: Leipzig, Germany
Date: 30 Sept - 01 October, 2019
ISBN/ISSN: pp 1-6

Presenter and co-presenter: Xavier Tchomeni, B., Alugongo, A.A. & Masu, L.M.
Title of Paper: Experimental setup for unbalance fault detection and Vibration analysis in a Cardan Shaft (Part B).
Conference: 41st International JVE conference
Place: Leipzig, Germany

Date: 30 Sept - 01 October, 2019
ISBN/ISSN: pp 97-102

Presenter and co-presenter: Webo, W., Maringa, M. and Masu, L.M.
Title of Paper: The combined effect of mercerisation, silane treatment and acid hydrolysis on the mechanical properties of sisal fibre/epoxy resin composites.
Conference: the 10th Africa Material Research Society (AMRS 2019)
Place: Arusha, Tanzania
Date: 10th - 13th December, 2019
ISBN/ISSN:

Presenter and co-presenter: Sob, P.B. and Pita, M.
Title of Paper: Design of Solar Powered Grass Trimmer.
Conference: In the proceedings of SAILeneXXXt
Place: Port Elizabeth, South Africa 2019
Date: 30th September - 2nd October 2019
ISSN: 2308-8265

Presenter and co-presenter: Sozinando, D.F., Tchomeni, B.X. & Alugongo, A.A.
Title of Paper: Numerical analysis of a vertical rotor rub system partially immersed in inviscid incompressible fluid.
Conference: 41st International JVE conference
Place: Leipzig, Germany
Date: 30 Sept - 01 October, 2019
ISBN/ISSN: 2345-0533 /2538-8479

Presenter and co-presenter: Sozinando, D.F., Tchomeni, B.X. & Alugongo, A.A.
Title of Paper: Extraction of Rub Features from Nonlinear Fluid- Rotor Interaction Using Time-Frequency Techniques.
Conference: 4th Interdisciplinary Research and Innovation Conference
Place: Durban
Date: 17 Sept - 20 sept, 2019
ISBN/ISSN:

Publications [Journals and books]:

Author: Kabuba, J.
Chapter: Estimation of Framework Structures of Clinoptilolite for Water Pollution Remediation Using Neural Network
Title: New Horizons in Wastewaters Management: Emerging Monitoring and Remediation Strategies.
Publisher: Nova Science Publishers
Date: July 2019
Page numbers of chapter: 212-233
ISBN: 978-1-53615-659-1.

Author and co-authors: Singh, E.J. & Venter, A.E.
Chapter: Interference Management Techniques for Device-to-Device Communications.
Title: Handbook of Research on Predictive Intelligence Using Big Data and the Internet of Things.
Publisher: IGI Global
Date: 2019
Page numbers of chapter: 219 - 245
ISBN: 9781522562108, 1522562109, 9781522562115

Author and co-authors: Nturanabo, F., Masu, L.M. & Kirabira, J.B.
Chapter: Novel applications of Aluminium metal matrix composites.
Title: Aluminum Alloys and Composites, IntechOpen, (DOI: 10.5772/intechopen.86225).
Publisher:
Editor: Dr Kavian Cooke, The Shard, 32 London Bridge Street, London SE1 9SG, United Kingdom
Date: May 2019, 23pp
Page numbers of chapter:
ISBN: ISBN: 978-1-78984-515-0

Publications (Journals)

Author: Kabuba, J.
Title: Equilibrium Ion-Exchange Studies of Na⁺/Cu²⁺ and Na⁺/Co²⁺ on Clinoptilolite in Industrial Wastewater.
Journal: Engineering Letters
Volume: 27
Issue: 3
Page numbers of article: 467-474
ISSN: 18160948

Author and co-authors: Otieno, B., Apollo, S., Kabuba, J., Naidoo, B., Aoyi, O.
Title: Ozonolysis Post-treatment of Anaerobically Digested Distillery Wastewater Effluent.
Journal: Ozone: Science & Engineering
Volume: 41
Issue: 6
Page numbers of article: 551-561
ISSN: 15476545

Author and co-authors: Otieno, B., Apollo, S., Kabuba, J., Naidoo, B., Simate, G., Aoyi, O.
Title: Ozonolysis pre-treatment of waste activated sludge for solubilization and biodegradability enhancement
Journal: Journal of Environmental Chemical Engineering.
Volume: 7
Issue: 2

Page numbers of article: 102945
ISSN: 22133437

Author and co-authors: Muiruri, A.M., Maringa, M., du Preez W.B. & Masu L.M.
Title: Effect of Stress Relieving Heat Treatment on High Strain Rate Tensile Properties of Direct Melting Laser Sintered (DMLS) Parts.
Journal: International Conference on Competitive Manufacturing 2019 (COMA-19)
Volume: 19
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Nziu, P.K. & Masu, L.M.
Title: Cross bore size and wall thickness effects on elastic pressurised thick cylinders.
Journal: International Journal of Mechanical and Materials Engineering
Volume: <https://doi.org/10.1186/s40712-019-0100-y>, (2019) 14
Issue: 4
Page numbers of article:
ISSN:

Author and co-authors: Nziu, P.K. & Masu, L.M.
Title: Cross bore geometry configuration effects on stress concentration in high pressure vessels. A review.
Journal: International Journal of Mechanical and Materials Engineering,
Volume: <https://doi.org/10.1186/s40712-019-0101-x>, (2019) 14
Issue: 6
Page numbers of article:
ISSN:

Author and co-authors: Nziu, P.K. & Masu, L.M.
Title: Elastic Strength of High-Pressure Vessels with a Radial Circular Cross Bore.
Journal: International Journal of Mechanical and Materials Engineering © TJPRC Pvt. Ltd
Volume: 9
Issue: 3 June 2019
Page numbers of article: pp1275-1284
ISSN: ISSN (P): 2249-6890; ISSN (E): 2249-8001

Author and co-authors: Nziu, P.K. & Masu, L.M.
Title: Optimal location of an elliptical cross bore in elastic pressurized thick cylinders.
Journal: International Journal of Mechanical and Materials Engineering, © TJPRC Pvt. Ltd
Volume: 9



Issue: 4, Aug 2019
Page numbers of article: pp 287-298
ISSN: ISSN(P): 2249-6890; ISSN(E): 2249-8001

Author and co-authors: Nziu, P.K. & Masu, L.M.
Title: Offsetting of circular cross bore effects on elastic pressurized thick cylinders.
Journal: International Journal of Mechanical and Materials Engineering, © TJPRC Pvt. Ltd
Volume: 9
Issue: 4, Aug 2019
Page numbers of article: pp 71-82
ISSN: ISSN(P): 2249-6890; ISSN(E): 2249-8001

Author and co-authors: Phokoby, S., Tlhabadira, A.I., Masu, L.M. & Van Staden, L.R
Title: Model Design and Optimization of Carbide Milling Cutter for Milling Operation of M200 Tool Steel.
Journal: CIRP, Elsevier Editorial System(tm) for Procedia, 2019
Volume:
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Tlhabadira, A.I., Daniyan, I.A., Masu, L.M. & Van Staden L.R
Title: Process Design and Optimization of Surface Roughness during M200 TS Milling Process using the Taguchi Method.
Journal: Cirp Annals-Manufacturing Technology, 2019,
Volume:
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Tlhabadira, A.I., Daniyan, I.A., Machaka, R., Machio, C., Masu, L.M. & Van Staden, L.A.
Title: Modelling and optimization of surface roughness during AISI P20 milling process using Taguchi method.
Journal: The International Journal of Advanced Manufacturing Technology, 2019
Volume: <https://doi.org/10.1007/s00170-019-03452-4>
Issue:
Page numbers of article:
ISSN: 02683768 1 e-ISSN 4333015

Author and co-authors: Nziu, P.K & Masu, L.M.
Title: Configuration of Optimal Cross Bore Shape in Elastic Pressurized High-Pressure Vessels.
Journal: International Journal of Mechanical and Production Engineering Research and Development (IJMPERD), © TJPRC Pvt.Ltd

Volume: 9
Issue: 5
Page numbers of article: pp 197–210
ISSN: ISSN(P): 2249–6890; ISSN(E): 2249–8001

Author and co-authors: Nziu, P.K & Masu, L.M.
Title: Formulae for predicting stress concentration factors in flat plates and cylindrical pressure vessels with holes: a review.
Journal: International Journal of Mechanical and Production Engineering Research and Development (IJMPERD), © TJPRC Pvt. Ltd.
Volume: 9
Issue: 5
Page numbers of article: pp 753–770
ISSN: ISSN (P): 2250-2378; ISSN (E): 2319-4510

Author and co-authors: Muiruri, A.M., Maringa, M., du Preez, W.B. & Masu, L.M.
Title: Effects of stress relieving heat treatment on the impact toughness of Direct Metal Laser Sintering (DMLS) produced Ti6Al4V (ELI) parts.
Journal: Journal of The Minerals, Metals & Materials
Volume:
Issue:
Page numbers of article: 1175-1185
ISSN: (ISSN 1047-4838

Author and co-authors: Nkomo, N.Z., Masu, L.M. & Nziu P.K.
Title: The effect of fly ash on the workability and mechanical properties of concrete slabs: a review.
Journal: International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)
Volume: <http://jml.indexcopernicus.com/search/details/45150>
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Nkomo, N.Z., Masu, L.M. & Nziu, P.K.
Title: Synthetic Polymer Fibre Reinforced Concrete Slabs and Their Effects on Mechanical Properties: A Review.
Journal: International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)
Volume: <http://jml.indexcopernicus.com/search/details/45150>
Issue:
Page numbers of article:
ISSN:

Author and co-authors: Webo, W., Maringa M. & Masu, L.
Title: The combined effect of mercerisation, silane treatment and acid hydrolysis on the mechanical properties of sisal fibre/ epoxy resin composites.

Journal: MRS Advances
Volume:
Issue: pp 2019
Page numbers of article: 1 -9
ISSN:

Author and co-authors: Webo, W., Maringa M. & Masu, L.
Title: The Tensile and Flexural Properties of Treated and Untreated Sisal Fibre-Epoxy Resin Composites.
Journal: International Journal of Mechanical & Mechatronics Engineering
Volume: 19
Issue: 6
Page numbers of article: pp 27-40
ISSN: IJMME-IJENS

Author and co-authors: Sob, P.B., Alungogo, A. & Tengen, T.B.
Title: Scanning electron microscopy, energy dispersive X-ray Spectroscopy and statistical analysis of high and low pressure coating on sediment membrane for efficient wettability process during oil/water separation.
Journal: International Journal of Engineering Research and Technology
Volume: 12
Issue: 12
Page numbers of article: 2715-2734
ISSN: 0974-3154

Author and co-authors: Tchomeni, B.X. & Alugongo, A.A.
Title: Experimental diagnosis of multiple faults on a rotor-stator system by fast Fourier transform and wavelet scalogram
Journal: Journal of Vibroengineering
Volume: 21
Issue: 4
Page numbers of article: pp 911-926
ISSN: ISSN (Print) 1392-8716, ISSN (Online) 2538-8460

Research in Progress

Researcher: Kyere, I.K.
Title: Diagnostic Evaluation of Insulation Defects at Different Frequencies using Partial Discharge Technology.
Field: Electrical Engineering (Power)

Researcher: Djeumen, J.S.
Title: Space Charge and Atmospheric Conditions as Flashover Mechanisms in a Corona Cage under DC Conditions.
Field: Electrical Engineering (Power)

Researcher: Adeniyi, A.O.
Title: Diagnostic Evaluation of Water Tree Growth in

Accelerated Aged Cable Samples using Tan Delta Measurements.

Field: Electrical Engineering (Power)

Researcher: Beer, M.

Title: Adaptive Sustainable Stormwater Drainage System: A Scenario Based Study of the Proposed Vaal River City.

Field: Water Engineering

Researcher: Chapinduka, M.C.

Title: Development of a model for conjunctive use of surface water and groundwater for urban water supply.

Field: Water Engineering

Researcher: Agneta Were

Title: Two-Stage Anaerobic Digestion of Petrochemical Wastewater using separate Acidogenic and Methanogenic digestors.

Field: Industrial Wastewater Treatment

Researcher: Gaborone, K.

Title: Effects of Botswana Fly Ash in Concrete Structures Construction.

Field: Transportation

Researcher: Ismail Hassan Moallim

Title: Methodological approaches to rebuild transport infrastructure and systems in post-conflict areas - the case study of Somalia.

Field: Transportation Engineering

Researcher: Osman Abdullahi Osman

Title: Assessment and Simulation of Groundwater Quality Degradation Due to Landfill Leachate: A Case Study on Selected Landfills in Johannesburg, South Africa.

Field: Water Engineering

Contract Research

Researchers: Otieno, B., Apollo, S., Akach, J., Mabuza, J., Ochieng, G., Kabuba, J., Ndege, M. & Aoyi, O.

Title: Energy Sensitive Wastewater Treatment using Integrated Anaerobic Digestion and Advanced Oxidation Processes.

Company: Water Research Commission

Field: Wastewater Treatment

MESSAGE FROM THE
EXECUTIVE DEAN:

7. FACULTY OF HUMAN SCIENCES



DR LAZARUS MALEHO



The Faculty's progress in research activities has been the result of a strong strategic plan prioritising the nexus between teaching and research, as well as accentuating the significance of community outreach to research capacity.

It is my pleasure and privilege to write this annual report as Acting Executive Dean of the Faculty of Human Sciences from February 2019 to March 2020. This report documents research activities of the Faculty of Human Sciences from January 2019 to December 2019. The last thirteen months have been of extra-ordinary learning and adjustments for the Faculty of Human Sciences.

My position as Acting Executive Dean has not only exposed me to the broader strategic direction of the institution but has also enlightened me about various research foci and activities in all other faculties. This exposure provided me with the opportunity to influence research outputs within the Faculty of Human Sciences.

The Faculty's progress in research activities has been the result of a strong strategic plan prioritising the nexus between teaching and research, as well as accentuating the significance of community outreach to research capacity. The Faculty has also leveraged the Executive Dean, Prof Riana van der Bank's legacy of research publications, to reach the research output target that was set for the 2019 academic year.

The Faculty has further, fostered a culture of working with industry to ensure research insights and academic programmes that are immediately applicable in the workplace. The journey has not been smooth sailing, but it has been worth undertaking.

The cooperation and collegial relationship with the five Heads of Department within the Faculty enabled us to sustain student enrolments, improve student retention, conduct and disseminate research – all the result of a strong leadership team and adherence to the Faculty strategic growth plan.

Dr Lazarus Maleho

Executive Dean



Faculty Representative

Faculty: Faculty of Human Sciences

Department: Hospitality, Tourism and Public Relations Management

Title: Dr

Initials: S.E.

Surname: Burger

Postgraduate Staff Qualifications Completed in 2019

Name: Bogle, S. L.

Qualification: MTech, Photography

Dissertation Title / Thesis Title: The wedding rituals photographer's journey to capturing practice.

University/Institution: Vaal University of Technology

Name: Coetzee, N.

Qualification: PhD, Consumer Sciences

Dissertation Title / Thesis Title: Employing developed sewing training material in an intervention for low-literate participants of rural income-generating projects.

University/Institution: North-West University, Potchefstroom

Name: De Klerk, A.

Qualification: PhD in Visual Arts

Dissertation Title / Thesis Title: Telling places: a photographic exploration.

University/Institution: University of Stellenbosch

Name: Els, S.

Qualification: Master of Laws (LLM)

Dissertation Title / Thesis Title: The historical development of caveat subscriptor.

University/Institution: University of Johannesburg, Johannesburg

Name: Kotze, J. A.

Qualification: MTech, Fine Art

Dissertation Title / Thesis Title: Practice-led research, research-led practice and the dilemmas of ideation: an artistic inquiry.

University/Institution: Vaal University of Technology

Name: Mwadiwa, K. F.

Qualification: MTech, Public Relations Management

Dissertation Title / Thesis Title: Use of social media as a dialogue tool: a case of a non-governmental organisation in Gauteng.





University/Institution: Vaal University of Technology
Name: Motseki, M.

Qualification: PhD, Policing

Dissertation Title / Thesis Title: An intelligence-led approach in combating human trafficking in Gauteng province.

University/Institution: Tshwane University of Technology

Name: Strydom, L.

Qualification: MTech, Fashion

Dissertation Title / Thesis Title: Fashion drawing skills training for unqualified fashion entrepreneurs in the Emfuleni local municipality: a needs assessment.

University/Institution: Vaal University of Technology

Name: Sowerby, M.

Qualification: Master of Law (LLM)

Dissertation Title / Thesis Title: A comparative legal study into reforming certain express real security rights over movable property.

University/Institution: UNISA

Conferences

Presenter: Bojabotseha, T.P.

Title of Paper: The establishment of Sebokeng, 'a modern African city', in the Vaal Triangle: A historical materialist perspective.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenters: Chitumwa, C. C. & Moloj, K. C.

Title of Paper: Pre-service teachers' concerns on teaching practicum: a case study from Zimbabwe.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: De Klerk, A.

Title of Paper: Transferring experiences from a practice-based arts research PhD study into a design-teaching context

Conference: Designed Futures: DEFSA 8th International Conference Proceedings

Place: Cape Town

Date: 09-11 September

ISBN/ISSN: 978-1-990930-81-2



Presenter: Doodnath, A.

Title of Paper: The inclusion of HIV treatment under the national health insurance system in South Africa.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: Dube, D.

Title of Paper: Potential impacts of 2018/2019 extreme weather events on the meeting of sustainable development goals 2, 3 and 6 in the SADC region.

Conference: 35th Annual Conference of the South African Society for Atmospheric Sciences - Climate Meets Agriculture - the Interplay

Place: Vanderbijlpark, South Africa

Date: 08-09 October 2019

ISBN/ISSN: 978-0-6398442-0-6

Presenters: Du Preez, I. & Raath, N.

Title of Paper: The acquisition of organisational rights by minority trade unions: a critical analysis.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: Egal, A. A.

Title of Paper: Staple food biofortification against global micronutrient deficiencies for enhanced dietary mineral absorption.

Conference: Global Forum on Innovations for Marginal Environments (GFIME)

Place: Dubai, UAR

Date: 20-22 November 2019

Presenter and co-presenters: Egal A. A., Oldewage-Theron, W.H. & Morales, S.

Title of Paper: Impact of a soy nutrition education intervention on knowledge of smallholder South African soy farmers.

Conference: Society of Nutrition Education & Behavior (SNEB)

Place: Orlando FL, USA

Date: 27-30 July 2019

ISBN/ISSN: 1499-4046

Presenters: Fouche, D. F. & Fouche, A.

Title of Paper: Safeguarding children in South African townships against child sexual abuse: the voices of our children.

Conference: 25th Qualitative Health Research Conference (QHR)

Place: Vancouver, Canada

Date: 25- 29 October 2019

Presenter: Lenz, R.

Title of Paper: Approaching the end of apartheid: the negotiation of identity and meaning in Athol Fugard's Playland.

Conference: The International Institute of Social and Economic Sciences

Place: Vienna, Austria

Date: 17-20 September 2019

ISBN: 978-80-87927-89-2

ISBN/ISSN: 2336-5617

Presenter: Maharajh, R.

Title of Paper: In search of a wisdom-seeking creative research approach: intimacy, creativity and rasa.

Conference: 8th international DEFSA conference

Place: Cape Town, South Africa

Date: 03-11 September 2019

ISBN/ISSN: 978-1-990930-81-2

Presenters: Nana, K., van Staden, J. & Coetzee, N.

Title of Paper: Uses, challenges and training needs regarding business skills for fashion entrepreneurs in the Emfuleni local municipality.

Conference: 7th Saera Conference 2019.

Place: Durban, South Africa

Date: 23-25 October

ISBN/ISSN: 0259-9868

Presenters: Moloi, K.C. & Ndege, M.

Title of Paper: The relevance of the Masters of Engineering education at a University of Technology in South Africa.

Conference: 9th Balkan Region Conference on Engineering and Business Education and 12th International Conference on Engineering and Business Education

Place: Sibiu, Romania

Date: 16-19 October 2019

ISBN/ISSN: 1843-6730

Presenters: Moloi, K. C., Chitumwa, C. C. & Zwane, V. I.

Title of Paper: The role of communities of practice (COPS) in addressing research development of staff at one South African University of Technology.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenters: Mokwena, R.J., Motseki, M.M. & Dube, N.C.

Title of Paper: Evaluating the role of criminal investigators during bail application.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: Munro, A., Economou, I. & De Lange, R.

Title of Paper: Toward a pragmatic code of ethics for design research.

Conference: 8th international DEFSA conference

Place: Cape Town, South Africa

Date: 03-11 September 2019

ISBN/ISSN: 978-1-990930-81-2

Presenters: Owusu, G. A. & Moloi, K. C.

Title of Paper: The influence of organisational climate on job satisfaction among administrative staff of two public universities in central region of Ghana.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: Prinsloo, R.

Title of Paper: The balancing of the parental responsibilities and rights and the best interest of the child within the parent-child relationship.

Conference: International Research Conference

Place: Barcelona, Spain

Date: 16-17 December 2019

ISBN/ISSN: 1307-6892

Presenters: Prinsloo, R. & Robinson, R.

Title of Paper: Perspectives on the South African Statutory Regulation of Child-Headed Households.

Conference: Family Law and Family Realities 16th ISFL World Conference

Place: Amsterdam, Netherlands

Date: 25-29 July 2017

ISBN/ISSN: 978-94-6236-927-6

Presenters: Shube, S. & Moloi, K. C.

Title of Paper: Continuous reflection among consultants at the writing centre of a University of Technology.

Conference: 10th International Conference on Social Sciences

Place: Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: 978-1-86822-688-7

Presenter: Van Der Bank, C. M.

Title of Paper: An embattled relationship? Africa and the International Criminal Court Justice deferred or denied?

Conference: The Global Business and Technology Association

Place: Paris, France

Date: 9-13 July 2019

ISBN: 1-932917-15-2

ISSN: 2520-6486

Presenter: Van Der Bank, C. M.
Title of Paper: Africa and the International Criminal Court Justice deferred or denied?
Conference: 12th Annual Conference of the Euro-Med Academy of Business
Place: Thessaloniki, Greece
Date: 18-20 September 2019
ISBN: 978-9963-711-81-9
ISSN: 2547-8516

Presenters: Van der Bank, M.
Title of Paper: The application of international law in terms of Earthlife Africa Johannesburg and another v Minister of Energy and others 65662/16 (2017) Case.
Conference: International Research Conference
Place: Barcelona, Spain
Date: 16-17 December 2019
ISBN/ISSN: 1307-6892

Presenters: Van der Bank, M. & Prinsloo, R.
Title of Paper: The constitutional right of a child to clean and sufficient water in South Africa.
Conference: International Conference on Law and Legal Science
Place: Cape Town, South Africa
Date: 04-05 November 2019
ISBN/ISSN: 1307-6892

Presenters: Van der Bank, M. & Van Der Bank, C. M.
Title of Paper: A Legal opinion on mitigation and adaption on air pollution strategies for local governments in South Africa.
Conference: International Conference on Law and Legal Science
Place: Cape Town, South Africa
Date: 04-05 November 2019
ISBN/ISSN: 1307-6892

Seminars / Workshops Presented

Presenter: Els, S.
Title: Caveat Subscriptor and standard form contracts.
Presented to: Faculty of Human Science 12th Research Seminar
Place: Quest Conference, Vanderbijlpark
Date: 26 July 2019

Presenters: Castelyn, G. F.
Title: The need to form partnerships for business sustainability in the Forestry Stewardship Council.
Presented to: Faculty of Human Science 12th Research Seminar
Place: Quest Conference Centre, Vanderbijlpark
Date: 26 July 2019

Presenter: Khumalo, Z. N.
Title: Visual arts as an African language.

Presented to: 2nd Annual African Languages Symposium 2019
Place: Emerald Casino, Vanderbijlpark
Date: 15-16 May 2019

Presenter: Khumalo, Z. N.
Title: Reflections on the work of Gamakhulu Diniso who worked in the Vaal region from 1980-1994.
Presented to: Rorke's Drift Histories and Pedagogies— Stories told and yet not told Symposium 2019
Place: Bag Factory Fordsburg, Johannesburg
Date: 05-06 April 2019

Presenter: Khumalo, Z. N.
Title: A reflective journey through the photographs of a photojournalist, Leonard Khithika Khumal.
Presented to: Faculty of Human Science 12th Research Seminar
Place: Quest Conference, Vanderbijlpark
Date: 26 July 2019

Presenters: Senekal, Q. & Lenz, R.
Title: Decolonising the South African higher education curriculum: an investigation into the challenges.
Presented to: Faculty of Human Science 12th Research Seminar
Place: Quest Conference Centre, Vanderbijlpark
Date: 26 July 2019

Presenters: Makwela, M. J., Munro, J. J. & Ambala, A. T.
Title: Making history fun or making fun of history: animation film on history.
Presented to: 12th Human Sciences Faculty Research Seminar
Place: Quest, Vanderbijlpark, South Africa
Date: 26 July 2019

Presenters: Munro, A., Nel, L. & Smal, D.
Title: Sustainable design through feminist ethics.
Presented to: 12th Human Sciences Faculty Research Seminar
Place: Quest, Vanderbijlpark, South Africa
Date: 26 July 2019

Presenter: Munro, A.
Title: Curiosity and the ethics of care in fine art: toward a sense of Africa centred knowledge application.
Presented to: 1st Annual Visual Arts Forum of Educators in Southern African Art Exhibition and colloquium
Place: Vaal University of Technology, Vanderbijlpark, South Africa
Date: 04 October 2019

Presenters: Oosthuizen, D., Esterhuizen, M. & Cilliers, C. D.
Title: Understanding Bloom's taxonomy for improved student learning in tourism and hospitality at a University of Technology in South Africa.

Presented to: 12th Human Sciences Faculty Research Seminar
Place: Quest, Vanderbijlpark, South Africa
Date: 26 July 2019

Publications (Books/Chapters in Books)

Authors: Dube, K. & Mearns, K.
Chapter: Tourism and Recreational potential of green building. A case study of hotel Verde Cape Town.
Title: The green building evolution
Publisher: Africa Institute of South Africa, Pretoria, South Africa
Date: 2019
Page numbers of chapter: 200-219
ISBN/ISSN: 978-0-7983-0475-7

Publications (Journals)

Author and co-authors: Adesanya, S. O., Amanze, C. E. & Lebelo, R. S.
Title: Entropy generation analysis for a thin couple stress film flow over an inclined surface with Newtonian cooling.
Journal: Physica A: Statistical Mechanics and its Applications
Volume: 528
Issue: 121260
Page numbers of article: 1-9
ISSN: 0378-4371

Author and co-authors: Adesanya, S. O., Alphonse, H., Hubert, M. B., Savaissou, N., Jerome, D., Justin, M., Betchewe, G., Doka, S. Y., Crepin, K. T., Khan, S., Biswas, A., Ekici, M., Moshokoa, S. P. & Belic, M.
Title: Optical solitons for higher-order nonlinear Schrodinger's equation with three exotic integration architectures.
Journal: Optik
Volume: 179
Page numbers of article: 861-866
ISSN: 304026

Author and co-authors: Arshed, S., Biswas, A., Zhou, Q., Khan, S., Adesanya, S., Moshokoa, S. P. & Belic, M.
Title: Optical solitons perturbation with fokas-lenells equation by $\exp(-\phi(\xi))$ -expansion method.
Journal: Optik
Volume: 179
Page numbers of article: 341-345
ISSN: 304026

Author and co-authors: Biswas, A., Yildirim, Y., Yasar, E., Zhou, Q., Khan, S., Adesanya, S., Moshokoa, S. P. & Belic, M.

Title: Optical solution molecules in birefringent fibers having weak nonlocal nonlinearity and four-wave mixing with a couple of strategic integration architectures.
Journal: International Journal of Light and Electron Optics
Volume: 179
Page numbers of article: 927-940
ISSN: 0030-4026

Author and co-authors: Chmela-Jones, K. A.
Title: Students' experiences of human-centred interventions in a design education setting.
Journal: South African Journal of Higher Education
Volume: 33
Issue: 6
Page numbers of article: 55-69
ISSN: 1753-5913

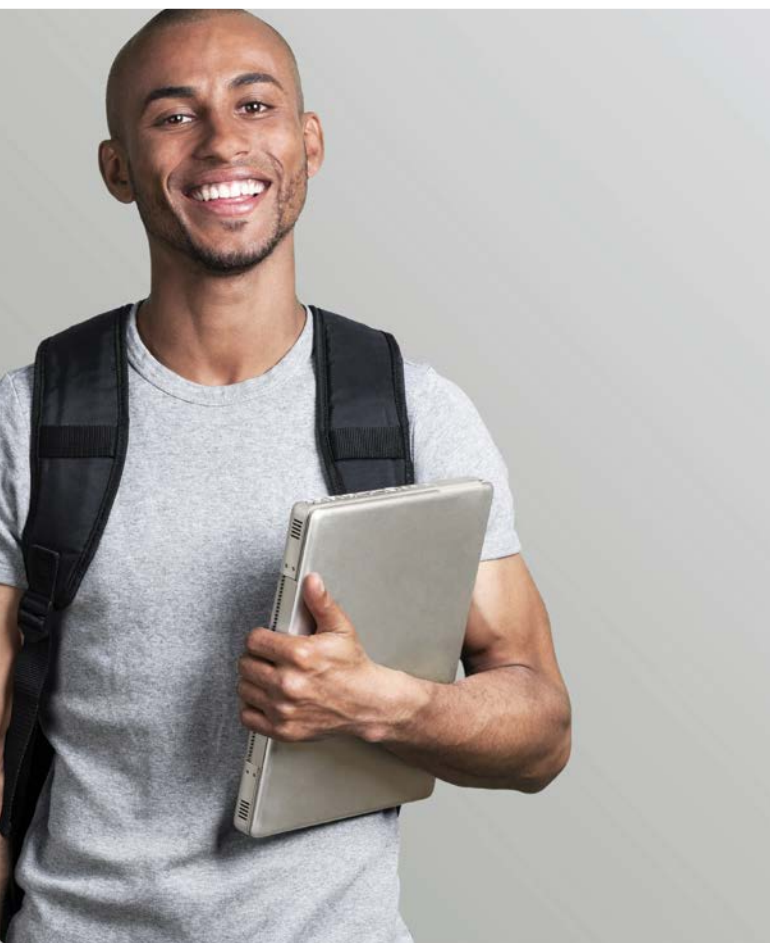
Author and co-authors: Coetzee, C., van Staden, J. & Oldewage-Theron, W.
Title: Reviewing sewing training materials for participants of rural income-generating projects.
Journal: Journal of Consumer Sciences
Volume: 4
Issue: Special Edition - Diversifying clothing research in Southern Africa
Page numbers of article: 1-16
ISSN: 0378-5254

Author and co-author: Dube, D. & Nhamo, G.
Title: Climate change and the aviation sector: a focus on the Vitoria Falls tourism route.
Journal: Environmental Development
Volume: 29
Page numbers of article: 5-15
ISSN: 2211-4645

Author and co-author: Egal, A. A. & Oldewage-Theron, W.
Title: Extruded food products and their potential impacts on food and nutrition security.
Journal: South African Journal of Clinical Nutrition
Page numbers of article: 1-2
ISSN: 1607-0658

Author and co-authors: Egal, A. A., Grobler, C. & Oldewage-Theron, W.
Title: Cardiovascular risk factors and dietary intakes in 6-18-year-old children from rural Eastern Cape, South Africa.
Journal: Journal of the Academy of Nutrition and Dietetics
Volume: 119
Issue: 9
Page numbers of article: A20
ISSN: 2212-2672





Author and co-authors: Erasmus, M. R. & Hall, I.
Title: First-year students' boredom in an applied communication skills classroom at a South African University of Technology.
Journal: South African Journal of Higher Education
Volume: 33
Issue: 4
Page numbers of article: 94 - 113
ISSN: 1753 – 5913

Author and co-authors: Fouche, A., Truter, E. & Fouche, D. F.
Title: Safeguarding children in South African townships against child sexual abuse: the voices of our children.
Journal: Child Abuse Review
Volume: 28
Page numbers of article: 455-472
ISSN: 1099-0852

Author and co-authors: Grobler, B., Moloi, K. C. & Van Tonder, O.
Title: Relationship between perceived organisational support, job satisfaction and organisational citizenship behaviour in a public service organisation.
Journal: Journal of Public Administration
Volume: 53
Issue: 4
Page numbers of article: 828-848
ISSN: 0036-0767

Author and co-authors: Heenop, D., Munro, A. & Chmela-Jones, K.
Title: A shift in the research design approach: reporting on the complexities of the application of human-centred design and the co-design process in a library setting.
Journal: The Design Journal
Volume: 22
Issue: 3
Page numbers of article: 277-297
ISSN: 1460-6925

Author and co-author: Isabirya, A. & Moloi, K. C.
Title: Addressing trainees' concerns in a professional development programme for innovative teaching and learning.
Journal: International Journal of Social Sciences and Humanity Studies
Volume: 11
Page numbers of article: 1-18
ISSN: 1309-8063



Author and co-authors: Jamshidi-Naeini, Y., Babil, A. K., Egal, A. & Oldewage-Theron, W.

Title: Hemoglobin and ferritin concentrations are positively associated with blood pressure and hypertension risk in older adults: a retrospective cross-sectional study, Sharpeville, South Africa.

Journal: Asia Pacific Journal of Clinical nutrition

Volume: 28

Issue: 3

Page numbers of article: 533-543

ISSN: 09641058

Author and co-authors: Jangili, S., Adesanya, S. O., Ogunseye, H. A. & Lebelo, R.

Title: Couple stress fluid flow with variable properties: a second law analysis.

Journal: Mathematical Methods in the Applied Sciences

Volume: 42

Issue: 1

Page numbers of article: 85-98

ISSN: 0170-4214

Author and co-authors: Khan, S., Biswas, A., Zhou, Q., Adesanya, S., Alfiras, M. & Belic, M.

Title: Stochastic perturbation of optical solitons having anti-cubic nonlinearity with bandpass filters and multi-photon absorption.

Journal: Optik

Volume: 178

Page numbers of article: 1120-1124

ISSN: 0030-4026

Author: Lebelo, R. S.

Title: Transient heat and reactant consumption investigation in a cylinder pipe of variable thermal conductivity.

Journal: Defect and Diffusion Forum

Volume: 392

Page numbers of article: 178-188

ISSN: 1662-9507



Author and co-authors: Lebelo, R. S, Mahlobo, R. K. & Adesanya, S. O.
Title: Reactant consumption and thermal decomposition analysis in a two-step combustible slab.
Journal: Defect and Diffusion Forum
Volume: 393
Page numbers of article: 59-72
ISSN: 1662-9507

Authors: Lekaota, L. & Khashane, K.
Title: Local communities' perceptions on the role of tourism in protected areas.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 5
Page numbers of article: 1-14
ISSN: 2223-814X

Author: Moloi, K. C.
Title: Learners and educators as agents of social transformation in dysfunctional South African schools.
Journal: South African Journal of Education
Volume: 39
Issue: 1
Page numbers of article: S1-S8
ISSN: 0256-1000

Author: Moloi, K. C.
Title: Implications of a learning organisation for social justice in poverty-stricken communities: a theoretical perspective.
Journal: African Education Review
Volume: 16
Issue: 6
Page numbers of article: 111-127
ISSN: 1814-6627

Author: Makanyane, D. M., Ejidike, I., Ssemakalu, C. C., Mtunzi, F. M., Pakade, V., Klink, M. J. & Lebelo, R. S.
Title: GC-MS analysis and extraction optimisation of bioactive compounds from *pelargonium graveolens* L'HER methanolic extract and their activities as pharmacological agents.
Journal: International Research Journal of Pharmacy
Volume: 10
Issue: 9
Page numbers of article: 59 - 72
ISSN: 2230-8407

Author: Muswaka, L.
Title: Land reform and sustainable development - a South African perspective.
Journal: International Journal of e-Business and e-Government Studies
Volume: 11
Issue: 1
Page numbers of article: 34-52
ISSN: 2146-0744

Author: Muswaka, L.
Title: Mining and ecotourism: mining and environmental justice community network of South Africa and others v minister of environmental affairs and other - an analysis.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 5
Page numbers of article: 1-11
ISSN: 2223-814X

Author and co-authors: Muthuvalu, M.S., Galligani, E., Majahar Ali, M.K., Sulaiman, J. & Lebelo, B.S.
Title: Performance analysis of arithmetic mean method for solving composite 6-point closed Newton-Cotes quadrature algebraic equation.
Journal: Asian-European Journal of Mathematics
Volume: 12
Issue: 4
Page numbers of article: 1950061-1 – 1950061-10
ISSN: 2146-0744

Author and co-authors: Nqosa, N.E., Burger, S.E. & Lekaota, L.
Title: Identifying the key success factors for marketing tourism establishments: a case study of four regions in Lesotho.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 3
Page numbers of article: 1-17
ISSN: 2223-814X

Author and co-authors: Oosthuizen, D., Esterhuizen, M. & Cilliers, C.D.
Title: Understanding Bloom's taxonomy for improved student learning in tourism and hospitality at a University of Technology in South Africa.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 4
Page numbers of article: 1-14
ISSN: 2223-814X

Author and co-authors: Saha, S., Abu, B.A.Z., Oldewage-Theron, W. & Egal, A.A.
Title: Available food options at local shops in relation to food insecurity among older adults in Sharpville, South Africa.
Journal: African Journal of Food, Agriculture, Nutrition and Development
Volume: 19
Issue: 2
Page numbers of article: 14500-14516
ISSN: 1684-5374

Author and co-author: Van der Bank, M. & Van der Bank, C. M.
Title: Rethinking our relationship to the natural environment through legally compliant sustainable tourism.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 2
Page numbers of article: 1-10
ISSN: 2223-814X

Author and co-author: Van der Bank, M. & Van der Bank, C. M.
Title: A legal opinion on mitigation and adaption on air pollution strategies for local governments in South Africa.
Journal: International Journal of Law and Political Sciences
Volume: 13
Issue: 11
Page numbers of article: 1306-1311
ISSN: 91950263

Author: Van der Bank, M.
Title: The application of international law in terms of Earthlife Africa Johannesburg and another v Minister of Energy and other 65662/16 (2017) case.
Journal: International Journal of Law and Political Sciences
Volume: 13
Issue: 10
Page numbers of article: 1405-1408
ISSN: 91950263

Author and co-author: Venter, D. & Kruger, S.
Title: "From war to peace" military festival visitors' quality-of-life.
Journal: Journal of Psychology in Africa
Volume: 29
Issue: 3
Page numbers of article: 237-242
ISSN: 1433-0237

Author: Venter, D.
Title: Echoes of the past: the quality of life impact on visitors to military memorials.
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 8
Issue: 5
Page numbers of article: 1-16
ISSN: 2223-814X

Authors: Zwane, C. & Dhurup, M.
Title: Selected factors influencing satisfaction and purchase intentions among plus-size female university students.
Journal: Gender and Behaviour
Volume: 17
Issue: 2
Page numbers of article: 12882-12893
ISSN: 1596-9231

Research in Progress

Researcher: Cilliers, C.D.
Title: A Critical assessment of marine wildlife voluntourism in Southern Africa.
Field: PhD: Tourism Management

Researcher: Makwela, M.J.
Title: Reclaiming liberation struggle memories in a post-apartheid South Africa in the Sedibeng district municipality through short animated films.
Field: DPhil in Visual Arts

Artefacts

Artefact Name: Group Art exhibition: 1st Annual Visual Arts Forum of Educators in Southern Africa art exhibition and colloquium

Description: *The Art exhibition was held on the 4-5 October 2019 in Bodutu Art Gallery at the Vanderbijlpark campus, titled "Rethinking Africa-centered knowledge in/through Visual Arts". The Southern Africa educators' art exhibition and colloquium".*
The art exhibition was open for public viewing from the 05-18

October 2019. The participating countries included educators and lecturers from Botswana, Zambia, Namibia, Zimbabwe and South Africa. The exhibiting lecturers/educators included: Obed Mokhehlani; Linda Hesse; Velaphi Mazhinye; Japhet Funwayo; Mashaole Makwela; Anneke de Klerk; Farrell Ngilima; Kanni Badu; Barbara Hopley; Ephra Mmbidi; Gilbert Maepa; Ivy Radipodi-Mosimanyana; Johannes Antonie Kotze; Jabu Dhlamini; Matshepo Thibudi; Gordon Froud; Sonwabiso Ngcai and Wesley van Neel. The art exhibition curatorial statement was developed and written by Mashaole Makwela. And the art exhibition was curated by Nkuloleko Khumalo and Linda Hesse. The aim of the art exhibition and colloquium is to challenge educators in the region of Southern Africa to rethink and justify the concept of Africa-centered knowledge in/through visual arts, specifically on the theoretical or factual knowledge level and the discourse of practice in terms of research at this time when Africa is at the global centre stage.

Target Group: Art community, students and academics
Peer-reviewed? (include proof): No

MESSAGE FROM THE
EXECUTIVE DEAN:

8. FACULTY OF MANAGMENT SCIENCES

PROF BA MOKOENA



On reflection, the Faculty of Management Sciences has made great strides and set the tone for research among staff. In summary, a total of 41 research outputs in DHET research outputs (article equivalence of 29 articles and 12 conference proceedings) were generated.



Academic Research has contributed across all the relevant disciplines in four departments namely, Accountancy, Logistics, Marketing and Human Resources Management

The development of a strong research community and postgraduate research ethos is the cornerstone to achieve the strategic goals of the University. The Faculty of Management Sciences must be applauded for its efforts in driving research.

The academics and researchers in the faculty have made a worthwhile contribution across all the relevant disciplines in four departments namely, Accountancy, Logistics, Marketing and Human Resources Management by contributing towards research outputs in the form of research articles in accredited journals peer-reviewed conference proceedings and postgraduate masters and doctoral qualifications. A strong sense of collaboration existed at all levels throughout the faculty, allowing for vital links to be formed across the faculty itself as well as between other faculties and tertiary research institutions.

Looking at the years ahead, it is necessary to train academics and scholars for the new frontiers of knowledge to grow South Africa's economy for the future. Artificial intelligence, machine learning, and blockchain technologies are some of the new avenues for the future. As the same time cognisance should be taken of what the faculty's industry partners require to steer the ailing local economy into new heights.

The year 2019 saw a sharp increase in the popularity of research induction workshops conducted by the Faculty of Management Sciences. This increasing popularity may be attributed to the effectiveness of these workshops in assisting new postgraduate students to develop and harness research ideas as well as skills. To date, postgraduate students have ventured into a wide array of research topics including mobile networking, supply chain management, green supply chain, procurement, organisational behaviour and other topical aspects of management sciences.

On reflection, the Faculty of Management Sciences has made great strides and set the tone for research among staff. In summary, a total of 41 research outputs in DHET research outputs (article equivalence of 29 articles and 12 conference proceedings) were generated. Staff members presented a total of 36 papers at both national and international conferences and these presentations were either converted to conference proceedings or full research papers published in accredited journals.

The growth of the Faculty of Management Sciences at the post-graduate level has also shown a steady increase in both masters and doctoral enrolments with 160 students on the database. The faculty feels proud to announce a significant achievement of graduating five students for masters degrees and three for doctoral degrees.

The Faculty also successfully introduced its research ethics committee (FREC) and established all relevant processes and systems in the course of the year. All members of the committee received the requisite research ethics training and the committee was fully operational by the end of the year. Further emphases were directed to the introduction of the Departmental Research and Innovations Committees (DRIC) within all departments. These committees had become fully functional by the end of the year 2019.

Further milestones were achieved in the faculty through the completion of doctoral qualifications by three staff members. These staff members are Dr T Mareka (Marketing Dept), Dr F Mohammed (Human Resource Management Dept) and Dr M Tlale (Logistics Dept). At the Institution's Annual Research Awards function held on 20 November 2019 at Riverside Sun, Prof C Mafini and Dr E Chinomona received the 1st and 2nd positions in the Research Excellence category, respectively. This has provided the much-needed inspiration for other staff members in the faculty to increase their participation in research activities.

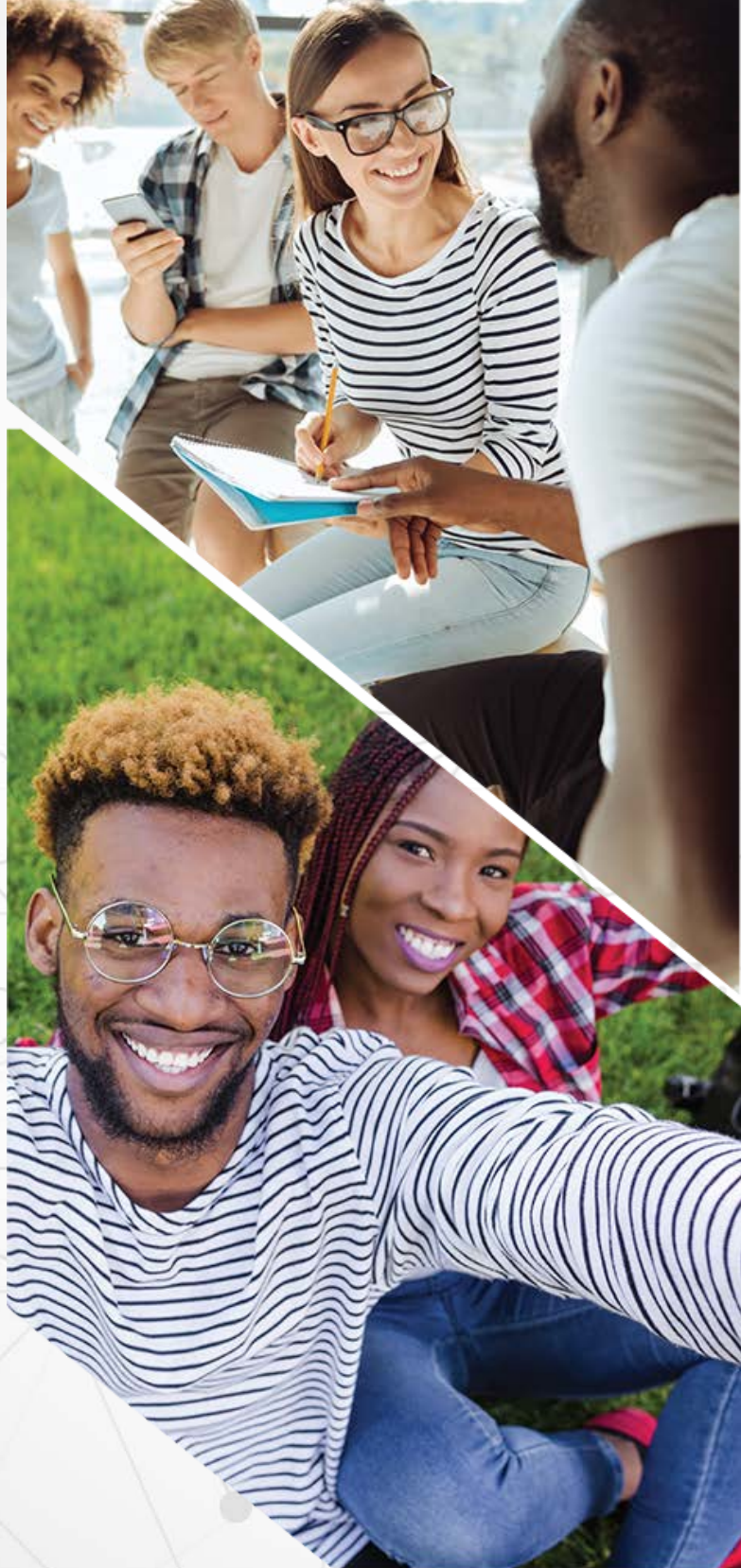
In 2019, the Faculty of Management Sciences played an instrumental role in hosting two public lectures. The first public lecture was held on 24 July 2019, in which Prof Yasanar Kayikci from the Turkish-German University in Istanbul Turkey delivered a memorable presentation entitled: "The impact of the Fourth Industrial Revolution on Supply Chain Management".

The second public lecture was held on 31 October 2019 by Prof Joyendu Bhadury from Radford University in the USA and was entitled "Ethical Supply Chain Management in the Public Sector". Apart from the public lecture, Prof Bhadury conducted various interactive sessions on Supply Chain Management and postgraduate research with both staff and postgraduate students drawn from the four departments within the faculty.

Gratitude is extended to all staff members and postgraduate students, the Faculty Research and Innovation Committee (FRIC) and the Faculty Research Ethics Committee (FREC) teams for their unwavering dedication in creating and nurturing a research culture in the faculty. The support of both the DVC: Academic and Research as well as the Research Directorate is acknowledged distinctly for the pursuit of excellence in research. In the new decade, the Faculty intends to increase the critical mass in stimulating research and ensure a greater impact on broader society and communities through new knowledge creation and innovative research.

Prof B.A. Mokoena

Executive Dean



Postgraduate Staff and Students Qualifications Completed in 2019

Name: Dlamini, Z.L.

Qualification: Magister Technologiae: Marketing

Dissertation/Thesis Title: Selected factors influencing maven tendencies and cosmetics product trial by female consumers in Southern Gauteng.

University/Institution: Vaal University of Technology

Name: Madzimure, J.

Qualification: Doctoris Technologiae: Business

Dissertation/Thesis Title: E-procurement, supplier integration and supply chain performance in small and medium enterprises in Gauteng province.

University/Institution: Vaal University of Technology

Name: Oke, O.O.

Qualification: Magister Technologiae: Cost and Management Accounting.

Dissertation/Thesis Title: An analysis of wealth creation by industrial companies listed on the Johannesburg stock exchange of South Africa, 2005-2014.

University/Institution: Vaal University of Technology

Name: Letshaba, R.K.

Qualification: Magister Technologiae: Business Administration

Dissertation/Thesis Title: The influence of organisational politics on job stress among SME employees in Matlosana local district.

University/Institution: Vaal University of Technology

Name: Mkhabele, C.

Qualification: Magister Technologiae: Logistics

Dissertation/Thesis Title: An exploration of procurement practices in state-owned passenger rail agencies in Gauteng.

University/Institution: Vaal University of Technology

Name: Mazibuko, M.

Qualification: Magister Technologiae: Marketing

Dissertation/Thesis Title: Determinants of microblog music review credibility and its influence on electronic word of mouth adoption.

University/Institution: Vaal University of Technology

Name: Lose, T.

Qualification: Doctoris Technologiae: Business

Dissertation/Thesis Title: A framework for the creation of business incubators in South Africa.

University/Institution: Vaal University of Technology

Name: Tlale, M.T.

Qualification: Doctoris Technologiae: Business

Dissertation/Thesis Title: Supply chain capacities, agility and firm performance in a developing economy.

University/Institution: Vaal University of Technology

Conferences (Papers and posters presented)

Presenter: Dhurup, M.

Title of Paper: Correlates of job satisfaction and absenteeism among entry-level security guards in the Southern Gauteng private security sector.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Chinomona, E.

Title of Paper: 1. An evaluation of the effects of South African's national health insurance planning on healthcare.

2. An assessment of the use of corporate entrepreneurship to gain a competitive advantage in a small manufacturing company in an emerging economy.

Conference: Global Business and Technology Association, 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Chinomona, E.

Title of Paper: 1. Investigating the antecedents of green imaging in South African manufacturing companies.

2. E-learning satisfaction: an application of the connectivism theory in Universities of Technology in South Africa.

Conference: SAIMS conference

Place: Port Elizabeth, Nelson Mandela University

Date: 08-12 September 2019

ISBN/ISSN: N/A

Presenter: Chinomona, E.

Title of Paper: Motorists' attitudes towards implementation of E-tolls in Gauteng province, South Africa

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenters: Chinomona, E. & van der Westhuizen, J.P.
Title of Paper: An exploration of procurement practices in the state-owned passenger rail agencies in Gauteng province.

Conference: 10th International Conference on Social Sciences.

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Dlodlo, N.

Title of Paper: The influence of information heuristics in determining the credibility of microblog music reviews.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Dlodlo, N.

Title of Paper: 1. Consumers' loyalty towards South African cosmetics' web-stores.

2. Mavenship behaviour and trail of decorative cosmetic products by female consumers.

Conference: Global Fashion Marketing Conference

Place: Paris, France

Date: 11-14 July 2019

ISBN/ISSN: N/A

Presenter: Dunga, H.M.

Title of Paper: 1. The impact of the technological revolution on poverty: a case of Malawi.

2. A critique of the conceptualisation child poverty measures.

Conference: IIES International Academic Conference

Place: London

Date: 19-25 May 2019

ISBN/ISSN: N/A

Presenter: Dunga, H.M.

Title of Paper: 1. An econometric analysis on determinants of food insecurity among female-headed households in South Africa.

2. The impact of Microcredit program participation on household food security in Malawi.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Kok, L.

Title of Paper: Relationship between skills development, employee motivation and organisational performance in South African organisations.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Imuezerua, E.O.

Title of Paper: Exploring the role of financial performance.

measurement in the sustainability of SMEs in Vanderbijlpark.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Joubert, P.A.

Title of Paper: Exploring the relationship between organisational identification and organisational citizenship behaviour among employees in a University of Technology in South Africa.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Lose, T.

Title of Paper: 1. From hand to mouth existence: exploring the challenges faced by Isi-Xhosa survivalist entrepreneurs in South Africa.

2. Factors inhibiting the performance of business incubators in South Africa.

Conference: 2019 International Conference on Business and Economics

Place: Yeosu City, South Korea

Date: 08-10 July 2019

ISBN/ISSN: N/A

Presenter: Mba, E.A.

Title of Paper: Determining the impact of information sharing on SMEs supply chain responsiveness and supply chain collaboration.

Conference: South African Institute of Management Sciences 31st Annual Conference

Place: Port Elizabeth, Nelson Mandela University





Date: 08 September 2019
ISBN/ISSN: N/A

Presenter: Mafini, C.

Title of Paper: A qualitative analysis of the implementation of the supply chain management policy framework at a selected metropolitan municipality.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenter: Magapa, T.

Title of Paper: Household purchases of biomass residential heating equipment: theory and measures for market segmentation.

Conference: South African Institute of Management Sciences 31st Annual Conference

Place: Port Elizabeth, Nelson Mandela University

Date: 08 September 2019

ISBN/ISSN: N/A

Presenter: Masitenyane, L.A.

Title of Paper: Antecedents of relationship intentions in business-to-business environments: a factor analytical approach

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September

ISBN/ISSN: N/A

Presenters: Masitenyane, L.A. & Dhurup, M.

Title of Paper: Antecedents of relationship intentions and their association with suppliers' relationship quality in a business-to-business environment.

Conference: International Conference on Global Business, Economics, Finance, and Social Sciences

Place: Kuala Lumpur, Malaysia

Date: 18 November 2019

ISBN/ISSN: N/A

Presenter: Matsheke, O.T.

Title of Paper: Students' perceptions of the usefulness of business simulation training challenges toward becoming entrepreneurs.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Mashiloane, M.W.

Title of Paper: A risk approach to the analysis of supply chain management policy framework implementation in municipalities.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Mokoena, M.C.

Title of Paper: Determining the perceptions and attitudes of non-accounting majors towards accounting at a University of Technology in South Africa.

Conference: Asian Conference on Education

Place: Japan

Date: 31 October- 03 November 2019

ISBN/ISSN: N/A

Presenter: Mokoena, B.A.

Title of Paper: The relationship between service quality dimensions, customer satisfaction and future behavioural intentions at the Vaal River carnival in South Africa.

Conference: International Conference on Social Science, Arts, Business and Education

Place: Manilla, Philippines

Date: 18-19 December 2019

ISBN/ISSN: N/A

Presenter: Mokoena, B.A.

Title of Paper: University students' perspective on service quality, customer satisfaction and future behavioural intentions at the VFC centres in South Africa.

Conference: 8th International Conference on Sociality and Humanities

Place: Bali, Indonesia

Date: 21-23 December 2019

ISBN/ISSN: N/A

Presenter: Ntshingila, M.L.

Title of Paper: The influence of purchasing capabilities on supply-based management and purchasing performance within the Sedibeng municipalities.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Omoruyi, O.

Title of Paper: The mediating role of information and communication technology on supply chain networks, supply

chain flexibility, and SMEs performance.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Presenter: Mafini, C.

Title of Paper: Analysing the implementation of the supply chain management policy framework at a selected metropolitan municipality.

Conference: 10th International Conference on Social Sciences

Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenters: Mafini, C. & Mugwenhi, S.

Title of Paper: Implementation of public supply chain management: a case study of the Nelson Mandela Bay municipality in South Africa.

Conference: 4th Interdisciplinary Conference on Production Logistics and Traffic

Place: Dortmund, Germany

Date: 27-28 March 2019

ISBN/ISSN: N/A

Presenters: Mafini, C. & Makhanda, G.

Title of Paper: Liquid petroleum gas supply challenges in rural medical facilities in Zimbabwe.

Conference: 4th Interdisciplinary Conference on Production Logistics and Traffic

Place: Dortmund, Germany

Date: 27-28 March 2019

ISBN/ISSN: N/A

Presenters: Nwele, U.K., Omoruyi, O. & Chinomona, E.

Title of Paper: Buyer-supplier commitment and competitive performance among SMEs in Southern Gauteng.

Conference: South African Institute of Management Sciences 31st Annual Conference

Place: Port Elizabeth, Nelson Mandela University

Date: 08-11 September 2019

ISBN/ISSN: N/A

Presenter: Omoruyi, O.

Title of Paper: 1. Logistics objectives, logistics capacity and logistics benefits: the case of SMEs in Emfuleni municipal district.

2. The influence of supply chain responsiveness, collaboration and information sharing on the performance of small to medium enterprises in a district municipality.

Conference: Global Business and Technology Association 21st Annual International Conference



Place: Riverside Sun Hotel, Vanderbijlpark, South Africa

Date: 03-05 September 2019

ISBN/ISSN: N/A

Presenters: Chinomona, E. & Omoruyi, O.

Title of Paper: Examining the effects of reverse logistics, green logistics and green innovation practices on firm performance: a case of SMEs in Gauteng province.

Conference: South African Institute of Management Sciences 31st Annual Conference

Place: Port Elizabeth, Nelson Mandela University

Date: 08-11 September 2019

ISBN/ISSN: N/A

Presenter: Sharp, K.

Title of Paper: An investigation into the effectiveness of the customer relationship management (CRM) tooling system at IBM South Africa.

Conference: Global Business and Technology Association 21st Annual International Conference

Place: Crowne Plaza Paris-Republique Hotel in Paris, France

Date: 07-15 July 2019

ISBN/ISSN: N/A

Induction Sessions

Surname, initials: Dhurup, M.

Title: Research orientation

Presented to: Postgraduate Students

Place: Library training room

Date: 16 March 2019

Surname, initials: Fani, R.

Title: Library orientation

Presented to: Postgraduate Students

Place: Library training room

Date: 13 April 2019

Surname, initials: Moloi, C.

Title: Problem statement objectives and literature review

Presented to: Postgraduate Students

Place: Library training room

Date: 18 May 2019

Surname, initials: Chinomona, R.

Title: Qualitative research design

Presented to: Postgraduate Students

Place: Library training room

Date: 22 June 2019

Surname, initials: Mudhombo, I.

Title: Statistics





Presented to: Postgraduate Students
Place: Library training room
Date: 20 July 2019

Surname, initials: Nel, P.
Title: Qualitative research
Presented to: Postgraduate Students
Place: Library training room
Date: 17 August 2019

Publications (Journals)

Author and co-author: Chauke, X. & Duh, H.I.
Title: Marketing and socio-psychological factors influencing organic food purchase and post-purchase outcomes.
Journal: Journal of Food Products Marketing (Taylor and Francis Group)
Volume: 25
Issue: 09
Page numbers of article: 01-25
ISSN: 1540-4102

Author and co-author: Isabirye, A. & Omoruyi, O.
Title: Exploring academics' espoused and actual teaching orientations at a University in South Africa.
Journal: International Journal of Social Sciences and Humanity studies
Volume: 9
Issue: 1
Page numbers of article: 21-40
ISSN: 1309-8063

Author: Mokoena, B.A.
Title: The relationship between selected market orientation dimensions and organisational performance within Universities of Technology.
Journal: Studia University Babes-Bolyai Oeconomica
Volume: 64
Issue: 3
Page numbers of article: 54-68
ISSN: 2065-9644

Author: Mokoena, B.A.
Title: A comparative analysis of MARKOR and MKTOR scales of market orientation on university performance among Universities of Technology in South Africa.
Journal: International Journal of Business and Management Studies
Volume: 11
Issue: 1
Page numbers of article: 16-37
ISSN: 1309-8047

Author and co-author: Dunga, H. & Dunga, S.
Title: Household characteristics that determine perceptions on girl education in Malawi.
Journal: Acta Universitatis Danubius Oeconomica
Volume: 15
Issue: 6
Page numbers of article: 220-232
ISSN: 2065-0175

Author and co-authors: Chinomona, E., Mafini, C. & Mugwenhi, S.
Title: Drivers of operational performance and customer retention in the chemicals industry.
Journal: International Journal of Business and Management Studies
Volume: 11
Issue: 1
Page numbers of article: 74-90
ISSN: 1309-8047

Author and co-author: Chinomona, E. & Montso, M.E.
Title: Modelling the drivers of impulsive buying behaviour: a case of South Africa.
Journal: Journal of Economics and Behavioural Studies
Volume: 11
Issue: 1
Page numbers of article: 27-38
ISSN: 2220-6140

Author and co-author: Chinomona, E. & Letshaba, R.K.
Title: Organisational politics and job stress among SME employees.
Journal: Journal of Contemporary Management
Volume: 16
Issue: 2
Page numbers of article: 459-480
ISSN: 1815-7440



Author: Chinomona, E.

Title: Antecedents of product improvement: a case small and medium enterprises in South Africa.

Journal: Journal of Business Sciences

Volume: 2

Issue: 1

Page numbers of article: 74-94

ISSN: 2521-2620

Author and co-author: Chinomona, E. & Chivhugwa, T.

Title: The influence of green image, physical environment quality and green purchase intention.

Journal: The retail and Marketing Review

Volume: 15

Issue: 1

Page numbers of article: 13-26

ISSN: 1817-4428

Author and co-author: Dunga, H. & Mafini, C.

Title: Socio-economic factors influencing the education of the girl child in Zomba, Malawi.

Journal: International Journal of Social Sciences and Humanity Studies

Volume: 11

Issue: 2

Page numbers of article: 20-38

ISSN: 1309-8063

Author and co-author: Dunga, H. & Mafini, C.

Title: Perceptions of poverty between food secure and food insecure households in Malawi.

Journal: Acta Universitatis Danubius Oeconomica

Volume: 15

Issue: 3

Page numbers of article: 431-444

ISSN: 2065-0175



Author and co-author: Dlamini, Z.L. & Dlodlo, N.
Title: The determinants of market maven tendencies: preliminary results from a cohort of female consumers of beauty products.
Journal: International Journal of Business and Management Studies
Volume: 10
Issue: 2
Page numbers of article: 306-323
ISSN: 1309-8047

Author and co-authors: Ellsworth, J., Mafini, C. & Bhadury, J.
Title: Risk management in strategic sourcing: an African perspective.
Journal: International Journal of Supply Chain Management
Volume: 8
Issue: 5
Page numbers of article: 119-135
ISSN: 2050-7399

Author: Dlodlo, N.
Title: The influences of product presentation on hotel website revisit intentions: the mediating role of mental imagery.
Journal: International Journal of Social Sciences and Humanity Studies
Volume: 10
Issue: 1
Page numbers of article: 49-65
ISSN: 1309-8063

Author: Dlodlo, N.
Title: Rational and irrational indicators of financial efficacy and desirable saving behaviour among East London low-income consumers.
Journal: International Journal of Business and Management Studies
Volume: 10
Issue: 2
Page numbers of article: 228-243
ISSN: 1309-8047

Author and co-authors: Dhurup, M., Muposhi, A., Martin, R.L. & Bhadury, J.
Title: A pilot study of MBA programmes in South Africa
Journal: London Review of Education
Volume: 17
Issue: 3
Page numbers of article: 405-427
ISSN: 1474-8479

Author: Dhurup, M.
Title: Employee perceptions of the effects of retrenchments on

job stress and organisational commitment in a mining company.
Journal: African Journal for Physical Activity and Health Sciences (AJPHEs)
Volume: 25
Issue: 4
Page numbers of article: 455-471
ISSN: 2411-6939

Author and co-authors: Gounden, M., Dhurup, M. & Joubert, P.
Title: Organisational justice and job satisfaction among police officers within a South African environment.
Journal: Journal of Public Administration
Volume: 54
Issue: 4
Page numbers of article: 567-581
ISSN: 0036-0767

Author: Govuzela, S.
Title: Organisational agility, business best practices and the performance of small to medium in South Africa.
Journal: South African Journal of Business Management
Volume: 50
Issue: 1
Page numbers of article: 567-581
ISSN: 0036-0776

Author and co-author: Isabirye, A. & Omoruyi, O.
Title: Addressing trainees' concerns in a professional development programme for innovative teaching and learning.
Journal: International Journal of Social Sciences and Humanity studies
Volume: 11
Issue: 1
Page numbers of article: 1-18
ISSN: 1309-8063

Author and co-author: Mafini, C. & Ettienne, J.
Title: Transactional leadership, supply chain quality and business performance in the fast-moving consumer goods industry.
Journal: Journal of Transport and Supply Chain Management
Volume: 13
Issue: 0
Page numbers of article: 1-13
ISSN: 1995-5235

Author and co-authors: Mafini, C., Mugwenhi, S. & Chinomona, E.
Title: Drivers of operational performance and customer retention in the chemicals industry.
Journal: International Journal of Business and Management Studies

Volume: 11
Issue: 1
Page numbers of article: 74-100
ISSN: 1309-8047

Author and co-author: Mafini, C. & Mafundu, R.
Title: Internal constraints to business performance in Black-owned small to medium enterprises in the construction industry.
Journal: The Southern African Journal of Entrepreneurship and Small Business Management
Volume: 11
Issue: 1
Page numbers of article: 1-10
ISSN: 2071-3185

Author: Mangoukou Ngouapenge, C.N.
Title: Modelling the influence of the drivers of supply chain performance in the food retail industry in South Africa.
Journal: The Journal of Applied Business Research
Volume: 35
Issue: 2
Page numbers of article: 43-62
ISSN: 0892-7626

Author and co-author: Mahomed, F. & Rothmann, S.
Title: Strength use, training and development, thriving and intention to leave: the mediating effects of psychological needs satisfaction.
Journal: South African Journal of Psychology
Volume: 45
Issue: 2
Page numbers of article: 1-15
ISSN: 2078-208X

Author and co-author: Mahomed, F. & Rothmann, S.
Title: Strength use, deficit correction, thriving and performance of academics at Universities of Technology.
Journal: South African Journal of Industrial Psychology
Volume: 45
Issue: 1
Page numbers of article: 1-10
ISSN: 2078-0258

Author and co-authors: Masitenyane, L.A., Dhurup, M., Mokoena, B.A. & Muposhi, A.
Title: Antecedents of relationship intentions in the South African construction industry business environment: a factor analytical structure.
Journal: International Journal of Business and Management Studies
Volume: 12

Issue: 1
Page numbers of article: 147-162
ISSN: 1309-8047

Author and co-author: Masitenyane, L.A. & Dhurup, M.
Title: Antecedents of relationship intentions and its association with suppliers' relationship quality in a business to business environment.
Journal: International Journal of Innovative Technology and Exploring Engineering
Volume: 29
Issue: 2
Page numbers of article: 172-192
ISSN: 2278-3075

Author and co-author: Mhelember, K. & Mafini, C.
Title: Modelling the link between supply chain risk, flexibility, and performance in the public sector.
Volume: South African Journal of Economic and Management Sciences
Issue: 22
Page numbers of article: 1
ISSN: 2222-3436

Author and co-author: Mokoena, B.A. & Dhurup, M.
Title: The influence of resilience and self-resilience and self-efficacy on job satisfaction and its influence on life satisfaction among South African amateur sports coaches.
Journal: African Journal for Physical Activity and Health Sciences (AJPHEs)
Volume: 25
Issue: 1
Page numbers of article: 59-76
ISSN: 2411-6939

Author and co-author: Mokoena, B.A. & Dhurup, M.
Title: Self-efficacy, organisational commitment, job satisfaction and satisfaction with life relationships: a study among amateur sports coaches in South Africa
Journal: International Journal of Social Sciences and Humanity Studies
Volume: 11
Issue: 1
Page numbers of article: 19-34
ISSN: 1309-8063

Author and co-author: Motaung, T. & Radebe, P.
Title: Organisational commitment and job satisfaction as antecedents of organisational citizenship behaviour
Journal: Journal of Economics and Behavioural Studies
Volume: 10
Issue: 6A

Page numbers of article: 109-122
ISSN: 22206140

Author and co-author: Omoruyi, O. & Chinomona, E.
Title: Evaluating the effects of brand advertising, brand element and brand awareness on purchasing intention
Journal: Journal of Contemporary Management
Volume: 16
Issue: 1
Page numbers of article: 422-449
ISSN: 1815-7440

Author and co-authors: Shanhuyenhanzva, R.M., Mudanganyi, M. & Muposhi, A.
Title: The influence of customer-based brand on brand loyalty: evidence from South African mobile telecommunications industry.
Journal: International Journal of Business and Management Studies
Volume: 16
Issue: 2
Page numbers of article: 1309-8047
ISSN: 1309-8047

Author and co-author: Zwane, C. & Dhurup, M.
Title: Selected factors influencing satisfaction and purchase intentions among plus-size female university students.
Journal: Gender & Behaviour
Volume: 17
Issue: 2
Page numbers of article: 12882-12893
ISSN: 1596-9231

Author and co-author: Pita, N.A., & Dhurup, M.
Title: Succession planning: current practices and its influence on turnover intentions in a public service institution in South Africa.
Journal: International Journal of Business and Management Studies
Volume: 11
Issue: 2
Page numbers of article: 48-64
ISSN: 1309-8047
Author and co-authors: Seteni, L.P., Dhurup, M. & Joubert, P.
Title: Employee perceptions of the affects of retrenchments on job stress and organisational commitment in a mining company.
Journal: African Journal of Employee Relations
Volume: 43
Issue: N/A
Page numbers of article: 1-26
ISSN: 2520-32223

Author: Radebe, P.
Title: The development of a performance management system as a predictor of effective implementation in a sport and recreation department.
Journal: International Journal of Business and Management Studies
Volume: 11
Issue: 2
Page numbers of article: 65-80
ISSN: 1309-8047

Author and co-authors: Tsepetsi, T., Joubert, P., Dhurup, M. & Mafini, C.
Title: The effects of leadership on job satisfaction in the logistics industry in the Gauteng province.
Journal: Journal of Contemporary Management
Volume: 16
Issue: 2
Page numbers of article: 1-26
ISSN: 1815-7440

Seminars / Workshops Presented

Surname, initials: Kayikci, Y.
Title: Public lecture: "The impact of the fourth industrial revolution on supply chain management."
Presented to: Vaal University of Technology community
Place: Desmond Tutu Hall
Date: 24 July 2019

Surname, initials: Bhadury, J.
Title: Public Lecture: "Ethical supply chain management in the public sector."
Presented to: Vaal University of Technology community
Place: Desmond Tutu Hall
Date: 01 November 2019
Publications (Books/Chapters in Books)

Author: Mahomed, F.
Title: From surviving to thriving: towards career wellbeing.
Publisher: Springer
Date: 2019
Page numbers: 91-115



9. Research Focus Areas/Institutes/Centres

The following are approved Research Focus Areas/Institutes/Centres:

Centre/Institute	Director
Centre of Sustainable Livelihoods	Prof Abdul Egal Tel: 016 930 5091 Email: abdul@vut.ac.za
Centre for Alternative Energy	Dr Johan Bekker Tel: 016 950 Email: johan@vut.ac.za
Centre for Renewable Energy and Water	Prof. George Ochieng Tel: 016 950 Email: george@vut.ac.za

Focus Areas	Research Leader
Plant Molecular Genetics/Biotechnology	Prof Michael Pillay Tel: 016 950 9728 Email: mpillay@vut.ac.za
Materials and Minerals Technology	Prof Peter Mendonidis Tel: 016 950 9165 Email: peter@vut.ac.za

Technology Transfer and Innovation	Leader
Innovative Product Development and Advanced Manufacturing Technology	Tel: 016 930



10. Accredited research outputs for Vaal University of Technology, 2011-2019

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Units	75.05	75.30	94.96	100.80	76.16	101.95	126.76	149.74	164.76

*Submitted to DHET - not yet approved

National Research Foundation (NRF)

The NRF rating system is a benchmarking system through which individuals that exemplify the highest standards of research, as well as those demonstrating strong potential as researchers, are identified by an extensive network of South African and international peer reviewers.

NRF-rated researchers in 2019:

- Prof RI Campbell
- Prof M Pillay
- Prof AE Ofomaja
- Prof O Okosun
- Prof PO Osifo
- Prof VE Pakade
- Prof TB Tengen





Surname	Title	Name	Postdoc/ Visiting Professor	Faculty	Department	PI
Chiririwa	Dr	Harry	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof EB Naidoo
Oseghe	Dr	Ekemena Oghenovah	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof A Ofomaja
Okoli	Dr	Bamidele Joseph	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof SJ Modise
Diagboya	Dr	Paul Nkem	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof ED Dikio
Abasi	Dr	Cyprian Yameso	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof ED Dikio
Adesanya	Dr	Samuel Olumide	PhD Research Fellow	Human Sciences	Communication & Education	Prof K Moloi
Ayanda	Dr	Olushola Sunday	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof EB Naidoo
Omwoyo	Dr	Wesley Nyaigoti	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof MJ Moloto
Dunga	Dr	Hannah Mayamiko	PhD Research Fellow	Management Sciences	Logistics	Prof C Mafini
Nziu	Dr	Patrick Kiola	PhD Research Fellow	Engineering and Technology	Mechanical	Prof LM Masu
Olufayo	Dr	Olufisayo Akinlolu	PhD Research Fellow	Engineering and Technology	Civil Engineering	Prof GM Ochieng
Akpotu	Dr	Samson Oghenemauro	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Dr M Klink
Apollo	Dr	Seth Otieno	PhD Research Fellow	Engineering and Technology	Chemical Engineering	Dr J Kabuba
Olaifa	Dr	Moses Oluwasogo	PhD Research Fellow	Applied and Computer Sciences	ICT	Prof T Zuva
Lawal	Dr	Isiaka Ayobamidele	PhD Research Fellow	Applied and Computer Sciences	Biotechnology	Dr M Klink
Matjie	Dr	Ratale Henry	Visiting Lecturer	Engineering and Technology	Chemical Engineering	Prof P Osifo
Mitema	Dr	Alfred Ochieng	PhD Research Fellow	Applied and Computer Sciences	Biotechnology	Dr N Feto
Ama	Dr	Monday Onoyivwe	PhD Research Fellow	Engineering and Technology	Chemical Engineering	Prof P Osifo

Loury-Okoumba	Dr	Welby Vandrys	PhD Research Fellow	Management Sciences	Logistics	Prof C Mafini
Ouma	Dr	Immaculate Linda Achieng	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof Ofomaja
Andoh	Dr	Harris Francis	PhD Research Fellow	Research Directorate	Research Directorate	Dr SM Nelana
Maube	Dr	Obadiah	PhD Research Fellow	Engineering and technology	Mechanical	Prof AA Alugongo
Peleyeju	Dr	Moses Gbenga	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Dr E Viljoen
Aremu	Dr	Oluwole Samuel	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Dr Qwebani
Monapathi	Dr	Mzimkhulu Ephraim	PhD Research Fellow	Applied and Computer Sciences	Chemistry	Prof SJ Modise

Research capacity development programmes

Various research capacity development workshops and information sessions were hosted by the Research Directorate, including:

- Article writing
- Atlas.TI
- Customer Care Services
- Design Expert
- EndNote
- Literature Review
- NRF Information Session
- NRF customised interventions framework
- Postgraduate Capacitation
- Research Ethics
- SPSS & Amos
- Supervising, coaching & mentoring
- Writing for publication

Research Awards

Research awards are presented annually to recognise staff members for their research contributions. A new research awards criteria in the following categories was approved by Senate:

- Research & Innovation Achievement Awards
- Research & Innovation Advancement Recognition Awards
- Research & Innovation Excellence Recognition Awards

The following staff received awards for their research achievements during 2018:

Achievement Awards

Faculty of Engineering & Technology

Dr JK Tshilenge

Dr W Matizamhuka

Ms S Rwanga

Faculty of Human Sciences

Dr RS Lebello

Dr K Dube

Ms C Cilliers

Faculty of Management Sciences

Dr Y van Zyl

Dr GJ Maseko

Mr MJ Matsheke

Excellence Awards

Faculty of Applied and Computer Sciences

Prof MJ Moloto

Prof T Zuva

Dr T Xaba

Faculty of Human Sciences

Prof KC Moloi

Dr SE Burger

Dr V Labuschagne

Faculty of Management Sciences

Prof C Mafini

Dr E Chinomona

Dr O Omoruyi

Annual Research Awards

Place	Research Achievement	Faculty
1st	Dr JK Tshilenge	Engineering & Technology
2nd	Dr W Matizamhuka	Engineering & Technology
3rd	Dr S Rwanga	Engineering & Technology

Place	Research Achievement	Faculty
1st	Prof C Mafini	Management Sciences
2nd	Dr E Chinomona	Management Sciences
3rd	Prof MJ Moloto	Applied & Computer Sciences

Acknowledgement for obtaining NRF rating in 2018

Faculty of Engineering and Technology		Category
Dr O Okosun	Re-evaluation	C2
Dr VE Pakade	Re-evaluation	Y2

Acknowledgement for contributing to research in 2018

Research Excellence	Faculty
Dr RS Lebello	Human Sciences
Dr K Dube	Human Sciences
Dr Y van Zyl	Management Sciences
Ms C Cilliers	Human Sciences
Dr GJ Maseko	Management Sciences
Dr J van der Westhuizen	Management Sciences
Mr F du Rand	Engineering & Technology
Mr MJ Matsheke	Management Sciences
Dr O Omoruyi	Management Sciences
Prof T Zuva	Applied & Computer Sciences
Prof R Dhurup	Management Sciences

Dr T Xaba	Applied & Computer Sciences
Prof VE Pakade	Applied & Computer Sciences
Dr KO Okosun	Applied & Computer Sciences
Prof KC Moloi	Human Sciences
Dr SE Burger	Human Sciences
Prof M Pillay	Applied & Computer Sciences
Dr V Labuschagne	Human Sciences
Prof BA Mokoena	Management Sciences

Research funding

External funding

External research funding and donations for research equipment totalled R 42,418,713.22 for 2019. Sources of funding include the National Research Foundation (NRF), Water Research Commission (WRC), Chemical Industries Education & Training Authority (CHIETA), Telkom SA SOC Limited, Eskom, Sasol, CSIR, Department of Higher Education (DHET UC DP), TIA, THRIP, TiCOC, COCA Chemicals and Consulting (Pty) Ltd., PAMSA and Erasmus+ KA107.

Internal funding

R13 785 404 were allocated to research. Applications for funding are approved by the Executive Senate Research and Innovation Committee.

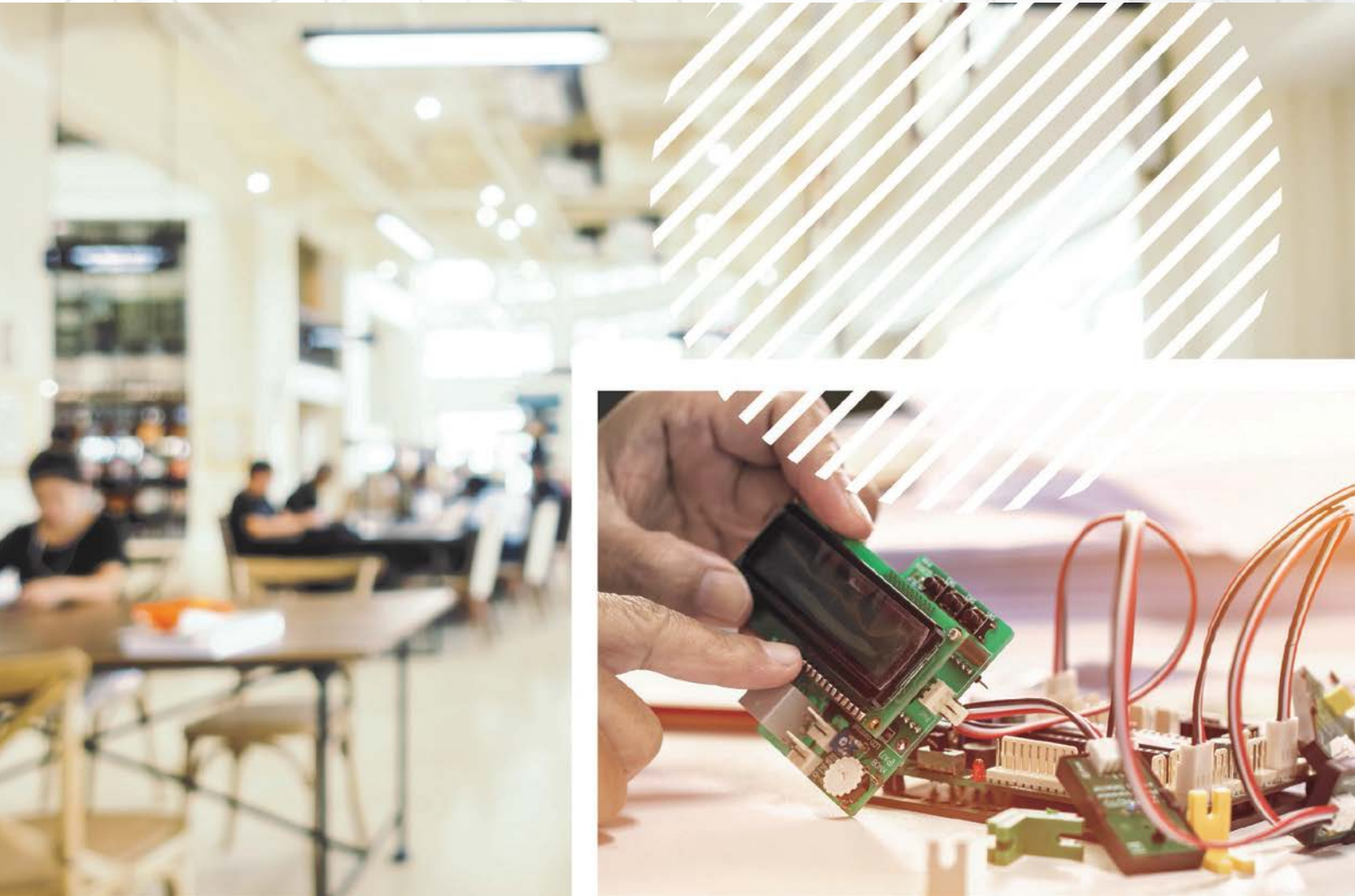
Research Focus Areas/Institutes/Centres

The following are approved Research Focus Areas/Institutes/Centres:

Centre/Institute	Director
Centre of Sustainable Livelihoods	Prof Abdul Egal Tel: 016 930 5091 Email: abdul@vut.ac.za
Centre for Alternative Energy	Prof Johan Bekker Tel: 016 950 9952 Email: bekkerj@vut.ac.za
Centre for Renewable Energy and Water	Prof. George Ochieng Tel: 016 950 9420 Email: georgeo@vut.ac.za

Focus Areas	Research Leader
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Plant Molecular Genetics/Biotechnology	Prof Michael Pillay Tel: 016 950 9728 Email: mpillay@vut.ac.za
Materials and Minerals Technology	Prof Peter Mendonidis Tel: 016 950 9165 Email: peter@vut.ac.za
Technology Transfer and Innovation	Leader
Innovative Product Development and Advanced Manufacturing Technology	Mr Heinrich van der Merwe Tel: 016 930 5012 Email: hendrikv2@vut.ac.za



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Director: Research & Higher Degrees



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Senior Administrator: Research



Ms Chantelle Sonnekus

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Ronel Appelcryn

Research Administrator



Mr. Prajesh Bhikha

Marketing & Information Officer



Beatrice Phume

Higher Degrees Administrator



Nomathemba Kokoali

Postgraduate Administrator



Lerato Ngubeni

Administrator



Searabo Kgekoane

Research Information Officer



Sehlabaka Motsie

Faculty Research Officer



Shirene Klink

Finance Officer



Vulani Mahlaule

Research Administrator



Thakasile Nkwanyana

NRF Financial Officer



Matshediso Kgosane

Research Administrator

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