

2023

RESEARCH REPORT



**VAAI UNIVERSITY
OF TECHNOLOGY**

Inspiring thought. Shaping talent.



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FOREWORD FROM THE VICE CHANCELLOR AND PRINCIPAL

With great pleasure and pride, I introduce this comprehensive Research Report of the Vaal University of Technology (VUT) for the 2023 Academic Year. The report encapsulates our academic community's relentless pursuit of knowledge and innovation. It also represents a culmination of rigorous investigation and insightful analysis across a diverse array of disciplines that are catered to within our four faculties and research centres.

Within the higher education landscape, it is a known fact that Research remains the lifeblood of any academic institution, as it fuels intellectual curiosity, drives societal progress, and shapes the future of our world. Through dedicated research endeavours, we unravel the mysteries of the universe while addressing pressing challenges facing humanity and fostering a culture of creativity and critical thinking.

As VUT Vice-Chancellor and Principal, without a shadow of a doubt, I can confidently say that the breadth and depth of research showcased in this report exemplifies our Institution's commitment to excellence in scholarship. VUT would like to thank our academics, researchers and students for their remarkable contributions to the global landscape of scholarly inquiry. Like all other higher education institutions, we also measure our research success by using an array of yardsticks, including our global rankings, rankings by the Department of Higher Education and Training (DHET), ratings by the National Research Foundation (NRF) and a plethora of awards and other accolades presented to our scholars, staff and students.

Overall, I am happy to indicate that for the period under review, the Research Directorate at VUT met its target for the 'Institution's Research Output. This is a testament to our 'researchers' passion for discovery and relentless pursuit of knowledge. Still, on the research front, we have worked hard to align our research outputs with the national priorities to ensure that we conduct research that is relevant and matters. As you would know, NRF-rated Researchers are the bright minds that empower and propel the research within a given institution and a particular industry or field - this is no exception at VUT. We pride ourselves on being closely related to several NRF-rated Researchers. These researchers have proven themselves with high standards of research that have contributed to and shaped the body of knowledge in their respective fields. To date, we boast 14 NRF-rated Researchers, some of whom were re-rated and received higher rankings. Because of the nature and impact of their work, our Researchers are recognised internationally too. These researchers not only do, they produce ground-breaking research that solves real-life problems but also empower aspiring researchers to engage the most experienced minds as supervisors and aides.

Despite growing concerns globally about low enrolment, delayed completion rates, non-completion, and the subsequent smaller number of post-graduates, at VUT, our postgraduate student enrolment grew, and we have met the success rate. With our expansive Research Capacity Development Programmes, which include workshops ranging from interactive methods of inquiry, concept analysis & historical analysis, and alternative methods of data collection, to mention a few, these throughput figures are projected to continue to increase. At VUT, we have a dedicated Research Directorate to support researchers and honour deserving ones who exceed expectations in their respective fields through awards such as Faculty Research Awards, VUT Excellence Awards, and the VUT Achievement Awards, to mention a few.

As I conclude, I would like to encourage our students to explore the exciting opportunities that research offers. Your curiosity and enthusiasm are integral to our collective pursuit of academic excellence, and I do not doubt that you will continue to make meaningful contributions to the scholarly community. I would also like to express my appreciation to the research support staff, administrators, and partners whose dedication behind the scenes ensures the success and impact of our research initiatives. As we reflect on the accomplishments presented in this report, let us reaffirm our shared commitment to conducting Research That Matters, which enhances 'VUT's Research culture and contributes towards the University's Research Objectives.

Prof S K Ndlovu

VICE CHANCELLOR AND PRINCIPAL



MESSAGE FROM THE ACTING DEPUTY VICE - CHANCELLOR

Research Innovation, Commercialisation & Internationalisation (RICI)

Managing Research and Development in higher education necessitates considering how knowledge and intelligence are defined in a changing knowledge environment. The above is especially true for Universities of Technology. To confront the democratisation of knowledge and the proliferation of easily accessible information, this contemplation is essential. Sustaining the Research enterprise's ongoing relevance, efficacy, and efficiency is the main problem. In light of the fleeting nature of concepts and the swift evolution of environments, novel methods and techniques that furnish prompt insights and analyses are necessary. Beyond creation or creativity, this next stage of knowledge management strongly emphasises applying knowledge to real-world problems that propel true innovation and commercialisation.

Universities must adjust to a new environment where competition for scarce money and capacity is necessary due to unequal access to resources. The afore-mentioned necessitates a precise definition, focus, path, and setting of priorities during the study process. Knowledge management must be handled concurrently with demands for commercialisation and intellectual property management. A fundamental problem is a conflict between safeguarding intellectual property for commercialisation and democratising knowledge by granting everyone access to research findings. Thus, the debate over what is best for the public or the individual is hot. To accommodate individual interests and the collective agenda, Universities should identify a middle ground between these two options and establish guidelines for how, when, and on what basis information should be controlled. Universities must also support the teaching and learning agenda, which is essential to their mission by ensuring that curricula and engagement activities are informed by research.

In this changing context, the Vaal University of Technology (VUT) always considers the type of research culture and necessary capability to define its research direction as a new-generation Institution. Discussions about community-based scholarly issues and creating a work-based agenda for postgraduate study to maximise research relevance and applicability are informed by this reflection. VUT encourages an approach centred on practical research by bridging the artificial divide between basic and applied research. The above is in line with VUT's Mission as a Technology University, which is to guarantee that knowledge development considers actual requirements and difficulties. With such an approach, new information must be created, addressed and applied beyond the report stage to the technological and commercialisation phases.

At VUT, Research growth and development have been stimulating during the past year, with a focus on applied Research, Innovation, and Commercialisation. This development would not have been achieved without the committed work of the academic and professional staff, who have been crucial in fostering the University's culture of Innovation and Research. We appreciate all the academic staff members' dedication to high standards in research, creative thinking, and the never-ending quest for knowledge. The emphasis on applied Research and Commercialisation has significantly been influenced by their readiness to venture into uncharted territory and their aptitude for converting theoretical knowledge into real-world applications.

The professional personnel deserve special recognition for their invaluable support and knowledge. They have played crucial roles in overseeing resources, promoting research activities, and ensuring the atmosphere for research is creative. We also thank the research and postgraduate offices, particularly, for their ongoing creativity and adaptability in launching new programmes and meeting the mounting demands of the burgeoning Research Agenda. The growth of the Institution has been largely attributed to its proactive attitude in assisting researchers and their capacity to adjust to changing demands. A vibrant research community has been established at VUT thanks to the programmes they have put in place and the assistance they offer.

The foundation has been established so that it is now feasible to achieve sustained development and production in research in the future, both internally and by expanding external partnerships. As a result, excitement is felt as one approaches the upcoming prospects.

Dr S Nelana

ACTING DVC: RESEARCH INNOVATION,
COMMERCIALISATION &
INTERNATIONALISATION (RICI)





MESSAGE FROM THE ACTING DIRECTOR RESEARCH

As the Director of Research, I am pleased to contribute to the Annual Research Report 2023. Throughout 2023, scholars have worked tirelessly despite many challenges to deepen their knowledge and provide valuable insights for decision-makers, practitioners, and researchers alike. The activities performed by the Research Directorate I align with the Institution's strategic objectives. More specifically, the Research Directorate aligns itself to enhance cutting-edge research and innovation, drive a mission-focused research and innovation agenda aligned with development goals, and increase rated, incentivized researchers, innovators, and adjuncts.

Through its activities, the office of the Research Directorate enhanced research capacity through the Vaal University of Technology (VUT) Capacity Development Programme (UCDP), the appointment of postdoctoral research fellows, and the appointment of adjunct scholars. In 2023, the Research Directorate hosted 25 Capacity Development Workshops for staff and ten workshops for Masters and Doctoral students. In total, 34 staff members across the University received 2023 funding from the Funding Guidelines (UCDP) to further their studies (Doctoral) in 2023. VUT also had 30 postdoctoral research fellows in 2023 and appointed 27 adjunct scholars. Additionally, the University secured funding in 2023 worth R 5,146,498 from external sources.

The Research Directorate remains committed to increasing research productivity at the University. The 2023 Research Output units submitted to the Department of Higher Education and Training (DHET) for verification were 188, while the set target was 172 research output units. Regarding the number of staff contributing towards Research Publication Outputs, the University did not meet its target. A total of 208 staff members contributed towards research publication outputs, as opposed to the target of 300. Furthermore, in 2023, the Institution registered 366 Masters students and 136 Doctoral students. In 2023, 51 students graduated with a Masters degree and 11 with a Doctoral qualification.

The Office of the Research Directorate is proud of VUT's progress in meeting most of its research-related targets. Although VUT is showing an upward trajectory in many essential research indicators, such as Research Output units, the University still faces challenges related to research productivity, academic qualifications of some staff members, and lack of supervisory capacity. Addressing these challenges soon is critical to enhancing VUT's research activities and impact. As the Office of the Research Directorate, we look forward to working with the students, academic, and support staff of VUT to increase research productivity and create a research-enabling environment.

Dr S Burger

ACTING DIRECTOR OF RESEARCH







TECHNOLOGY TRANSFER & INNOVATION

Mr M Kobe

ACTING EXECUTIVE DIRECTOR, TECHNOLOGY,
TRANSFER & INNOVATION



MESSAGE FROM THE ACTING EXECUTIVE DIRECTOR TECHNOLOGY, TRANSFER & INNOVATION

I am delighted to present our Annual Research Report for the Technology Transfer and Innovation Department. Over the past year, our dedicated team has tirelessly worked towards our mission of assisting students, small and medium-sized enterprises, and manufacturers to reach their full potential. Despite facing challenges in generating intellectual property for commercialisation, our department has steadfastly committed to innovation and societal impact.

One of the significant achievements of the past year has been revitalising our Advanced Manufacturing (AM) unit. Following a devastating flood that rendered our facility out of service for over a year, I am pleased to announce that our AM unit is now fully operational. Our team has worked diligently to restore and enhance our capabilities, ensuring we continue providing cutting-edge solutions to our stakeholders. Notably, all our 3D printers are firing on all cylinders, and we have expanded our platform by adding a metal printer, further bolstering our capacity to support local industry and research endeavours.

In addition to overcoming challenges, our department is actively engaged in innovation projects to address societal issues. These projects not only hold the promise of generating intellectual property but also have the potential to make meaningful contributions to our community and beyond. We are continually striving for positive socio-economic impact and sustainable growth through collaboration and innovation.

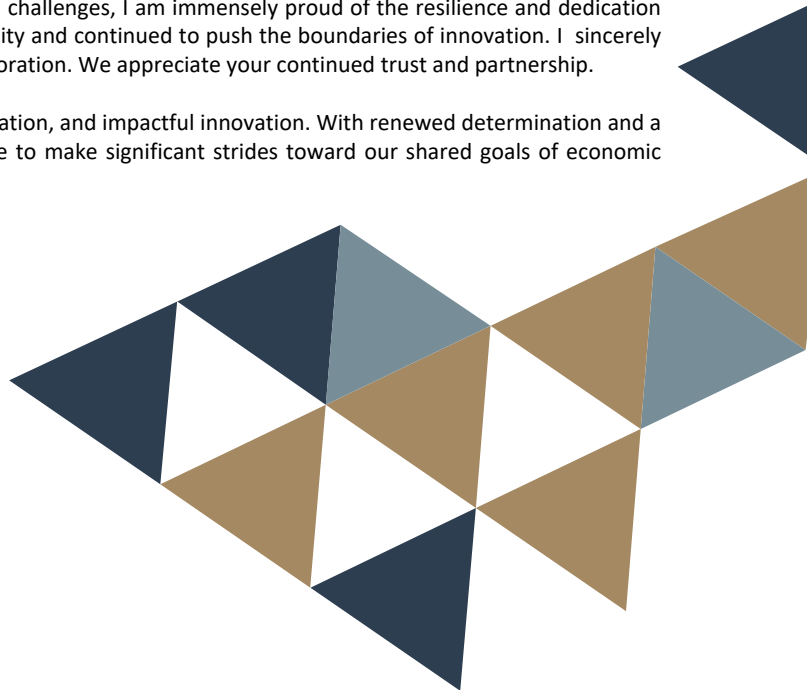
Our Technology Transfer Office (TTO) continues to play a pivotal role in harnessing the University's Research Projects and Intellectual Property for socio-economic benefit. From conducting novelty searches to drafting patent applications, our Technology Transfer Office (TTO) provides comprehensive intellectual property services to researchers, students, and community members. Moreover, our Commercialisation and SMME Support Services facilitate the transformation of innovative ideas into successful businesses, driving regional economic development and job creation.

Furthermore, our Skills Development Division remains committed to empowering individuals and communities through training and capacity-building initiatives. From the Idea To Product Laboratory (I2P Lab) to the Centre for Footwear Enterprise (CoFE), we offer diverse skills training programmes to equip participants with the tools and knowledge needed to thrive in today's dynamic marketplace. As we reflect on the past year's achievements and challenges, I am immensely proud of the resilience and dedication demonstrated by our team. Together, we have overcome adversity and continued to push the boundaries of innovation. I sincerely thank our stakeholders for their unwavering support and collaboration. We appreciate your continued trust and partnership.

We remain steadfast in our commitment to excellence, collaboration, and impactful innovation. With renewed determination and a clear vision for the future, I am confident that we will continue to make significant strides toward our shared goals of economic growth, job creation, and skills development in South Africa.

Mr M Kobe

ACTING EXECUTIVE DIRECTOR DEPARTMENT OF
TECHNOLOGY, TRANSFER & INNOVATION





TECHNOLOGY TRANSFER & INNOVATION

Postgraduate Staff Qualifications Completed in 2023

Name: Du Rand, F.

Qualification: PhD: Industrial Engineering

Dissertation/Thesis Title: Development of a quality management framework for powder-based additive manufacturing systems

University/Institution: Stellenbosch University

Conferences (Papers and Posters Presented)

Presenter and co-presenters: Havenga, S., van Zyl, I., Chisin, A., & Snaddon, B.

Title of Paper: Towards the effective development of design for additive manufacturing curricula: an exploration of strategies and solutions in education authors:

Conference: RAPDASA 2023

Place: Pretoria, South Africa

Date: 30 October - 02 November 2023

ISBN/ISSN: 978-0-639839-0-4

Seminars/Workshops Presented

Title: Additive manufacturing applications to industry **Presented to:** Delegation of Chinese manufacturing companies, including Inner Mongolia First Machinery Group

Place: Vaal University of Technology, Southern Gauteng Science and Technology Park

Date: 30 November 2023

Seminars/Workshops Presented

Title: Additive manufacturing capabilities at Val University of Technology

Presented to: Chinhoyi University of Technology, Zimbabwe

Place: Vaal University of Technology, Southern Gauteng Science and Technology Park

Date: 07 March 2023

Publications (Books/Chapters in Books)

Author and co-authors: Havenga, S., Waetzel, M., Chitumwa, C. & van Zyl, I.

Chapter: The Effect of Employing Technology-integrated Remote Learning through TPACK-driven Assessment following Covid-19

Title: Online teaching and learning in higher education

Publisher: Springer Nature

Date: March 2024

Page numbers of chapter: 638 lines (digital copy)

ISBN: 978-3-031-56952-4, 542326_1_En

Research in Progress

Researcher: Havenga, S

Title: Development of a certified design for additive manufacturing curriculum

Field: Additive Manufacturing

Researchers: Otunniyi, I., Mauchline, D.A.

Title: Localisation of polymer powder material for additive manufacturing

Field: Additive Manufacturing

Contract Research

Researchers: Otunniyi, I.

Title: Industrial polymer analysis

Company: Tooling at Work

Field: Chemical Engineering

Research Partnerships with International Universities/Collaboration

Researcher: Mauchline, D.A.

Title of research: 3D printing of generative sand-casting moulds

Higher Education Institution: Auckland University

Research Partnerships with Industry or Community Groups

Researchers: Kabaseke, J., & Nyembwe, D.

Title of research: Modelling of the rapid sand-casting process

Industry: University of Johannesburg





FACULTY OF APPLIED & COMPUTER SCIENCES

Prof CJ Grobler

EXECUTIVE DEAN FACULTY OF APPLIED &
COMPUTER SCIENCES



MESSAGE FROM THE EXECUTIVE DEAN FACULTY OF APPLIED AND COMPUTER SCIENCES

I am delighted to present our Annual Research Report of the Faculty of Applied and Computer Sciences (FACS) for the year 2023. It has been a year marked by remarkable achievements, groundbreaking discoveries, and steadfast dedication to advancing knowledge across various disciplines.



Throughout the year, our researchers demonstrated exceptional resilience and adaptability to overcome challenges posed by pursuing the shared commitment to excellence in research. As Executive Dean, I am immensely proud of the collective efforts that have propelled the Faculty forward on the journey of innovation and discovery.

Key highlights from this year's report include:

1. **Research Impact:** Our research endeavours have continued to make a significant impact, both locally and globally, addressing pressing challenges and shaping the future in meaningful ways.
2. **Interdisciplinary Collaboration:** We have fostered a culture of collaboration and multidisciplinary collaboration, harnessing the diverse expertise within our Institution and amongst our National and International research partners to tackle complex problems from multiple angles.
3. **Publications and Citations:** Our scholars have produced a prolific output of high-quality publications, contributing to advancing knowledge in their respective fields. Additionally, our research outputs have garnered widespread recognition, reflected in a notable increase in citations.
4. **Innovative Projects:** From pioneering research projects to innovative initiatives, we have pushed the boundaries of knowledge and explored new borders, laying the groundwork for transformative breakthroughs.
5. **Student Engagement:** Our commitment to nurturing the next generation of researchers remains unwavering. Through mentorship, training programs, and engaged supervision, we continue to empower our students to succeed.

As we reflect on the past year's achievements, we also look ahead with optimism and determination. The challenges we face may be formidable, but so is our motivation to push the boundaries, contribute to the knowledge base, and make a positive impact on the world around us. I extend my heartfelt gratitude to all members of our research community for their dedication, passion, and unwavering commitment to excellence. Together, we will continue to inspire curiosity, drive innovation, and shape the future through research that matters. Thank you for your continued support and collaboration.

Prof CJ Grobler

EXECUTIVE DEAN FACULTY OF APPLIED & COMPUTER SCIENCES



Conferences (Papers and Posters Presented)

Presenter: Nolting, V.

Title of Paper: Using the sf-model to describe spintronic devices

Conference: 67th Annual Conference of the South African Institute of Physics

Place: University of Zululand, Richards Bay

Date: 03 - 07 July 2023

ISBN/ISSN: 9780796137746

Presenter: Mohau, P.

Title of Paper: Effect of fibre loading on thermal, morphological properties of biodegradable polybutylene succinate/waste natural fibre composite

Conference: 4th International Conference on Advanced Polymer Science and Engineering

Place: Valencia, Spain

Date: 23-25 October 2023

ISBN/ISSN: N/A

Presenter: Mabaso, N.N.

Title of Paper: Modify bulrush for adsorption of methylene blue

Conference: 49th IUPAC World Chemistry Congress

Place: The Hague, Netherlands

Date: 20-25 August 2023

ISBN/ISSN: N/A

Presenter: Maboya, W.K.

Title of Paper: ORR for nitrogen-doped CNTs initiated by boron addition

Conference: 49th IUPAC World Chemistry Congress

Place: The Hague, Netherlands

Date: 20-25 August 2023

ISBN/ISSN: N/A

Presenter: Mtshatsheni, K.N.G.

Title of Paper: Plant-based bio nanocomposite as modifiers for TiO₂

Conference: 49th IUPAC World Chemistry Congress

Place: The Hague, Netherlands

Date: 20-25 August 2023

ISBN/ISSN: N/A

Presenter: Xaba, T.

Title of Paper: Green synthesis of ZnS-chitosan nanocomposite for removal of Cr(VI) ion from wastewater

Conference: 49th IUPAC World Chemistry Congress

Place: The Hague, Netherlands

Date: 20-25 August 2023

ISBN/ISSN: N/A

Presenter: Thabede, P.M.

Title of Paper: Simultaneous adsorptive study of toxic metal ions in quaternary system from aqueous solution using low-cost black cumin seeds (*nigella sativa*) adsorbents

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A

Presenter: Mtunzi, F.M.

Title of Paper: The effectiveness of activated carbon-moringa composite for the removal of arsenic, lead and cadmium in water by adsorption technique

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A



Presenter: Shooto, N.D.

Title of Paper: Multi-application fennel-based composite for the adsorption of Cr(VI) ions from water and control of escherichia coli and staphylococcus aureus

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A

Presenter: Pholosi, A.

Title of Paper: Decontamination of tetracycline from waste-water using magnetite-silica-polydopamine (Fe₃O₄-SiO₂-PDA) nanocomposite

Conference: 5th International Wroclaw Scientific Meetings

Place: Wroclaw, Poland

Date: 19-21 October 2023

ISBN/ISSN: N/A

Presenter: Mtunzi, F.M.

Title of Paper: Isolation of pelargonium alchemillodes L'her active compounds and their effect on bacterial growth and keratinocytes in vivo

Conference: 5th International Wroclaw Scientific Meetings

Place: Wroclaw, Poland

Date: 19-21 October 2023

ISBN/ISSN: N/A

Presenter: Thabede, P.M.

Title of Paper: Simultaneous adsorptive study of toxic metal ions in quaternary system from aqueous solution using low-cost black cumin seeds (nigella sativa) adsorbents

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A

Presenter: Klink, M.J.

Title of Paper: Phosphorylated chitosan cross-linked multi-

walled carbon nanotubes doped silver- titanium dioxide nanoparticle (pCh-MWCNTs@Ag-TiO₂) for mercury adsorption in aqueous solutions

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A

Presenter: Klink, M.J.

Title of Paper: pCh-MWCNTs@Ag-TiO₂ bio-polymer nanocomposites decorated with sulphur nanoparticles as a passive sampler for total gaseous mercury adsorption: synthesis and characterisation

Conference: European Advanced Materials Congress

Place: Southampton, England

Date: 23-26 September 2023

ISBN/ISSN: N/A

Presenter: Taka, A.

Title of Paper: A biopolymer-based nanocomposite as an anti-microbial agent for water purification

Conference: 4th International Conference on Advances in Polymer Science and Engineering

Place: Online

Date: 07-11 August 2023

ISBN/ISSN: N/A

Presenter: Mlambo, T.P.

Title of Paper: A systematic review of readiness for asset tracking systems in public schools from disadvantaged areas in Gauteng, South Africa

Conference: 7th Computational Methods in Systems and Software 2023

Place: Online

Date: 12-14 October 2023

ISBN/ISSN: N/A



Presenter: Takaidza, S.

Title of Paper: The immunomodulatory activity of acetone and water crude extracts from *T. violacea* on LPS stimulated RAW264.7 cells

Conference: AMIH 2023 International Conference on Alternative Medicine and Integrative Health

Place: Dubai, United Arab Emirates

Date: 27-29 October 2023

ISBN/ISSN: N/A

Presenter: Manzane, G.V.

Title of Paper: Phytochemical screening of selected African medicinal plants identified for use against fibrosis tumour

Conference: 5th International Wroclaw Scientific Meetings

Place: Wroclaw, Poland

Date: 19-21 October 2023

ISBN/ISSN: N/A

Presenter: Modise, S.J.

Title of Paper: Elemental constituents of selected African medicinal plants for fibrosis tumour treatment

Conference: 5th International Wroclaw Scientific Meetings

Place: Wroclaw, Poland

Date: 19-21 October 2023

ISBN/ISSN: N/A

Presenter: Maboya, W.K.

Title of Paper: Chlorinated heteroatom doped carbon nanomaterials: their applications as electrocatalyst for ORR

Conference: International Conference on Nano Research and Development (ICNRD 2023)

Place: Singapore

Date: 06-08 December 2023

ISBN/ISSN: N/A

Presenter: Moyo, N.

Title of Paper: An analysis of readiness for the adoption of augmented and virtual reality in the South African schooling system

Conference: 7th Computational Methods in Systems and Software

Place: Online

Date: 12-14 December 2023

ISBN/ISSN: N/A

Presenter: Zuva, T.

Title of Paper: Factors influencing performance evaluation of e-government diffusion

Conference: 7th Computational Methods in Systems and Software

Place: Online

Date: 12-14 December 2023

ISBN/ISSN: N/A

Presenter: Zuva, T.

Title of Paper: Technology acceptance: a critical review of technology adoption theories and models

Conference: 7th Computational Methods in Systems and Software

Place: Online

Date: 12-14 December 2023

ISBN/ISSN: N/A

Presenter: Zuva, T.

Title of Paper: Readiness for smart city in municipalities in Mbabane, Eswatini

Conference: 7th Computational Methods in Systems and Software

Place: Online

Date: 12-14 December 2023

ISBN/ISSN: N/A



Presenter and co-presenters: Chauke, T.M.D., Mashifana, T. Modise, S.J. & Monapathi, M.E.

Title of Paper: Characterisation and treatment of effluent from galvanising industry in Vanderbijlpark, South Africa – protecting the wetland systems

Conference: 2023 MRS Fall Meeting and Exhibit

Place: Boston, Massachusetts

Date: 26 November – 01 December 2023

ISBN/ISSN: N/A

Presenter and co-presenters: Pholosi, A., Adisa, O.E., Sanni, S.O. & Akpotu, S.O.

Title of Paper: Functionalisation of magnetite nanoparticles with cyclodextrin via polydopamine coating for ciprofloxacin remediation

Conference: SETAC North America 44th Annual Meeting

Place: Louisville, Kentucky

Date: 12-18 November 2023

ISBN/ISSN: N/A

Presenter and co-presenters: Shooto, N.D., Dikio, E.D., Wankasi, D. & Sikhwivhilu, L.

Title of Paper: Synthesis of metal-organic framework of copper and cobalt and their application in removing lead ions from water

Conference: 14th Australian Organometallic Chemistry Meeting

Place: Canberra, Australia

Date: 04-07 December 2023

ISBN/ISSN: N/A

Presenter: Xaba, T.

Title of Paper: Green synthesis of MS nanoparticles and the preparation of MS-chitosan nanocomposite for the removal of Cr(VI) ions from wastewater

Conference: 1st Aristotle Conference on Chemistry, advances and challenges in Chemistry

Place: Thessaloniki, Greece

Date: 12-15 November 2023

ISBN/ISSN: N/A

Presenter: Zuva, T.

Title of Paper: Review of technology adoption models and theories at organisational level Conference: 7th Computational Methods in Systems and Software

Place: Online

Date: 12-14 December 2023

ISBN/ISSN: N/A

Presenter: Oyetade, K.E.

Title of Paper: Determinants of students' use of e-learning information and communication technologies

Conference: 18th International Conference on Sustainable Development

Place: Montclair State University, Montclair, United States of America

Date: 13-14 December 2023

ISBN/ISSN: N/A

Publications (Journals)

Author and co-authors: Lefatle, M.C., Matong, J.M., Mpupa, A., Munonde, T.S., Waleng, N.J., Madikizela, L.M., Pakade, V.E. & Nomngongo, P.N.

Title: Preparation, characterisation, and application of chitosan-kaolin-based nanocomposite in magnetic solid phase extraction of tetracycline in aqueous samples

Journal: Chemical Papers

Volume: 77

Issue: N/A

Page numbers of article: 1601-1618

ISSN/DOI: 1336-9075 / <https://doi.org/10.1007/s11696-022-02577-3>

Author and co-authors: Madikizela, L.M. & Pakade, V.E.

Title: Trends in removal of pharmaceuticals in contaminated water using waste coffee and tea-based materials with their derivatives - water environment research

Journal: Water Environment Research

Volume: 95

Issue: N/A

Page numbers of article: 10857

ISSN/DOI: 1061-4303 / <https://doi.org/10.1002/wer.10857>

Author and co-authors: Dube, S., Makhubela, N., Madikizela, L.M., Mongalo, N.I., Pakade, V.E., Maseko, B.R. & Ncube, S.

Title: Health risk assessment of metals in African aphrodisiacs: a case study of aqueous concoctions from Johannesburg and Durban herbal markets, South Africa

Journal: Applied Sciences

Volume: 2023

Issue: 13

Page numbers of article: 2148

ISSN/DOI: 2076-3417 / <https://doi.org/10.3390/app13042148>

Author and co-authors: Thabede, P.M., Mtunzi, F. & Nyamukamba, P.

Title: Sorption behaviour of ibuprofen using activated carbon derived from rose geranium (pelargonium graveolens L.) leaves

Journal: Applied Sciences

Volume: 2023

Issue: 13

Page numbers of article: 5133

ISSN/DOI: 2076-3417 / <https://doi.org/10.3390/app13085133>

Author and co-authors: Mabungela, N., Shooto, N.D., Mtunzi, F., Naidoo, E.B., Mlambo, M., Mokubung, K.E. & Mpelane, S.

Title: Multi-application of fennel (foeniculum vulgaris) seed composites for the adsorption and photo-degradation of methylene blue in water

Journal: South African Journal of Chemical Engineering

Volume: 44

Issue: N/A

Page numbers of article: 283-296

ISSN/DOI: 1026-9185 / <https://doi.org/10.1016/j.sajce.2023.03.001>

Author and co-authors: Thabede, P.M., Shooto, N.D. & Modise, S.J.

Title: Synthesis of lanthanum metal-organic framework using 1,4 benzene dicarboxylic acid

Journal: Digest Journal of Nanomaterials and Biostructures

Volume: 18

Issue: 2023

Page numbers of article: 157-163

ISSN/DOI: 1842-3582 / <https://doi.org/10.15251/DJNB.2023.181.157>

Author and co-authors: Alake, J., Nate, Z., Adu, D.K., Ike, B.W., Chauhan, R. & Karpoormath, R.

Title: Facile one-step synthesis of nickel sulphide nanoparticles decorated poly (acrylic acid) coated multi-walled carbon nanotube for detection of tenofovir in human urine

Journal: Electrocatalysis

Volume: 14

Issue: 2023

Page numbers of article: 232-246

ISSN/DOI: 1868-2529 / <https://doi.org/10.1007/s12678-022-00784-w>

Author and co-authors: Adu, D.K., Nate, Z., Alake, J., Ike, B.W., Chauhan, R. & Karpoormath, R.

Title: Electrochemical detection of artemisinin using cobalt sulphide/reduced graphene oxide nanocomposite

Journal: Electroanalysis

Volume: 35

Issue: 2023

Page numbers of article: e202200216

ISSN/DOI: 1040-0397 / <https://doi.org/10.1002/elan.202200216>

Author and co-authors: Sanni, S.O., Akpotu, S.O., Pholosi, A. & Pakade, V.E.

Title: Comparative study of the photocatalytic degradation of tetracycline under visible light irradiation using Bi24O-31Br11-anchored carbonaceous and silicate catalyst support

Journal: Physical Sciences Reviews

Volume: 2023

Issue: N/A

Page numbers of article: 326

ISSN/DOI: 2365-659X / <https://doi.org/10.1515/psr-2022-0326>



Author and co-authors: Pholosi, A., Sanni, S.O., Akpotu, S.O. & Pakade, V.E.

Title: Pine bark cross-linked to cyclodextrin for the adsorption of 2-nitrophenol from an aqueous solution

Journal: Physical Sciences Reviews

Volume: 2023

Issue: N/A

Page numbers of article: 332

ISSN/DOI: 2365-659X / <https://doi.org/10.1515/psr-2022-0332>

Author and co-authors: Nchoe, O.B., Sanni, S.O., Viljoen E.L., Pholosi, A. & Pakade, V.E.

Title: Surfactant-modified macadamia nutshell for enhancement of methylene blue dye adsorption from aqueous media

Journal: Studies in Chemical and Environmental Engineering

Volume: 9

Issue: N/A

Page numbers of article: 100357

ISSN/DOI: 2666-0164 / <https://doi.org/10.1016/j.see.2023.100357>

Author and co-authors: Akpotu, S.O., Diagbaya, P.N., Lawal, I.A., Sanni, S.O., Pholosi, A., Peleyeju, M.G., Mtunzi, F.M. & Ofomaja, A.E.

Title: Designer composite of montmorillonite-reduced graphene oxide-PEG polymer for water treatment: enrofloxacin sequestration and cost analysis

Journal: Chemical Engineering Journal

Volume: 453

Issue: N/A

Page numbers of article: 139771

ISSN/DOI: 1385-8947 / <https://doi.org/10.1016/j.cej.2022.139771>

Author and co-authors: Kubheka, N.S.M., Moloto, M.J. & Mkhumbeni, N.

Title: Fabrication of zein/PVA fibre blends: optimising

concentration and applied voltage

Journal: Current Nanomaterials

Volume: 8

Issue: 4

Page numbers of article: 409-415

ISSN/DOI: 10.2174/2405461508666221205091152

Author and co-authors: Dlamini, C., Maphiri, V.M., Melato, L.T., Mokoena, T.P. & Mhlongo, M.R.

Title: Tuneable blue-green co-activated CaAl₂O₄: 0.1 mol% Tb³⁺, x mol% Sm³⁺ (0 ≤ x ≤ 2) nanophosphor prepared by citrate sol-gel method

Journal: Optical Materials

Volume: 142

Issue: N/A

Page numbers of article: 113985

ISSN/DOI: 0925-3467 / <https://doi.org/10.1016/j.optmat.2023.113985>

Author and co-authors: Klink, M.J., Laloo, N., Leudjo Taka, A., Pakade, V.E., Monapathi, M.E. & Modise, J.S.

Title: Synthesis, characterisation and antimicrobial activity of zinc oxide nanopart²⁵⁹⁵

icles against selected waterborne bacterial and yeast pathogens

Journal: Molecules

Volume: 27

Issue: 1

Page numbers of article: 3532

ISSN/DOI: 1420-3049 / <https://doi.org/10.3390/molecules27113532>



Author and co-authors: Mabungela, N., Shooto, N.D., Mtunzi, F. & Naidoo, E.B.

Title: Simultaneous removal of methylene blue, copper Cu(II), and cadmium Cd(II) from synthetic wastewater using fennel-based adsorbents

Journal: Physical Sciences Reviews

Volume: 2023

Issue: N/A

Page numbers of article: 329

ISSN/DOI: 2365-659X / <https://doi.org/10.1515/psr-2022-0329>

Author and co-authors: Mashoene, T.N., Leudjo Taka, A., Akpotu, S.O., Lawal, I.A. & Klink, M.J.

Title: Surface modification of tea-waste based biochar adsorbent: synthesis, characterisation, and batch adsorption for the removal of zidovudine ARV drug and phenol

Journal: Applied Sciences

Volume: 13

Issue: N/A

Page numbers of article: 7493

ISSN/DOI: 2076-3417 / <https://doi.org/10.3390/app13137493>

Author and co-authors: Pholosi, A. & Sanni, S.O.

Title: Synthesis of magnetite (Fe₃O₄) coated pinecone cross-linked to cyclodextrin and its adsorption behaviour for 4-nitrophenol: response surface methodology

Journal: MRS Advances

Volume: 8

Issue: N/A

Page numbers of article: 736-742

ISSN/DOI: 2059-8521 / <https://doi.org/10.1557/s43580-023-00586-2>

Author and co-authors: Maboya, W.K. & Rantho, M.N.

Title: Size-dependent chlorinated nitrogen-doped carbon nanotubes: their use as electrochemical detectors for catechol and resorcinol

Journal: International Journal of Electrochemistry

Volume: 17

Issue: 2023

Page numbers of article: N/A

ISSN/DOI: 2090-3537 / <https://doi.org/10.1155/2023/7977453>

Author and co-authors: Mphuthi, B.R., Thabede, P.M., Monapathi, M.R. & Shooto, N.D.

Title: Hemp seed nanoparticle composites for removing lead, methylene blue, and ibuprofen from an aqueous solution and their antimicrobial towards escherichia coli and staphylococcus aureus

Journal: Case Studies in Chemical and Environmental Engineering

Volume: 8

Issue: N/A

Page numbers of article: 100436

ISSN/DOI: 2666-0164 / <https://doi.org/10.1016/j.csee.2023.100436>

Author and co-authors: Mlambo, T.P., Van Eck, R. & Zuva, T.

Title: Readiness for asset tracking systems in public schools from disadvantaged areas in Gauteng, South Africa

Journal: Software Engineering Research in System Science: Proceedings of 12th Computer Science Online Conference 2023

Volume: 1

Issue: 72

Page numbers of article: 370-381

ISSN/DOI: 978-3-031-35310-9 / https://doi.org/10.1007/978-3-031-35311-6_38



Author and co-authors: Malatji, W.R., Van Eck, R. & Zuva, T.
Title: A Review of theories utilised in understanding online information privacy perceptions
Journal: Software Engineering Research in System Science: Proceedings of 12th Computer Science Online Conference 2023
Volume: 1
Issue: 72
Page numbers of article:54-67
ISSN/DOI: 978-3-031-35310-9 / https://doi.org/10.1007/978-3-031-35311-6_7

Author and co-authors: Jawore, A.M., Xaba, T. & Moloto, M.J.
Title: (Z)-2-(pyrrolidine-2-ylidene) thiourea-based nickel (II) complex as a single source precursor for the synthesis of NiS nanoparticles and thin films
Journal: Chalcogenide Letters
Volume: 20
Issue: N/A
Page numbers of article:497-505
ISSN/DOI: 1584-8663 / <https://10.15251/cl.2023.207.497>

Author and co-authors: Goci, M.C., Taka, A.L., Martin, L. & Klink, M.J.
Title: Chitosan-based polymer nanocomposites for environmental remediation of mercury pollution
Journal: Polymers
Volume: 15
Issue: 3
Page numbers of article:482
ISSN/DOI: 2073-4360 / <https://doi.org/10.3390/polym15030482>

Author and co-authors: Akpotu, S.O., Diagboya, P.N., Lawal, I.A., Sanni, S.O., Pholosi, A., Peleyeju, M.G., Mtunzi, F.M. &

Ofomaja, A.E.
Title: Designer composite of montmorillonite-reduced graphene oxide-PEG polymer for water treatment: enrofloxacin sequestration and cost analysis
Journal: Chemical Engineering Journal
Volume: 435
Issue: 1
Page numbers of article:139771
ISSN/DOI: 1385-8947 / <https://doi.org/10.1016/j.cej.2022.139771>

Author and co-authors: Chalwe, J.M., Grobler, C. & Oldewage-Theron, W.
Title: Development of a structural equation model to examine the relationships between genetic polymorphisms and cardiovascular risk factors
Journal: Nutrients
Volume: 15
Issue: 11
Page numbers of article:2470
ISSN/DOI: 2072-6643 / <https://doi.org/10.3390/nu15112470>

Author and co-authors: Olaniyi, S., Falowo, O.D., Okosun, K.O., Mukamuri, M., Obabiyi, O.S. & Adepoju, O.A.
Title: Effect of saturated treatment on malaria spread with optimal intervention
Journal: Alexandria Engineering Journal
Volume: 65
Issue: 2023
Page numbers of article:443-459
ISSN/DOI: 1110-0168 / <https://doi.org/10.1016/j.aej.2022.09.024>



Author and co-authors: Mukherjee, U., Dawson, J.A., Chalwe, J.M., & Oldewage-Theron, W.
Title: Effectiveness of a short-term soy nutrition education intervention on nutrition knowledge and self-efficacy scores of rural elderly Zambian women
Journal: Nutrition and Healthy Aging
Volume: 8
Issue: 1
Page numbers of article: 97-108
ISSN/DOI: 2451-9502 / <http://dx.doi.org/10.3233/NHA-210138>

Author and co-authors: Alake, J., Nate, Z., Adu, D.K., Ike, B.W., Chauhan, R., Mokoena, S., Mahlalela, M.C., Mohite, S. B. & Karpoomath, R.
Title: Fabrication of a simple and sensitive mitoxantrone electrochemical sensor based on top-down recycling of iron wool and tissue paper
Journal: Materials Today Communications
Volume: 36
Issue: 2023
Page numbers of article: 106448
ISSN/DOI: 2352-4928 / <https://doi.org/10.1016/j.mt-comm.2023.106448>

Author and co-authors: Adeyi, O., Adeyi, A.J., Oke, E.O., Okolo, B.I., Olalere, O.A., Taiwo, A.E., Aremu, O.S., Qwebani-Ogunleye, T., Maphosa, Y. & Ogunsola, A.D.
Title: Heat-assisted extraction of phenolic-rich bioactive antioxidants from enantia chlorantha stem bark: multi-objective optimisation, integrated process techno-economics and profitability risk assessment
Journal: SN Applied Sciences
Volume: 5

Issue: 2023
Page numbers of article: 153
ISSN/DOI: 2523-3971 / <https://doi.org/10.1007/s42452-023-05372-1>

Author and co-authors: Olushola, A., Adeleye, B.O., Aremu, O.H., Ojobola, F.B., Lawal, O.S., Amodu, O. S., Oketayo, O.O., Klink, M.J. & Nelana, S.M.
Title: Hotocatalytic degradation of metronidazole using zinc oxide nanoparticles supported on acha waste
Journal: Indonesian Journal of Chemistry
Volume: 23
Issue: 1
Page numbers of article: 158-169
ISSN/DOI: 2460-1578 / <https://doi.org/10.22146/ijc.75585>

Author and co-authors: Xaba, T., Shumbula, P.M., Nyembe, S. & Tetyana, P.
Title: Synthesis of mixed-phase morphologies of copper oxide nanoparticles using bis(nbenzylsalicydenaminato) copper(ii) as a precursor
Journal: Digest Journal of Nanomaterials and Biostructures
Volume: 18
Issue: 2023
Page numbers of article: 1179 - 1186
ISSN/DOI: 1842-3582 / <https://doi.org/10.15251/DJNB.2023.184.1179>



Author and co-authors: Jawore, A. M., Xaba, T., Nate, Z., Ntsoane, T. & Moloto, M. J.
Title: Optimisation of reaction parameters during the synthesis of hexagonal hexadecyl amine capped ZnS nanoparticles
Journal: Asian Journal of Chemistry
Volume: 35
Issue: 2023
Page numbers of article: 2487 - 2492
ISSN/DOI: 0970-7077 / <https://doi.org/10.14233/ajchem.2023.28055>

Author and co-authors: More, D.S. & Moloto, M.J.
Title: Silver and copper nanoparticles: Lower concentration controlled thermal decomposition of their salt precursors
Journal: Digest Journal of Nanomaterials and Biostructures
Volume: 18
Issue: 2023
Page numbers of article: 773-782
ISSN/DOI: 1842-3582 / <https://doi.org/10.15251/DJNB.2023.182.773>

Author and co-authors: Phiri, M. J., Mofokeng, J.P., Phiri, M.M., Mngomezulu, M., & Tywabi-Ngeva, Z.
Title: Chemical, thermal and morphological properties of poly-butylene succinate-waste pineapple leaf fibres composites
Journal: Heliyon
Volume: 9
Issue: 11
Page numbers of article: e21238
ISSN/DOI: 2405-8440 / <https://doi.org/10.1016/j.heliyon.2023.e21238>

Author and co-authors: Mphuthi, B. R., Thabede, P.M., Modise, J. S., Xaba, T. & Shooto, N.D.
Title: Adsorption of cadmium and methylene blue using highly

porous carbon from hemp seeds
Journal: Applied Sciences
Volume: 13
Issue: 17
Page numbers of article: 9659
ISSN/DOI: 2076-3417 / <https://doi.org/10.3390/app13179659>

Author and co-authors: Thabede, P.M., Khumalo, N.A.H., Mahlambi, P.N., Nyamukamba, P. & Modise, S. J.
Title: Sorption of ibuprofen by chemically treated maize cob
Journal: South African Journal of Chemical Engineering
Volume: 46
Issue: 2023
Page numbers of article: 376-385
ISSN/DOI: 1026-9185 / <https://doi.org/10.1016/j.sajce.2023.09.002>

Author: Thabede, P.M.,
Title: Sorption capacity of carbon-based mandarin orange peels for removing methylene blue and ibuprofen from water
Journal: Applied Sciences
Volume: 13
Issue: 18
Page numbers of article: 10511
ISSN: 2076-3417 / <https://doi.org/10.1016/j.sajce.2023.09.002>

Author: Shooto, N.D.
Title: Application of carbon from pomegranate husk for the removal of ibuprofen, cadmium and methylene blue from water
Journal: Heliyon
Volume: 9
Issue: 9
Page numbers of article: e20268
ISSN/DOI: 2405-8440 / <https://doi.org/10.1016/j.heliyon.2023.e20268>



Author and co-authors: Okoli, B., Ladan, Z. & Mtunzi, F.

Title: Fabric pre-treated with vitex negundo L essential oil as a preventive tool against mosquito bite

Journal: SN Applied Science

Volume: 5

Issue: 2023

Page numbers of article: 230

ISSN/DOI: 2523-3971 / <https://doi.org/10.1007/s42452-023-05425-5>

Author and co-authors: Ejidike, I.P., Mtunzi, F.M., Ledwaba, I., Phele, M.J., Ejidike, O.M., Ogunleye, O., Ata, A. & Eze, M.O.

Title: Combretum species around Africa as alternative medicine: Ethnopharmacological and ethnobotanical importance

Journal: Journal of Applied Pharmaceutical Science

Volume: 13

Issue: 8

Page numbers of article: 012-029

ISSN/DOI: 2231-3354 / <https://DOI:10.7324/JAPS.2023.20644>

Author and co-authors: AttahDaniel, E.B., Dikio, E.D., Ayawei, N., Wankasi, D., Mtunzi, F.M. & Diagbaya, P.N.

Title: Adsorption investigation of a composite of metal-organic framework and polyethylene oxide hydrogel

Journal: Journal of Nanomaterials, Nanoengineering and Nano Systems

Volume: 2023

Issue: N/A

Page numbers of article: N/A

ISSN/DOI: 2397-7914 / <https://doi.org/10.1177/23977914231195748>

Author and co-authors: Mzinyane, N.N., Mnqiwu, K.M. & Moukangoe, K.M.

Title: Adsorption of hexavalent chromium ions using pine sawdust cellulose fibres

Journal: Applied Sciences

Volume: 13

Issue: 17

Page numbers of article: 9798

ISSN/DOI: 2076-3417 / <https://doi.org/10.3390/app13179798>

Author and co-authors: Masuku M., Sanni, S.O., Akpotu, S.O. & Pholosi, A.

Title: Synthesis of magnetite-coated oleic acid: sequestration of toluene and xylene from aqueous solution and cost analysis

Journal: Water Air Soil Pollution

Volume: 2023

Issue: 234

Page numbers of article: 723

ISSN: 0049-6979



Publications (Books/Chapters in Books)

Author and co-authors: Rankapola, M.E. & Zuva, T

Chapter: A Constructivist Approach to Enhance Student's Learning in Hybrid Learning Environments

Title: Artificial intelligence application in networks and systems

Publisher: Springer International Publishing

Date: 09 July 2023

Page numbers of chapter: 654-663

ISBN/DOI: 978-3-031-35313-0 / https://doi.org/10.1007/978-3-031-35314-7_55

Author and co-authors: Sibanda, E.M. & Zuva, T.

Chapter: Systematic Review on Bisonets for Linking Two Domains

Title: Software engineering research in system science

Publisher: Springer International Publishing

Date: 09 July 2023

Page numbers of article: 577-585

ISBN/DOI: 978-3-031-35310-9 / https://doi.org/10.1007/978-3-031-35311-6_55

Author and co-authors: Naidu, G., Zuva, T. & Sibanda, E.M.

Chapter: A Review of Evaluation Metrics in Machine Learning Algorithms

Title: Artificial intelligence application in networks and systems

Publisher: Springer International Publishing

Date: 03 April 2023

Page numbers of article: 15-25

ISBN/DOI: 978-3-031-35313-0 / https://doi.org/10.1007/978-3-031-35314-7_2

Author and co-authors: Ubani, O., Modise, S.J. & Atagana, H.I.

Chapter: Magnetic Nanomaterials for Decontamination of Soil

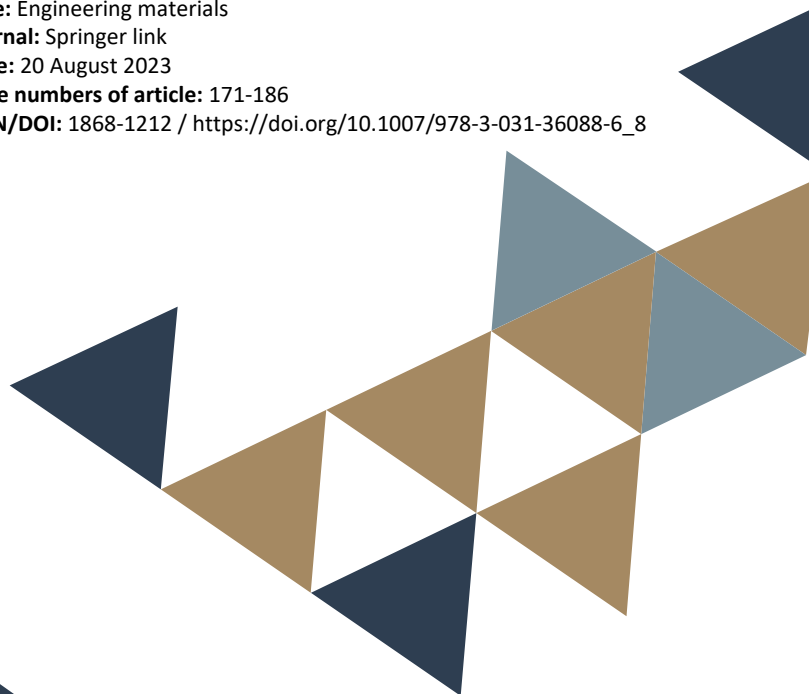
Title: Engineering materials

Journal: Springer link

Date: 20 August 2023

Page numbers of article: 171-186

ISBN/DOI: 1868-1212 / https://doi.org/10.1007/978-3-031-36088-6_8





FACULTY OF ENGINEERING & TECHNOLOGY

Prof PO Osifo

ACTING EXECUTIVE DEAN FACULTY OF
ENGINEERING & TECHNOLOGY





MESSAGE FROM THE ACTING EXECUTIVE DEAN FACULTY OF ENGINEERING & TECHNOLOGY

The Faculty of Engineering and Technology has realigned its research focus areas to effectively address national and global issues, aligning with initiatives like National Vision 2030 and the UN Sustainable Development Goals (SDGs). Four key research areas, namely water, energy, sustainable beneficiation, and manufacturing technology, serve as the foundation for various other focus areas, such as solar systems, biodiesel, rapid prototyping, and environmental pollution control. Research forms the cornerstone of academic development, with the Faculty emphasising its importance to produce in producing socially relevant, commercially viable, and environmentally responsible innovations.

Efforts have been made to enhance research capacity among academic staff, resulting in increased research outputs despite challenges like the Covid-19 pandemic. Notably, the Faculty has seen an increase in students and staff completing postgraduate studies and academic promotions. To drive innovation and commercialisation, research interests have been redirected towards tackling pressing global issues like energy challenges, water resources, pollution control, and digital information technology. Collaborations with organisations like the National Research Funding (NRF), have flourished, particularly in areas such as renewable energy production and waste management.

Several faculty members are NRF-rated researchers, actively involved in these research areas. Noteworthy is the Faculty's effort to position itself as a main prominent player in the Vaal for innovative solutions in the area of renewable energy and green hydrogen technologies. These efforts align with institutional strategic research objectives and global goals. Additionally, efforts are underway to address the skills shortage in the Fourth Industrial Revolution (4IR) through technology-focused research projects.

In support of research endeavours, the Faculty has introduced a Master's degree programme in Engineering in Energy Efficiency, with significant student enrollment. Plans are also in place for a Master's programme in Engineering Management and Instruction, slated to commence in 2023. Despite the disruptions caused by the Covid-19 pandemic, the Faculty remains committed to community engagement, implementing various projects within and beyond the Vaal region.

Prof PO Osifo

ACTING EXECUTIVE DEAN FACULTY OF ENGINEERING & TECHNOLOGY

Postgraduate Staff Qualifications Completed in 2023

Name: Seodigeng, R.

Qualification: PhD

Dissertation/Thesis Title: Design and testing of dry sanitation unit for treatment and disposal of human faeces

University/Institution: Vaal University of Technology

Name: Lukusa, K.T.

Qualification: PhD

Dissertation / Thesis Title: Quantum adsorption's mechanism of gelatin-cellulose hydrogel for effective removal of copper and cobalt from wastewater using artificial neural network

University/Institution: Vaal University of Technology

Name: Fundji, N.

Qualification: MEng

Dissertation/Thesis Title: Chitosan modification with cellulose-gelatin to remove heavy oil from wastewater

University/Institution: Vaal University of Technology

Name: Seretlo, M.A.

Qualification: MEng

Dissertation/Thesis Title: Sludge reduction in an activated sludge wastewater treatment processes.

University/Institution: Vaal University of Technology

Name: Mthethwa, S.A.

Qualification: MEng

Dissertation/Thesis Title: Removal of oil and grease from the industrial wastewater using an advanced oxidation process

University/Institution: Vaal University of Technology

Name: Mkolo, M.D.

Qualification: MTech

Dissertation/Thesis Title: Water demand management option model: a case study of Ermelo, South Africa

University/Institution: Vaal University of Technology

Name: Mlangeni, R.V.

Qualification: MTech

Dissertation/Thesis Title: Optimal modelling of non-revenue water: a case study of Lebohang extension 9 and 10 in Govan Mbeki municipality, Mpumalanga, South Africa

University/Institution: Vaal University of Technology

Name: Mogakabe, L.L.

Qualification: MTech

Dissertation/Thesis Title: Development of trip generation rates for office land in Tshwane

University/Institution: Vaal University of Technology

Name: Tseladikae, T.

Qualification: MTech

Dissertation/Thesis Title: The Evaluation of project management practices relationship with the project performance outcome of reconstruction development programme (RDP) and subsidy housing

University/Institution: Vaal University of Technology

Name: Chepkonga, B.J.

Qualification: MEng

Dissertation/Thesis Title: Use of industrial brine sludge waste from chlor-alkali industry as a source of sorbent for semi-dry flue gas desulphurisation

University/Institution: Vaal University of Technology

Name: Kiprono, J.J.

Qualification: MEng

Dissertation/Thesis Title: Biodiesel production using cellulose-supported calcium hydroxide heterogeneous catalyst phosphate rock as a catalyst precursor

University/Institution: Vaal University of Technology

Name: Lipharama, M.

Qualification: MEng

Dissertation/Thesis Title: Production of biodegradable plastic from starch/pva/glycerol/cellulose blends

University/Institution: Vaal University of Technology

Name: Makomere, R.S.

Qualification: MEng

Dissertation/Thesis Title: Investigation of sorbent characteristics used in dry flue gas desulphurisation

University/Institution: Vaal University of Technology

Name: Maleka, S.G.

Qualification: MEng

Dissertation/Thesis Title: Reclamation of sand from chemically bonded foundry sand using a fluidised bed column

University/Institution: Vaal University of Technology

Name: Matimba, M.P.

Qualification: MTech

Dissertation/Thesis Title: The characterisation study of South African sewage sludge -derived pyrolytic products

University/Institution: Vaal University of Technology

Name: Ngabane, B.P.

Qualification: MTech

Dissertation/Thesis Title: The synergistic effect of sewage sludge and bituminous coal co-pyrolysis on bio-oil production

University/Institution: Vaal University of Technology

Name: Muthubi, S.S.

Qualification: MTech

Dissertation/Thesis Title: Production of biodiesel from waste vegetable oil and methanol using industrial brine sludge waste from chlor-alkali as a nanocomposite heterogeneous catalyst

University/Institution: Vaal University of Technology

Name: Abdi, A.I.

Qualification: MTech

Dissertation/Thesis Title: The effect of cable length and overhead lines on ferroresonance in low-loss distribution transformers

University/Institution: Vaal University of Technology

Name: Auyane Ngousessy ep Ovono, B.

Qualification: MTech

Dissertation/Thesis Title: Development and implementation of hybrid modulation scheme for improving 5G spectrum efficiency

University/Institution: Vaal University of Technology

Name: Becker, T.R.

Qualification: MTech

Dissertation/Thesis Title: Displaced neutral on wood pole structures with 300 kV basic insulation level (BIL)

University/Institution: Vaal University of Technology





Name: Benson, M.J.M.

Qualification: MTech

Dissertation/Thesis Title: Development of a multi-protocol equipment interface for use in renewable energy systems

University/Institution: Vaal University of Technology

Name: Ejike, C.N.

Qualification: MTech

Dissertation/Thesis Title: Design and implementation of a real - time smart sensor network-based system for monitoring potable water quality

University/Institution: Vaal University of Technology

Name: Sibanyoni, H.M.B.

Qualification: MTech

Dissertation/Thesis Title: Correlation of different methods to determine the corona inception stress on overhead conductors under HVDC application

University/Institution: Vaal University of Technology

Name: Mallane, T.M.

Qualification: MTech

Dissertation/Thesis Title: Integrated approach of addressing musculoskeletal disorder affecting employees in poultry processing industry: a case study

University/Institution: Vaal University of Technology

Name: Mbatha, A.J.

Qualification: MEng

Dissertation/Thesis Title: An investigation of the damping response and structural strength of a fibreglass and rubber particle composite sleeper

University/Institution: Vaal University of Technology

Name: Mopeli, M.J.

Qualification: MEng

Dissertation/Thesis Title: Improving the performance of membrane backwash system for efficient and stable wettability process during oil/water separation

University/Institution: Vaal University of Technology

Name: Ramanamane, N.J.

Qualification: MEng

Dissertation/Thesis Title: Characterising the ceramic integrated membrane feed stream pore sizes for optimal performance during oil/water separation

University/Institution: Vaal University of Technology

Name: Dlamini, S.M.

Qualification: MTech

Dissertation/Thesis Title: The development of a lightweight high entropy alloy (LWHEA) composite Al₃Ti₃Si₅(20-x)Be₁₀Bx prepared by powder metallurgy route.

University/Institution: Vaal University of Technology

Name: Mokoena, M.

Qualification: MTech

Dissertation/Thesis Title: Effect of high-temperature oxidation on gamma tial intermetallics produced by powder metallurgy

University/Institution: Vaal University of Technology

Name: Reselabe, K.M.

Qualification: MTech

Dissertation/Thesis Title: Characterisation of Ti6Al4V lattice structures produced by direct metal laser sintering for biomedical applications

University/Institution: Vaal University of Technology



Name: Reddy, T.
Qualification: MEng
Dissertation/Thesis Title: Modelling of the extraction of valuable compounds from sclerocarya birrea
University/Institution: Vaal University of Technology

Name: Mathebula, T.G.
Qualification: MEng
Dissertation/Thesis Title: Physical and thermodynamic properties of binary and ternary blends of biodiesel like fuels
University/Institution: Vaal University of Technology

Name: Matobole, G.K.
Qualification: MEng
Dissertation/Thesis Title: Modelling of the biomethane production from food waste using anaerobic digestion
University/Institution: Vaal University of Technology

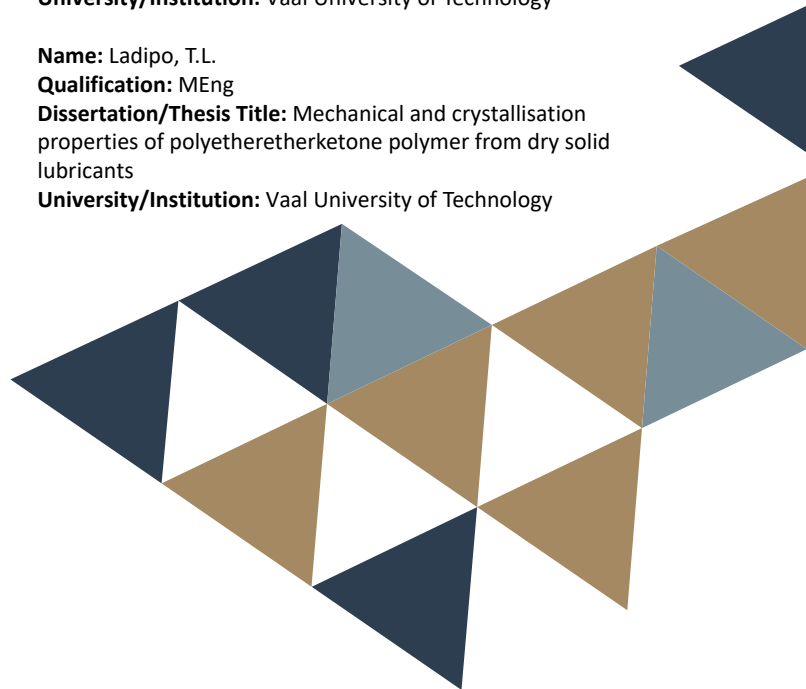
Name: Mayoudom, L.
Qualification: MEng
Dissertation/Thesis Title: Development and characterisation of a novel coating for sintered NdFeB magnets to prevent corrosion
University/Institution: Vaal University of Technology

Name: Sambo, S.N.
Qualification: MEng
Dissertation/Thesis Title: The development of a heat transfer model for a shaft kiln to preheat manganese ore with hot air
University/Institution: Vaal University of Technology

Name: Jeli, N.E.
Qualification: MEng
Dissertation/Thesis Title: Process mineralogy for the physical beneficiation of a low-grade nickel laterite bearing ore
University/Institution: Vaal University of Technology

Name: Sigonde, V.C.
Qualification: MEng
Dissertation/Thesis Title: Enhancing gear fault diagnosis through analysis of eccentricity time-varying mesh stiffness and transmission error.
University/Institution: Vaal University of Technology

Name: Ladipo, T.L.
Qualification: MEng
Dissertation/Thesis Title: Mechanical and crystallisation properties of polyetheretherketone polymer from dry solid lubricants
University/Institution: Vaal University of Technology



Conferences (Papers and Posters Presented)

Presenter and co-presenters: Khune, S., Otieno, B., Kabuba, J., Ochieng, G. & Osifo, P.

Title o Paper: Biogas potential in South Africa using anaerobic co-digestion of wastewater sludge with food waste using a solar-heated pilot biogas plant

Conference: Euro-Mediterranean Conference for Environmental Integration (EMCEI-23)

Place: Rende, Italy

Date: 02-05 October 2023

ISBN/ISSN: N/A

Presenter and co-presenter: Tashiya, W.C. & Tshilenge, J.K.

Title o Paper: Photodegradation and adsorption efficiency of modified clinoptilolite for the removal of congo red dye from industrial wastewater

Conference: 39th JOHANNESBURG International Conference on Chemical, Biological and Environmental Engineering (JCBEE-23)

Place: Johannesburg, South Africa

Date: 16-17 November 2023

ISBN/ISSN: 978-989-9121-32-4

Presenter: Tshilenge, J.K.

Title o Paper: Modification of clinoptilolite as catalyst from waste tyre pyrolysis to liquid oil

Conference: 39th JOHANNESBURG International Conference on Chemical, Biological and Environmental Engineering (JCBEE-23)

Place: Johannesburg, South Africa

Date: 16-17 November 2023

ISBN/ISSN: 978-989-9121-32-4

Presenter and co-presenter: Balla Mballa, J.S. & Kyere, K.I.

Title o Paper: Investigating the effect of convection on the rating of buried cables using the finite element method

Conference: 31 Southern African Universities Power Engineering Conference (SAUPEC)

Place: Johannesburg, South Africa

Date: 24-26 January 2023

ISBN/ISSN: 978-8-3503-3186-8

Presenter and co-presenter: Kyere, K.I., Thekiso, M.Q. & Nyamupangedengu, C.

Title of Paper: Simulation of PD characteristics of closely coupled air cavities using matlab/simulink

Conference: 31 Southern African Universities Power Engineering Conference (SAUPEC)

Place: Johannesburg, South Africa

Date: 24-26 January 2023

ISBN/ISSN: 978-8-3503-3186-8

Presenter and co-presenter: Langa, H.M. & Moloi, K.

Title of Paper: Power quality classification scheme for a grid integrated power distribution system

Conference: 31 Southern African Universities Power Engineering Conference (SAUPEC)

Place: Johannesburg, South Africa

Date: 24-26 January 2023

ISBN/ISSN: 978-8-3503-3186-8

Presenter and co-presenter: Simelane, T.Q. & Otunniyi, I.O.T.

Title of Paper: A review paper: indoor positioning systems using radio frequency technology

Conference: International Conference on Electrical, Computer and Energy Technologies (ICECET)

Place: Cape Town, South Africa

Date: 16-17 November 2023

ISBN/ISSN: 979-8-3503-2781-6

Presenter and co-presenter: Langa, H.M. & Kizonde, B.K.

Title of Paper: Design of an IoT-based energy monitoring node

Conference: International Conference on Electrical, Computer and Energy Technologies (ICECET)

Place: Cape Town, South Africa

Date: 16-17 November 2023

ISBN/ISSN: 979-8-3503-2781-6

Presenter: Langa, H.M.

Title of Paper: Matrix converter gate drive control circuit design

Conference: International Conference on Electrical, Computer and Energy Technologies (ICECET)

Place: Cape Town, South Africa

Date: 16-17 November 2023

ISBN/ISSN: 979-8-3503-2781-6

Presenter and co-presenter: Moloi, K. & Langa, H.M.

Title of Paper: High impedance fault detection scheme with the penetration of distributed generation

Conference: 2023 International Conference on Science, Engineering and Business for Sustainable Development Goals (SEB-SDG 2023)

Place: Omu-Aran, Nigeria

Date: 05-07 April 2023

ISBN/ISSN: 979-8-3503-2479-2



Presenter and co-presenter: Kyere, K.I. & Nyamupangedengu, C.
Title of Paper: Effect of cavities on the short-term and long-term electrical strength of polyethylene insulating material
Conference: Proceedings of the 16th IEEE Africon 2023 Conference
Place: Nairobi, Kenya
Date: 20-23 September 2023
ISBN/ISSN: 979-8-3503-3621-4

Presenter and co-presenters: Kyere, K.I., Radebe, D.J. & Walker, J.J.
Title of Paper: The Impact of renewable energy sources on voltage compliance with the South African grid code
Conference: Proceedings of the 16th IEEE Africon 2023 Conference
Place: Nairobi, Kenya
Date: 20-23 September 2023
ISBN/ISSN: 979-8-3503-3621-4

Presenter and co-presenter: Ikome, J. M. & Laseinde, O. T.
Title of Paper: A conceptual review of the constraints to global competitiveness of the South African automotive industry
Conference: Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences
Place: San Francisco, United States of America
Date: 20-24 July 2023
ISBN/ISSN: 978-1-958651-73-5

Presenter and co-presenter: Ikome, J.M. & Laseinde, O.T.
Title of Paper: A conceptualised rescheduling approach to minimised manufacturing disruptions in the South African automotive industry
Conference: Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences
Place: San Francisco, United States of America

Date: 20-24 July 2023
ISBN/ISSN: 978-1-958651-73-5

Presenter and co-presenter: Ikome, J.M. & Laseinde, O.T.
Title of Paper: An analysis of the South African automotive industry local content as an approach to global competitiveness
Conference: Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences
Place: San Francisco, United States of America
Date: 20-24 July 2023
ISBN/ISSN: 978-1-958651-73-5

Presenter and co-presenter: Ikome, J.M. & Laseinde, O.T.
Title of Paper: A dynamic approach to minimise bottleneck and improve manufacturing competitiveness in a case study manufacturing industry
Conference: Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences
Place: San Francisco, United States of America
Date: 20-24 July 2023
ISBN/ISSN: 978-1-958651-73-5



Presenter and co-presenter: Ogazi, A.C. & Osifo P.O.
Title of Paper: Permeability performance and antifouling behavior of 3D printed chitosan/AgNP/GO composite membranes
Conference: 39th JOHANNESBURG International Conference on Chemical, Biological and Environmental Engineering
Place: Johannesburg, South Africa
Date: 16-17 November 2023
ISBN/ISSN: 978-989-9121-32-4

Presenter and co-presenter: Ogazi, A.C. & Osifo P.O.
Title of Paper: Permeability performance and antifouling behaviour of 3D printed chitosan/AgNP/GO composite membranes
Conference: 39th JOHANNESBURG International Conference on "Chemical, Biological and Environmental Engineering
Place: Johannesburg, South Africa
Date: 16-17 November 2023
ISBN/ISSN: 978-989-9121-32-4

Presenter: Khoza, C.N.
Title of Paper: ECSA alignment of graduate attributes with professional competencies
Conference: Proceedings of the Sixth Biennial Conference of the South African Society for Engineering Education
Place: Muldersdrift, South Africa
Date: 11-13 July 2023
ISBN/ISSN: 978-1-7764564-0-6

Seminars/Workshops Presented

Presenter: Tshitshonu, E.
Title: Harnessing moodle resources and promote student's autonomy in a stem related course
Presented to: UNISA 2023 MoodleMoot Africa Hybrid Conference.
Place: Emperors Palace, Kempton Park, Johannesburg **Date:** 20-22 August 2023

Presenter: Tshitshonu, E.
Title: One-on-one teaching and learning experience in the crowd
Presented to: UNISA 2023 MoodleMoot Africa Hybrid Conference.
Place: Emperors Palace, Kempton Park, Johannesburg
Date: 20-22 August 2023

Publications (Books/Chapters in Books)

Author and co-authors: Maome, T.G., Alugongo, A.A., & Tengen, T.B.
Chapter: Modelling the Ceramic Membrane Surface Properties to Minimise Clusters during Nanoparticle Coating by Jet-Spray for Efficient Wettability during Oil-Water Separation
Title: Sustainable material, design, and process
Publisher: CRC Press
Date: 2023
Page numbers o chapter: 1-24
ISBN: 978-1-033-24229-1

Author and co-authors: Akacha, J., Tshilenge, J.K. & Aoyi, O.
Chapter: Photoreactors In Advanced Oxidation Processes
Title: Simulation of photocatalytic reactors
Publisher: Scrivener Publishing, Wiley
Date: 2023
Page numbers of chapter: 277-299
ISBN: 978-1-394-16629-9





Publications (Journals)

Author and co-authors: Koech, L.K., Lerotholi, L. & Rutto, H.L.

Title: Comparative study of sorbents for spray dry scrubbing of SO₂ from flue gases

Journal: ACS Omega

Volume: 8

Issue: 2023

Page numbers of article: 23401-23411

ISSN: 24701343

Author and co-authors: Koech, L.K., Lerotholi, L., Rutto, H.L. & Seodigeng, T.G.

Title: Experimental evaluation of lime spray drying for SO₂ absorption

Journal: AIMS Environmental Science

Volume: 10

Issue: 3

Page numbers of article: 325-340

ISSN: 23720352

Author: Kiambi, S.L.

Title: My coremediation as a potentially promising technology: current status and prospects - a review

Journal: Applied Sciences

Volume: 13

Issue: 2023

Page numbers of article: N/A

ISSN: 14545101

Author and co-author: Ogazi, A.C. & Osifo, P.O.

Title: Influence of CO and PES support modules on filtration performance of 3D printed chitosan/AgNP/GO composite membranes

Journal: Applied Surface Science Advances

Volume: 2023

Issue: 18

Page numbers of article: N/A

ISSN: 26665239

Author and co-authors: Banza, M.C, Rutto, H.L. & Seodigeng, T.G.

Title: Comparison study of ANFIS, ANN, and RSM and mechanistic modeling for chromium(VI) removal using modified cellulose nanocrystals–sodium alginate (CNC–Alg)

Journal: Arabian Journal for Science and Engineering

Volume: 48

Issue: 2023

Page numbers of article: 16067-16085

ISSN: 21914281



Author and co-authors: Koech, L.K., Makomere, R.S. & Rutto, H.L.

Title: The use of cellulose nanocrystals to support $\text{Ca}(\text{OH})_2$ nanoparticles with diatomite incorporation in sulphur capture at low temperatures: optimisation and modelling

Journal: Arabian Journal for Science and Engineering

Volume: 48

Issue: 2023

Page numbers of article: 8871-8885

ISSN: 21914281

Author and co-authors: Mbedzi, R.M., Rutto, H.L. & Seodigeng, T.G.

Title: Optimisation of Ca^{2+} removal from cooling tower water using amberlite IR120 and amberjet 1200 resins: a response surface methodology study

Journal: Asian Journal of Chemistry

Volume: 35

Issue: 11

Page numbers of article: 2739-2748

ISSN: 9707077

Author and co-authors: Banza, M.C. & Rutto, H.L.

Title: Selective removal of Cr (VI) from hydrometallurgical effluent using modified cellulose nanocrystals (CNCs) with succinic anhydride and ethylenediaminetetraacetic acid: isotherm, kinetics, and thermodynamic studies

Journal: Canadian Journal of Chemical Engineering

Volume: 203

Issue: 101

Page numbers of article: 896-908

ISSN: 84034

Author and co-author: Banza, M.C. & Rutto, H.L.

Title: Modelling of adsorption of nickel (II) by blend hydrogels (cellulose nanocrystals and corn starch) from aqueous solution using adaptive neuro-fuzzy inference systems (ANFIS) and artificial neural networks (ANN)

Journal: Canadian Journal of Chemical Engineering

Volume: 2023

Issue: 101

Page numbers of article: 1906-1918

ISSN: 84034

Author and co-authors: Banza, M.C., Koech, L.K., Makomere, R.S. & Rutto, H.L.

Title: The use of artificial neural network (ANN) in dry flue gas desulphurisation modelling: levenberg-marquardt (LM) and bayesian regularisation (BR) algorithm comparison

Journal: Canadian Journal of Chemical Engineering

Volume: 101

Issue: 2023

Page numbers of article: 3273-3286

ISSN: 84034

Author and co-authors: Fundji, W.N., Igberase, E., Osifo P.O. & Tshilenge, K.

Title: Modification of chitosan with cellulose and gelatin for the removal of Cu^{2+} , Fe^{2+} , and Pb^{2+} from oily wastewater

Journal: Canadian Journal of Chemical Engineering

Volume: 2023

Issue: 101

Page numbers of article: 4711-4730

ISSN: 84034



Author and co-author: Oluokun, O.O. & Otunniyi, I.O.T.
Title: Statistical modelling and kinetics of copper loss to printed circuit board (PCB) fibreglass during PCB ammine leaching
Journal: Canadian Metallurgical Quarterly
Volume: 2023
Issue: N/A
Page numbers of article: N/A
ISSN: 84433

Author and co-authors: Banza, M.C., Reddy, T., Rutto, H.L. & Seodigeng, T.G.
Title: Evaluation of density-based models for the solubility of sclerocarya birrea kernel oil in supercritical carbon dioxide and the formulation of a new model
Journal: Chemical Engineering Transactions
Volume: 107
Issue: 2023
Page numbers of article: 703-708
E-ISSN: 22839216

Author and co-authors: Koech, L.K., Rutto, H.L. & Suter, E.K.
Title: Structural features of cellulose and cellulose nanocrystals via in situ incorporation of magnetic iron oxide nanoparticles: modification and characterisation
Journal: Coatings
Volume: 13
Issue: 39
Page numbers of article: N/A
E-ISSN: 20796412

Author and co-authors: Emeji, I.C., Igberase, E. & Osifo, P.O.
Title: Magnetic nanomaterials for heavy metals detection
Journal: Engineering Materials
Volume: N/A
Issue: N/A

Page numbers of article: 87-112
E-ISSN: 16121317

Author and co-author: Banza, M.C. & Seodigeng, T.G.
Title: Modelling and optimisation of zinc (II) removal from synthetic acid mine drainage via three-dimensional adsorbent using a machine learning approach
Journal: MDPI Multidisciplinary Digital Publishing Institute Engineering Proceedings
Volume: 37
Issue: 52
Page numbers of article: N/A
E-ISSN: 26734591

Author and co-authors: Banza, M.C., Koech, L.K., Makomere, R.S. & Rutto, H.L.
Title: Modelling of low-temperature sulphur dioxide removal using response surface methodology (RSM), Artificial neural network (ANN) and adaptive neuro-fuzzy inference system (ANFIS)
Journal: Engineering Proceedings
Volume: 37
Issue: 92
Page numbers of article: N/A
E-ISSN: 26734591

Author and co-author: Banza, M.C. & Seodigeng, T.G.
Title: Enhanced removal of Cr (VI) from wastewater with green and low-cost nanomaterials using a fuzzy inference system (FIS) and an artificial neural network (ANN)
Journal: Engineering Proceedings
Volume: 37
Issue: 112
Page numbers of article: N/A
E-ISSN: 26734591



Author and co-authors: Chepkonga, B.J., Koech, L.K. & Rutto, H.L.
Title: The performance of hydrated lime derived from industrial brine sludge waste in spray dry scrubbing of SO₂⁺
Journal: Engineering Proceedings
Volume: 37
Issue: 82
Page numbers of article: N/A
E-ISSN: 26734591

Author and co-authors: Mello, M., Motsetse, C.K., Rutto, H.L. & Kohitlhetse, I.C.
Title: Semi-empirical modelling for dissolution of calcium from ironmaking slag in ammonium acetate for CO₂ utilisation
Journal: Engineering Proceedings
Volume: 37
Issue: 125
Page numbers of article: N/A
ISSN: 26734591

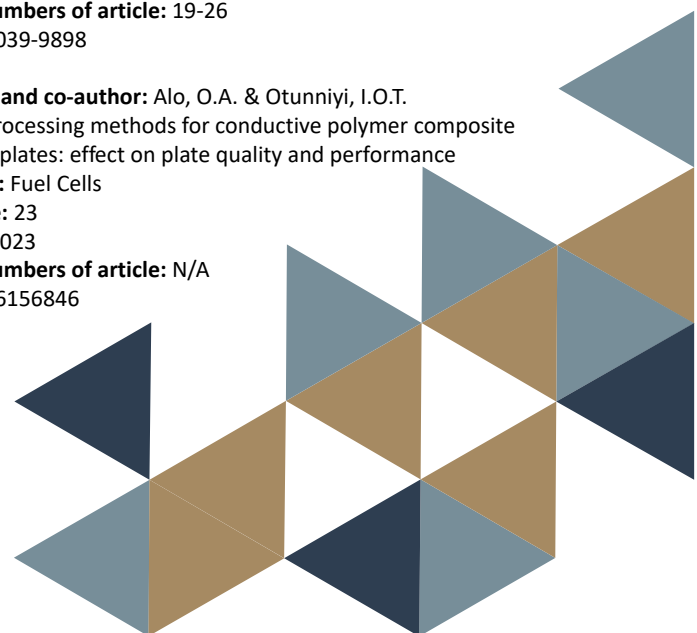
Author and co-authors: Kohitlhetse, I. C., Motsetse, C.K. & Rutto, H.L.
Title: Grindability, energy requirements and gravity separation of quartz from blast furnace ironmaking slag by shaking table and falcon concentrator
Journal: Engineering Proceedings
Volume: 37
Issue: 123
Page numbers of article: N/A
E-ISSN: 26734591

Author and co-authors: Pete, K.Y., Tshilenge, K. & Otieno, B.O.
Title: Modeling adsorption and photocatalytic treatment of recalcitrant contaminant on multi-walled carbon/TiO₂ nano-composite

Journal: Environmental Science and Pollution Research
Volume: 30
Issue: 8
Page numbers of article: 94154-94165
E-ISSN: 9441344

Author and co-author: Banza, M.C. & Rutto, H.L.
Title: Removal of copper (II) and lead (II) from hydrometallurgical effluent onto cellulose nanocomposites: mechanistic and levenberg-marquardt in artificial neural network modelling
Journal: EQA
Volume: 54
Issue: 2023
Page numbers of article: 19-26
ISSN: 2039-9898

Author and co-author: Alo, O.A. & Otunniyi, I.O.T.
Title: Processing methods for conductive polymer composite bipolar plates: effect on plate quality and performance
Journal: Fuel Cells
Volume: 23
Issue: 2023
Page numbers of article: N/A
ISSN: 16156846





Author and co-author: Lukusa, K.T. & Tshilenge, K.
Title: Process optimisation using response surface methodology for the removal of Cu(II) and Co(II) from aqueous solution using gelatin-cellulose nanocrystals hydrogel membrane
Journal: International Journal of Environmental Science and Development
Volume: 14
Issue: 4
Page numbers of article: 252-258
ISSN: 20100264

Author and co-author: Masala, M.S. & Tshilenge, K.
Title: Application of nonwoven microfiltration membrane on activated sludge final effluent: improving wastewater quality for reuse
Journal: International Journal of Environmental Science and Technology
Volume: 20
Issue: 2023
Page numbers of article: 13277-13288
E-ISSN: 17351472

Author and co-author: Ogazi A.C. & Osifo, P.O.
Title: Dynamics of drop formation and characterisation of additive manufactured CS/AgNP/PVA composite membranes
Journal: Journal of Applied Polymer Science
Volume: 140
Issue: 39
Page numbers of article: N/A
ISSN: 218995

Author and co-author: Oluokun, O.O. & Otunniyi, I.O.T.
Title: Confirmation, modelling and mechanisms of fiberglass preg-robbing during printed circuit board leaching
Journal: Journal of Cleaner Production

Volume: 2023
Issue: 423
Page numbers of article: N/A
ISSN: 9596526

Author and co-authors: Koech, L.K., Makomere, R.S. & Rutto, H.L.
Title: The assessment of response surface methodology (RSM) and artificial neural network (ANN) modeling in dry flue gas desulfurisation at low temperatures
Journal: Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering
Volume: 58
Issue: 3
Page numbers of article: N/A
ISSN: 10934529

Author and co-author: Rutto, H.L. & Suter, E.K.
Title: In situ capping of silver nanoparticles with cellulosic matrices from wheat straws in enhancing their antimicrobial activity: synthesis and characterisation
Journal: Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering
Volume: 58
Issue: 11
Page numbers of article: 903-913
ISSN: 10934529

Author and co-author: Oluokun, O.O. & Otunniyi, I.O.T.
Title: Removal of iron from waste printed circuit board dust: surfactant assisted magnetic separation versus selective leaching routes
Journal: Journal of Material Cycles and Waste Management
Volume: 25
Issue: 2023
Page numbers of article: 1710-1718
E-ISSN: 1438-4957



Author and co-authors: Fundji, W.F, Khune, S, Osifo, P.O., Tshilenge, K. & Otieno, B.O.
Title: Struvite recovery from anaerobically digested waste-activated sludge: a short review
Journal: Journal of Materials Research
Volume: 38
Issue: 16
Page numbers of article: 3815-3826
E-ISSN: 8842914

Author and co-author: Alo, O.A. & Otunniyi, I.O.T.
Title: Effects of reuse on morphology, size and shape distributions of PA 12 powder in selective laser sintering and quality of printed part
Journal: Journal of Polymer Research
Volume: 30
Issue: 48
Page numbers of article: N/A
E-ISSN: 1022-9760

Author and co-author: Ogazi, A.C. & Osifo, P.O.
Title: Inhibition of coliforms and escherichia coli bacterial strains in water by 3D printed CS/GO/AgNP filtration membranes
Journal: Journal of Polymers and the Environment
Volume: 2023
Issue: 31
Page numbers of article: N/A
ISSN: 15662543

Author and co-authors: Mello, M., Rutto, H.L. & Seodigeng, T.G.
Title: Waste tire pyrolysis and desulfurisation of tire pyrolytic oil (TPO) – a review
Journal: Journal of the Air & Waste Management Association
Volume: 73
Issue: 31

Page numbers of article: 4448-4467
ISSN: 1096-2247

Author and co-authors: Apollo, S.O., Seretlo, M.A. & Tshilenge, K.
Title: In-situ sludge degradation and kinetics of a full scale modified activated sludge system achieving near zero sludge production
Journal: Journal of Water Process Engineering
Volume: 53
Issue: 2023
Page numbers of article: N/A
ISSN: 22147144

Author and co-authors: Khune, S., Osifo, P.O. & Tshilenge, K.
Title: Process configuration of combined ozonolysis and anaerobic digestion for wastewater treatment
Journal: Physical Sciences Reviews
Volume: 9
Issue: 2023
Page numbers of article: 1337-1352
ISSN: 2365-659X

Author and co-author: Alo, O.A. & Otunniyi, I.O.T
Title: Correlation of reuse extent with degradation degree of PA 12 powder during laser powder bed fusion and mechanical behavior of sintered parts
Journal: Polymer Engineering and Science
Volume: 2023
Issue: 63
Page numbers of article: 126-138
ISSN: 323888



Author and co-author: Ogazi, A.C. & Osifo, P.O.
Title: Effects of dimethylacetamide on chitosan/AgNP/GO fluid properties for 3D printing of water filtration membranes
Journal: Polymers for Advanced Technologies
Volume: 34
Issue: 2023
Page numbers of article: 1220-1230
ISSN: 10427147

Author and co-authors: Banza, M.C., Rutto, H.L., & Seodigeng, T.G.
Title: Application of artificial neural network and shrinking core model for copper (II) and lead (II) leaching from contaminated soil using ethylenediaminetetraacetic acid
Journal: Soil and Sediment Contamination
Volume: 33
Issue: 1
Page numbers of article: 43-63
E-ISSN: 15320383

Author and co-author: Lephallo, J.T. & Tshilenge, K.
Title: Removal of ammonia nitrogen from wastewater using activated carbon prepared from waste tyres
Journal: Water Practice and Technology
Volume: 18
Issue: 6
Page numbers of article: 1479-1499
ISSN: 1751-231X

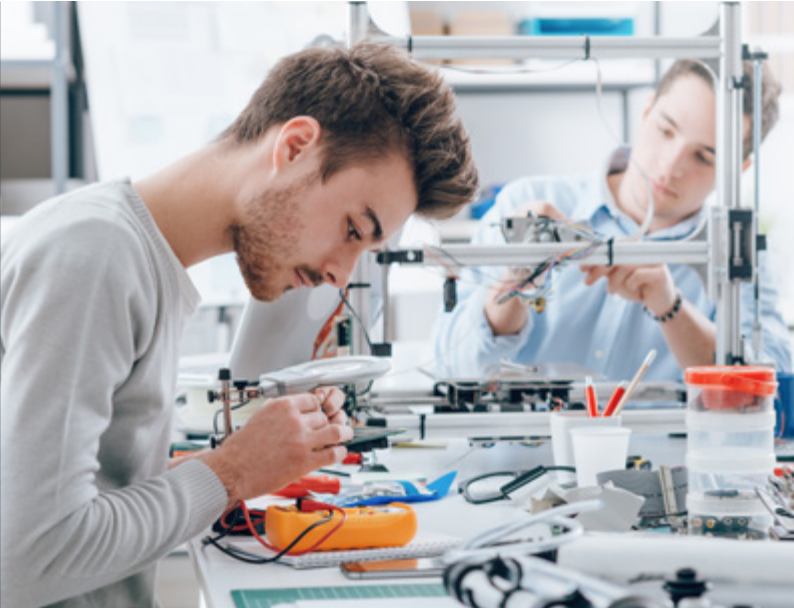
Author: Kiambi, S.L.
Title: Investigation of the nutrient composition of fluted pumpkin (*telfairia occidentalis*) under herbicide treatment
Journal: Sustainability
Volume: 2023
Issue: 15

Page numbers of article: 3383-3395
E-ISSN: 2071-1050

Author and co-authors: Khune, S., Osifo, P.O., Tshilenge, K., Ochieng, G.M. & Otieno, B.O.
Title: Pilot scale study of anaerobic treatment of food waste using ambient and solar heated digesters
Journal: International Journal of Sustainable Energy
Volume: 42
Issue: 1
Page numbers of article: 1569-1582
ISSN: 14786451

Author: Otieno, B.O.
Title: Removal of endosulfan from water by municipal waste incineration fly ash-based geopolymers: adsorption kinetics, isotherms, and thermodynamics
Journal: Frontiers in Environmental Chemistry
Volume: 4
Issue: 2023
Page numbers of article: N/A
E-ISSN: 2673-4486

Author: Mishra, A.K.
Title: Fluorescence sensing and adsorption kinetics of Gd-doped AgInS₂I-III-VI quantum dots - a case study of Ag⁺ ions interactions
Journal: Heliyon
Volume: 2023
Issue: 9
Page numbers of article: N/A
E-ISSN: 24058440



Author: Mishra, A.K.

Title: Recent advancement in biomass-derived activated carbon for wastewater treatment, energy storage, and gas purification: a review

Journal: Journal of Materials Science

Volume: 58

Issue: 2023

Page numbers of article: 12119-12142

ISSN: 222461

Author: Mishra, A.K.

Title: Grasping the supremacy of microplastic in the environment to understand its implications and eradication: a review

Journal: Journal of Materials Science

Volume: 58

Issue: 2023

Page numbers of article: 12899-12928

ISSN: 222461

Author: Otieno, B.O.

Title: Process configuration of combined ozonolysis and anaerobic digestion for wastewater treatment

Journal: Physical Sciences Reviews

Volume: 9

Issue: 3

Page numbers of article: 1337-1352

ISSN: 2365-659X

Author: Otieno, B.O.

Title: UV-photodegradation of R6G dye in three-phase fluidised bed reactor: modeling and optimisation using adaptive neuro-fuzzy inference system and artificial neural network

Journal: Journal of Water Process Engineering

Volume: 2023

Issue: 56

Page numbers of article: 104453-104470

E-ISSN: 22147144

Author: Mishra, A.K.

Title: A Review on smart nanotextiles for filtration

Journal: Nanotechnology for Environmental Engineering

Volume: 8

Issue: 2023

Page numbers of article: 449-459

ISSN: 23656379

Author: Du rand, F.

Title: Powder bed defect classification methods: deep learning vs traditional machine learning

Journal: Rapid Prototyping Journal

Volume: 29

Issue: 11

Page numbers of article:

ISSN: 13552546

Author: Mishra, A.K.

Title: Unlocking the potential of N-doped SnO₂ for sustainable photocatalytic degradation of carcinogenic dyes

Journal: Separations

Volume: 10

Issue: 322

Page numbers of article: N/A

E-ISSN: 22978739





Author and co-author: Ogazi, A.C. & Osifo, P.O.
Title: Effects of dimethylacetamide on chitosan/AgNP/GO fluid properties for 3D printing of water filtration membranes
Journal: Polymers for Advanced Technologies
Volume: 34
Issue: 2023
Page numbers of article: 1220-1230
ISSN: 10427147

Author and co-authors: Banza, M.C., Rutto, H.L., & Seodigeng, T.G.
Title: Application of artificial neural network and shrinking core model for copper (II) and lead (II) leaching from contaminated soil using ethylenediaminetetraacetic acid
Journal: Soil and Sediment Contamination
Volume: 33
Issue: 1
Page numbers of article: 43-63
E-ISSN: 15320383

Author and co-author: Lephallo, J.T. & Tshilenge, K.
Title: Removal of ammonia nitrogen from wastewater using activated carbon prepared from waste tyres
Journal: Water Practice and Technology
Volume: 18
Issue: 6
Page numbers of article: 1479-1499
ISSN: 1751-231X

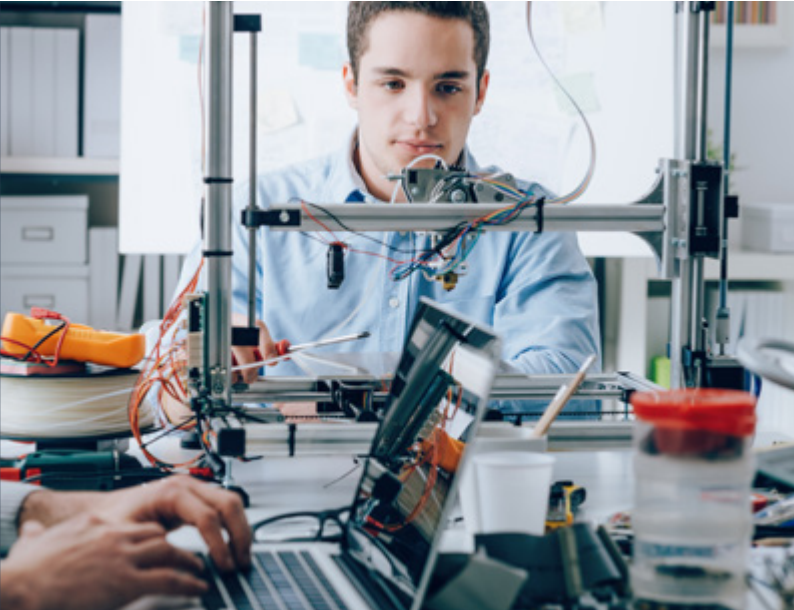
Author: Kiambi, S.L.
Title: Investigation of the nutrient composition of fluted pumpkin (*telfairia occidentalis*) under herbicide treatment
Journal: SUSTAINABILITY
Volume: 2023
Issue: 15

Page numbers of article: 3383-3395
E-ISSN: 2071-1050

Author and co-authors: Khune, S., Osifo, P.O., Tshilenge, K., Ochieng, G.M. & Otieno, B.O.
Title: Pilot scale study of anaerobic treatment of food waste using ambient and solar heated digesters
Journal: International Journal of Sustainable Energy
Volume: 42
Issue: 1
Page numbers of article: 1569-1582
ISSN: 14786451

Author: Otieno, B.O.
Title: Removal of endosulfan from water by municipal waste incineration fly ash-based geopolymers: adsorption kinetics, isotherms, and thermodynamics
Journal: Frontiers in Environmental Chemistry
Volume: 4
Issue: 2023
Page numbers of article: N/A
E-ISSN: 2673-4486

Author: Mishra, A.K.
Title: Fluorescence sensing and adsorption kinetics of Gd-doped AgInS₂I-III-VI quantum dots - a case study of Ag⁺ ions interactions
Journal: Heliyon
Volume: 2023
Issue: 9
Page numbers of article: N/A
E-ISSN: 24058440



Author: Mishra, A.K.

Title: Recent advancement in biomass-derived activated carbon for wastewater treatment, energy storage, and gas purification: a review

Journal: Journal of Materials Science

Volume: 58

Issue: 2023

Page numbers of article: 12119-12142

ISSN: 222461

Author: Mishra, A.K.

Title: Grasping the supremacy of microplastic in the environment to understand its implications and eradication: a review

Journal: Journal of Materials Science

Volume: 58

Issue: 2023

Page numbers of article: 12899-12928

ISSN: 222461

Author: Otieno, B.O.

Title: Process configuration of combined ozonolysis and anaerobic digestion for wastewater treatment

Journal: Physical Sciences Reviews

Volume: 9

Issue: 3

Page numbers of article: 1337-1352

ISSN: 2365-659X

Author: Otieno, B.O.

Title: UV-photodegradation of R6G dye in three-phase fluidised bed reactor: modeling and optimisation using adaptive neuro-fuzzy inference system and artificial neural network

Journal: Journal of Water Process Engineering

Volume: 2023

Issue: 56

Page numbers of article: 104453-104470

E-ISSN: 22147144

Author: Mishra, A.K.

Title: A Review on smart nanotextiles for filtration

Journal: Nanotechnology for Environmental Engineering

Volume: 8

Issue: 2023

Page numbers of article: 449-459

ISSN: 23656379

Author: Du rand, F.

Title: Powder bed defect classification methods: deep learning vs traditional machine learning

Journal: Rapid Prototyping Journal

Volume: 29

Issue: 11

Page numbers of article: N/A

ISSN: 13552546

Author: Mishra, A.K.

Title: Unlocking the potential of N-doped SnO₂ for sustainable photocatalytic degradation of carcinogenic dyes

Journal: Separations

Volume: 10

Issue: 322

Page numbers of article: N/A

E-ISSN: 22978739



Author: Otieno, B.O.

Title: Valorisation of solid waste incinerator fly ash by geopolymer production for removal of anionic bromocresol green dye from water: kinetics, isotherms and thermodynamics studies

Journal: Sustainable Chemistry for the Environment

Volume: 3

Issue: 2023

Page numbers of article: N/A

E-ISSN: 2949-8392

Author: Rwanga, S.

Title: Groundwater levels forecasting using machine learning models: a case study of the groundwater region 10 at karst belt, South Africa

Journal: Systems and Soft Computing

Volume: 5

Issue: 2023

Page numbers of article: N/A

E-ISSN: 27729419

Author and co-author: Langa, H.M. & Moloi, K.

Title: A fault diagnostic protection scheme technique for a grid-integrated power distribution system

Journal: International Review of Electrical Engineering

Volume: 18

Issue: 2

Page numbers of article: N/A

ISSN: 18276660

Author and co-author: Langa, H.M., & Phiri, S.F.

Title: A notepad and calculator for university students

Journal: Advances in Social Science, Education and Humanities Research

Volume: 788

Issue: 2023

Page numbers of article: 184-201

E-ISSN: 2352-5398

Author: Langa, H.M.

Title: Using an electronic register for class and meeting attendance-trackie

Journal: Advances in Social Science, Education and Humanities Research

Volume: 788

Issue: 2023

Page numbers of article: 454-466

E-ISSN: 2352-5398

Author and co-author: Sutherland, G. & Duvenhage, E.E.

Title: The thermal and stored heat energy driving a stirling engine for power generation

Journal: Journal of Renewable Energies

Volume: 26

Issue: 2023

Page numbers of article: 141-160

ISSN: 1112-2242

Author and co-authors: Sozinando, D.F, Alugongo, A.A. &

Tchomeni Kouejou, B.X.

Title: Modeling and analysis of drill string - casing collision under the influence of inviscid fluid forces

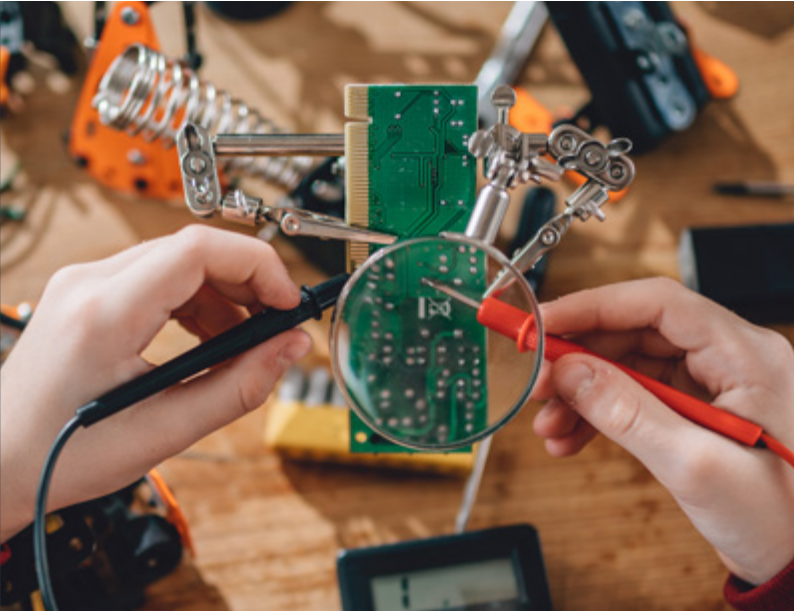
Journal: Applied Sciences

Volume: 2023

Issue: 13

Page numbers of article: 3557-3584

E-ISSN: 2076-3417



Author and co-author: Tchomeni Kouejou, B.X. & Alugongo, A.A.

Title: Experimental analysis of a cracked cardan shaft system under the influence of viscous hydrodynamic forces

Journal: Fluids

Volume: 8

Issue: 211

Page numbers of article: 211-230

ISSN: 2311-5521

Author and co-authors: Mbatha A.J., Alugongo, A.A., Nkomo, N.Z. & Maube, O.

Title: Experimental investigation of the mechanical and vibrational properties of a fibreglass and polyester resin composite for use in railway sleepers

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 2

Page numbers of article: 71-77

ISSN: 23490918

Author and co-authors: Mbatha A.J., Alugongo, A.A., Nkomo, N.Z. & Maube, O.

Title: Effects of hybrid rubber particle and glass fibre composite on mechanical and vibrational damping properties of railway sleeper

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 7

Page numbers of article: 28-41

ISSN: 23490918

Author and co-author: Nkomo, N.Z. & Alugongo, A.A.

Title: Experimental investigation of effect of partial replacement of cement with fly ash on the workability and mechanical properties of concrete

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 9

Page numbers of article: 116-128

ISSN: 23490918

Author and co-authors: Ladipo, T.L., Masu, L.M. & Nziu, P.K.

Title: Mechanical and tribological performance of polyetheretherketone composites using tabletop 3D printer

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 11

Page numbers of article: 136-147

ISSN: 23490918

Author: Nziu, P.K.

Title: Elastic working stresses in high-pressure vessels with an offset oblique cross bore

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 12

Page numbers of article: 292-298

ISSN: 23490918



Author: Nziu, P.K.

Title: Effects of combined thermo-mechanical loading on stress concentration in high-pressure vessels with a cross-bore

Journal: International Journal of Engineering Trends and Technology

Volume: 71

Issue: 12

Page numbers of article: 168-178

ISSN: 23490918

Author and co-authors: Sozinando, D.F, Alugongo, A.A. & Tchomeni Kouejou, B.X.

Title: Modal analysis and flow through sectionalized pipeline gate valve using FEA and CFD technique

Journal: Journal of Engineering

Volume: 2023

Issue: N/A

Page numbers of article: N/A

E-ISSN: 20513305

Author and co-authors: Ladipo, T.L., Masu, L.M. & Nziu, P.K.

Title: Experimental analysis of crystallinity and mechanical properties for fused filament printed polyetherketone composites

Journal: Journal of Engineering

Volume: 2023

Issue: N/A

Page numbers of article: N/A

E-ISSN: 20513305

Author and co-authors: Yakeu Happi K.H, Alugongo, A.A. & Tchomeni Kouejou, B.X

Title: Experimental study and comparative analysis of pitting fault in spur gear system

Journal: Journal of Vibroengineering

Volume: 25

Issue: 8

Page numbers of article: 1480-1501

ISSN: 13928716

Author and co-authors: Sozinando, D.F., Alugongo, A.A. & Tchomeni Kouejou, B.X.

Title: Experimental study of coupled torsional and lateral vibration of vertical rotor-to-stator contact in an inviscid fluid

Journal: Mathematical and Computational Applications

Volume: 28

Issue: 2023

Page numbers of article: 44-57

ISSN: 1300-686X





FACULTY OF HUMAN SCIENCES

Prof L Maleho

ACTING EXECUTIVE DEAN OF
FACULTY OF HUMAN SCIENCES





MESSAGE FROM THE ACTING EXECUTIVE DEAN FACULTY OF HUMAN SCIENCES

The Faculty of Human Sciences has always been at the forefront of interdisciplinary research, bringing together experts from various disciplines to address complex societal challenges. Through collaborative partnerships and a commitment to excellence, our Faculty members have demonstrated a profound dedication to advancing knowledge and making a meaningful impact on society.

In this report, you will find a showcase of our faculty's Research Initiatives, which reflect the rich diversity of intellectual engagements of academics - book chapters, journal articles and exhibitions/ research seminars are exceptional examples of such contributions. Our Faculty members continue to push the boundaries of knowledge and strive for excellence in their respective fields.

I want to extend my heartfelt gratitude to all researchers, students, staff, and collaborators who have been instrumental in the success of our research endeavours. Your passion, dedication, and hard work have not gone unnoticed, and I am proud to lead such a talented and innovative community of scholars.

As we reflect on the past year's accomplishments and look towards the future, I am confident that the Faculty of Human Sciences will continue to thrive and significantly contribute to advancing human knowledge and societal well-being.

Prof L Maleho

ACTING EXECUTIVE DEAN OF FACULTY OF HUMAN SCIENCES

Conferences (Papers and Posters Presented)

Presenter: Van Der Bank, M.

Title of Paper: The legal responsibilities of local governments in the adaptation and mitigation of climate change in South Africa through the principle of subsidiarity

Conference: 24th Annual International conference GBATA - Embracing the positive impact of disruption in the field of futurism

Place: Prague

Date: 11 July – 14 July 2023

ISBN/ISSN: 1-932917-19-5

Presenter: Prinsloo, R.

Title of Paper: The unconstitutionality of the divorce court's discretion to transfer assets as per the divorce act

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10 October – 13 October 2023

ISBN/ISSN: 978-0-7961-2427-2

Presenter: Mashego, K.A.

Title of Paper: Infringement of human rights and economic development by South African government through load shedding

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10 October – 13 October 2023

ISBN/ISSN: 978-0-7961-2427-2

Presenter and co-presenter: Chihwai, P. & Dube, K.

Title of Paper: Exploring forced innovation and continuous improvement in the hospitality industry during covid-19

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10 October – 13 October 2023

ISBN/ISSN: 978-0-7961-2427-2

Publications (Books/Chapters in Books)

Author and co-authors: Dube, K., Nhamo, G. & Swart, M.P.

Chapter: Covid-19 and Beyond: Prospects for Reshaping Tourism

Title: Covid-19, tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 389

ISBN: 978-3-031-22257-3

Author and co-author: Ndlovu, E. & Dube, K.

Chapter: Impact of Covid-19 on Tourism in South Africa: Building Resilience and Prospects for Recovery

Title: Covid-19, tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 81 - 100

ISBN: 978-3-031-22257-3

Author and co-authors: Dube, K., Chikodzi, D. & Nhamo, G.

Chapter: Sports Recovery Amid Covid-19 Pandemic: A Focus on Football and Lessons for The Future

Title: Covid-19, tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 217 - 237

ISBN: 978-3-031-22257-3

Author and co-authors: Dube, K., Chikodzi, D. & Nhamo, G.

Chapter: Covid-19 and Potential for Early Recovery and Implications for the Restaurant Industry

Title: Covid-19, Tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 239 - 258

ISBN: 978-3-031-22257-3

Author and co-author: Ndlovu, E., & Dube, K.

Chapter: Restaurants Industry Recovery Challenges from Covid-19 amidst the Russian-Ukrainian war

Title: Covid-19, tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 337 - 356

ISBN: 978-3-031-22257-3

Author and co-authors: Dube, K., Nhamo, G. & Swart, M.P.

Chapter: Conclusion: Practical and Policy Perspectives in Reshaping the Tourism and Hospitality Industry Post-Covid-19 Industry

Title: Covid-19, tourist destinations and prospects for recovery volume one: a global perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 359 - 370

ISBN: 978-3-031-22257-3

Author and co-authors: Dube, K., Mensah, I. & Chapungu, L.

Chapter: Impact of Covid-19 on Tourism and Prospects of Recovery: An African Perspective

Title: Covid-19, tourist destinations and prospects for recovery volume two: an African perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 3 - 17

ISBN: 978-3-031-24655-5

Author and co-authors: Dube, K., Ndlovu, E. & Chihwai, P.

Chapter: Exploring trends of South African Tourist Accommodation Occupancy during Covid-19

Title: Covid-19, tourist destinations and prospects for recovery volume two: an African perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 63 - 70

ISBN: 978-3-031-24655-5





Author and co-author: Dube, K. & Mashapa, M.M.

Chapter: Tourism Recovery Strategies from Covid-19 within National Parks in Western Cape, South Africa

Title: Covid-19, tourist destinations and prospects for recovery volume two: an African perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 205 - 223

ISBN: 978-3-031-24655-5

Author and co-author: Dube, K. & Montsiemang, T.

Chapter: Post-Covid-19 Aviation Industry Recovery, Resilience, Challenges and Opportunities: A Focus on Western Cape Province, South Africa

Title: Covid-19, tourist destinations and prospects for recovery volume two: an African perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 243 - 257

ISBN: 978-3-031-24655-5

Author and co-authors: Dube, K., Mensah, I. & Chapungu, L.

Chapter: African Tourism Destinations in the Post-Covid-19 Era: Conclusions, Recommendations and Implications

Title: Covid-19, tourist destinations and prospects for recovery volume two: an African perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 263 - 277

ISBN: 978-3-031-24655-5

Author and co-authors: Dube, K., Chikodzi, D. & Chapungu, L.

Chapter: Covid-19 and Its Implications on Agriculture, Environment, and Water Sectors

Title: Covid-19 in Zimbabwe: trends, dynamics and implications in the agricultural, environmental and water sectors

Publisher: Springer

Date: 2023

Page numbers of chapter: 3 - 16

ISBN: 978-3-031-214725-1

Author and co-authors: Dube, K., Chikodzi, D. & Nhamo, G.

Chapter: Covid-19 plus: Addressing Food Security (SDG 2) and Malnutrition within a Web of Disasters in the SADC Region

Title: Covid-19 in Zimbabwe: trends, dynamics and implications in the agricultural, environmental and water sectors





Publisher: Springer

Date: 2023

Page numbers of chapter: 299 - 312

ISBN: 978-3-031-214725-1

Author and co-authors : Dube, K., Chikodzi, D. & Chapungu, L.

Chapter: Conclusions and Policy Recommendations:

The Emerging Covid-19 Trends, Dynamics and Implications

Title: Covid-19 in Zimbabwe: trends, dynamics and implications in the agricultural, environmental and water sectors

Publisher: Springer

Date: 2023

Page numbers of chapter: 3 - 16

ISBN: 978-3-031-214725-1

Author and co-authors: Dube, K., Chapungu, L. & Chikodzi, D.

Chapter: Introduction: Covid-19-Health Systems Nexus-The Trends and Dynamics

Title: The covid-19 - health systems nexus emerging trends, issues and dynamics in Zimbabwe

Publisher: Springer

Date: 2023

Page numbers of chapter: 3 - 19

ISBN: 978-3-031-214725-1

Author and co-authors: Dube, K., Chapungu, L. & Chikodzi, D.

Chapter: The Covid-19-Health Systems Nexus: Conclusions, Emerging Trends, Key Findings and Policy Implications

Title: The covid-19 - health systems nexus emerging trends, issues and dynamics in Zimbabwe

Publisher: Springer

Date: 2023

Page numbers of chapter: 295 - 304

ISBN: 978-3-031-214725-1

Author and co-author: Dube, K. & Chikodzi, D.

Chapter: Covid-19 Tourism Impact, Recovery and Resilience: South African and Zimbabwean Experience

Title: Covid-19, tourist destinations and prospects for recovery volume three: a South African and Zimbabwean perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 3 - 18

ISBN: 978-3-031-28340-6

Author and co-authors: Dube, K., Mearns, K. & Donkor, F.K.

Chapter: Locking in Lessons from the Covid-19 Pandemic for Tourism Destinations: A Case Study of Wildlife Destinations

Title: Covid-19, tourist destinations and prospects for recovery volume three: a South African and Zimbabwean Perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 153 - 165

ISBN: 978-3-031-28340-6

Author and co-author: Thwala, K.C. & Dube, K.

Chapter: Examining Covid-19 Recovery and Resilience of Cape Town as a Tourist Destination

Title: Covid-19, tourist destinations and prospects for recovery volume three: a South African and Zimbabwean perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 221 - 238

ISBN: 978-3-031-28340-6

Author and co-author: Chihwai, P. & Dube, K.

Chapter: Exploring Covid-19 Recovery Mechanisms of the Accommodation Sector in South Africa

Title: Covid-19, tourist destinations and prospects for recovery volume three: a South African and Zimbabwean perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 271 - 291

ISBN: 978-3-031-28340-6

Author and co-author: Dube, K. & Kupika, O.L.

Chapter: A Resilient Tourism Future for Developing Countries: Conclusions and Recommendations

Title: Covid-19, tourist destinations and prospects for recovery volume three: a South African and Zimbabwean perspective

Publisher: Springer

Date: 2023

Page numbers of chapter: 293 - 310

ISBN: 978-3-031-28340-6

Publications (Journals)

Author and co-author: Ndlovu, E. & Mhangla, S.D.
Title: The effects of covid-19 on informal traders in undesigned spaces
Journal: Emerging Science Journal
Volume: 7
Issue: 2023
Page numbers of article: 95 - 104
ISSN: 2610-9182

Author: Dube, K.
Title: Emerging from the covid-19 pandemic: aviation recovery, challenges and opportunities
Journal: AEROSPACE
Volume: 10
Issue: 19
Page numbers of article: 19 - 32
ISSN: 2226-4310

Author: Musavengane, R.
Title: Influencing hotel guests' food waste reduction intentions through social marketing and corporate social responsibility stimuli
Journal: African Journal of Hospitality, Tourism and Leisure
Volume: 12
Issue: 3
Page numbers of article: 798 - 812
ISSN: 2223-814X

Author and co-authors: Lebelo, R.S. , Adesanya, S.O. & Banjo, P.O.
Title: Exergy analysis for combustible third-grade fluid flow through a medium with variable electrical conductivity and porous permeability
Journal: Mathematics
Volume: 2023
Issue: 11
Page numbers of article: 1882 - 1895
ISSN: 22277390

Author and co-authors: Lebelo, R.S., Wangari, I.M., Olaniyi, S. & Okosun, K.O.
Title: Transmission of covid-19 in the presence of single-dose and double-dose vaccines with hesitancy: mathematical modeling and optimal control analysis
Journal: Frontiers in Applied Mathematics and Statistics
Volume: 9
Issue: 9
Page numbers of article: N/A
ISSN: 22974687

Author and co-authors: Musavengane, R., Woyo., E. & Shereni, N.C.
Title: Covid-19, domestic tourism and indigenous knowledge systems in Zimbabwe
Journal: Studia Periegetica
Volume: 1
Issue: 41
Page numbers of article: 135 - 152
ISSN: 1897-9262

Author and co-authors: Musavengane, R, Tapfuma, M.M. & Magwaza, R.
Title: The role of creative tourism through arts and crafts in promoting inclusive tourism in Zimbabwe
Journal: Journal of Tourism and Cultural Change
Volume: 21
Issue: 4
Page numbers of article: N/A
ISSN: 14766825

Author and co-author: Woyo, E. & Musavengane, R.
Title: Has community-based tourism been a useful tool for poverty eradication in Southern African rural destinations?
Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)
Volume: 12
Issue: 2
Page numbers of article: 521 - 534
ISSN: 2223-814x

Author and co-authors: Kifworo, C., Dube, K. & Nhamo, G.
Title: Hailstorms damage and resilience-building in South Africa's key tourism destinations and attractions
Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)
Volume: 12
Issue: 2
Page numbers of article: 172 - 1739
ISSN: 2223-814x

Author and co-author: Kifworo, C. & Dube, K.
Title: A review of domestic tourism resilience research agenda in Africa post-covid-19
Journal: Geojournal of Tourism and Geosites
Volume: 51
Issue: 4
Page numbers of article: 1749 - 1756
ISSN: 20650817

Author and co-author: Chihwai, P. & Dube, K.
Title: Bibliometric analysis of climate change, tourism, and destination marketing
Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)
Volume: 12
Issue: SSE
Page numbers of article: 1693 - 1712
ISSN: 2223-814x

Author and co-authors: Chihwai, P.
Title: Tourism marketing under net zero emissions: a case of sun city resort
Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)
Volume: 12
Issue: SSE
Page numbers of article: 1893 - 1909
ISSN: 2223-814x





Author and co-authors: Oosthuizen, D., Marumo-Ngwenya, K. & Kearney, J E.

Title: A South African perspective on home gardens: promoting sustainability and resilience post covid-19

Journal: Malaysian Journal of Sustainable Agriculture

Volume: 7

Issue: 2

Page numbers of article: 113 - 118

ISSN: 2521-2931

Author and co-author: Dube, K. & Chikodzi, D.

Title: Examining current and future challenges of sea level rise on coastal national parks

Journal: GeoJournal of Tourism and Geosites

Volume: 50

Issue: 4

Page numbers of article: 1749 - 1756

ISSN: 20650817

Author and co-author: Dube, K. & Nhamo, G.

Title: Evaluating climate change's impact on hydroelectricity in the Zambezi river basin

Journal: Heliyon

Volume: 9

Issue: 9

Page numbers of article: N/A

ISSN: 24058440

Author and co-authors: Dube, K., Chikodzi, D., Nhamo, G. & Chapungu, L.

Title: Climate and conservation challenges facing marakele national park and their implications for tourism

Journal: Cogent Social Sciences

Volume: 9

Issue: 2

Page numbers of article: N/A

ISSN: 2331 - 1886

Author and co-author: Makuyana, T. & Dube, K.

Title: Perceptions of disabled people on public transport as an enabler of inclusive domestic tourism in South Africa

Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)

Volume: 12

Issue: 5SE

Page numbers of article: 1876 - 1892

ISSN: 2223-814X

Author and co-authors: Makuyana, T., Dube, K. & Nhamo, G .

Title: The great O.R. Tambo international airport flood: dealing with the harsh realities of climate-induced extreme weather events

Journal: African Journal of Hospitality, Tourism and Leisure (AJHTL)

Volume: 12

Issue: 5SE

Page numbers of article: 1765 - 1772

ISSN: 2223-814X

Author and co-author: Ndlovu, E. & Dube, K.

Title: Challenges of radical technological transition in the restaurant industry within developing countries

Journal: African Journal of Hospitality, Tourism and Leisure

Volume: 12

Issue: 1

Page numbers of article: 156 - 170

ISSN: 2223-814X



Author and co-authors: Dube, K., Chapungu, L., Nhamo, G. & Chikodzi, D.
Title: Soil erosion in the savanna biome national parks of South Africa

Journal: Physics and Chemistry of the Earth

Volume: 130

Issue: 130

Page numbers of article: N/A

ISSN: 1474 - 7065

Author and co-authors: Dube, K., Nhamo, G., Chapungu, L. & Chikodzi, D.

Title: Quest for net zero emissions in South African national parks: a tourism perspective

Journal: Heliyon

Volume: 9

Issue: 9

Page numbers of article: N/A

ISSN: 2405-8440

Author and co-authors: Madzimore, J. & Pillay, A.M.

Title: Analysis of online teaching and learning strategies and challenges in the covid-19 era: lessons from South Africa

Journal: New Trends in Social and Liberal Sciences

Volume: 8

Issue: 1

Page numbers of article: 21 - 37

ISSN: 2469-4002

Author and co-authors: Dube ,K., Nhamo, G., Chapungu, L., Kilungu, H., Hambira, W.L., El-Masry, E.A., Chikodzi, D. & Molua, E.L.

Title: Tourism and climate change in Africa: informing sector responses

Journal: Journal of Sustainable Tourism

Volume: 2023

Issue: N/A

Page numbers of article: N/A

ISSN: 9669582

Author and co-authors: Lebello, R.S., Moloi. K.C., Akindeinde, S. & Adesanya, S.O.

Title: Decolonisation of history in the South African school curriculum

Journal: Mitteilungen Klosterneuburg

Volume: 75

Issue: 3

Page numbers of article: 23 - 35

ISSN: 75922

Author and co-authors: Lebello, R.S., Moloi. K.S., Ariefdien, M.R., Jaffer, S., Martin, S. & Hoosain, R.

Title: A case study on the learning facilitation adopted at madi-na-institute orientation programme

Journal: Mitteilungen Klosterneuburg

Volume: 75

Issue: 3

Page numbers of article: 2 - 14

ISSN: 75922

Author and co-authors: Lebello, R.S., Salawu, S.O., Ogunseye. H.A., Yusuf, T.A. & Mustapha, R.A.

Title: Entropy generation in a magnetohydrodynamic hybrid nanofluid flow over a nonlinear permeable surface with velocity slip effect

Journal: WSEAS Transactions on Fluid Mechanics

Volume: 18

Issue: 23

Page numbers of article: 34 - 48

ISSN: 17905087



Author and co-authors: Mwadiwa, K.F. & Oksiutycz, A.
Title: Using social media as a tool for dialogic engagement: the case of an NGO in South Africa
Journal: **Communication:** South African Journal for Communication Theory and Research
Volume: 49
Issue: 49
Page numbers of article: 90 - 111
ISSN: 0250-0167

Author and co-authors: Dube, K., Nhamo, G., Chikodzi, D. & Chapungu, L.
Title: Mapping and evaluating the impact of flood hazards on tourism in South African national parks
Journal: Journal of Outdoor Recreation and Tourism
Volume: 43
Issue: 43
Page numbers of article: N/A
ISSN: 22130780

Author and co-authors: Lebello, R.S., Yusuf, T.A., Adeosun, A.T., Akinsola, V.O. & Akinremi, O.J.
Title: Numerical investigation for nonlinear thermal radiation in MHD Cu–water nanofluid flow in a channel with convective boundary conditions
Journal: Mathematics
Volume: 2023
Issue: 11
Page numbers of article: 3409 - 3428
ISSN: 22277390

Author and co-author: Mwadiwa, K.F. & Maleho, L.M.
Title: Digitilisation of corporate communication amidst covid-19 pandemic: case of a district municipality in Gauteng province
Journal: Journal of Public Administration

Volume: 57
Issue: 3
Page numbers of article: N/A
ISSN: 2008-5877

Author: Madzimore, J.
Title: The challenges faced by high school learners in circle geometry
Journal: Ponte
Volume: 79
Issue: 8/1
Page numbers of article: 112 - 126
ISSN: 0032-423X

Author and co-authors: Moloi, K.C., Etbaigha, I., Isabirye, A., Bayat, A., Lebello, R.S.
Title: Investigation of rules for decomposition of the polynomial of the form $N(p)D(p)$ into partial fractions
Journal: Interciencia
Volume: 48
Issue: 9
Page numbers of article: 2 - 30
ISSN: 3781844

Author and co-authors: Lebello, R.S., Adesanyo, S.A., Adeosun, A.T., Yusuf, T.A., Adeyemi, A.A., Bamigboye, J.S., Ogunlaja, A. & Unuabonah, E.I.
Title: Numerical examination of concentration-dependent waste-water sludge ejected into a drinking water source
Journal: Scientific Reports
Volume: N/A
Issue: 13
Page numbers of article: N/A
ISSN: 20452322



Author and co-authors: Lebello, R.S., Etbaigha, I. & Bayat, A.
Title: Investigating learning organisation metaphor application in enabling the local municipality to improve service delivery to its communities. a theoretical perspective
Journal: Interciencia
Volume: 48
Issue: 9
Page numbers of article: 50 - 65
ISSN: 3781844

Author and co-author: Ndlovu, E., & Mhlanga, D.
Title: Making sense of the fourth industrial revolution: an overview of the potential impact on Africa
Journal: Advances in African Economic, Social and Political Development
Volume: 2023
Issue: N/A
Page numbers of article: 15 - 34
ISSN: 21987262

Author and co-author: Ndlovu, E., & Mhlanga, D.
Title: Goals of social policy in the fourth industrial revolution from a developmental context in Africa
Journal: Advances in African Economic, Social and Political Development
Volume: 2023
Issue: N/A
Page numbers of article: 53 - 70
ISSN: 21987262

Author and co-author: Ndlovu, E., & Rushambwa, T.
Title: Digital transformation and social change in Africa: issues in technology governance and social participation
Journal: Advances in African Economic, Social and Political Development

Volume: 2023
Issue: N/A
Page numbers of article: N/A
ISSN: 21987262

Author and co-author: Ndlovu, E. & Mhlanga, D.
Title: Smart technologies, climate change, and smallholder farmer production in Zimbabwe
Journal: Advances in African Economic, Social and Political Development
Volume: 2023
Issue: N/A
Page numbers of article: 293 - 309
ISSN: 21987262

Author and co-author: Ndlovu, E.. & Mhlanga, D.
Title: The politicisation of the covid-19 pandemic in Zimbabwe and implications on the attainment of the SDG's
Journal: Advances in African Economic, Social and Political Development
Volume: 2023
Issue: N/A
Page numbers of article: 365 - 385
ISSN: 21987262

Author and co-author: Ndlovu, E.. & Mhlanga, D.
Title: Implications of sino-African partnerships for peasant natural resource access, ownership and utilisation in Africa
Journal: Advances in African Economic, Social and Political Development
Volume: 2023
Issue: N/A
Page numbers of article: 302 - 320
ISSN: 21987262



Author and co-authors: Ndlovu, E., Mhlanga, D., & Chototombe, J.W.

Title: Contested landscapes, Politics of space and belonging in land used planning in bvumba forest along the Zimbabwe-Mozambican border

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: N/A

ISSN: 21987262

Author and co-author: Ndlovu, E. & Mhlanga, D.

Title: Decolonisation of development in early post-independence in Africa

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: N/A

ISSN: 21987262

Author and co-author: Ndlovu, E. & Mhlanga, D.

Title: Economic inclusion: transforming the lives of the poor and how to make economic inclusion work in Africa

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: 21 - 43

ISSN: 21987262

Author and co-author: Ndlovu, E. & Mhlanga, D.

Title: Social inclusion interventions for Africa towards sustainable development and shared prosperity

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: 59 - 80

ISSN: 21987262

Author and co-author: Ndlovu, E. & Mhlanga, D.

Title: Peasant financial inclusion for inclusive development in Zimbabwe

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: 237 - 254

ISSN: 21987262

Author and co-author: Ndlovu, E. & Majova, B.N.

Title: Women empowerment in the South African agribusiness: opportunities and constraints in the Gauteng province

Journal: Advances in African Economic, Social and Political Development

Volume: 2023

Issue: N/A

Page numbers of article: 273 - 293

ISSN: 21987262

Author and co-authors: Adesanyo, S.A., Lebello, R.S., Adeosun, A.T. & Gbadeyan, J.A.

Title: Mathematical investigation of a combustible visco-elastic material in a cylindrical stockpile with oxygen (O₂) consumption and induced electric field

Journal: Numerical Heat Transfer, Part B: Fundamentals

Volume: 2023

Issue: N/A

Page numbers of article: N/A

ISSN: 10407790

Author and co-author: Ndlovu, E. & Rusenga, C

Title: Land reform and financial inclusion challenges in South Africa

Journal: Ius Gentium: Comparative Perspectives on Law and Justice

Volume: 2023

Issue: N/A

Page numbers of article: 141 - 159

ISSN: 22149902

Author and co-author: Ndlovu, E. & Mhlanga, S.D.

Title: Reinventing qualitative data collection boundaries in pandemic dispensations like the covid-19

Journal: Prizren Social Science Journal

Volume: 7

Issue: 2

Page numbers of article: 96 - 103

ISSN: 2616-387X

Author and co-author: Ndlovu, E. & Mhlanga, S.D.

Title: The implications of the Russia-Ukraine war on sustainable development goals in Africa

Journal: Fudan Journal of the Humanities and Social Sciences

Volume: 16

Issue: 4

Page numbers of article: N/A

ISSN: 16740750





FACULTY OF MANAGEMENT SCIENCES

Prof C Mafini

EXECUTIVE DEAN FACULTY OF
MANAGEMENT SCIENCES





THE EXECUTIVE DEAN'S MESSAGE FACULTY OF MANAGEMENT SCIENCES

In 2023, the Faculty of Management Sciences sought to consolidate the gains made in the previous year, which had experienced the almost total dissipation of the effects of the Covid-19 pandemic. A notable factor ushered through the progressive subsiding and eventual fading of the Covid-19 pandemic is the opening of avenues to collect research data. During the height of the pandemic and in the immediate aftermath, data collection had become difficult due to the inaccessibility of targeted research participants. This restriction emerged as a significant limitation to studies focusing on humans as research subjects, leading to low faculty outputs. With this hindrance out of the way in 2023, staff and students could collect research data from human participants more effectively and efficiently.

Concerted efforts are being made to use the available resources to increase Research Outputs beyond the 30 units prescribed for the Faculty. The available staff, being inundated with heavy teaching workloads and other responsibilities, could not achieve the goal of higher Research Output volumes. As an intervention, the Faculty sought to bolster the number of adjunct appointees. We appointed 18 adjuncts during 2023, with most of them willing to contribute to the Faculty's Research drive.

Additionally, the Faculty appointed six postdoctoral Research fellows and directed them to the Intensified Research Publication Programme, an initiative to ensure that the Faculty could surpass its targeted volume of outputs. The Faculty has proposed the introduction of an Entrepreneurship Research Centre. This centre must intensify Research in entrepreneurship and small business management. The Faculty mobilised other researchers within the Faculty's four departments to join the same crusade.

The outcomes of Management Sciences' pursuits in this area were encouraging. The Faculty attained 36.581 Research Output units in 2023, almost 13 units higher than the 23.616 units achieved in 2022. Of this number, 23,666 units were published as peer-reviewed journal articles, while 12,916 were published in conference proceedings. This development represents a shift from the previous two academic years, realising the bulk of the Faculty's Research Outputs through conference proceedings. The highest number of the 2023 Research Outputs were from The Department of Logistics and Supply Chain Management, which attained 12.493 units. Many of the credits accumulated by the Faculty in 2023 are attributed to the efforts of both postdoctoral research fellows and adjunct appointees. Notably, several articles were published in high-impact factor journals, demonstrating the Faculty's resolve to improve the quality of research outputs.

Management Sciences also made significant inroads into the continuous revival of postgraduate research, especially master's and doctoral studies. 19 students graduated with master's degrees, and five graduated at the doctoral level during the year. Topics covered in the studies ranged from supply chain management to training and skills development, as well as social media marketing, job embeddedness and satisfaction, financial literacy, sustainability, intentions to leave, consumer attitudes, and risk management. Master's and doctoral studies undertaken within the Faculty covered a wide range of economic sectors and industries, discipline demonstrating the business discipline's overarching nature. Participants in some of these studies were from government departments and state-owned enterprises, higher education, the Fast-moving Consumer Goods (FMCG) sector, and industries such as chemicals, clothing, and construction. The Faculty also introduced a novel doctoral studies selection process that will see deserving applicants being prioritised for doctoral studies.

Management Sciences hosted three internationally acclaimed academics as visiting professors at different intervals in 2023. These three are Profs Ronnie Gao from Trinity Western University in Canada, Joyendu Bhadury from Radford University in the USA, and Pat Obi from Purdue University in the USA. These professors presented important talks within their areas of research expertise and had an opportunity to interact with staff during supervisor's forum events. On separate occasions, they also provided one-on-one coaching and mentorship to staff and postgraduate students enrolled in the Faculty.



Substantial gains continue to be realised in the Faculty's drive to improve staff qualifications. In 2023, ten staff members completed their vertical qualifications at the master's and doctoral levels. To assist new masters and doctoral students in achieving their research proposals, the Faculty maintained its culture of holding an annual postgraduate induction program. The program, facilitated by various experts, was conducted between May and July 2023 and addressed most aspects of a research proposal.

The achievements noted above were the combined efforts of various groups and individuals contributing in different ways. . The acting Research professor, Prof J Beneke's dedication to managing the Faculty's Research portfolio and the resounding commitment of the heads of departments are all praiseworthy. Throughout 2023, all research-relevant committees performed their fiduciary roles with the expected rigour and oversight, ensuring a high standard of research governance within the Faculty. Chairpersons and members of these committees deserve commendation for their outstanding performance throughout the year. The diligent efforts of all staff and stakeholders, such as students, adjunct researchers, and postdoctoral research fellows, are noteworthy, as they ensured that the Faculty maintained its growth trajectory within the area of research.

Looking into the future, the Faculty will emphasise increasing the number of books and book chapters published by its researchers. This approach will effectively eliminate the current void in these areas. The Faculty further intends to increase research outputs linked to the scholarship of teaching and learning, which is a relatively new area for most staff within the Faculty. The conversion of theses and dissertations into publications is another area that deserves attention, as it can significantly increase the Faculty's Research Outputs. It is vital to tap into staff not currently active in research. We will enhance the Performance Management System to make it more effective in assisting staff to realise the need to be more active in all expected academic areas. It is necessary to increase the number of postdoctoral research fellows and adjunct researchers since their role as primary players in research has already been established. We may suggest policy changes directed to the extended retention of highly productive postdoctoral research fellows beyond the current limit of two years. A discussion on incentivising adjunct researchers is essential and requires an open-minded approach from the entire university. The Faculty is willing to champion this cause after realising the contribution of such resources to the success of research within the institution. Attempts are underway to develop staff to become eligible for NRF-rating. In line with this, the Faculty also intends to nominate eligible staff for the Future Professor's Programme to increase the number of staff within the Faculty's professoriate. The focus will primarily be to ensure that those within the designated groups, especially females, can participate in such initiatives. Management Sciences will appoint a substantive Faculty Research Manager to assume the role currently performed by the Research professor.

Prof C Mafini

EXECUTIVE DEAN FACULTY OF MANAGEMENT SCIENCES



Postgraduate Student Qualifications Completed in 2023

Name: Mqokozo, A.G.

Qualification: MTech: Human Resources Management

Dissertation/Thesis Title: Employee empowerment, career satisfaction and in-tention to stay of employees in Gauteng department of education **University/Institution:** Vaal University of Technology

Name: Modiri, M.

Qualification: MTech: Business Administration

Dissertation/Thesis Title: The influence of service quality dimensions on cus-tomer satisfaction with visa facilitation services centres in Gauteng **University/Institution:** Vaal University of Technology

Name: Khoza, S.

Qualification: MTech: Business Administration

Dissertation/Thesis Title: Risk reduction through safety administrative in the chemical industry

University/Institution: Vaal University of Technology

Name: Tewe, R.F.

Qualification: MTech: Cost and Management Accounting

Dissertation/Thesis Title: Perceptions on free tertiary education and operation-al budgeting within a public university

University/Institution: Vaal University of Technology

Name: Tala, R.J.

Qualification: PhD: Business Management

Dissertation/Thesis Title: Influence of job embeddedness on job satisfaction and job performance among employees within South African police service ac-ademic

University/Institution: Vaal University of Technology

Name: Ramuthivheli, I.L.

Qualification: MTech: Marketing Management

Dissertation/Thesis Title: The influence of generation Y students' perceptions of brand communication, service quality and brand satisfaction on brand loyalty in technical and vocational education training colleges in South Africa **University/Institution:** Vaal University of Technology

Name: Mashitja, R.M.
Qualification: MTech: Supply Chain Management
Dissertation/Thesis Title: The influence of supply chain relationship quality and co-operation strategy on supply chain quality performance (in/on) the South clothing retaining in Gauteng province
University/Institution: Vaal University of Technology

Name: Nematatani, P.F.
Qualification: PhD: Business Management or Supply Chain Management
Dissertation/Thesis Title: Modelling international management system and supply chain effectiveness in state-owned enterprises in a developing economy
University/Institution: Vaal University of Technology

Name: Hwesure, H.C.
Qualification: MTech: Supply Chain Management
Dissertation/Thesis Title: Operational capabilities, competitive performance and supply chain responsiveness in the fast-moving consumer good manufacturing industry in Gauteng province
University/Institution: Vaal University of Technology

Name: Jama, M.S.
Qualification: MTech: Supply Chain Management
Dissertation/Thesis Title: Linking inventory management practice to inventory and warehouse performance in Gauteng and KwaZulu Natal province
University/Institution: Vaal University of Technology

Name: Peta, M.G.
Qualification: PhD: Business Administration
Dissertation/Thesis Title: Perceived construction education and training authority's (ceta) strategic alignment barriers to technical and vocational education and training (tvvet) colleges' participation in construction skill development
University/Institution: Vaal University of Technology

Name: Mormah, J.O.
Qualification: MTech: Cost and Management Accounting
Dissertation/Thesis Title: Sustainability practices and reporting by general retailers operating in the South African retail sector
University/Institution: Vaal University of Technology

Postgraduate Staff Qualifications Completed in 2023

Name: Zeni, M.M.
Qualification: MTech: Human Resources Management
Dissertation/Thesis Title: Validation of the employability of entry-level HR graduates in the South African labour context
University/Institution: Vaal University of Technology

Name: Ncube, B.
Qualification: MTech: Human Resources Management
Dissertation/Thesis Title: Work family conflict, family-work conflict, work tension, burnout and turnover intention relationships at a construction company in South Gauteng
University/Institution: Vaal University of Technology

Name: Mthiyane, S.N.
Qualification: MTech: Logistics
Dissertation/Thesis Title: The influence of supplier partnerships on quality of information sharing commitment, trust and supply chain performance in the automotive industry in South Africa
University/Institution: Vaal University of Technology

Name: Kumalo, T.V.
Qualification: MTech: Human Resources Management
Dissertation/Thesis Title: Emotional intelligence, flourishing and satisfaction with life among government employees in the Sedibeng region
University/Institution: Vaal University of Technology

Name: Mampuru, M.P.
Qualification: MTech: Human Resources Management
Dissertation/Thesis Title: Influence of training and development on job satisfaction, loyalty and retention: a study among academics at a selected University of Technology
University/Institution: Vaal University of Technology

Name: Moloi, N.I.
Qualification: MTech: Business Administration
Dissertation/Thesis Title: The prevalence of workplace bullying among academics as a predictor of burnout and intention to leave at a higher education institution in Gauteng
University/Institution: Vaal University of Technology

Name: Rachoene, T.P.
Qualification: MTech: Business Administration
Dissertation/Thesis Title: Visitor's perceptions of the quality of services provided at the Vaal river carnival and the relationship with satisfaction and future behavioural intention.
University/Institution: Vaal University of Technology

Name: Makhuvela, E.M.
Qualification: MTech: Cost and Management Accounting
Dissertation/Thesis Title: The influence of financial literacy on the financial behaviour and financial decision making of employees at the Vaal University of Technology
University/Institution: Vaal University of Technology

Name: Chidhuza, O.
Qualification: MTech: Marketing Management
Dissertation/Thesis Title: Factors influencing consumers' attitude and purchase intention of global sports apparel brand.
University/Institution: Vaal University of Technology

Name: Ngomane, S.R.
Qualification: MTech: Logistics
Dissertation/Thesis Title: Supply chain strategy, flexibility and performance in the fast-moving consumer goods industry in Gauteng province
University/Institution: Vaal University of Technology

Name: Mandhlazi, L.
Qualification: PhD: Marketing Management
Dissertation/Thesis Title: The effect of social media marketing activities on brand equity within the South African banking industry: a cohort-based study
University/Institution: Vaal University of Technology





Conferences (Papers and Posters Presented)

Presenter: Chinomona, E.

Title of Paper: Perceptions of motorists towards e-tolls and their intention to use - tolls in Gauteng province, South Africa **Conference:** GBATA 24th Annual Conference

Place: Czech Republic

Date: 11-14 July 2023

ISBN/ISSN: 1932917-19-5

Presenter: Chinomona, E.

Title of Paper:

1. Modelling the influence of resources mobilisation, employee training and innovativeness on small and medium enterprises sustainability

2. Risk management techniques on business performance in the manufacturing industry of South Africa

Conference: Social Sciences International Research Conference

Place: South Africa

Date: 10-13 October 2023

ISBN/ISSN: 9780796124272

Presenter: Chinomona, E.

Title of Paper: A typology of the legal aspects of ethical supply chain management in the fast-moving consumer goods industry of South Africa

Conference: Southern African Institute for Management Scientists Conference

Place: Johannesburg, South Africa

Date: 10-13 September 2023

ISBN/ISSN: 9780796113467

Presenter: Mokoena, B.A.

Title of Paper:

1. Influence of training and development on job satisfaction and loyalty among academics

2. Expanding research in a world of new opportunities

Conference: Social Sciences International Research Conference

Place: Virtual

Date: 10 October 2023

ISBN/ISSN: 9780796124272

Presenter: Mokoena, B.A.

Title of Paper: Validation of a volunteer motives scale within a cohort of sport organisation's volunteers: a case study

Conference: Social Sciences International Research Conference

Place: Virtual

Date: 10 October 2023

ISBN/ISSN: 9780796124272

Presenter: Govuzela, S.

Title of Paper: The impact of small medium enterprises (SMEs) on the economic growth in South Africa

Conference: Global Business and Technology Association 24th Annual Conference

Place: Czech Republic

Date: 11-14 July 2023

ISBN/ISSN: 1932917-19-5

Presenter: Pooe, B.

Title of Paper: The role of the social and ethics committee

Conference: Southern African Accounting Association Conference

Place: South Africa

Date: 28-30 June 2023

ISBN/ISSN: 9780639774862



Presenter: Matsheke, M.J.

Title of Paper: Entrepreneurship education and entrepreneurial intention amongst students at selected TVET college in South Africa

Conference: Social Sciences International Research Conference

Place: Virtual

Date: 25 September 2023

ISBN/ISSN: 9780796124272

Presenter: Cana, N.S.

Title of Paper: Perceptions of organisational justice and job satisfaction of administrative staff at a University of Technology in South Africa

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10 October 2023

ISBN/ISSN: 9780796124272

Presenter: Govuzela, S.

Title of Paper: The contribution of just-in-time, the JIT approach towards inventory costs, inventory management, and business performance: perspectives from two case studies in a South African environment

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10-13 October 2023

ISBN/ISSN: 9780796124272

Presenter: Mafini, C.

Title of Paper: The influence of supply chain flexibility on resilience and competitive advantage in the consumer electronics industry

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10-13 October 2023

ISBN/ISSN: 9780796124272

Presenter: Tshabalala, F.L.

Title of Paper: Validation of volunteer motives scale within a cohort of sports organisation volunteers

Conference: Social Sciences International Research Conference

Place: Umhlanga, South Africa

Date: 10-13 October 2023

ISBN/ISSN: 9780796124272

Presenter: Tshabalala, F.L.

Title of Paper: Validation of volunteer motives scale within a cohort of sports organisation volunteers

Conference: Social Sciences International Research Conference

Place: Umhlanga South Africa

Date: 10-13 October 2023

ISBN/ISSN: 9780796124272

Publications (Journals)

Author and co-authors: Masitenyane, L.A., Muposh, A. & Mokoe-na, B.A.

Title: Outcomes of relationship quality in business to business contexts: a South African concrete product market perspective

Journal: Cogent Business and Management

Volume: 10

Issue: 3

Page numbers of article: 1 - 17

ISSN: 2331-1975

Author and co-authors: Cele, S., Bhana, A. & Matli, W.

Title: Exploring undergraduate students' perception of 4IR digital era at a higher education institution in South Africa

Journal: Journal of Accounting Research, Organization and Economics

Volume: 6

Issue: 1

Page numbers of article: 49 - 62

ISSN: 2621-1041

Author: Chinomona, E.

Title: The influence of business and economic research

Journal: African Journal of Business and Economic Research

Volume: 18

Issue: 2

Page numbers of article: 203 - 229

ISSN: 1750-4554

Author: Ntshingila, M.L.

Title: Assessment of fuel price, exchange rate and unemployment rate impact on road passenger journeys in South Africa

Journal: International Journal of Research in Business and Social Sciences

Volume: 11

Issue: 27

Page numbers of article: 362 - 369

ISSN: 2147-4478

Author: Ntshingila, M.L.

Title: Analysis of the effect of covid-19 and fuel prices on the South African motor vehicle export

Journal: International Journal of Research in Business and Social Sciences

Volume: 12

Issue: N/A

Page numbers of article: 148 - 154

ISSN: 2147-4478

Author and co-author: Wesonga, J.N. & van der Westhuizen, J.

Title: The effect of performance contracting on public service delivery of employment in huduma centres in Western Kenya

Journal: African Journal of Inter/Multidisciplinary Studies

Volume: 5

Issue: 1

Page numbers of article: 1 - 15

ISSN: 2663-4589

Author and co-author: Wesonga, J.N. & van der Westhuizen, J.

Title: The nexus between reward management and competitive advantage. a Kenya commercial bank's perspective

Journal: EUREKA: Social and Humanities

Volume: 6

Issue: 30

Page numbers of article: 13 - 23

ISSN: 2504-5571

Author and co-author: Maila, Z.B. & Mafini, C.

Title: Supply chain integration as a driver of performance in the South African rail industry

Journal: The International Journal of Transport and Logistics

Volume: 23

Issue: 54

Page numbers of article: 12 - 30

ISSN: 2406-1069

Author and co-authors: Epoh, R.L., Langton, L. & Mafini, C.

Title: Green supply chain management as a driver of South African manufacturing sector agility and performance

Journal: Supply Chain Management Journal

Volume: 14

Issue: 1

Page numbers of article: 69 - 97

ISSN: 1361-2026

Author and co-author: Langton, I. & Mafini, C.

Title: Small and medium business transformational leadership and supply chain management

Journal: The Journal for Transdisciplinary Research in Southern Africa

Volume: 19

Issue: 1

Page numbers of article: 1 - 11

ISSN: 2415-2005

Author and co-authors: Mofokeng, S.A., Chinomona, E. & Mafini, C.

Title: Internal drivers of innovation and sustainability in South African manufacturing small and medium enterprises

Journal: African Journal of Inter/Multidisciplinary Studies

Volume: 5

Issue: 1

Page numbers of article: 10

ISSN: 2663-4589

Author and co-authors: Masungini, A.W., Maseko, G.J. & Robbette, N.

Title: Evaluating the implementation of a municipal credit management policy

Journal: Journal of Local Government Research and Innovation

Volume: 4

Issue: N/A

Page numbers of article: 6 - 10

ISSN: 2709-7412

Author and co-authors: Maseko, G.J., Robbette, N. & Masungini, A.W.

Title: Association between municipal credit management, responsiveness and service delivery

Journal: African's Public Service Delivery of Performance Review

Volume: 11

Issue: 1

Page numbers of article: 1 - 7

ISSN: 2310-2152





Author and co-authors: Shamhuye, R.A., Muposhi, A. & Hungwe, D.R.

Title: A downstream social norms approach for curtailing e-cigarette waste: promising social marketing interventions from consumer interactions

Journal: Waste Management and Research

Volume: 41

Issue: 7

Page numbers of article: 1238 - 1245

ISSN: 1096-3669

Author and co-authors: Masitenyane, L., Rachoene, T. & Mokoena, B.A.

Title: An examination of the Vaal river carnival attendees' perceptions of service quality towards satisfaction and future behavioural intentions

Journal: African Journal of Hospitality, Tourism and Leisure

Volume: 12

Issue: 2

Page numbers of article: 673 - 687

ISSN: 2223-814X

Author and co-authors: Muposhi, A., Nyagadza, B. & Mafini, C.

Title: Fashion designers' attitude behaviour inconsistencies towards sustainable business model: a neutralization theory perspective

Journal: Journal of Fashion Marketing and Management

Volume: 27

Issue: 1

Page numbers of article: 1 - 20

ISSN: 1361-2026

Author and co-authors: Mampuru, P., Mokoena, B.A. & Isabirye, A.

Title: Training and development impact on job satisfaction,

loyalty and retention among academics

Journal: SA Journal of Human Resource Management

Volume: 22

Issue: N/A

Page numbers of article: 1 - 10

ISSN: 2071-078

Author and co-author: Moloi, K.C. & Isabirye, A.

Title: Exploring academics' performance management experiences at a University of Technology in South Africa

Journal: African Journal of Inter/Multidisciplinary Studies 2023

Volume: 5

Issue: 1

Page numbers of article: 1 - 13

ISSN: 2663-4589

Author and co-authors: Chinomona, E., Nematatani, P. & Ntshingila, L.

Title: Optimising supply chain effectiveness among state-owned enterprises in South Africa

Journal: Journal of Transport and Supply Chain Management

Volume: 17

Issue: N/A

Page numbers of article: 1 - 18

ISSN: 2310-8789

Author and co-authors: Manilal, R. & Masitenyane, L.

Title: Predictors of business-to-business loyalty and repurchase intentions in South Africa's concrete product market

Journal: South African Journal of Business Management

Volume: 54

Issue: 1

Page numbers of article: 1 - 15

ISSN: 2078-5585



Author and co-authors: Igbal, B.A. & Nayyer Rahman, M.

Title: The US-India interactions to Russia-Ukraine war

Journal: East Asian Observer

Volume: 16

Issue: 2

Page numbers of article: 415 - 426

ISSN: 2287-9218

Author and co-authors: Igbal, B.A., Yadav, A. & Nayyer Rahman, M.

Title: Trade relations among the BRICS countries: an Indian perspective

Journal: China and WOT Review

Volume: 2

Issue: 2023

Page numbers of article: 355 - 366

ISSN: 2384-4388





Visiting Professors 2023

Name: Obi, Prof P.

Purpose of visit: Research Colloquium in August 2023

Department: Accountancy

Dates: 30 July-6 August 2023

Name: Gao, Prof R.

Purpose of visit: Majority and Minority in our Society: A Consumer-centric Perspective

Department: Marketing Management

Dates: 22-31 May 2023

Name: Bhadury, Prof R

Purpose of visit: How to Excel in Postgraduates' Supervision and Public Lecture at Desmond Tutu Hall

Department: Logistics

Dates: 10-14 June 2023





Non-Faculty research outputs

Department: Social Justice and Transformation
Title: Mr
Initials: G M
Surname: Mvalo

Seminars/Workshops Presented

Title: Annual Transformation Conference
Presented to: Researchers
Place: UNISA
Date: 04-06 October 2023

Publications (Journals)

Author: Mvalo, G.M.
Title: International Journal of Critical Diversity Studies:
Journal: Developing Praxis of Transformation
Volume: 5
Issue: 1
ISSN: I2516-550ISSN: 2516-550X / Online ISSN: 2516-5518518



Accredited Research Outputs for VUT, 2016-2023

Year	2016	2017	2018	2019	2020	2021	2022	2023*
Units	101.95	126.76	149.74	161.89	195.35	152.46	120.85	199.159
*Submitted to DHET - not yet approved								

Research Capacity Development Programmes

Various Research Capacity Development Workshops and Information Sessions were hosted by the Research Directorate, including:

- Grant Proposal Writing Workshop
- AI and Scholarly Writing
- An introduction to Mixed Methods
- Artificial intelligence and the core of Scientific Research
- Atlas.TI
- Developing an Interview Framework for Qualitative Research
- End Note
- Essential Statistical Analysis using a questionnaire as instrument
- Grant Proposal Writing
- Interpretation and write-up of Quantitative Results
- Literature review
- Optimising Statistical Research using AI
- Qualitative Research Design
- Quantitative Research Design
- Research Methodology
- Research Proposal Writing
- SPSS
- Supervising a Quantitative Research Project
- Supervision, Mentoring & Coaching
- Thesis Writing Workshop
- Writing for Publication



Research Funding

External Research Funding and donations for the Research equipment totalled R5,146,498.00 for 2023. Sources of funding include NRF.

Internal Funding

R18 295 200 were allocated to Research. Funding applications are approved by the Executive Senate Research and Innovation Committee.

National Research Foundation (NRF)

The NRF Rating System is a benchmarking system through which individuals who exemplify the highest research standards and those demonstrating strong potential as an extensive network of South African and International peer reviewers identify researchers.

NRF-rated Researchers in 2023:

Surname	Initials	Title	Rating Category
Abou-El-Hosseini	K	Prof.	C2
Akpotu	SO	Dr	Y2
Campbell	RI	Prof.	C1
Dube	K	Dr	Y2
Lebelo	RS	Dr	C2
Nyamupangedengu	C	Prof.	C2
Osifo	PO	Prof.	C2
Otunniyi	IO	Prof.	C2
Pakade	VE	Prof.	Y2
Pillay	M	Prof.	C3
Rutto	HL	Prof.	C3
Shooto	ND	Dr	Y2
Tengen	TB	Prof.	C3
Venter	D	Dr	Y2



Postdoctoral Research Fellows Appointed in 2023

Surname	Title	Name	Postdoc/ Visiting Professor	Faculty	Department	PI
Otieno	Dr	Benton	Postdoctoral Research Fellow	Engineering & Technology	Chemical	Prof J Kabuba
Moloi	Dr	Katleho	Postdoctoral Research Fellow	Engineering & Technology	Electrical	Dr HM Langa
Mongwe	Dr	Thomas	Postdoctoral Research Fellow	Applied and Computer	Chemistry	Dr W Maboya
Ochonogor	Dr	Franklin	Postdoctoral Research Fellow	Engineering & Technology	Mechanical	Prof P Mendonidis
Ubani	Dr	Onyedikachi	Postdoctoral Research Fellow	Applied and Computer	Chemistry	Prof J Modise
Igberase	Dr	Emmanuel	Postdoctoral Research Fellow	Engineering & Technology	Chemical	Prof P Osifo
Koech	Dr	Lawrence	Postdoctoral Research Fellow	Engineering & Technology	Chemical	Prof L Rutto
Eposi	Dr	Elsie	Postdoctoral Research Fellow	Management Sciences	Marketing	Prof N Dlodlo
Oladeji	Dr	Olatunde	Postdoctoral Research Fellow	Applied and Computer	Chemistry	Prof T Xaba
Saheed	Dr	Sanni	Postdoctoral Research Fellow	Applied and Computer	Chemistry	Prof A Pholosi
Ismaila	Dr	Bouba	Postdoctoral Research Fellow	Applied and Computer	Accountancy	Dr J Beneke
Chihwai	Dr	Peter	Postdoctoral Research Fellow	Human Sciences	Tourism	Prof K Dube
Banza	Dr	Jean Claude	Postdoctoral Research Fellow	Engineering & Technology	Chemical	Prof T Seodigeng
Nkomo	Dr	Nkosilathi	Postdoctoral Research Fellow	Engineering & Technology	Mechanical	Prof A Alugongo
Kifworo	Dr	Catherine	Postdoctoral Research Fellow	Human Sciences	Tourism	Prof K Dube
Manqele	Dr	Samantha	Postdoctoral Research Fellow	Human Sciences	Tourism	Prof K Dube



Surname	Title	Name	Postdoc/Visiting Professor	Faculty	Department	PI
Kosgey	Dr	Eric	Postdoctoral Research Fellow	Engineering & Technology	Chemical	Prof S Kiambi
Fombang	Dr	Mccpowell	Postdoctoral Research Fellow	Management Sciences	Accountancy	Dr G Maseko
Ngo Ndjama	Dr	Joelle	Postdoctoral Research Fellow	Management Sciences	Human Re-	Prof J VD Westhuizen
Wesonga	Dr	Justus	Postdoctoral Research Fellow	Management Sciences	Human Re-	Prof J VD Westhuizen
Langton	Dr	Irvine	Postdoctoral Research Fellow	Management Sciences	Logistics and	Prof C Mafini
Akpotu	Dr	Samson	Postdoctoral Research Fellow	Applied & Computer Sciences	Chemistry	Prof F Mtunzi
Ndhlovu	Dr	Emmanuel	Postdoctoral Research Fellow	Human Sciences	Tourism	Prof K Dube
Makuyana	Dr	Tawanda	Postdoctoral Research Fellow	Human Sciences	Tourism	Prof K Dube
Oyetade	Dr	Kayode Emmanuel	Postdoctoral Research Fellow	Applied & Computer Sciences	ICT	Prof A Harmse
Olaifa	Dr	Moses	Postdoctoral Research Fellow	Applied & Computer Sciences	ICT	Prof T Zuva
Chukuneme	Dr	Chinenenwa	Postdoctoral Research Fellow	Applied & Computer Sciences	Chemistry	Prof C Ssemakalu
Phiri	Dr	Sibongile	Postdoctoral Research Fellow	Engineering & Technology	Electrical	Dr H Langa
Leudjo Taka	Dr	Anny	Postdoctoral Research Fellow	Applied & Computer Sciences	Chemistry	Prof M Klink



2023 Postgraduate Report

Registration Totals 2019-2023

Total Registrations	2019	2020	2021	2022	2023
Applied and Computer Sciences	149	146	161	137	119
Engineering and Technology	199	195	189	187	161
Human Sciences	61	68	52	88	95
Management Sciences	155	188	141	156	127
Total	564	597	543	568	502

Faculty of Engineering and Technology		
Department	Registered Students Masters	PhD
Chemical Engineering	27	25
Metallurgical Engineering	7	2
Mechanical Engineering	17	8
Industrial Engineering	2	
Electrical Engineering	47	8
Civil Engineering	13	5
Total	113	48
Grand Total	161	



2023 Postgraduate Statistics – (Per Faculty, Per Department)

Faculty of Applied and Computer Sciences		
Department	Registered Students Masters	PhD
Chemistry	28	17
Biotechnology	23	9
Information Technology	29	
Information Systems		13
Total	80	39
Grand Total	119	

Faculty of Human Sciences		
Department	Registered Students Masters	PhD
Education	62	
Tourism and Hospitality Management	4	
Public Relations Management	8	
Photography	1	
Multimedia	5	
Graphical Design	0	
Food Service Management	4	3
Food and Beverage Management	4	
Fine Art	3	
Fashion	0	
Visual Arts		1
Total	91	4
Grand Total	95	



Faculty of Management Sciences		
Department	Registered Students Masters	PhD
Marketing	9	4
Supply chain	24	
Labour Relations Management	5	
Human Resources Management	15	
Cost and Management Accounting	10	
Business Administration	19	41
Total	82	45
Grand Total	127	

Postgraduate Study Fees

Total Registrations	2019	2020	2021	2022	2023
Total Fees Per Year					
M-Tech	R6 250	R6 590	R6 892	R7 184	R7 550
Masters/MEng	R10 100				
D-Tech	R4 460	R4 460	R6 892	R7 184	R7 550
PhD/DEng	R8 890				

The challenges were mainly related to:

- Students registered for longer than the required minimum duration of study,
- The process of phasing out M-Tech and D-Tech programmes,
- Finalisation of online application and registration,
- Students with outstanding fees and;
- Funding and phasing out of the VUT award. Students received this reward whose proposals were approved within 12 months.

The main highlight was that in 2023, there were online applications and registrations for Masters’ and Doctoral students.



MASTER OF APPLIED SCIENCE IN BIOTECHNOLOGY

Name: Nkhi, M. G.*

Qualification: MSc, Biotechnology

Dissertation/Thesis Title: Immobilisation of lipase onto functionalised magnetic nanoparticles

Supervisor: Feto, Prof N.

Co-Supervisor: Moloto, Prof M.J.

MASTER OF APPLIED SCIENCE IN CHEMISTRY

Name: Mametja, B. S.*

Qualification: MSc, Chemistry

Dissertation/Thesis Title: Fabrication of copper chalcogenide nanoparticles/maize corn powder nanocomposites for water treatment

Supervisor: Xaba, Prof T.

Co-Supervisors: Pholosi, Dr A. & Moloto, Prof M.J.

Name: Yavava Okily, A.Y.

Qualification: MSc, Chemistry

Dissertation/Thesis Title: Incorporation of silver/copper nanoparticles into chitosan/polyethylene oxide blended nanofibers and their antimicrobial activity

Supervisor: Moloto, Prof M.J.

Co-Supervisor: More, Dr D.S. (Hadebe)

MASTER OF INFORMATION AND COMMUNICATION TECHNOLOGY (M+6)

Name: Akinpelu, T.T.

Qualification: MTech, Information & Communication Technology (M+6)

Dissertation/Thesis Title: Measuring the maturity of agile architecture in state-owned organisations in Gauteng, South Africa - case study

Supervisor: van Eck, Dr R.

Co-Supervisor: Zuva, Prof T.

DOCTOR OF PHILOSOPHY (PhD): CHEMISTRY

Name: Attahdaniel, E.B.

Qualification: PhD, Chemistry

Dissertation/Thesis Title: Synthesis, characterisation of terephthalic acid metal-organic frameworks (mof), fabrication of polyethylene oxide mof composite and investigation of their dye adsorption properties

Promoter: Dikio, Prof E.D.

Co-Promoters: Mtunzi, Prof M.F., Diagbaya, Dr P.N. & Wankasi, Prof D.

DOCTOR OF PHILOSOPHY (PhD): INFORMATION AND COMMUNICATION TECHNOLOGY (M+7)

Name: Rankapola, M.E.

Qualification: PhD, Information & Communication Technology

Dissertation/Thesis Title: A model to measure the e-learning system success at a University of Technology in South Africa

Promoter: Zuva, Prof T.

Co-Promoter: Lebelo, Prof S.

MASTER OF MANAGEMENT IN SUPPLY CHAIN MANAGEMENT

Name: Mashitja, R.M.*

Qualification: MTech, Supply Chain Management

Dissertation Thesis Title: The influence of supply chain relationship quality and co-operative strategy on supply chain quality performance in the South African clothing retail industry in Gauteng province

Supervisor: Madzimure, Dr J.

Co-Supervisor: Govuzela, Dr S.





DOCTOR OF PHILOSOPHY (PhD): BUSINESS ADMINISTRATION

Name: Nematatani, P.

Qualification: PhD, Business Administration

Dissertation/Thesis Title: Modelling internal management systems and supply chain effectiveness in state-owned enterprises in a developing economy

Promoter: Chinomona, Prof E.

Co-Promoters: Ntshingila, Dr M.L. & Mafini, Prof C.

Name: Peta, M.G.

Qualification: PhD, Business Administration

Dissertation/Thesis Title: Perceived construction education and training authority's (ceta) strategic alignment barriers to technical and vocational education and training (tveta) colleges' participation in construction skills development

Promoter: Surujlal, Prof J.

MASTER OF ENGINEERING IN CHEMICAL ENGINEERING (M+6)

Name: Reddy, T.*

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Modelling of the extraction of valuable compounds from sclerocarya birrea

Supervisor: Seodigeng, Prof T.G.

Co-Supervisor: Rutto, Prof H.L.

Name: Mathebula, T.G.

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Physical and thermodynamic properties of binary and ternary blends of biodiesel and diesel-like fuels

Supervisor: Rutto, Prof H.L.

Co-Supervisor: Seodigeng, Prof T.G.

Name: Matobole, G.K.

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Modelling of the biomethane production from food waste using anaerobic digestion

Supervisor: Seodigeng, Prof T.G.

Co-Supervisor: Rutto, Prof H.L.

Name: Mayoudom, L.

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Development and characterisation of a novel coating for sintered NdFeB magnets to prevent corrosion

Supervisor: Matizamhuka, Prof W.

Co-Supervisor: Rutto, Prof H.L.

Name: Sambo, S.N.

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: The Development of a heat transfer model for a shaft kiln to preheat manganese ore with hot air

Supervisor: Seodigeng, Prof T.G.

Co-Supervisor: Reynolds, Dr Q.

Name: Sigonde, V.C.*

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Enhancing gear fault diagnosis through analysis of eccentricity time-varying mesh stiffness and transmission error

Supervisor: Alugongo, Prof A.A.

Co-Supervisor: Tchomeni, Prof B.X.

MASTER OF ENGINEERING IN MECHANICAL ENGINEERING

Name: Ladipo, T.L.

Qualification: MEng, Mechanical Engineering

Dissertation/Thesis Title: Mechanical and crystallisation properties of polyetheretherketone polymer from dry solid lubricants

Supervisor: Masu, Prof L.M.

Co-Supervisor: Nziu, Dr P.K.



MASTER OF ENGINEERING IN METALLURGICAL ENGINEERING

Name: Jeli, N.

Qualification: MEng, Metallurgical Engineering

Dissertation/Thesis Title: Process mineralogy for the physical beneficiation of a low-grade nickel laterite bearing ore

Supervisor: Mendonidis, Prof. P.

Co-Supervisor: Motsetse, Dr C.K.

DOCTOR OF PHILOSOPHY (PhD) IN CHEMICAL

ENGINEERING
Name: Lukusa, K.T.

Qualification: PhD, Chemical Engineering

Dissertation/Thesis Title: Quantum adsorption's mechanism of gelatin-cellulose hydrogel for effective removal of copper and cobalt ions from wastewater using artificial neural network

Promoter: Tshilenge, Prof J.K.

Co-Promoter: Kalonda, Prof E.

Name: Seodigeng, R.C.F.

Dissertation/Thesis Title: Design and testing of a dry sanitation unit for treatment and disposal of human faeces

Promoter: Tshilenge, Prof J.K.

Co-Promoter: Rutto, Prof H.L.

MASTER OF MANAGEMENT IN FOOD AND BEVERAGE MANAGEMENT

Name: Khangala, N.P.

Qualification: MTech, Food and Beverage Management

Dissertation/Theses Title: Determining hygiene and safety practices of students during culinary studies Skills practical's in a University of Technology

Supervisor: Kearney, Prof J.E.

Co-Supervisor: Dicks, Prof E.G.

MASTER OF INFORMATION AND COMMUNICATION TECHNOLOGY

Name: Hlalele, L.R.

Qualification: MTech, Information and Communication Technology

Dissertation/Thesis Title: Phishing emails identification

Supervisor: Zuva, Prof T.

Co-Supervisor: Sibanda, Mr E.

Name: Mlambo, T.P.

Qualification: MTech, Information and Communication Technology

Dissertation/Thesis Title: Readiness for asset tracking systems in public schools from disadvantaged areas in Gauteng, South Africa

Supervisor: van Eck, Dr R.

Co-supervisor: Zuva, Prof T.

Name: Adisa, O.E.*

Qualification: MTech, Chemistry

Dissertation/Thesis Title: Synthesis of magnetite-Polydopamine-methyl- β -Cyclodextrin adsorbents for the adsorption of antibiotics from wastewater

Supervisor: Pholosi, Dr A.

Co-Supervisors: Akpotu, Dr S.O. & Sanni, Dr S.O.

Name: Khumalo, S.M.

Qualification: MTech, Chemistry

Dissertation/Thesis Title: Synthesis of silver and copper sulphide nanoparticles and the preparation of nigella sativa seed-based nanocomposites for the removal of Pb(II) ions and methylene blue (MB) dye in wastewater

Supervisor: Xaba, Prof T.

Co-Supervisors: Shooto, Prof N.D., Khotha, Mr M.E., Thabede, Dr M.P. & Nindi, Prof M.M.



Name: Mohlala, M.T.

Qualification: MTech, Biotechnology

Dissertation/Thesis Title: The influence of reducing agents on the synthesis of functionalised silver nanoparticles and their application against breast cancer cells

Supervisor: Xaba, Prof T.

Co-Supervisors: Tetyana, Dr P.T. & Bambo, Dr M.

DOCTOR OF PHILOSOPHY(PHD): CHEMISTRY

Name: Mining, J.K.

Qualification: PhD, Chemistry

Dissertation/Thesis Title: Silver nanoparticles and tithonia diversifolia crude extract incorporated into electro spun polyvinyl alcohol/chitosan nanofibers to form a biopesticide

Promoter: Moloto, Prof M.J.

Co-Promoters: Omwoyo, Dr W.N., Menge, Dr S.N. & Maboya, Dr W.K.

MASTER OF APPLIED SCIENCE IN BIOTECHNOLOGY

Name: Bhiya, B.

Qualification: MSc, Biotechnology

Dissertation/Thesis Title: The effect of tulbaghia violacea aqueous leaf ex-tract on the expression levels of cellular proteins involved in apoptosis in HKESC-1 cell line

Supervisor: Takaidza, Dr S.

Co-Supervisors: Pillay, Prof M.

MASTER OF MANAGEMENT: MARKETING

Name: Aluoch, R.A.

Qualification: MTech, Marketing Management

Dissertation/Thesis Title: Selected antecedents, attitudes and purchase intentions towards organic personal health care products amongst millennial students in Southern Gauteng

Supervisor: Mokoena, Prof B.A.

Co-Supervisor: Masitenyane, Dr L.A.

MASTER OF MANAGEMENT: SUPPLY CHAIN MANAGEMENT

Name: Khoza, N.L-B.*

Qualification: MTech, Supply Chain Management

Dissertation/Thesis Title: Public sector supply chain management maturity as a driver of sustainable SMMEs in the Ehlanzeni district municipality

Supervisor: Mafini, Prof C.

Co-Supervisor: Matsheke, Dr M.J.

Name: Dlamini, B.N.

Qualification: MTech, Supply Chain Management

Dissertation/Thesis Title: Knowledge acquisition and business performance in small and medium enterprises in Gauteng province: investigating the role of supply chain management practices

Supervisor: Dr O Omoruyi

Co-Supervisors: Ntshingila, Dr L. & Mokoena, Prof B.A.

Name: Lefojane, M.A.

Qualification: MTech, Supply Chain Management

Dissertation/Thesis Title: Supply chain strategy, logistics outsourcing practices and logistics outsourcing success in the food retail industry in Gauteng province

Supervisor: Madzimore, Dr J.

Co-Supervisor: Loury Okoumba, Dr W.V.

Name: Pitikoe, P.C.

Qualification: MTech, Supply Chain Management

Dissertation/Thesis Title: Exploring the drivers of supply chain sustainability in the petrochemical sector in the Free State province

Supervisor: Loury Okoumba, Dr W.V.

Co-Supervisor: Govuzela, Dr S.



Name: Ramulifho, R.T.

Qualification: MTech, Supply Chain Management

Dissertation/Thesis Title: Exploring the influence of logistics operations on supply chain effectiveness in the retail industry in the Gauteng province

Supervisor: van der Westhuizen, Prof J.P.

Co-Supervisor: Chinomona, Prof E.

DOCTOR OF PHILOSOPHY (PHD): BUSINESS ADMINISTRATION

Name: Masuka, Z.M.

Qualification: PhD, Business Administration

Dissertation/Thesis Title: A model for entrepreneurship orientation, management, operational efficiency and performance in South African small and medium enterprises

Promoter: Mafini, Prof C.

Co-Promoter: van der Westhuizen, Prof J.P.

DOCTOR OF PHILOSOPHY (PHD): BUSINESS ADMINISTRATION (M+7)

Name: Mwadiwa, K.F.

Qualification: PhD, Business Administration

Dissertation/Thesis Title: A framework for municipal digitalisation and corporate communications

Promoter: Maleho, Prof L.

Co-Promoters: Mafini, Prof C. & Loury-Okoumba, Dr W.V.

DOCTOR OF PHILOSOPHY (PHD): BUSINESS ADMINISTRATION

Name: Ndlovu, L.

Qualification: PhD, Business Administration

Dissertation/Thesis Title: Modelling supplier innovativeness, supply chain agility and financial performance in manufacturing firms in South Africa

Promoter: Mafini, Prof C.

MASTER OF ELECTRICAL ENGINEERING

Name: Manyake, M.K.

Qualification: MEng, Electrical Engineering

Dissertation/Thesis Title: Smart lighting control system for energy efficient public lighting

Supervisor: Mathaba, Dr T.N.D.

Co-Supervisor: Otunniyi, Dr T.

MASTER OF ENGINEERING IN ENERGY EFFICIENCY

Name: Duvenage, E.E.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Using thermal and stored energy to drive a stirling engine for power generation

Supervisor: Sutherland, Dr G.

Co-Supervisor: Joubert, Prof A.

Name: Makgai, M.L.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Modelling of transmission line faults using machine learning methods

Supervisor: Joubert, Prof A.

Co-Supervisor: Sutherland, Dr G.

Name: Maloka, T.V.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Thermal management of photovoltaic panels using phase change material

Supervisor: Sutherland, Dr G.

MASTER OF ENGINEERING IN ENERGY EFFICIENCY

Name: Matlatle, L.J.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Evaluation of operating parameters to improve the efficiency of a proton exchange membrane fuel cell

Supervisor: Seodigeng, Prof T.

Co-Supervisor: Sutherland, Dr G.



Name: Motale, L.P.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Developing a smart microgrid for a household to enhance energy efficiency in South Africa

Supervisor: Sutherland, Dr G.

Co-Supervisor: Joubert, Prof A.

Name: Nkwambe, M.S.

Qualification: MEng, Energy Efficiency

Dissertation/Thesis Title: Energy storage through a regenerative hydrogen fuel cell in a hybrid system of renewable energy for power generation

Supervisor: Seodigeng, Prof T.

Co-Supervisor: Sutherland, Dr G.

MASTER OF MANAGEMENT: BUSINESS ADMINISTRATION

Name: Gazide, L.

Qualification: MTech, Business Administration Management

Dissertation/Thesis Title: E-service quality dimensions influencing customer satisfaction and intention to re-use internet banking among internet users in Sedibeng

Supervisor: Mokoena, Prof B.A.

MASTER OF MANAGEMENT: HUMAN RESOURCES MANAGEMENT

Name: Ndwandwe, P.D.*

Qualification: MTech, Human Resources Management

Dissertation/Thesis Title: Talent management dimensions, collectivist culture and intention to leave of generation-y employees with in selected retail outlets in Southern Gauteng region

Supervisor: Mokoena, Prof B.A.

Co-Supervisor: Barbosa, Ms S.

MASTER OF CHEMICAL ENGINEERING

Name: Mabuza, J.N.*

Qualification: MEng, Chemical Engineering

Dissertation/Thesis Title: Performance evaluation and energy analysis of an integrated anaerobic digestion and advanced oxidation processes for wastewater treatment

Supervisor: Tshilenge, Prof J.K.

Co-Supervisor: Aoyi, Prof O.

MASTER OF CIVIL ENGINEERING

Name: Osman, O.A.

Qualification: MEng, Civil Engineering

Dissertation/Thesis Title: Assessment and simulation of ground-water quality correlation to proximate landfill leachate: a case study on a selected landfill in Johannesburg, South Africa

Supervisor: Ochieng, Prof G.M.

Co-Supervisor: Rwanga, Dr S.

MASTER OF METALLURGICAL ENGINEERING

Name: Matibidi, K.*

Qualification: MEng, Metallurgical Engineering

Dissertation/Thesis Title: Plant water ionic strength and specific ion effects on thiol collector mixtures during the flotation of a mersensky ore

Supervisor: Otunniyi, Prof I.O.

Co-Supervisor: Manono, Prof M.S.

DOCTOR OF PHILOSOPHY (PHD): CHEMICAL ENGINEERING

Name: Ogazi, A.C.

Qualification: PhD, Chemical Engineering

Dissertation/Thesis Title: Development of 3D printed chitosan/AgNP/GO membranes for water treatment

Promoter: Osifo, Prof. P.O.

Co-Promoter: Malan van Tonder, Dr P.J.

MASTER OF INFORMATION AND COMMUNICATION TECHNOLOGY

Name: Dube, W.T.

Qualification: MTech, Information and Communication Technology

Dissertation/Thesis Title: Readiness for adoption of ERP systems in local government in South Africa - Gauteng

Supervisor: van Eck, Dr R.

Co-Supervisors: Zuva, Prof T.

MASTER OF INFORMATION AND COMMUNICATION TECHNOLOGY

Name: Dube, W.T.

Qualification: MTech, Information and Communication Technology

Dissertation/Thesis Title: Readiness for adoption of ERP systems in local government in South Africa - Gauteng

Supervisor: van Eck, Dr R.

Co-Supervisors: Zuva, Prof T.

MASTER OF EDUCATION IN HIGHER EDUCATION

Name: Esterhuyse, M.*

Qualification: MTech, Higher Education

Dissertation/Thesis Title: Exploring the factors impacting the implementation of a strategic plan at a University of Technology in Gauteng, South Africa

Supervisor: Van Der Walt, Dr C.

Co-Supervisor: Lebelo, Prof R.S.

Name: Fourie, L.*

Qualification: MTech, Higher Education

Dissertation/Thesis Title: An investigation of the challenges faced by students using a blackboard in a University of Technology.

Supervisor: Chitumwa, Dr C.C.

Co-Supervisor: Tadokera, Ms R.

Name: Molokomme, R.T.

Qualification: MTech, Higher Education

Dissertation/Thesis Title: Exploring challenges with e-learning at a University of Technology post covid-19 in South Africa.

Supervisor: de Klerk, Dr.

Co-Supervisor: Shube, Ms I.

MASTER OF MANAGEMENT IN PUBLIC RELATIONS MANAGEMENT

Name: Ibironke, O.E.

Qualification: MTech, Public Relations Management

Dissertation/Thesis Title: Exploring the role of online communication platforms: a case study of a selected University of Technology in Gauteng

Supervisor: Mbatha, Prof B.T.

Co-Supervisor: Ngwenya, Dr B.N.

Name: Mafatle, M.L.

Qualification: MTech, Public Relations Management

Dissertation/Thesis Title: Exploring the adoption of social media as a reputation management tool in crisis communication: the case study of an institution of higher learning

Supervisor: Mbatha, Prof B.T.

Co-Supervisor: Ngwenya, Dr B.

Name: Mashatola, N.S.

Qualification: MTech, Public Relations Management

Dissertation/Thesis Title: Determining first-year students' awareness and perceptions of the student support office: a case of a University of Technology in South Africa

Supervisor: Mbatha, Prof B.T.

Co-Supervisor: Manana, Mr K.P.

MASTER OF VISUAL ARTS IN FINEART

Name: Malomo, L.

Qualification: MTech, Visual Arts in Fine Art

Dissertation/Thesis Title: Site-specific sculptural celebration of informal waste pickers in the Vaal metropolitan region through the symbol of the balaclava.

Supervisor: De Klerk, Dr A.

Co-Supervisor: Thibudi, Ms M.

Name: Sefothlelo, G.N.

Qualification: MTech, Visual Arts in Fine Art

Dissertation/Thesis Title: A visual exploration of a lesbian's life: liminalities through clothing

Supervisor: Munro, Prof A.

Co-Supervisor: Khumalo, Ms N.

MASTER OF VISUAL ARTS IN MULTIMEDIA

Name: Foster, D.

Qualification: MTech, Visual Arts in Multimedia

Dissertation/Thesis Title: Developing multimedia content for social-media marketing in the nature-based tourism sector within South Africa.

Supervisor: de Klerk, Dr A.

Co-Supervisor: Lekaota, Prof L.

Name: Manese, K.F.

Qualification: MTech, Visual Arts in Multimedia

Dissertation/Thesis Title: Develop a practitioner's framework for the design and developing of an e-welcoming experience on a new media e-business landing page.

Supervisor: de Klerk, Dr A.

Co-supervisors: Bogle, Mr S. & Makwela, Mr M.

MASTER OF VISUAL ARTS IN PHOTOGRAPHY

Name: Johnson, E.H.

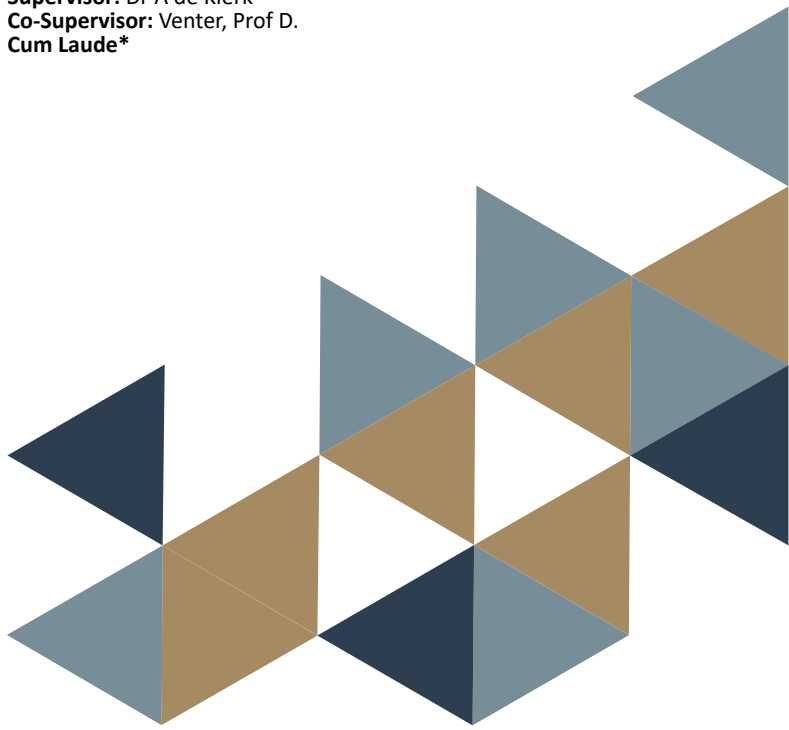
Qualification: MTech, Visual Arts in Photography

Dissertation/Thesis Title: Reconciling the practice of landscape photography with the wants of the South African tourism industry through abstraction.

Supervisor: Dr A de Klerk

Co-Supervisor: Venter, Prof D.

Cum Laude*







Postgraduate Support Programmes Offered by HDU in 2023: 2023 Postgraduate Workshops

1. 18 July 2023, Topic: Early research journey of postgraduate students, the essential planning and research design components. Total of 36 Students attended
2. 24 July 2023, Topic: How to write a Research Proposal. Total of 41 Students attended
3. 20 July 2023, Topic: Doing the literature review: the role of theory. Total of 38 Students attended
4. 01 August 2023, Topic: Qualitative research designs and methods. Total of 33 Students attended
5. 02 August 2023, Topic: Quantitative research designs and methods. Total of 29 Students attended
6. 11 September 2023, Topic: How to do referencing. Total of 37 Students attended
7. 14 September 2021, Topic: Thesis writing. Total of 29 Students attended
8. 24 October 2023, Topic: Ethics & Plagiarism. Total of 26 Students attended
9. 30 November 2023, Topic: Using digital tools for your study: Livescribe; Dragon, Irispen, Irmouse, Endnote, Smartphone, Mendeley, etc. Total of 31 Students attended
10. 27 November 2023, Topic: How to write for Publication. Total of 23 Students attended







VAAL UNIVERSITY OF TECHNOLOGY - EKHAYA ALUMNI MESSAGE

MaVUTi, Ma-Vallies, VUT alums, and friends of VUT are all Vaal University of Technology graduates and former students. We may have journeyed far from diverse communities, worlds, and nationalities, but we share the same identity as our alma mater. Our MaVUTi experiences have shaped who we have become individually in our career paths and made us better able to showcase our talents indiscriminately. The Alumni Network continues to be a platform where we belong as family members, colleagues, and better alums. We have transformed into a college, a Technikon and a University of Technology through the years. We recently completed the re-branding exercise with your input and urge you to continue engaging with the University and your fellow Alumni.

Although our lives are absorbed with developing careers, connecting with families, raising children, travelling, and connecting with our communities, we individually or collectively find a way to engage with our Alumni networks. In this regard, we need you in so many ways to;

- Attend and participate in activities and events, whether live or virtual.
- Become an Alumni ambassador to students, and share how VUT has shaped your life and resourcefully provided you with a community for life.
- Join the student mentoring program and participate in our Faculty and Student-life seminars.
- Volunteer for advisory boards and Alumni committees.
- Display your pride by wearing and promoting the VUT brand and MaVUTi gear.
- Consider giving back to your alma mater to keep the MaVUTi legacy alive.

On behalf of the Alumni Association and Convocation, in our quest to preserve a mutually beneficial, enduring relationship, we are constantly seeking meaningful ways to embrace your needs and unite our efforts to grow and develop the Vaal University of Technology.

Please share with us your latest milestones. Wherever you are, at whatever stage of your life, we have Networks to share with your other MaVUTis.

We are grateful for all the support we have enjoyed as a University at the individual and corporate levels, which has helped us contribute meaningfully to the career development of our MaVUTis.

Thank you

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