DUT
DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

DEPUTY VICE-CHANCELLOR
RESEARCH
INNOVATION &
ENGAGEMENT

RESEARCH AND INNOVATION NEWS

The Newsletter of the
DVC: Research, Innovation and Engagement

SEPTEMBER ISSUE

RIE

TABLE OF CONTENTS

DR NGEMA HAS BEEN SELECTED TO BE PART OF THE FUTURE PROFESSORS PROGRAMME

Waheeda Peters

Pictured: Dr Peterson Thokozani Ngema

The Acting Head of the Department for Chemical Engineering at the Durban University of Technology (DUT), Dr Peterson Thokozani Ngema is elated to be selected for the Future Professors Programme (FPP) Phase two.

The FPP Phase two is DHET's prestigious flagship programme and its overall purpose is to accelerate the readiness of talented and promising academics to become a new cohort of effective professors across disciplines and contribute to producing a critical mass of academic excellence and leadership in South African higher education.

> **"My aim is to also develop a suitable model for electrolytes that can perform better for industries,"**

"This is a great opportunity and it means I can grow more in research and there is a potential to be a full professor who is capacitated and equipped in the field of thermodynamics," he said proudly.

Dr Ngema is an academic with many credentials which include PhD and MSc degrees in Chemical Engineering (UKZN); MTech and BTech degrees in Chemical Engineering (DUT); National Diploma in Chemical Engineering (DUT); Advance Diploma in Business Administration (DUT), a Certificate in Leadership Development Programme (DUT); Certificate in Human-Centric Digitalisation Transformation (DUT).

He professes to have seven years of teaching and learning experience at DUT, a three year stint as a researcher at the University of KwaZulu-Natal (UKZN) as well as eight years' experience in heavy industry.
Further to his credentials, Dr Ngema is registered as a candidate engineer at the Engineering Council of South Africa (ECSA; and is a member of the South African Institution of Chemical Engineers (SAIChE).

Since 2011 to date, Dr Ngema has published 18 journal papers and 10 conference papers. He has shared that his collaboration with national universities go far and wide, which include Mangosuthu University of Technology, University of Johannesburg, Vaal University of Technology, Cape Peninsula University of Technology and International: Shahrood University of Technology, Iran and Technical University of Denmark (DTU).

Inclusive of his academic endeavours is the graduation of six of his Master in Engineering (MEng) students. Currently, he is supervising six Master in Engineering (MEng) students and nine Doctoral of engineering students.

The dynamic researcher is under the Green Engineering Group at DUT.
"I specialise in Chemical Thermodynamics and Separation Technology, which involves data modelling, vapour-liquid equilibrium, liquid-liquid equilibrium, solid-liquid equilibrium, gas hydrate technology, modelling, chemical synthesis, water treatment, electrolytes, carbon capture, green hydrogen and biofuel," he shared.

In terms of his current research, Dr Ngema has indicated that it entails synthesising green solvents (Deep Eutectic Solvents) and evaluating the natural green solvents as potential solvents for separation processes. "This research involves VLE, gas hydrate and modelling. On the other side, I am working with electrolytes since they are challenges in the process industry," he explained.

Dr Ngema highlighted that the outcome of the research and impact is aligned with DUT ENVISION2030, and the intention is to replace the traditional hydrocarbon solvents with natural green solvents, which are not harmful and affect the environment.
"My aim is to also develop a suitable model for electrolytes that can perform better for industries," he said.

He has explained that some of the most innovative aspects of his research include to synthesise the Deep Eutectic Solvents and to see the performance of the solvent.

In terms of significant findings from his research, Dr Ngema relayed that natural green solvents show that can extract castor oil better than traditional solvent, which shows higher yield.

For Dr Ngema, he is currently in the works of writing a book on natural green solvents as potential solvents that can be utilised in the industrial separation process and a book on electrolyte modelling that will contribute to the academic community.

"I am in collaboration with an expert in thermodynamics at the Technical University of Denmark, who plays a big role in strengthening my research area in thermodynamics, which involves electrolytes, VLE, gas hydrate and carbon capture," he explained.

Dr Ngema has shared that the industries will benefit in optimising their separation processes and saving costs by using natural green solvents.

Looking ahead, Dr Ngema's future research goals entail recruiting more Doctoral of Engineering and master of Engineering students who are working in the area of thermodynamics, and to recruit postdoctoral fellows and collaborate with international Universities and industries. He further aims to source for funding in industries and commission a pilot plant at DUT.

THE RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE SUCCESSFULLY HOSTED A POSTGRADUATE ORIENTATION

Pictured: Themba Zitha, who is from the Research and Postgraduate Support Directorate, spoke to the new and returning postgraduate students at the orientation.

On 17 September 2024, the Research and Postgraduate Support (RPS) Directorate successfully hosted a Postgraduate Orientation to support new and returning postgraduate students in navigating their academic journey at the DUT. This hybrid event, which was coordinated by the Research Capacity Development (RCD) Unit, took place at the Research Commons, BM Patel Library, ML Sultan Campus, from 09:00 to 12:00.

The primary aim of the orientation was to provide comprehensive guidance on the essential stages and requirements of postgraduate education at DUT. A key highlight of the presentation was the presentation of the ENVISION2030 strategy as a whole which incorporated an aspect on the lived values and principles, which are part of the strategy.

Other key highlights included presentations on a range of support systems available to students, including research facilities and academic resources designed to enhance their educational experience, in addition the orientation featured key presentations covering:

- Ethical considerations in research.
- Research Capacity Development workshops

- Funding opportunities available for postgraduate students
- Publication processes relevant to academia
- Administrative procedures including thesis submissions and compliance with institutional policies.

Postgraduate attendees had the chance to interact with experienced Research and Postgraduate Support staff, fostering a sense of community and providing valuable insights to address student queries. Overall, the Postgraduate orientation was aimed to equip students with the knowledge and resources necessary for their academic and professional growth, creating a supportive environment that encourages intellectual development.

PROF SHODE FROM DUT RECEIVES NRF C3 RATING AS AN ESTABLISHED RESEARCHER

Simangele Zuma

Pictured: NRF C3-rated Professor Francis Oluwole Shode.

Professor Francis Oluwole Shode, a Research Associate in the Department of Biotechnology and Food Science under the Faculty of Applied Sciences at the Durban University of Technology (DUT) was recently awarded his National Research Foundation (NRF) C3 rating after being recognised as an established researcher with a sustained recent record of productivity in his field. He has been recognised by his peers to have produced a body of quality work and demonstrated the ability to conceptualise problems and apply research methods to investigating them.

"The recent NRF rating came in as a blessing and recognition of my research outputs over the past five years and global impact they created. I am pleased about it as it further adds impetus to my research agenda to accomplish more in the coming years," shared Prof Shode in excitement.

Prof Shode described himself as an organic chemist with over four decades of teaching and research experience."I have had the privilege of contributing to the advancement of chemical sciences and nurturing the next generation of scientists. My journey in academia started in the 80s after the completion of my doctoral degree at the University of Sheffield, Sheffield, England. It was an epoch-making experience for me with a spectacular interaction with the chemistry of spirodienones, a group of compounds with close resemblance to griseofulvin, a natural antimycotic agent," shared Prof Shode.

He joined DUT in 2017 as a Research Associate in the Department of Biotechnology and Food Science, where he is continuing his research on the development of ethno-phytopharmaceuticals and nutraceuticals from African medicinal and food plants against malnutrition and chronic diseases. He has published extensively in the local and international journals.

"My current research focus is on the isolation, characterisation, and beneficiation of bioactive natural compounds from wide range of African medicinal plants using analytical chemistry, computational modelling, and organic synthesis of potential anti-diabetic, anti-hypertensive, anti-HIV, anti-COVID-19, anti-malaria, and anti-sickle cell disease agents, among others. The inspiration for this research focus came from the under-utilisation of many known African medicinal plants of therapeutic importance couple with the current high disease-burden of African society because of malnutrition, expensive medical treatment, as well as lifestyles of the people," reiterated Prof Shode.

Over the years, his research has aimed to bridge traditional knowledge and modern science, identifying and isolating bioactive compounds from indigenous plants. Prof Shode indicated that these efforts have led to significant breakthroughs in understanding the therapeutic potential of these plants, resulting in several innovative formulations that address diseases often overlooked in mainstream pharmaceutical research.

In addition to his academic contributions, he has also ventured into the entrepreneurial realm by establishing a spin-off company from DUT called Sholab Nutraceuticals (Pty) Ltd. This company focuses on the commercialisation of nutraceuticals and botanical therapeutics aimed at managing malnutrition and neglected diseases in Africa. This initiative exemplifies his commitment to translating academic research into tangible benefits for the society as enshrined in DUT ENVISION2030 strategy.
Looking ahead, he plans to continue to push his research agenda and accelerate the commercialisation of his research outputs.

PROFESSOR JOHN MELLEM IS CELEBRATED AS AN EXEMPLARY MODEL OF SUCCESS IN THE ACADEMIC WORLD

Waheeda Peters

Pictured: Professor John Mellem

The Durban University of Technology (DUT) hosted the exciting professorial Inaugural Lecture of Professor John Mellem which took place at the Coastlands Umhlanga Hotel on Friday, 13 September 2024.

The guests in attendance included DUT academics, DUT students, friends and family of the dynamic Prof Mellem who added familial warmth to the gathering.

> **"Prof Mellem's academic contributions have been recognised with significant accolades, including his promotion to Associate Professor in 2018 and later to Full Professor in 2023."**

The Programme Director, Professor Darren Lortan: Head of Department: Mathematics, Faculty of Applied Sciences, welcomed all the guests, sharing some funny jokes which were distributed to him by students of Prof Mellem.

"It has been a special privilege for me to have been associated with Prof Mellem since the beginning of his journey and to have had front row seats to his growth and development-and his inaugural address," he added jubilantly.

After his humorous banter, he introduced Dr Azwitevhelwi Nevhutalu, Interim Deputy Vice-Chancellor: Teaching and Learning, who gave the opening address. Dr Nevhutalu warmly welcomed the distinguished guests to the momentous occasion to celebrate the sterling milestone of full professorship which was achieved by Prof Mellem, a Food Science Professor in the Department of Biotechnology and Food Science, Faculty of Applied Sciences.

"We often take for granted the role that food plays in our lives and how it is central in convening who we are as human beings. An often taken-for granted aspect is the role that food serves in society in terms of health and nutrition. It is to this very point that Prof Mellem will address us and nourish us with his words and insights during the inaugural lecture," he said.

He further thanked Prof Mellem for his thought-provoking contributions made to his research and wished him all the best in his future endeavours.

This followed with the special introduction of the inaugurand which was shared by the charismatic Prof Suren Singh, Executive Dean: Faculty of Applied Sciences.

Prof Singh gave insight into Prof Mellem's journey at the Durban University of Technology (DUT) which he explained was truly unique and a remarkable achievement, illustrating a voyage from obtaining a National Diploma to achieving the status of Full Professor in just under 25 years.

> **"Prof Mellem remains profoundly grateful to the late Prof Bharti Odhav, who played a pivotal role in mentoring him throughout his career. Prof Odhav's guidance and support were instrumental in shaping his academic path,,"**

He shared that Prof Mellem's academic career began at the Durban University of Technology (DUT), where his early exposure to research during Work Integrated Learning (WIL) under the mentorship of Prof Bux at the Institute of Water and Wastewater Technology ignited his passion for research.
Prof Singh further shared that Prof Mellem's impressive research track record highlights his commitment to excellence and mentorship in the field of biotechnology and food science.

He explained that on the international stage, Prof Mellem has established valuable collaborations with esteemed institutions across the globe. He has been working with the Grenoble Institute of Technology (Pangora, Grenoble-INP) in France since 2016, contributing to shared research goals and academic development.

Prof Singh continued by saying that his collaboration with the Max Rubner-Institut in Germany within the Department of Food Technology and Bioprocess Engineering during 2018 and 2019 had further enriched Prof Mellem's research portfolio.

More recently, Prof Mellem has partnered with King Faisal University in Saudi Arabia, beginning in 2022, to expand his research horizons and foster international academic exchanges.

"Beyond his academic and professional achievements, Prof Mellem is known for his neuted personality and diverse interests. A passionate soccer fan, he is a dedicated supporter of Liverpool FC. His culinary talents are also noteworthy; he is affectionately known as the Pinetown's King Chef, always outshining his wife in the kitchen, showcasing his passion for cooking," added Prof Singh.
Prof Singh spoke on Prof Mellem who has been happily married to Kameshnee Mellem, the Faculty Research Officer, for 20 years. Together, they are proud parents to two wonderful children: Liam, who is 16, and Madison, who is nine years old.

"Prof Mellem's academic contributions have been recognised with significant accolades, including his promotion to Associate Professor in 2018 and later to Full Professor in 2023. Recently, he received a National Research Foundation (NRF) C2 rating in January 2022, a testament to his impactful work in the field," he said proudly.

"Prof Mellem remains profoundly grateful to the late Prof Bharti Odhav, who played a pivotal role in mentoring him throughout his career. Prof Odhav's guidance and support were instrumental in shaping his academic path, and Prof Mellem honours her legacy by continuing to mentor and inspire his own students," shared Prof Singh.

"On behalf of the Faculty and Department of Biotechnology and Food Technology I wish you continued success in your research, especially your great work towards wellness in society. May your knowledge and research contribute to a healthier and more prosperous future for our society," said Prof Singh.
Delving into his inaugural lecture, Prof Mellem spoke on his presentation titled: *The Future of Food,* speaking on his topic of discussion, the context of his studies, current and future research focus areas and the deliberations of his research.

Prof Mellem looked at the role that food serves in society in terms of health and nutrition. He provided insight into the field of Food Science and its application to health-related issues such as cancer, (a topic close to his heart due to his late dad passing on from this scourge), in addition to exploring how it can be used to address food security concerns.

The NRF C2-rated researcher's research focus was on the characterization of biomolecules for the development of functional foods or nutraceuticals to address diet and lifestyle diseases and malnutrition. His key focus areas in his presentation shared his research into Cancer and the most common treatment methods which include radiotherapy, chemotherapy and surgery. He further explained the usage of alternate therapies such as vitamin therapy and nutrition.

He focused on some of the tools used in research such as microscopy, Apoptosis and key enzymes. Prof Mellem spoke further on the vital usage of probiotics.

"The use of probiotics and prebiotics have been trending in the food industry with an increase in functional foods such as probiotic based food products and beverages. Probiotics are non-pathogenic, live microorganisms considered to be beneficial to the host body as they aid in digestion and reduces the symptoms of many chronic gastrointestinal diseases. Also, the nature of the probiotic, viability in the gastrointestinal tract, and stability in food products poses a problem within food systems," he shared.
Prof Mellem explained more on the current meat production system and relayed that his studies are focused on the study of alternate meat equivalents which has grown exponentially since 2013.
"The focus of studies have been on the reduction of costs associated with media used for cell growth as well as the development of scaffold materials to support the adherence of cells for better differentiation and tissue development," he said.

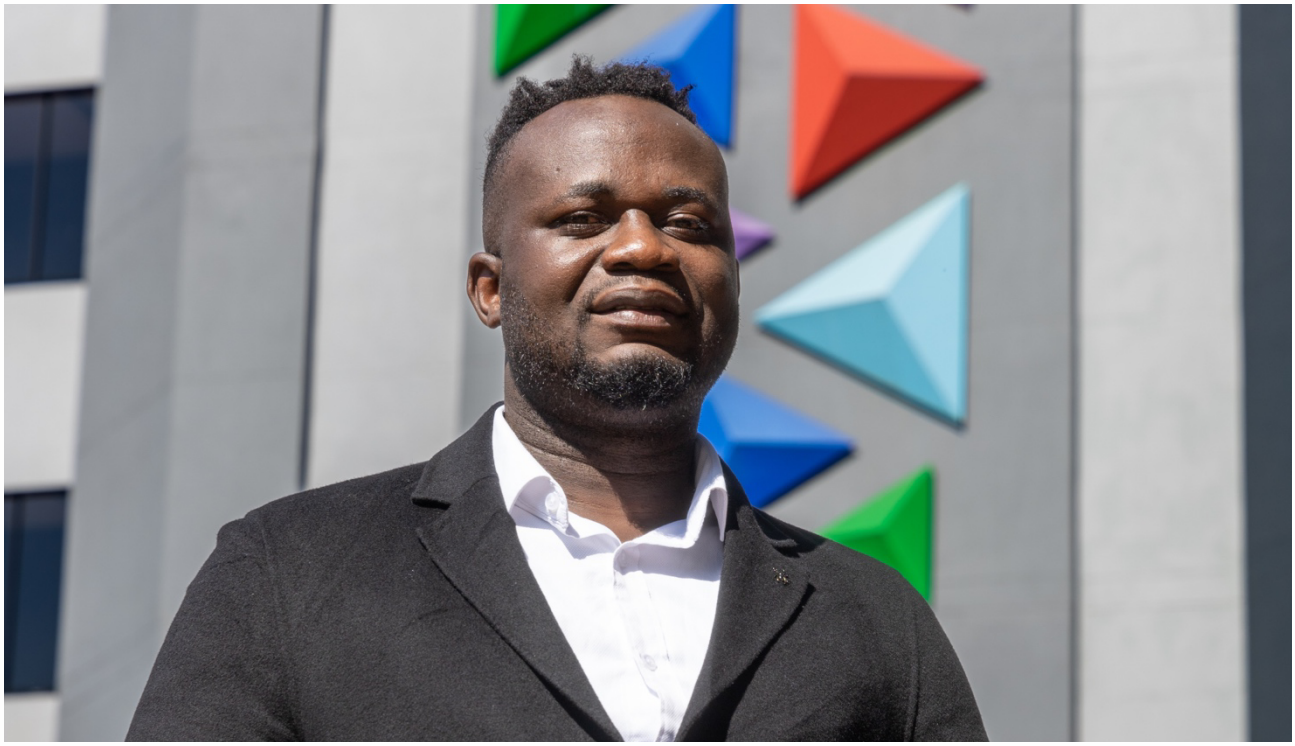
He then looked at the production costs, feasibility, energy efficiency and the organoleptic properties. In concluding his talk, he said that his research which stems over 19 years is just the tip of the iceberg.
He hopes to introduce the usage of lab meat after much research, and said lab meat is currently used in Singapore as the legislation had been approved.

After his thought-provoking presentation, a robust question and answer session ensued which was followed by the closing remarks and vote of thanks given by Prof Fulufhelo Nemavhola, Deputy Vice-Chancellor: Research, Innovation and Engagement.

"As you embark on this new chapter in your academic career, we not only celebrate your past achievements but also eagerly anticipate the exciting possibilities that lie ahead. Your leadership, vision, and adherence to the principles of DUT will undoubtedly continue to elevate the standards of research and education at DUT and beyond. We look forward to witnessing the continued impact of your work as we collectively strive towards the goals and aspirations as set out by DUT **ENVISION2030**," he said.

DR TETTEH ADVANCES SCIENCE, ENGINEERING EDUCATION, AND RESEARCH

Waheeda Peters



Pictured: Dr Emmanuel Kweinor Tetteh

Dr Emmanuel Kweinor Tetteh, a highly skilled Chemical Engineer at the Durban University of Technology (DUT), who has over seven years of academic and research experience, coupled with four years in industry, has reached a major milestone in his career. He was recently awarded the prestigious NRF-Y2 rating, which recognises young researchers with outstanding potential to establish themselves as leading experts within the next five years (2024–2029). Dr Tetteh, who earned his doctorate within the last five years through the DUT RADLA programme, was nominated for the NRF Young Researcher rating based on the high quality and impact of his research outputs. His Y2 rating is a testament to his dedication and achievements in his early career.

> **"I also seek to provide hands-on assistance to address societal challenges with green transition and sustainable development tools. In line with DUT ENVISION2030, I look forward to an environment that rewards intellectual talents and recognises the hard work of emerging researchers to drive green hydrogen and engineering research institutes."**

As a Research Fellow at DUT, Dr Tetteh is a senior researcher championing the Green Engineering Research Group (GERG) with Prof Sudesh Rathilal under the Department of Chemical Engineering and the Faculty of Engineering and the Built Environment. Dr Tetteh has contributed massively to the DUT research outputs and capacity development by publishing over 60 journal articles, conference papers, and book chapters, as well as mentoring and supervising several honours and postgraduate projects to completion.

Key to his ongoing projects include the Water Research Commission, a funded project to develop a smart integrated pilot plant for valorising wastewater into bioenergy and treated water for reuse. He is leading the DUT Green Engineering Research Group (GERG) in collaborating with the Centre for Renewable and Sustainable Energy Studies, Stellenbosch University, for capacity development on green hydrogen production technology in the KwaZulu-Natal province.
Besides the projects he has mentioned, Dr Tetteh is also a member of the DUT Technical team, which is working on the REFFECT AFRICA project in partnership with the eThekwini Municipality and 29 EU Partners to develop an agro-waste energy plant at the eThekwini Fresh Produce Bulk Market.

Dr Tetteh has demonstrated research excellence and commitment to advancing environmental solutions and harvesting energy from wastewater towards a sustainable circular economy. This led him to develop a passion for water-energy nexus technologies. Some of the new research areas under his development include magnetic separation technology, green hydrogen production technology, and smart water system

In terms of his research, Dr Tetteh professes that his research and innovation have been instrumental in DUT's research strategy success of ENVISION20230 on the global map of excellence. In addition to winning the NRF Next Generation Research Award and the ENI Young Talent Researcher from Africa Awards, his mentorship role has enabled two individual postgraduates to win those awards on three accounts for DUT.

Dr Tetteh contributes significantly to the university's interest in research excellence, innovation, and societal impact. He is developing a smart wastewater treatment pilot plant to serve as a demonstration for skills development on the water-energy nexus and entrepreneurial skills on valorisation waste to energy, especially for female students involved in the project, for environmental sustainability and socio-economic development.

For Dr Tetteh, his significant contribution to several peer-reviewed published articles in top-tier journals demonstrates his contribution of knowledge to the water and energy sector. This has been hastened by interdisciplinary collaboration, sustainability, and the development of cutting-edge technologies that address global needs for sustainable clean water and energy.

Adding to his strengths, Dr Tetteh has further established strong collaborations with local and international institutions. A partnership with the South African National Energy Development Institute (SANEDI) and the Centre for Renewable and Sustainable Energy Studies, Stellenbosch University, to

contribute to national energy development strategies by capacitating future generations with green hydrogen production technologies. Also, the Water Research Commission (WRC) is providing funds for his smart water pilot plant to valorise wastewater into energy.

In terms of the practical applications of his research findings, Dr Tetteh explained that most of his research results in technological development, which practically comes with environmental and socioeconomic benefits by improving the operations of industrial plants.

"It includes a dissolved air floatation (DAF) process, which assisted a local oil refinery in improving its process efficiency to recover and reprocess oil. The quality of the oil recovered was improved to commercially viable lubricating oil and treated water for reuse and washing of the plant. Likewise, the Water Research Commission (WRC) smart integrated pilot plant system valorises local sugar refinery wastewater into bioenergy and can also improve the water quality for reuse and cleaning of the plant," he added.

He indicated that being part of the technical team of 29 EU partners on the REFFECT AFRICA project to develop agro-waste-to-energy technology at eThekwini Fresh Produce Bulk Market is of interest to the community. "This comes with job creation and waste management in the province," he shared.
Looking ahead, Dr Tetteh's future research goals include his commitment to advancing knowledge by empowering future generations through science, innovation, technology, engineering education, and research.

"I also seek to provide hands-on assistance to address societal challenges with green transition and sustainable development tools. In line with DUT ENVISION2030, I look forward to an environment that rewards intellectual talents and recognises the hard work of emerging researchers to drive green hydrogen and engineering research institutes. I want to extend my sincere gratitude to the GERG, friends, and families for their continuous support and prayers. Even though the road to success has not been smooth, never give up, trust in God almighty and with commitment and persistence to break resistance," concluded Dr Tetteh.

POOR GOVERNANCE AND THE LACK OF IMPLEMENTATION OF GOVERNMENT POLICIES ATTRACTED DR ZAMOKUHLE MBANDLWA TO FOCUS HIS ACADEMIC RESEARCH ON SUCH SOCIETAL ISSUES

Waheeda Peters

Pictured: Dr Zamokuhle Mbandlwas

Dr Zamokuhle Mbandlwa is a Senior Lecturer in the Faculty of Management Sciences' Department of Public Management and Economics at the Durban University of Technology (DUT). The dynamic Dr Mbandlwa has a culmination of nine years of extensive lecturing and research expertise to his roles, with a portfolio boasting with more than 50 published journal articles.

> **"My research focus is on various areas as per my educational background. I have published 57 journal articles, one book chapter, and three books. I am an editor of the book that will be published next year,"**

He currently holds a PhD in Public Administration and has obtained degrees and diplomas in disciplines such as Public Administration, Social Sciences, Political Sciences, and Leadership Development.

"My research focus is on various areas as per my educational background. I have published 57 journal articles, one book chapter, and three books. I am an editor of the book that will be published next year," explained Dr Mbandlwa elatedly. He confirmed that the book proposal was approved by the publisher in June 2024. "The book title of the book that is underway is: analyzing the Impact of BRICS+ Nations' Trade Policies on Global Economies," he said.

Giving the specific focus of his sterling research and what inspired him to pursue such an area of study; Dr Mbandlwa commented that his research focus is on leadership ethics, good governance, disaster and risk management. "I was encouraged by the lack of leadership ethics in government which led to poor public service delivery. Based on my observation I think there is a lack of political will by those who are in authority to change the status quo. Poor governance and lack of implementation of government policies attracted my attention to focus on good governance," he professed. Furthermore, he added that African countries in the SADC region are not paying enough attention to disaster and risk management. "Due to climate change, many countries are experiencing several disasters and this area needs enough attention hence I identified this area as my focus area," he highlighted.

Adding to his focus area, Dr Mbandlwa outlined that his research is aligned with the DUT ENVISION2030. "My research is based on societal issues and attempts to provide solutions for the existing challenges. The lived values framework (LVF) is the cornerstone of the papers that I have published that focus on leadership ethics such as the professionalisation of public services, a commitment of government officials to deliver the services, and fairness in public service delivery. The recently published book (Challenges, Strategies, and Resiliency in Disaster and Risk Management), resembles the third perspective of ENVISION2030 (Sustainability). The book focuses on environmental sustainability, building resilient communities through social capital in cities, and people, culture, Knowledge, and Skill: A Philosophical Approach to Disaster and Environment, Fostering a Sustainable and Disaster-Resilient TransportationInfrastructure, just to highlight a few sections," he added.

Besides explaining his research, Dr Mbandlwa showcased some of the most innovative aspects of his research and how they contribute to advancing knowledge or solving real-world problems.
"My research papers that were published in the last two years were predicting what would happen during the general government elections in 2024. The predictions were proven to be correct by the election outcome in 2024. One of the innovative ways to reach a wider audience is to share my ideas and thoughts with the mainstream media on TV, radio, and in newspapers," he stressed.
For Dr Mbandlwa, being actively involved in his research and their potential impact on the field or society at large is crucial to him.

> **"The papers that I have published are making an impact because the policymakers have used some of my findings to develop frameworks,"**

"The paper that I published with my recently graduated master's student addresses critical issues of society. The paper was based on the data that was collected from various high schools in the Pinetown district. The paper is based on safety and security challenges in public secondary schools in South Africa. The paper presented the findings on how to reduce violence in public schools," he commented.

He delved further into his research saying that he believes his research is making a significant contribution to the body of knowledge because it focuses on what is happening in society. "The papers that I have published are making an impact because the policymakers have used some of my findings to develop frameworks, especially the paper that was about the disparities between the audit outcome and service delivery," he commented.

For Dr Mbandlwa, he strongly believes that collaboration with other researchers, institutions, or industry partners played a role in his research projects.

"I don't think there is an academic who can claim to know everything. Good listeners, and good readers, are good leaders. I am following the teachings of Frantz Fanon where he speaks about pedagogies of subjectification and transformation. I am also guided by Vladimir Lenin when he said the most important thing that people can do is to Learn, Learn, Learn, I learn more when colleagues speak. I learn more from books. I learn more from colleagues from different countries who share different perspectives on things. I learned more from the captains of the industry who have more updated practical information," he confessed.

Dr Mbandlwa spoke on the practical applications of his research findings and how they may benefit local communities or industries.

"The current project focuses on Assessing Water Scarcity and Infrastructure Challenges in the eThekwini Municipality. The research findings will assist in resolving the water challenges in the eThekwini Metropolitan municipality," he said confidently.

Besides research being an integral part of his academic life, Dr Mbandlwa spoke of how the National Research Foundation (NRF) ratings and what they signify about the quality and impact of your research.

"NRF rating is important and I think it plays a significant growth in the trajectory of the researchers," he explained.

Looking ahead, Dr Mbandlwa highlighted that in terms of his future research goals he is planning to collaborate with community organisations in the next research projects. "The next project will focus on disaster and risk management concerning sustainable development as a solution to reduce disasters," he said proudly.

In his personal time, Dr Mbandlwa enjoys engaging in extracurricular activities such as travelling, networking, and collaborating on research projects.

Beyond the academia, Dr Mbandlwa is an active member of the International Institute of Administrative Sciences (IIAS), and has contributed as a political analyst for various TV news channels including ENCA, SABC News, Newsroom Africa (DSTV channel 405), and Radio 786.