

Technology

“CUT is on the rise to be a model
university of technology in Africa”
- Prof. Henk de Jager



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“CUT ON THE RISE TO BE A MODEL UNIVERSITY OF TECHNOLOGY IN AFRICA”

The year 2019 was indeed another successful period for Central University of Technology, Free State (CUT). The university has aligned itself with the most pressing priorities for higher education (HE), science and technology in South Africa, which include, inter alia, the following: (i) the readiness of CUT for the Fourth Industrial Revolution by aligning academic and applied research programmes in ensuring that our graduates are ready for the future world of work; (ii) entrepreneurship education and training to produce job creators and not job seekers; (iii) broadening of access to the matured learner market through blended learning; (iv) enhancing our innovation ecosystems that should impact on the socio-economic development of our country; (v) closer collaboration between CUT and the Technical and Vocational Education and Training (TVET) sector; and (vi) addressing deep socio-economic inequalities and the national social justice agenda through teaching, research and innovation.

A total of 21 182 students registered at CUT for the 2019 academic year, compared to 19 464 in 2018, representing an increase of 8,8%. The Bloemfontein campus recorded an increase of 7,1% in the number of students, whilst the Welkom campus recorded an increase of 15,2%. This pattern is aligned with our strategy to stabilise the student intake at the Bloemfontein campus, in order to align it with the staff and

infrastructure capacity, and to increase the student numbers at the Welkom campus in a controlled manner, in tandem with the focused increase in staff and infrastructure capacity.

Furthermore, we held 13 successful graduation ceremonies during this year. An honorary doctorate was conferred upon Mr Brand Pretorius, and the Chancellor's Excellence Award was awarded to Dr Ellen Blekie. The total number of graduates for 2019 are 4 852 students, compared to 4 239 students in 2018; hence, an increase of 14,5%, including 61 master's degrees and 17 doctoral degrees.

Allow me to share a few outstanding achievements during 2019:

The Centre for Rapid Prototyping and Manufacturing (CRPM) won the Innovation Award: Corporate Organisation for innovations and research and/or development at the 21st Annual National Science and Technology (NST) 2018/2019 National Science and Technology Forum (NSTF)-South 32 Awards, also known as the “Science Oscars” of South Africa. Through that, the university will continue to provide its partners with exceptional tools and solutions to maintain the lead in 3-D printing technology, and to bring about social and technological innovations in the country.



MESSAGE FROM VC

The Department of Science and Innovation (DSI) approved that the multimillion-rand Medical Device Additive Manufacturing Demonstrator (MedAdd) be established at CUT during 2019 and 2020.

The CRPM was awarded the prize for the best performing and best managed project at the Fuchs Foundation 50 Golden Years Gala Awards.

The Product Development Technology Station (PDTS) created various product solutions for problems in South Africa's healthcare system, which included the Sensory Integration (SI) roller, SI swing, SI ramp and scooter board, patient transfer device, multifunctional walking frame, and sustainable wheelchair. The Qbell Care Bed Management System was successfully launched at the Spinal Unit of the Pelonomi Hospital in Bloemfontein.

CUT has broadened our footprint in Africa and globally, and embraced comprehensive internationalisation, with 80 active international agreements across the globe.

One of our Information Technology (IT) students, Mr Mike Natumanya, was part of the winning team in the national Standard Bank Challenge, which focuses on artificial intelligence and machine learning.

CUT's eTitans (the CUT eSports Team) proved their worth by finishing in second place in the University Sports South Africa (USSA) eSports Competition, where they competed against 11 universities.

The Football Ladies Team at our Welkom campus won the Free State Sasol League competition.

The CUT Thusanang (Poverty) Project, which supports needy students with food and living expenses, has been enhanced.

The CUT Solar 1 photovoltaic system (PV) installation, which can supply 10,4% of the current power of the CUT Bloemfontein campus, is in full operation, and will generate 400 MWh power in 2019, contributing to CO2 avoidance (carbon savings) of 323 ton.

CUT has re-curriculated 103 academic programmes, aligning them with the Higher Education Qualifications Sub-framework (HEQSF), towards ensuring relevance, impact and readiness for the Fourth Industrial Revolution.

The university continued to support our alumni, for purposes of deepening a lifelong relationship between CUT and its alumni, through opportunities that promote interaction and engagement with the university.

The new, accredited Primary Healthcare Clinic and Cafeteria were officially opened at the Welkom campus.

CUT has declared a zero-tolerance approach to gender-based harm, and progressive policies are in place to ensure that perpetrators are dealt with decisively. We cannot stand back and allow women to be violated, and several interventions have been implemented to create awareness, enhance the empowerment of women, and establish support mechanisms to our staff and students.

Women will represent 30,4% of the staff complement at Executive and Senior Management levels by 1 January 2020, compared to 17,4% at the beginning of 2019.

We are leading the University of Technology (UoT) sector with the highest number of academic staff holding doctorates.

Our transformation project is on track, and good progress has been made in this regard.

As a university, we are determined to play a crucial role in the socio-economic transformation of our region. CUT is committed to improving the lives of our people and making an impact in the region, the province, our country and the African continent. Towards this end, we have a role to fulfil in addressing the challenges of the society through education, research, innovation and skills development, the commercialisation of business ideas, and community engagement.

On behalf of the CUT Council and Management, I would like to acknowledge all our external partners – including businesses, industry, government, universities, and society at large – for your support during this year. In addition, the university cannot be successful without the continuous support of, amongst others, the Department of Higher Education and Training (DHET), DSI, the Council on Higher Education (CHE), Universities South Africa (USAf), the South African Technology Network (SATN), professional bodies, science councils, the Sector Education and Training Authorities (SETAs) in South Africa, the National Research Foundation (NRF), and the South African Qualifications Authority (SAQA). Please be assured that we value and nurture these partnerships. Furthermore, I am grateful for the support and guidance of the entire CUT Council. Finally, thank you also to our Chancellor and the Management Team for your hard work and dedication, and to all staff and students, including Senate, the Institutional Forum (IF), Alumni Association, the unions, student leaders, alumni and parents, for your commitment and support during this year.

CUT is certainly on a rise, and more and more time and effort are spent at strategic level, including on building strategic partnerships and enhancing the financial sustainability of the university. As reported previously, following feedback from the community, they have noticed the renewed attempts to position CUT as "a transformative, transformational, entrepreneurial and engaged university and 'model' UoT in Africa, impacting on the socio-economic development of the Central region of South Africa and beyond". We have all the elements to achieve this vision.

I wish you a blessed festive season, and best wishes for the new year.

Kind regards / Ditumediso tse mofuthu / Vriendelike groete

Prof. Henk de Jager

Vice-Chancellor and Principal





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PDTS innovates to improve care for patients at Pelonomi Hospital



The Pelonomi Hospital Spinal Unit staff could not contain their excitement upon receiving the newly invented Qcare system, a device that will improve care and response to spinal patients. This is a first of its kind in the country's healthcare system.

The Chief Executive Officer (CEO) of Pelonomi Hospital, Ms Baesi Ramodula, and her team launched QCare System, an innovative bed management system solution that is tailor-made for spinal unit patients, at Pelonomi Hospital on 10 October 2019. This solution is the first of its kind in the country's healthcare system.

"Currently most of the assistive devices in South Africa are imported, and provincial hospitals cannot afford them. Through our work, we are hoping to make a huge impact on the healthcare sector in the region and beyond", said Mr Allan Kinnear, Project Engineer: Medical Devices at PDTS.

The initiative came to fruition owing to the expertise of a team of engineers from the Product Development Technology Station (PDTS) at the Central University of Technology, Free State (CUT), in collaboration with the hospital, and the generous support of the Technology Innovation Agency (TIA).

Qcare is just one of the medical assistive devices the team has developed to support Pelonomi Hospital. "I think this is something that sets CUT apart from others. We are small, but innovative; we bring much wider variety and diversity into the higher education scene. The stakes have changed, and this is how the universities' research work must impact on their communities", said CUT spokesperson Mr Dan Maritz.

Unlike imported medical products that do not always solve our healthcare challenges, this system is a locally developed solution towards improving patient care. What is truly remarkable about Qcare, is that it incorporates an ergonomic call button that spinal unit patients can use effortlessly to activate an alarm to a nursing station through a wireless network. A monitor will then display the bed that needs assistance and once the nurse is at the bed, he/she will deactivate the alarm with his/her RFID staff card. The Qcare software can also report on nurses' response time, effectiveness and utilisation, as well as bed occupancy. It is thus not only a call system, but a bed management system.

The PDTS continues to make a difference by converting challenges within South Africa's healthcare system into innovative product solutions tailored to African conditions and environments. Thus far, the PDTS has turned R595 000 worth of TIA funding into seven commercially ready medical devices that address the needs of society and industry, one of which is the Qcare system.





The project team from CUT, TIA and Pelonomi who worked tirelessly to bring the dream to fruition for the hospital.

Mr Kinnear said that South Africa has pressing health problems and blatant challenges. "From a product development point of view, this is an opportunity for us to create African solutions for South African challenges. Not only will we improve the cost, availability and accessibility of medical devices, but we will also create opportunity for economic growth. If we design devices to function in the toughest conditions that our people face, these devices will function perfectly in first-world countries. Our challenges, when solved, create an exciting export of opportunity, stimulating the manufacturing sector in Central South Africa. This was a team effort, and people came together to create something special."

Ms Ramodula said that the launch of the Qcare system is a milestone for the healthcare sector in general. "This is the first tailor-made innovation for our facility. One thing that I appreciate, is that the system has been designed and produced locally, which makes it affordable for us to manage and maintain. This system is going to assist us in improving our patient care. They have demonstrated how the patients can get the attention of the nurses without screaming for attention. As healthcare givers, we develop a mutual relationship with these patients; they are our families, and we are sometimes limited to reach them, and that is where the Qcare management system comes in. Today we are celebrating a milestone."



The CEO of Pelonomi Hospital, Mrs Baesi Ramodula and her team launched the QCare System, an innovative bed management system solution that is tailor- made for spinal unit patients at Pelonomi Hospital. She is seen here with Mr Marinus Potgieter, Project Engineer: Medical devices and Deputy Director of PDTS.

Mr Thabiso Letsebe from TIA's Technology Station Programme said that these activities are exactly why the PDTS is one of their leading stations in the programme. "We have about 18 of these stations based at various universities. Looking at the two main objectives, why the programme exists is for the universities to be more responsive to the needs of the industry, and for the industry to be able to benefit from the know-how of the experts. The station here has done very well to be working with the industry. As TIA, we are very proud, and would like to congratulate the team for the good work."



CRPM wins Fuchs Golden Years Anniversary Project



Dr Gerrie Booysen (centre), Team Leader and Director of the CRPM, proud of their achievement as overall winners of the Fuchs Foundation – the Golden Years prize. He is flanked by his dedicated team of Engineers.

The Centre for Rapid Prototyping and Manufacturing (CRPM) at the Central University of Technology, Free State (CUT) scooped yet another prize at the Fuchs Golden Years Anniversary Project for their medical technology excellence. The foundation introduced a national flagship project for their 50th anniversary, branded "Fuchs – The Golden Years", to mark this important milestone in its history. The anniversary celebration was held on 1 August 2019.

The Changing Faces, Changing Lives Team competed against 11 other top contestants in the Science, Engineering and Technology (SET) community, and were crowned the best overall winners, walking away with the grand prize of R1 million.

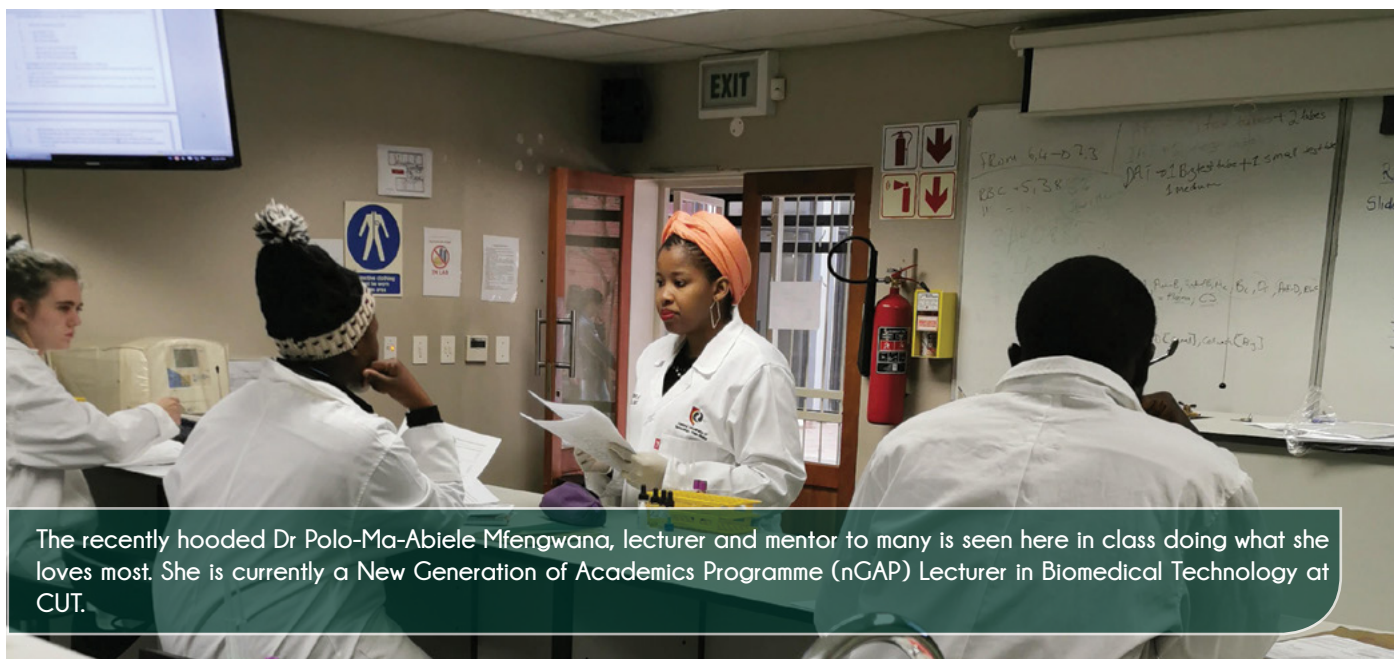
This accolade follows their recent win of the National Science and Technology Forum (NSTF)-South32 Award, also known as the "Science Oscars" of South Africa, for innovation using 3-D printing to reconstruct the deformed faces of many South Africans from disadvantaged backgrounds. The prestigious event was held in Gauteng on 27 June 2019.

The university is currently hosting the Research Chair in Medical Product Development through Additive Manufacturing (3-D Printing Technology), an initiative intended to enhance South Africa's research outputs and innovations in areas that are crucial to our national innovation strategy. The hosting of the Research Chair by CUT is just one more achievement to add to its well-notched belts. Since 2015, the university has created new platforms through Additive Manufacturing, allowing staff and students to open up to new ideas that embrace this technology.

The Carl & Emily Fuchs Foundation was established on 1 August 1969 (50 years ago) by founders Dr Carl and Mrs Emily Fuchs. The foundation is a private philanthropic institution that avails grants in order to fund development initiatives nationally within South Africa.



CUT scholar brings hope to cancer patients with her groundbreaking research



The recently hooded Dr Polo-Ma-Abiele Mfengwana, lecturer and mentor to many is seen here in class doing what she loves most. She is currently a New Generation of Academics Programme (nGAP) Lecturer in Biomedical Technology at CUT.

As we near 2020, CUT researchers not only continue to lead the way in finding solutions that will sustain the lives of those threatened by dreaded diseases, but they also focus on applied research that responds to societal issues.

The efforts and achievements towards CUT's strong sense and focus on its vision to produce quality, social and technological innovations in socio-economic development, primarily in the Central region of South Africa, and the university's powerful determination to succeed and excel in teaching and learning, have been eminent in the quality of the graduates, scientists and researchers produced by the university.

Seven doctoral candidates graduated at the 2019 Spring Graduation Ceremony, one of which is Dr Polo-Ma-Abiele Hildah Mfengwana, a 28-year-old, passionate researcher, mentor and lecturer from the Aliwal-North in the Eastern Cape. Dr Mfengwana obtained the Doctor of Health Sciences in Biomedical Technology degree for her groundbreaking research work, "Evaluation of pharmacological properties of traditional medicinal plants used for the treatment of cancer by South African and Lesotho communities", which is envisaged to bring hope to cancer patients and have a significant impact in the pharmaceutical industry.

Cancer is a dreaded disease known for an abnormal growth of cells that tend to flourish in an uncontrolled way, and spread to destroy the human body. Researchers continue in their quest to find a cure for cancer, and this was also the case for Dr Mfengwana, whose choice of study was motivated and informed by the need for alternative anticancer drugs, as current cancer treatments have bad side effects that destroy both normal and abnormal cells.

In her research, Dr Mfengwana evaluated the pharmacological

properties of *Asparagus laricus*, *Gunnera perpensa* and *Senecio asperulus*, medicinal plants used by traditional healers in Lesotho and Limpopo for the treatment of prostate and breast cancer, and that are claimed to cure it.

Her study provides an insight into the antibacterial and anti-inflammatory activities of these plant extracts, and demonstrated their safety using current and classical cell biology techniques. She also discovered that *Asparagus laricus* is a suitable aspirant for future breast cancer chemotherapeutic drug development, due to the selective cytotoxicity thereof on cancer cells, and the safety thereof for normal cells.

"The safety of this plant was proven at a genetical level through the comet assay (a test used to assess if the drug can cause DNA damage when exposed to cells). Upon assessment on kidneys, as well as on liver cells with and without the presence of S9 (a liver enzyme that mimics the metabolism of the administered drug by the liver), *Asparagus laricus* further showed to have 28 unknown active compounds, which still need to be isolated and studied further before the in vivo investigations and clinical studies can be conducted. It is envisaged that my work will have a significant impact in the pharmaceutical industry," she said.

When asked whether she was the first researcher to discover the magical powers of this medicinal plant, Dr Mfengwana said: "Yes, this was the first discovery, more especially from the part of the plant that I used (leaves), as in most researches, roots are used. My research findings are novel and very promising; thus will definitely lead to drug development after the drug is tested on rats and clinical trials from *Asparagus laricus* active ingredients. Pharmaceutical industries will be able to develop a new breast cancer drug that will not have bad side effects, due to the selectivity of my plant."



Her research findings were presented at national and international conferences, and two articles were published in high impact accredited journals. She has also published six articles and a book chapter, and her research presentations have won a couple of awards.

"The responses I got so far has been positive, and has opened doors for me. I now receive invitations to be a reviewer for some international journals, requests to deliver keynote addresses, and have since established collaborations with other South African universities, as nobel researchers are now aware of my work, and have shown enormous interest to work with me", she said.

Dr Mfengwana is the wife of Mr Fezile Mfengwana, and a mother of three – Lana, and twins Ntyatyambo and Nkwenkwezi.



The magical plant: "Asparagus laricinus leaves", a potential future breast cancer drug that is safe to normal cells.



The Mfengwana family: Mr Fezile, Dr Polo and children, Lana, Nkwenkwezi and Ntyatyambo (twins).

10 fact-files you didn't know about Dr Mfengwana.

Did you know?

- Dr Mfengwana grew up using traditional medicinal plants for the treatment of minor ailments such as flu, upset stomach, cleansing and detoxing.
- She completed matric at Eggili Secondary School in 2006, but took a gap year in 2007 whilst trying to find a suitable career.
- She loves CUT, and values student support programmes, as she believes that they are a crucial ingredient in students' academic success and female empowerment in education; hence, she is a mentor to many.
- She did exceptionally well during her undergraduate and postgraduate studies, as she enjoyed the science involved in Biomedical Technology.
- She was the recipient of the Vice-Chancellor's Student Excellence Award in 2012 and 2013, and won the Best Second-year, Best Third-year and Best BTech Student in Biomedical Technology awards. She obtained the National Diploma, BTech and MTech in Biomedical Technology cum laude at CUT, and completed a Postgraduate Diploma in Tertiary Education at Unisa in 2016.
- She was the recipient of the National Health Laboratory Services (NHLS) Bursary, the National Research Foundation (NRF) Master's Scarce Skills Grant and the Department of Science and Technology (DST)-NRF Research Development Grant for New Generation of Academics Programme (nGAP) Scholars, and is currently a Thuthuka Doctoral-track Grant holder.
- During her employment as Biomedical Technology Lecturer, she was mentored by Prof. Samson Mashele, Dean of Health and Environmental Sciences, in the spirit of "growing your own timber".
- She was a Junior Lecturer in the Extended Curriculum Programme (ECP) from 2014 and was appointed as an nGAP Lecturer in the Biomedical Technology programme in 2016, where she was further mentored by Dr Ntsoaki Malebo.
- She is passionate about, and proud of South Africa's flora and fauna biodiversity, which is why her research interest is drug discovery from medicinal plants.
- She has supervised several BTech and Master's in Biomedical Technology students, with at least one master's student graduating with her at the recent Spring Graduation Ceremony.





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Renowned Professor unpacks transformational entrepreneurship at the 5th Annual Herman Mashaba Public Lecture



From left: Prof. Henk de Jager Vice-Chancellor and Principal, Prof. Joan Lockyer, Director of Education, International Centre for Transformational Entrepreneurship (ICTE) at Coventry University, Dr Herman Mashaba, CUT alumnus, former Executive Mayor of Johannesburg, Hammanskraal-born businessman and Black Like Me founder and Prof. Albert Strydom, Dean of Management Sciences.

In line with its Vision 2020, the Central University of Technology, Free State (CUT) has set a goal of transforming the institution into an innovative and entrepreneurial university, and of becoming a robust agent for socio-economic development in the city and the region.

On 16 September 2019, the Faculty of Management Sciences held their Annual Herman Mashaba Public Lecture, where Prof. Joan Lockyer, Director of Education at the International Centre for Transformational Entrepreneurship (ICTE) at Coventry University, delivered a powerful presentation on the importance of transformational entrepreneurship in the socio-economic development of South Africa.

Prof. Lockyer explained how they interpret transformational entrepreneurship within their programmes, and why they believe it is an important alternative perspective to the normal approach to entrepreneurship, as well as why they think it is important and valuable in terms of the socio-economic development of South Africa.

When unpacking transformational entrepreneurship, Prof. Lockyer said the aim is to promote enterprise and entrepreneurship through a systemic approach, bringing about transformation in socio-economic development (Maas, Jones & Lockyer 2016).

"When we talk about enterprise, we refer to the ways of thinking, of approaching a subject, and using what we have to transform our jobs or workplaces with the skills and attributes of an entrepreneur without starting a business. Entrepreneurial people go the extra mile, and start a business for themselves, as the economy needs both entrepreneurs and people within the public and private sector to start businesses. The systemic approach is important to transformation, as it looks at the ecosystems, and the whole package of things that goes into making an entrepreneurial environment work. For us, transformation is about creating an ecosystem that enables socio-economic change to be productive."

She also said that there is a disconnection between what is taught in institutions, and what is happening in the outside world. "The aim is to try and bring those two worlds together, as education serves the needs of industry, and, in return, industry is used as a vehicle for the graduates that we produce through our systems. Transformational entrepreneurship aims to support growth to businesses that are looking to employ people and create social impact, and that is why we gravitate towards it."

Prof. Lockyer further indicated that South Africa is an efficiency-driven economy, and people do not feel that they have the skills for entrepreneurship in the widest population. She said that people between the ages of 24 and 34 years are the least entrepreneurially active compared to those who are more mature; those who are 45 to 54 years of age.

"In South Africa, gender parity is improving, and that needs to be encouraged and supported. Our role is to make the impossible possible. It is never easy, simple and straightforward, because we live in a complex world, and we talk to our students about metacognition. We try to get them to think beyond the obvious solutions to problems and encourage them to not only think about getting a job after graduating. By getting them to think in this metacognitive way, we are saying that education gives tools, while experience gives knowledge of the world. We need to bring these two together and see where it takes us and use the metacognitive understanding to create space for ourselves."

Prof. Joan Lockyer is an experienced enterprise educator; a leader in the development of a Master's in Enterprise and Entrepreneurship Education; and co-deliverer of the International Enterprise Educators Programme (IEEP). She has developed a variety of modules that support enterprise and entrepreneurship skills development in undergraduates, regardless of disciplines. Her research interests embrace entrepreneurship in a range of contexts, but with a focus on the transformative effects thereof through education, leadership and innovation. She has also worked on projects in Oman, South Africa, China, Nigeria and the Occupied Palestinian Territories.



FEBIT students challenged to apply critical thinking to address real-world challenges



Students in the Faculty of Engineering, Built Environment and Information Technology were encouraged to apply creative thinking and problem-solving skills to address complexities of the real-world issues. Participating in the 'How to Change the World' programme is Engineering students: Morakane Mohanoe, Letshego Mogoera, Tlotlo Boom and Lebohang Moloi. The team was tasked to come up with a viable solution to the Cape Town water crisis.

The world is changing, and so is education. Universities are hothouses of innovation and entrepreneurship, and the Central University of Technology, Free State (CUT), in partnership with government and business, is moving beyond the traditional pedagogical methods in order to drive an array of vital industries. Universities are perceived as economic engines, providing students with the set of skills to compete in increasingly global workplaces. It is understood that when students are exposed to a better pedagogical paradigm and given the correct skills set, they can become robust agents for change in their respective environments.

The Faculty of Engineering, Built Environment and Information Technology (FEBIT) held the 'How to Change the World' (HtCtW) programme for engineering students from 28 to 30 August 2019. The goal of the programme is to expose students to real-world challenges, engage in public policy problems, build an understanding of social objectives, and apply critical thinking to come up with credible solutions.

Approximately 100 students in different fields of engineering, built environment and Information Technology (IT) participated in the programme. Teams were presented with a broad, open-ended societal challenge, which was structured around the Sustainable Development Goals (SDGs), and ranged from problems such as supplying energy services to rural African locations, to finding solutions to overcrowded and congested transport systems in growing urban centres.

Their challenge entailed designing a solution that can help address SDG 6, and ensure the availability and sustainability management of

water for Cape Town and its residents. Students were to present their concepts in a tradeshow-style poster, and pitch that, together with funding and implementation solutions, to a panel of experts, explaining why they believe that their idea deserves to be developed further.

Goitseone Legodi, an Electrical Engineering student and one of the participants, said that he learned a lot from the programme, and realised the power of working in teams. "This workshop taught us about a lot of things, especially working in teams. Our team comprised of students from different Engineering departments, and it was interesting to see how we merged our expertise to try and come up with viable solutions. This programme has really been a wonderful and exciting experience from day one. I wish that all student had an opportunity to attend and learn these different techniques of solving real-life problems."

The HtCtW Programme by Engineering Education is a part of a project sponsored by the Department of Higher Education and Training (DHET) in South Africa. The purpose is to build a community of engineering educators in South Africa, in partnership with CUT; Tshwane University of Technology (TUT); and the Department of Science, Technology, Engineering and Public Policy (STePP) at University College London (UCL). The project is co-ordinated by Prof. Yali Woyessa, Head of Department: Civil Engineering.



22nd FEBIT research seminar: Academics, business and industry share ideas on how they can be relevant in the 4th Industrial Revolution



Prof. Laetus Lategan, Senior Director: Research and Postgraduate Studies, addressing academics on the importance of responsive research that will make impact to communities.

The Faculty of Engineering Built Environment and Information Technology (FEBIT) hosted its 22nd annual research seminar on 17 October 2019. The seminar brought together researchers, engineers and scientists from the academia and the industry under one roof to exchange ideas on the latest developments in engineering and information technology. This year, FEBIT launched the Centre for Sustainable SMART Cities (CSSC).

Speaking of the 4th Industrial Revolution (4IR), Prof. Fidelis Emuze, Acting Dean of FEBIT at the time, acknowledged that as a University of Technology, CUT does not want to fall behind. He indicated that even though the engineering faculty has its traditional disciplines, it has gradually moved beyond them to advance into the 4IR.

He further mentioned that this move is making borders between certain disciplines unclear and that is why they have developed the Centre for Sustainable Smart Cities (CSSC), which will not only focus on one social development goal, but all seventeen of them to avoid future challenges. He encouraged the industry members to have an open mind so they can appeal to their reason, which is the motor of enlightenment.

Prof. Yali Woyessa, Assistant Dean for Research Innovation and Engagement (RIE), explained the reason why academics and industry members should take a leading role in transforming the world by developing knowledge and skills and how they have to adapt themselves to the 4th Industrial Revolution if they are to remain relevant.

He also touched on the country's burning issues such as population increase, energy crisis, food shortage and water scarcity.

"The demand and supply ratio of resources is out of balance and without innovations, we are going to deplete the planet faster than we can imagine. As engineers, we are best positioned to bring solutions to our societal issues," said Prof. Woyessa.

In his address, Prof. Laetus Lategaan, Senior Director: Research, said that industry members, students and academics need to be responsive to what is happening in the world of business and industry and know the research agenda of the government and country, because ultimately, there is an end user for the products or services they offer.

He mentioned CUT's six new centres with commonalities, highlighting that "although the respective centres are accommodated in different faculties, the idea is to work across faculties because the societal issues are far too complex for one discipline to have all solutions. Involving other professions in research will help broaden the respective professions which, as a result, will make graduates more employable and competitive in the job market." He appealed to researchers to be competitive in the South African research environment.



CUT hosts seminar on institutional effectiveness



At the HERDIC-SA Seminar hosted by CUT: Academics from Tshwane University of Technology, Motheo TVET college, the University of the Free State and Free State Department of Education who attended the seminar to strengthen the regional collaboration and learn about different approaches to rethinking the way in which institutions should see themselves operate within the next 10 to 15 years.

The Central University of Technology (CUT) in collaboration with the Higher Education Regional Development Initiative of Central South Africa (HERDIC-SA), hosted a seminar on institutional effectiveness on 23 July 2019, which served to demonstrate the commitment of HERDIC-SA to the regional collaboration agenda within the Central region of South Africa.

The seminar was attended by delegates from the Department of Education, Tshwane University of Technology (TUT), North West University (NWU), Sol Plaatje University (SPU), the University of the Free State (UFS), and Motheo Technical Vocational Education and Training (TVET) College, and was led by Dr Lisa Foss, Vice-President for Planning and Engagement at St. Cloud State University (SCSU) and Chancellor's Fellow at Minnesota State.

Dr Foss' association with HERDIC-SA allows the region to grasp the importance of constantly and rigorously examining the effectiveness of higher education institutions in the region, and to come up with effective practices that will hold them accountable and keep them transparent.

She presented two case studies, titled "The reimagining process of the Minnesota Schools, Colleges and University (MNSCU) System" and "St. Cloud State University (SCSU) institutional effectiveness programme".

She mentioned that the case studies provided the MNSCU System with an opportunity to build a culture of evidence-based innovation and continuous improvement in a collaborative way across various campuses.

"It is an ongoing effort, as this is phase one of empowering our people, unleashing the creativity of our faculties, staff and leadership to innovate with new ideas, and then share those ideas", she said.

She further stated that institutional effectiveness has become a basic requirement for any organisation, and that there are no perfect models out there. Institutions within HERDIC-SA were challenged to plan together, and to invest resources in a collaborative manner to refine their goals and improve their effectiveness from their own contexts, so that regional success could be achieved.

MNSCU comprises of 30 state colleges and seven state universities, with 54 campuses throughout Minnesota, educating more than 375 000 students annually, making it the fourth largest in the United States.



Aerospace Engineer Aisha Bowe inspires aspiring STEM entrepreneurs



From left: Mr Chris du Plessis, United States Consulate General Johannesburg; Ms Aisha Bowe, guest speaker, Aerospace Engineer, Founder, and CEO of STEMBoard; Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement; Ms Jenifer Bullock, Public Affairs Officer: American Consulate; Dr Izabeth Conradie, Manager: Idea Generator and Ms Elizabeth Francis, Librarian at Bloemfontein Campus.

Science, Technology, Engineering and Mathematics (STEM) are subject fields that have always been regarded as difficult, but that are vital in this era of the Fourth Industrial Revolution (4IR). The question is whether this perception is a matter of attitude, a mindset, or the way in which content is delivered.

Ms Aisha Bowe, an Aerospace Engineer, and Founder and Chief Executive Officer (CEO) of STEMBoard, delivered a public lecture on STEM entrepreneurship at the Central University of Technology, Free State (CUT) on 8 October 2019. Drawing from her life experiences, she delivered an inspirational presentation on how her life unfolded, and what she went through to get where she is today.

Ms Bowe said that, growing up, she did not have much, and never thought she was going to amount to anything in life. She also did not have dreams and aspirations to attend college, as she was not a smart and promising student in high school, until, one day, her father handed her a calculus book he found in the trash and encouraged her to take a Mathematics class. "I heeded the advice, changed my mindset, and excelled in that class. You never really know until you try, and I believe that failure is success in progress."

Her advice to students is to always seize opportunities that come their way, especially in the technology-driven economy. "Technology is democratising the world. Each one of you can start a business by finding a good service or product, and figuring out how to sell it on the internet. Do not wait until you get your degree to start building your financial future and start a business. You can do it now. A degree does not define what you can do in life. Having a technological mindset, and merging it with entrepreneurship, is the key to the future. As you start to watch the world around you transform, grab that opportunity, because anything is possible. Africa is going to be more connected, and all those things that are in the US, France and other countries, are going to come here, and you should be ready to own them."

Today, Ms Bowe manages multimillion-dollar defence contracts and private-sector technology clients. "This unique combination has strengthened my commitment to evangelising the power and unlimited future of science and technology for young women around the world", she concluded.



Scholars create space for southern narratives on teaching and learning at the 5th Annual SoTL Conference



Engagement at the parallel sessions where academics held face-to-face discussions with presenters. The topic of this session was 'Undergraduate student perceptions on intrapersonal skills required for academic success' by Prof. James Swart, Associate Professor in Electrical, Electronic and Computer Engineering.

In the postcolonial world of the 21st century, fundamental and urgent questions about the nature of knowledge have profound ramifications for Scholarship of Teaching and Learning (SoTL). Whilst attempts have been made to internationalise the curriculum in many countries around the world since as far back as the 1990s, there have been more recent calls to decolonise higher education curricula.

CUT, in collaboration with the University of Johannesburg (UJ), co-hosted the 5th Annual SoTL Conference to unpack the theoretically grounded and practical strategies that address current important pedagogical debates on decolonisation. The three-day conference, which commenced in CUT Bloemfontein Campus on 9 October 2019, was intended to engage academics in innovative curriculum reform that addresses challenging matters.

In his address, one of the keynote speakers, Prof. Boaventura de Sousa Santos, a distinguished legal scholar at the University of Wisconsin-Madison and Director of the Centre of Social Studies at the University of Coimbra, based his presentation on social, political and educational contexts. He spoke firmly about the effects of colonialism on the current higher education standard, as a result of colonialism in society, and said that, contrary to popular belief, these effects are not so easily removable. He added that, due to this shifted and disguised colonialism, the educational system is still only serving the needs of the privileged few, because even as a tertiary-level student, a black student is still subjected to the negative stereotype associated with his/her racial group, which shows the extent of the exclusion and injustice in social arrangements, and that leaves students feeling hopeless.

Prof. Sabelo Ndlovu-Gatsheni, Acting Executive Director of Change Management at the University of South Africa (Unisa), focused on the implications for teaching and learning as a result of politics of knowledge in Africa. Prof. Ndlovu-Gatsheni delivered a historically enriched address, focusing on the core issues of ontology and epistemology as departure points in understanding the politics of knowledge.

Another speaker, Prof. Jo-Anne Vorster, Associate Professor and Head of the Centre for Higher Education Research, Teaching and Learning at Rhodes University, shared some insight into the enablement of, and constraints for curriculum change from a higher education and academic development perspective, also touching on how scholarly teaching and SoTL can contribute to curriculum change. She mentioned that many of the solutions are to be found in rethinking and reshaping teaching and assessment practices and the curriculum. She highlighted that the current dropout rate at South African universities is higher than the graduation rate, and that students who obtain degrees, obtain mediocre degrees that leave them unprepared for the real life of work. She further identified classrooms and the curriculum as spaces in which teachers and students can think about which knowledge is essential, the purpose of different kinds of knowledge, and which knowledge practices can best serve students and enable them to contribute to a more socially equal globalised world.

Prof. Catherine Manathunga, co-leader of the University of the Sunshine Coast (USC), Australia's Transcultural and Indigenous Pedagogies Research Group, delivered a presentation on "Decolonising higher education: creating spaces for southern knowledge systems". Prof. Manathunga acknowledged that higher education currently remains dominated by northern scientific knowledge, despite decades of post-colonial, indigenous and feminist research. She said that in contemporary times, the forces of globalisation, neoliberalism and managerialism only served to re-inscribe the northern knowledge hierarchy, and that the effects of those efforts are killing the knowledge system. She referred to the northern knowledge processes as the "global apartheid of higher education" that generates profound damage to democratic practices, cultures, institutions and imaginaries. In addition, she argued that in order to generate genuinely democratic approaches to knowledge production, a great deal of work needs to be done to decolonise teaching, learning and research.



6th FEBIT Research Culture Workshop held to encourage applied research for relevance and societal impact



From left: Prof. Laetus Lategan, Senior Director: Research and Postgraduate Studies; Dr Mlungisi Cele, Acting CEO: National Advisory Council on Innovation (NACI); Prof. Muthoni Masinde, Head of the Department of Information Technology; Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research Innovation and Engagement; Prof. Yali Woyessa, Assistant Dean: Research Innovation and Engagement and Prof. Herman Vermaak, Dean of the Faculty of Engineering, Built Environment and Information Technology.

Applied research is designed to solve practical problems of the modern world, rather than to acquire knowledge for knowledge's sake. With the Fourth Industrial Revolution (4IR) already upon us, we need to align our research to the Sustainable Development Goals (SDGs), and use the right technologies to solve the modern world's practical problems.

In terms of academic research outputs, and as a university of technology, the Central University of Technology, Free State (CUT) is contributing significantly in this regard. All research programmes are aimed at solving problems in business, industry and government, in order to contribute to the socio-economic development of the region.

On 2 October 2019, FEBIT held its 6th Annual Research Culture Workshop themed "Steering research for relevance and societal impact". The main objective is to instill a culture of research amongst academic researchers, with much emphasis on applied research, to find solutions and develop innovative technologies that will impact on the economic development of the city, the region, and beyond.

Prof. Alfred Ngowi, Deputy Vice-Chancellor (DVC): Research Innovation and Engagement, said that he would like to see pockets of world-class research with national and international partners taking place at CUT. He also spoke about three avenues for CUT's research impact, including a balance between basic and applied research, high-impact journals, and multidisciplinary research centres. "We cannot avoid basic research, but we need to focus more on applied research if we want to tackle real issues. Excellent research leads to a better society and the economy. By leveraging the 4IR, we can come up with multidisciplinary research methods that will benefit this region."

In his keynote address, Dr Mlungisi Cele from the National Advisory Council on Innovation (NACI) discussed the South African Innovation System and the role of universities. He focused on the context in which knowledge production occurs, identifying matters that require a sense of urgency to ensure that South Africa does not lag behind. He said that South Africa is characterised by unequal development,

as well as an increasing demand for improving the quality of life and well-being of South Africans. In this broader context, he mentioned multiple societal challenges – a concept that is now used globally in the Science, Technology and Information (STI) policy discourse.

He also said that non-governmental organisations and civil society were not included in research or innovation practices in the past, but now they cannot be excluded. "As academics, we can no longer set research agendas without the inclusion of the beneficiaries or the users. At the heart of an innovation policy, it must be what humanity needs, and not what we traditionally did to come up with solutions, and thereafter go to societies and present them with solutions for their problems."

"It is important for us to think what innovations or technological solutions we should be developing to transform the situation of our people. As a country, we need to have more Research and Development led industries that may help us to stimulate or generate more resources of economic growth. We also need to improve the competitiveness of industries and firms, and I was happy to see that CUT is doing well in 3-D printing."

Dr Cele also indicated that South Africa is not doing well in terms of the global innovation competitive index. "Our firms are not competitive, and part of the reason is that they are not innovative. The question is: What is it that CUT can do to address these challenges related to manufacturing? We need to use our innovation to support Small, Micro and Medium Enterprises (SMMEs), as the future of our economic growth depends on them to properly function and ultimately produce. We need to improve and upscale the grassroots of innovations, and if you want to be relevant as CUT, you need to have initiatives that are aimed at supporting these innovations, which are those found in townships, rural areas and informal settlements. We need to support government's decision making, so that we are not always criticised", he concluded.



CUT hosts world renowned AM experts at the 20th annual RAPDASA conference



Dr Terry Wohlers, one of the keynote speaker, CUT Alumni, and President of Wohlers Associates, Inc., in the USA gave an insightful presentation on scaling AM into production and sharing his 30 years experience in AM with the audience at the RAPDASA conference held from 06-08 November 2019.

From 06-08 November 2019, the Central University of Technology, Free State's (CUT) Centre for Rapid Prototyping and Manufacturing (CRPM) brought together renowned experts in the field of Additive Manufacturing from around the globe to network and share their knowledge on technology at the 20th annual international RAPDASA conference, themed Creating the Future of Manufacturing – Layer by Layer.

Additive Manufacturing (AM) has been active in South Africa for 21 years and the market has grown significantly over the years. The technology has matured from a prototyping technology into the fully-fledged manufacturing technology and has proved to be aiding designers and engineers to achieve complexity in design and manufacturing. The conference covered sectors such as: Aerospace, Medical and Bio-medical, Automotive, Sport & Leisure and Architecture.

Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research Innovation and Engagement said "we at CUT are privileged that we had a vision 21 years ago that 3D has the potential to grow and since that time, we have been very active in improving it, and we are doing significantly well. We also believe that we are at the right place and this technology is going to take us forward. This is the future and the combination of these disruptive technologies that comes with 4IR are going to take this 3D printing to the next level.

Keynote speaker, Dr Terry Wohlers, President of Wohlers Associates in the USA and CUT Alumnus said that he started with 3D printing more than 30 years ago and have had the time to learn how to make models, prototype parts and some forms of tooling. "The next frontier is to use it for actual manufacturing, and we have seen a few cases of that in aerospace, medical, power generation, dental, jewellery and some consumer products. The next opportunity in the future is to drive cost out of the machines, drive the speed up and make more types of material but most importantly lower costs. If your product is not adding value, then you probably shouldn't 3D print it, because it is going to cost more. You have to somehow add value to justify some of the things you do."

Dr Terry Wohlers is the President of Wohlers Associates, Inc., an independent consulting firm that has been in existence for 31 years. The company provides technical and strategic consulting on new developments and trends in rapid product development, additive manufacturing and 3D printing.

In 2016, he became an adjunct professor at RMIT University in Melbourne, Australia. Wohlers was elected to the SME College of Fellows in 2005 and has in 2004, received an Honorary Doctoral Degree in Mechanical Engineering from the Central University of Technology, Free State (CUT).



One of the attendees at the conference, Mr Mokoena Botete, first year PhD student from Stellenbosch University said that he enjoyed the conference and has learned a lot. "Up to so far the conference has been pleasant. I have learned a lot of things from both local and international speakers, their presentations were insightful. I am also grateful that I have managed to network with a lot of people and will be collaborating with some on new opportunities in terms of AM. I am content."

Mr Justice Ramakokovhu, Operations Manager at Armscor Dockyard, said that their company manages and operates the Naval Dockyard as the SA Navy's (SAN) third-line maintenance and refitting authority. The Dockyard focuses on maintaining the required capabilities to support the nation's submarines, ships and shore-based support facilities.

He said his reason to participate in the conference is to acquire knowledge, network and collaborate with experts in the AM space. "We are currently busy with the process of investigating the 3D printing technology and are looking into using it to support the foundry applications. I came to the conference so that I can be able to network, get to meet more people who are in the same business so that we can be able to position ourselves, learn and advance."

Other speakers at the conference includes Prof. Eric MacDonald from Youngstown State University, Prof. Alain Bernard from Centrale Nantes, France, Dr Chris Broeckhoven from the University of Antwerp in Netherlands, Mr Ravi Kunju from Altair USA, Prof. Markus Glasser, senior Vice president of EOS, Mr Olivier Diegerick, Portfolio Development Executive at Siemens PLM, Prof. Amir Zadpoor from Delft University of Technology, Netherlands, Prof. Frank Bruckner from Technische Universitat, Dresden, Germany, Prof. Nataliya Kazantseva from Russian Academy of Sciences, Russia, Prof. Ian Gibson from University of Twente, Netherlands, Prof. Paulo Bartolo, University of Manchester, UK, Mr Arno Held from AM Ventures and Dr Adriana Marais, SA's Mars 100 Astronaut.



Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research Innovation and Engagement, Prof. Deon de Beer, Chair in Innovation and Commercialization of Additive Manufacturing and Dr Terry Wohlers, CUT Alumni and President of Wohlers Associates, Inc., at the 20th annual international RAPDASA conference, themed Creating the Future of Manufacturing-Layer by Layer.



Great minds come together at the 4th annual Free State Research Colloquium



Partners, researchers, law and policymakers at the 4th annual Free State research colloquium. From left: Free State MEC for Education, Mr Tate Makgoe; Rwanda's Ambassador to SA, Mr Vincent Karega; MMC for Finance of the Moqhaka Municipality, Mr Rachere Moletsane; Executive Mayor of Phumelela Local Municipality, Cllr Tlokotsi John Motaung; MEC for Finance, Ms Gadija Brown; Executive Mayor of Ngwathe Local Municipality Cllr Joey Mochela; Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation, and Engagement; and MEC for Agriculture, Mr Kwekwe Bulwane.

The Central University of Technology, Free State (CUT) in partnership with the Free State Provincial Government co-hosted the 4th annual research colloquium from 18 and 19 September 2019. The colloquium is one of CUT's efforts to bring government, private sector, higher education institutions and the community together to create a platform where challenging issues and viable research solutions can be discussed to bring sustainable economic development and growth in the province and the country. It also aims to bridge the gap between research, practitioner's law and policymakers. The colloquium convened under the theme "Good governance practices with special focus on ICT, service delivery and youth empowerment."

In his welcoming address, Prof. Henk de Jager, Vice-Chancellor and Principal said that CUT is honoured to partner and take hands with Free State Provincial Government on the colloquium to enhance the research agenda in the province and bring solutions to the socio-economic challenges faced. He further said that youth as future leaders of the country should be empowered and offered an environment that will allow them to unlock their creativity. "I am grateful for this partnership to develop an innovation hub that will make a difference in the lives of our young people and ensure that they develop proper and viable businesses for job creation in the country. There was a tendency that research would be done on the community instead of doing it with them and for us as a university, the impact of what we are doing should be noticeable on the society."

The Acting Premier (then) and MEC for Agriculture, Mr Kwekwe William Bulwane, said that good governance needs to be understood, managed and lead change efficiently.

"We need to see all of you gathered here participating not only on your academic work but also on public debates and tackle topics such as expropriation of land without compensation and the National Health Insurance. Research has the potential to address and develop a scientific approach to deal with social ills, including a better and efficient approach to service delivery."

"Interdisciplinary research remains the cornerstone of more collaboration work and allows you, as scientists, to work together and exchange knowledge. We stand on the brink of a technological revolution that changes the way we work, live and relate to each other and we must observe and explore the fourth phase of this industrial revolution."

"We are living on borrowed time, and you as scholars, scientists and researchers have the potential to steer and drive our communities to live better with your discoveries. We wish you all fruitful deliberations that will impact positively in our province and the country at large. Let's all build the Free State we want."

Ambassador Vincent Karega from Rwanda said that he is inspired and impressed by the leadership, patriotism and the willingness to be and do different and have an impact in the province. "I heard that South Africans are good in self-actualisation, undermining and complaining as if tomorrow is the end of the world. I want to reassure you that this country is beautiful and has more than what it needs. The people of this country, especially those in leadership need to do more differently and rapidly to correct the problems of inequality, unemployment, and poverty in this sea of wealth."

He said that Rwanda was the worst country 25 years ago, it was the poorest, small and highly populated with very hilly difficult terrains and no petrol or platinum, "but as I stand here, I am proud when I hear everybody talking about clean and growing Rwanda. Let's change and account for what we do, let's cut on expenditure, and focus on the real things, let us use the 4th industrial revolution to come up with viable solutions that will bring change to this country. I don't like to see South Africa cry because it is not a small country; it is a beautiful country with resources."



Faculty of Humanities explore the 'What, How, Why and When' of social science research



Prof. Johannes Cronjé, Dean of Informatics and Design at the Cape Peninsula University of Technology shared with the audience a couple of shortcuts and tools to develop a research proposal in a quick way.

The Faculty of Humanities hosted their annual prestige research seminar on 21 October 2019. The aim of the seminar was to encourage and foster efforts of support and academic employees, and postgraduate students from all departments in the faculty to share their research endeavours, innovation, models, theories and strategies that address issues and challenges related to cultivating communities to interdisciplinary and transdisciplinary research in humanities.

Prof. Neli Feza, Dean of Humanities said that the purpose of the seminar is for the faculty to be relevant in terms of teaching and learning especially, in the 4th Industrial Revolution. "Our teaching has to be informed by research which makes this day important for us to be relevant. Research allows us to know what is going on around us to influence the curriculum and be relevant."

Director Research, Prof. Laetus Lategan spoke about the important role of humanities at a University of Technology (UoT). He focused his presentation on the concept of man and machine, humanity and technology. "Humanities at this university measured by research outputs play a pivotal role. You have illustrated that at a university of technology you can perform excellent research and I would like to encourage you to keep on doing this. It's evident that through arts, you can change the mindset and the perception of society. The university has created an enabling environment and there are many more things we can do. See yourself as the core for the sustainable development goals and find a space for how you can influence others."

Keynote speaker Prof. Johannes Cronjé, Dean of Informatics and Design from the Cape Peninsula University of Technology shared a couple of shortcuts and tools to develop a research proposal in a quick way. He spoke about the ABC instant research generator as a way of making sure that the research works. "What I have been finding useful in this tool is that, when students come with their idea to be turned into a proposal, I usually turn the proposal into a fairytale story to make an abstract."

He mentioned four key words one can use to tell the aim of their research, which are Explore, Explain, Develop and Describe. "Paradigms of Social Science Research are useful tools in trying to figure out where your research sits and the only four key questions that one can use in Social Science Research are What, How, Why and When. First thing you need to do with your research is to decide what is it that you want to do, in this way you are a little sure that your research is coherent," said Prof. Cronjé.





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Prof. Fidelis Emuze inducted into the 'academic hall of fame'
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Dr Brand Pretorius receives honorary doctorate
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CUT Welkom Campus has 'bragging rights' with top health clinic and brand new cafeteria
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CUT and SAHRC addresses human rights challenges
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CUT inspires creative thinking during Innovation Week
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Chancellor celebrates Doctoral achievements



Prof. Henk de Jager, Vice-Chancellor and Principal (left) with the newly graduated doctors: Polo-Ma-Abiele Hildah Mfengwana, Ms Mariëtte Fourie, Eben Proos, Sheperd Mlambo, Dr Brand Pretorius (honorary Doctor) and Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement. Seated: CUT Chancellor, Madam Justice Mahube Molemela and Dr Sara Mohamed Hassan Abdalla.

CUT Chancellor Madam Justice Mahube Molemela celebrated and honored the newly capped doctoral candidates on 06 September 2019. This bi-annual flagship event intends to acknowledge and appreciate the candidates for their hard-earned achievement and their contribution in making CUT an innovative center of excellence.

Chancellor Madam Justice Mahube Molemela said that the soiree is an opportune moment to recognize the academic prowess in doctoral candidates and acknowledge them for their contribution made to the university's agenda in areas of research, innovation, scholarship and community engagement.

"This is indeed a joyous moment worthy of celebration despite the setbacks we are experiencing as a nation. The sacrifices that you have made to achieve your dreams have paid off. I am delighted that you chose CUT as the preferred learning center for your research work. Your achievement is ours and we are indeed proud to count you amongst the university's outstanding alumni. Much of this university's work cannot be achieved without the support of our stakeholders. As we celebrate your achievements this evening, we are also mindful of the economic crisis our country is facing. You as our graduates, are well placed to turn this downward trend around. The education that you received here at CUT must have a practical application. Your dissertations are indeed impressive so make sure that they become living documents and not packed away in libraries to gather dust. As you proceed in this new journey, remember to plough back to the communities that you come from and lift others as you rise."

The Chancellor also condemned the acts of gender-based violence and stated that they are a scourge that is slowly consuming our communities. "It is tragic that we lose young women under such violent circumstances. A call for action to eradicate this scourge is crucial," she said, referring to the latest gruesome murders of Uyinele Mrwetyana, niece to the Registrar Dr Nothemba Mrwetyana as well as the University of Western Cape student, Jesse Hess, and her grandfather.

"I think this week's events calls on all of us to reflect on what we can do to address the challenges that are staring us in the face and reclaim our safety and security. Each one of us has a role to play no matter how big or small. Certainly, as a collective, we can eradicate this scourge and make our country a safer place to live in; a place where we can enjoy our freedom and embrace our diversity; a place where there will be no tolerance for any unfair discrimination. We should strive for a place where we can realize and live up to our vision, which finds expression in the values that appear in the democratic state which includes human dignity, achievement of equality, the advancement of human rights, non-racialism and non-sexism as set out in section 1 of the constitution," she concluded.



Prof. Fidelis Emuze inducted into the 'academic hall of fame'



L-R: Prof. Herman Vermaak, Dean: Faculty of Engineering, Built Environment and Information Technology, Dr Nothemba Mrwetyana, Registrar, man of the moment and newly inducted Professor Fidelis Emuze and Prof. Henk de Jager, Vice-Chancellor and Principal.

Professor Fidelis Emuze, Head of Built Environment and Head of the Unit for Lean Construction and Sustainability was inducted into the 'academic hall of fame' when he was inaugurated as a full professor on 07 November 2019. His address was a summation of his expertise as a distinguished scholar in the field of construction.

In his Professorial address, Prof. Emuze delivered a lecture titled 'Respect for persons'- a Kantian approach to respect for persons in construction in which he spoke about the respect-for-persons (RfP) and its implications for ethical thinking and practice in the construction industry, especially in relation to workers on project sites.

He said that RfP requires management to provide safe and healthy worksite with zero harm. "People in construction are exposed to a lot of unpleasant circumstances. They need to be treated with human dignity, respect, authentic care and justice. RfP demands the integration of thought, feeling, and knowledge of the contextual networks in an environment."

He also stated that people in construction are current students who will become real people in construction like he did, and he believes that they must be empowered to use their reason. "A curriculum of teaching and learning must embed the ethos of respect for people. Together let us leave a legacy of critical thinkers, problem solvers, safe and healthy PIC and enriched society."

His research focus is influenced by his lived experience on construction sites, both in Nigeria and South Africa. "My work experience as a construction engineer and document controller inspired me to produce a supply chain management research treatise in 2010. Further studies thereof, provided me with the opportunity to examine performance and inefficiency issues on project sites. Such inefficiencies are synonymous with waste classification in the domain of lean construction. Lean construction is not about technology it's about valuing people in construction and how they can make changes to the world."

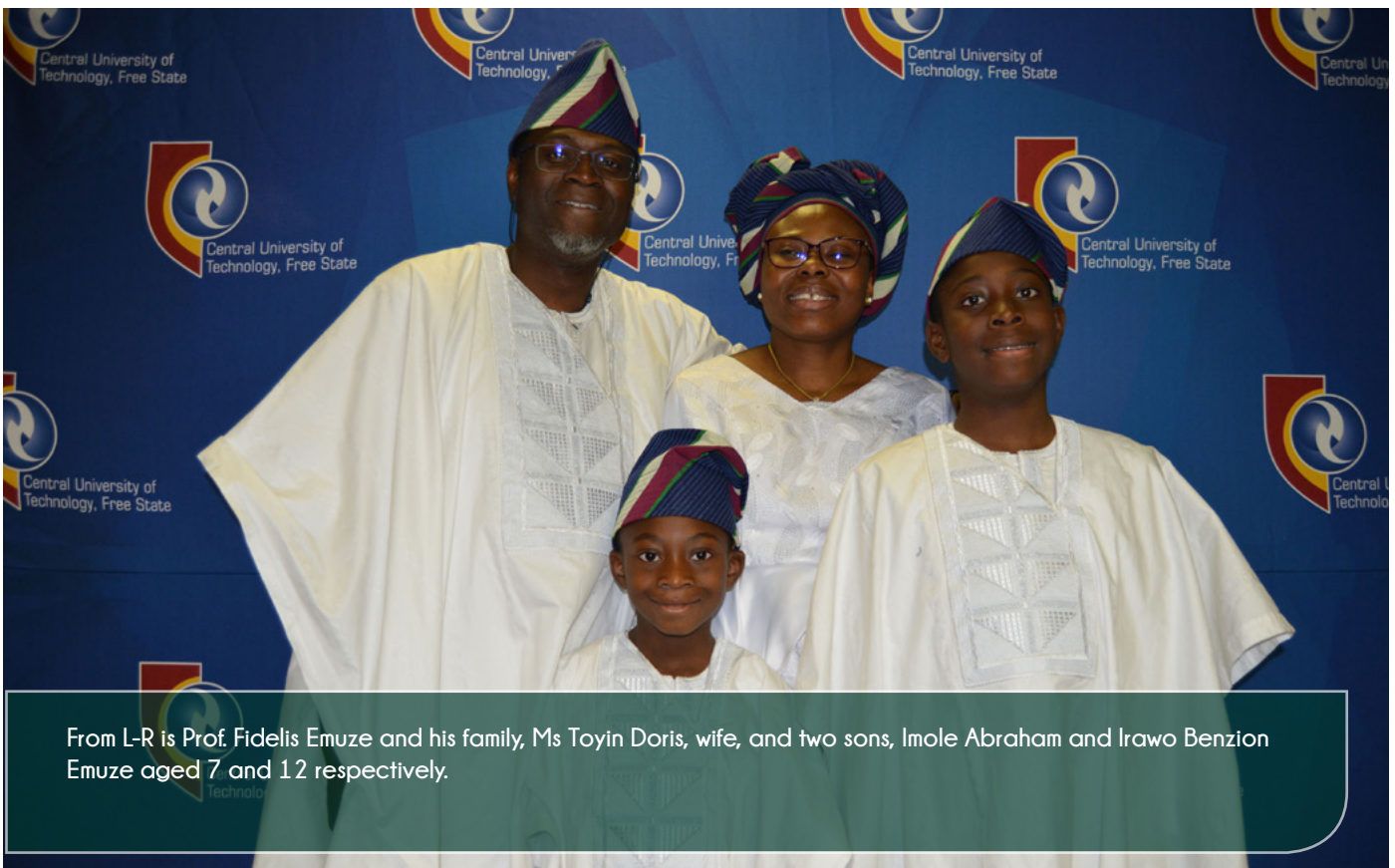
Prof. Emuze acknowledged all role players who contributed to his academic success. "I am grateful to everyone who has been supportive to what I have done in the last seven years. CUT has provided with the platform to explore what I can become without restricting me to what I must research and what I must teach. It has enabled me to become a thinker."

Prof. Herman Vermaak, Dean of Engineering, Built Environment and Information Technology thanked Prof. Fidelis Emuze for his contribution to the faculty. He said, "your work offers an opportunity to examine issues facing the built environment and to look for solutions and ideas that will carry us into the future. This is a huge achievement and it shows our commitment in the faculty to expand research undertaking in the built environment so that we develop solutions that are sustainable and adaptable for the global stage. We salute you for the sterling job you have done in the academia an industry and we want to draw lessons from your work as an intellectual and a humanist."



Did you know?

- In 2014, then Dr Emuze, received the international association of University Presidents (IAUP) Excellence Award for Curriculum Innovation,
- In 2016, he was appointed by the CIB (International Council for Research and Innovation in Building and Construction) Programme Committee as the new Coordinator of CIB TG59 for five years. CIB TG59 is an important task group that focuses on the most valuable resource in construction - People in Construction,
- He heads the Unit for Lean Construction and Sustainability, which is addressing construction research topics regarding lean construction, health and safety (people and well-being issues), supply chain management, and sustainability in the built environment. As an active member of the Association of Researchers in Construction Management (ARCOM), the academic interest of Prof Emuze is viewed from the construction management perspective,
- He was among the best and brightest scientists in South Africa for his outstanding contribution to research work in lean construction. He also participated at the annual National Science and Technology Forum (NSTF) Awards held in 2017 for the TW Kambule-NSTF Emerging Researcher Award. The NSTF is the most representative and long-standing non-profit body of science, engineering and technology (SET) in the sector, making CUT academics rank amongst the best institutions at the awards with only 14 of the country's 26 Universities represented,
- In 2018, he received the Vice-Chancellor's Excellence award: Established Research Award.



From L-R is Prof. Fidelis Emuze and his family, Ms Toyin Doris, wife, and two sons, Imole Abraham and Irawo Benzion Emuze aged 7 and 12 respectively.



DOCTOR OF HEALTH SCIENCES IN
BIOMEDICAL TECHNOLOGY

Dr Sara Mohammed Hassan Abdalla with her co-promoter, Prof. SS Mashele

Topic: Genome scanning of basidiomycete fungi for cytochrome P450 monooxygenases involved in steroids hydroxylation.

Promoter: Prof. K Syed, PhD (SKU), **Co-promoter:** Prof. SS Mashele, PhD (Medunsa).

In her doctoral research, Dr Sara Mohammed Hassan Abdalla carried out genome data mining and the identification of P450s in 19 basidiomycete species belonging to three different categories. In total, 3 033 P450s were identified in 19 basidiomycete species. The identified P450s were subjected to annotation, phylogenetic analysis and functional analysis to identify endocrine-disrupting P450s in the basidiomycetes.

The study results clearly demonstrated that relatively many P450s were duplicated, suggesting the possible role of these P450 families in the adaptation of fungal species in different ecological niches, as previously hypothesised.

The results were published in two high-impact accredited journals. It is envisaged that her work will have a significant biotechnological application.

DOCTOR OF HEALTH SCIENCES IN
BIOMEDICAL TECHNOLOGY

Dr Polo-Ma-Abiele Hilda Mfengwana with her promoter: Prof. SS Mashele.

Topic: Evaluation of pharmacological properties of traditional medicinal plants used for the treatment of cancer by South African and Lesotho communities.

Dr Hilda Mfengwana's doctoral research evaluated the pharmacological properties of *Asparagus laricus*, *Gunnera perpensa* and *Senecio asperulus* for the treatment of prostate and breast cancer.

Her study provides insight into the antibacterial and anti-inflammatory activities of these plant extracts, and demonstrated their safety using current and classical cell biology techniques. She also discovered that *Asparagus laricus* is a suitable aspirant for future breast cancer chemotherapeutic drug development, due to the selective cytotoxicity thereof on cancer cells.

The research findings were presented at national and international conferences, and two articles were published in accredited journals. It is envisaged that her work will have a significant impact in the pharmaceutical industry.



DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL HEALTH



Dr Ernestine Atangana, with her Promoter, Dr TT Chiweshe, (left) and Co-promoter, Dr HA Roberts (right).

Topic: Development of modified biopolymer adsorbents from natural polysaccharides for renewal of abattoir wastewater.

Dr Ernestine Atangana's research, made a significant contribution to the field of Environmental Health as she developed a novel technique for separating heavy metals from abattoir wastewater using modified biopolymer adsorbents.

Results from this study revealed a high adsorption capacity of alkali and alkaline earth metals using modified shrimp chitosan products, which can be beneficial to the lithium industry.

The method also showed to be specific and effective for the removal of heavy metals from abattoir wastewater, depending on the type of adsorbent used. At least two papers from the research work have already been published in high-impact, reputable international journals.

DOCTOR OF EDUCATION



Dr Mariëtte Fourie with her Promoter, Dr D Selaledi (right) and Co-promoter, Prof. G Schlebusch (left).

Topic: Simultaneous impact of juxtaposed learning theories on learner information processing ability for cognitive growth and development.

In her doctoral study, a quantitative non-experimental survey method was employed to select samples of learners and teachers from whom information on the dependent variables of the study was collected.

Data collection was administered through questionnaires for learners and teachers, respectively. Data analyses employed inferential statistics using the Hierarchical Linear Model (HLM) and Structural Equation Model. HLM accounted for variation at multiple levels. SEM provided a holistic understanding of how the four dependent variables are casually connected and mapped.

Dr Mariëtte Fourie then designed a comprehensive and integrated model, MEIPAC, which serves a valuable depiction of the underlying debates of the study. Four journal articles were extracted from the study for submission, review, and publication in high-impact and accredited national and international journals.



DOCTOR OF BUSINESS ADMINISTRATION



Dr Eben Proos with Promoter, Dr JL Hattingh (right) and Co-promoter, Prof. D Kokt (left).

Topic: A tourism development plan for the South African War Battlefields Route in the central Karoo.

In his doctoral research, Dr Eben Proos constructed a tourism development plan for the South African War Battlefields Route in the central Karoo. Based on the findings of the study, he identified the need for the development of the route and the establishment of a South African War Battlefields Route Destination Marketing Organisation (DMO).

External assessors indicated that the research is ground-breaking and has the potential to renew academic and private historians' interest.

Furthermore, it was highlighted that the study was an interesting topic, well researched, presented professionally, and contributes substantially to the field of dark tourism and route tourism development in the central Karoo in particular, and in South Africa overall.

DOCTOR OF EDUCATION



Topic: South African educators' beliefs and cognitive orientations towards educational technology integration in classrooms: A comparative study of Gauteng and North-West provinces.

Promoter: Prof. P Rambe, PhD (UCT), Co-promoter: Dr CL Schlebusch, PhD (Vista).

Dr Mlambo's doctoral studies focused on the relationship between personal epistemological, pedagogical and attitudinal beliefs, and how these dimensions contribute to educators' pedagogical use of Information and Communication Technology (ICT) for teaching and learning.

The findings indicated that most educators believe in learning as a process of understanding concepts and a metacognitive process of learning. The results on gender and location indicate significant differences in some personal epistemological beliefs. In terms of pedagogical beliefs, the results show that the majority of educators believe more in constructivist pedagogical than traditional pedagogical beliefs. Significant inter- and intradimensional relationships were found amongst attitudinal belief variables.

A proposed model based on the findings is presented in the study. One main recommendation is that prudent policymakers should take an inventory of educators and their specific knowledge domain needs, and develop policies that are informed by the "nature of knowledge" of the different subjects.



DOCTOR OF ENGINEERING IN CIVIL ENGINEERING



Promoter: Prof. FA Emuze, PhD (NMU), **Co-promoter:** Prof. DK Das, PhD (IIT).

Topic: Retrofitting to reduce carbon emissions from existing buildings in Bloemfontein, South Africa.

Dr Chikezirim Okorafor's doctoral research, entitled addressed energy retrofit in the built environment, which has implications for capping carbon emissions from buildings.

The study is a significant step in addressing problems with existing building stock, and gives rise to substantial contributions to knowledge in the form of an artefact that guides construction stakeholders and end-users on how to progressively deliver a building energy retrofit project in South Africa.

The research results were presented at four international conferences and were published in two journals.



SPRING GRADUATIONS

Dr Brand Pretorius receives honorary doctorate



Prof. Albert Strydom, Dean of Management Sciences, Prof. Henk de Jager, Vice-Chancellor and Principal, Dr Brand Pretorius, honorary Doctorate recipient and Prof. David Ngidi, DVC: Teaching and Learning. Dr Pretorius was awarded with an Honorary Doctorate in Marketing Management in recognition of his exceptional record in business leadership.

On 6 September 2019, the Central University of Technology, Free State (CUT) not only welcomed the new season, but celebrated the achievements of 631 newly graduates, of which 13 were master's and seven doctoral candidates.

During the ceremony, the Honorary Doctorate in Marketing Management was conferred upon Dr Brand Pretorius in recognition of his exceptional record in business leadership. Dr Pretorius succeeded in the very demanding and challenging business sector due to an attitude to serve, rather than to be served. He is a living symbol of CUT's Vision 2020.

When congratulating the graduates, Dr Pretorius said: "Today represents a milestone in your lives with the sacrifices and hard work you put in. Well done! I share your pride and joy, and I want to commend your spouses, parents, grandparents, families and friends for all their support. I wish every one of you joy, happiness, fulfilment and success".

He also expressed his heartfelt appreciation for the honorary doctorate bestowed upon him and promised to do his best to be worthy for CUT. "I really appreciate your confidence in me, and I will represent CUT with pride. This is a wonderful time for me to be a member of the CUT family. I am very grateful."

The recently retired Chief Executive of McCarthy Limited dedicated this achievement to his family, for their support to, and the sacrifices they made for him over the years. He also paid tribute to the Toyota South

Africa and McCarthy Group teams for joining hands with him to help with his leadership task, and volunteering their intelligence, energy, contributions and loyalty. "Without them, I would not have achieved anything."

Dr Pretorius was born in Steynsrus in the Free State on 15 February 1948 and matriculated at Kroonstad High School. He obtained an MCom in Business Economics degree at the University of the Free State in 1972.

He spent his business career in the competitive automotive industry. In 1988, he was appointed as Managing Director of Toyota SA Marketing. He joined McCarthy Motor Holdings as Chief Executive in March 1995 and was promoted to Chief Executive Officer of McCarthy Limited in 1999. Under his leadership, the technically insolvent McCarthy was successfully recapitalised, restructured, and restored to financial health.

He received many national awards, and currently serves on company boards in a non-executive capacity. He also made his mark in the academic fraternity as Honorary Professor at the University of the Free State, University of Johannesburg and University of Pretoria; holds a fellowship at the Gordon Institute of Business Science; and has an Honorary Doctorate in Marketing from the Durban University of Technology.



CUT one of the inaugural signatories of The Cincinnati Charter



Prof. de Jager (middle) taking part in the discussions at the 21st World Association for Cooperative Education (WACE) World Conference at the University of Cincinnati in Ohio, United States of America (USA).

CUT Vice-Chancellor and Principal, Prof. Henk de Jager, was invited to participate in a unique opportunity to support a global commitment to work-integrated learning (WIL) at the 21st World Association for Cooperative Education (WACE) World Conference at the University of Cincinnati in Ohio, United States of America (USA).

The President's Summit at the WACE 21st World Conference was a by-invitation-only gathering of Presidents/Vice-Chancellors of universities from 14 countries; Senior Executives in government involved in WIL; focused educational institutions and organisations; government ministries; and business and industry partners from around the world.

At the summit, the global WIL leaders discussed challenges and opportunities relating to access for all to relevant education and effective preparation for the workforce of the future. The summit culminated in the signing of a global charter, known as The Cincinnati Charter, on 5 August 2019.

The signing of the charter represents a commitment by WIL world leaders to endorse international WIL as a key strategy to effectively prepare the next generation of graduates/workers for productive and rewarding employment locally, nationally and globally.

The Cincinnati Charter is the first gesture of its kind to bring the educational, business, industrial, and non-profit and governmental sectors together through an international commitment to the model of WIL, in an effort to ensure access for all to effective preparation for productive and fulfilling work in an increasingly borderless world.

Prof. De Jager said that the summit was worthy, and that the delegates and Executive Management of WACE were clearly impressed with CUT's leading role in the area of WIL in South Africa, and our footprint in Africa and globally. "Not only is WIL compulsory in the curricula of all new academic programmes at CUT, but we also have sabbatical leave for industry placement to ensure that our academic staff stay abreast with new technologies and developments in industry and business, and to bridge the gap between academia and the world of work. It is important to acknowledge the roles played by Prof. Phatha Ngidi; Dr Henri Jacobs; Deans; and academic, professional and support staff at CUT in this regard. For CUT to be one of the inaugural signatories of The Cincinnati Charter, which contains calls for the scaling up of WIL as a key strategy for the preparation of the next-generation global workforce, was indeed a very proud moment for CUT. This is aligned with our strategic intent to feature WIL as one of our 'signatures' of CUT." It is also worthy to note that CUT was the only university in Africa that participated in the signing of The Cincinnati Charter.



CUT Welkom Campus has 'bragging rights' with top health clinic and brand new cafeteria



At the ribbon-cutting ceremony of the first phase of the brand new cafeteria with a well equipped kitchen and a seating capacity of 150 students is from left: Mr Thato Caleni, Welkom Campus SRC President; Mr Hennie Botha, Principal Agent of the project; Dr Gary Paul, Deputy Vice-Chancellor Resources and Operations; Ms Dimakatso Phala, SRC Transformation Officer; Prof. Henk de Jager, Vice-Chancellor and Principal and Prof. Solomon Makola, Welkom Campus Director.

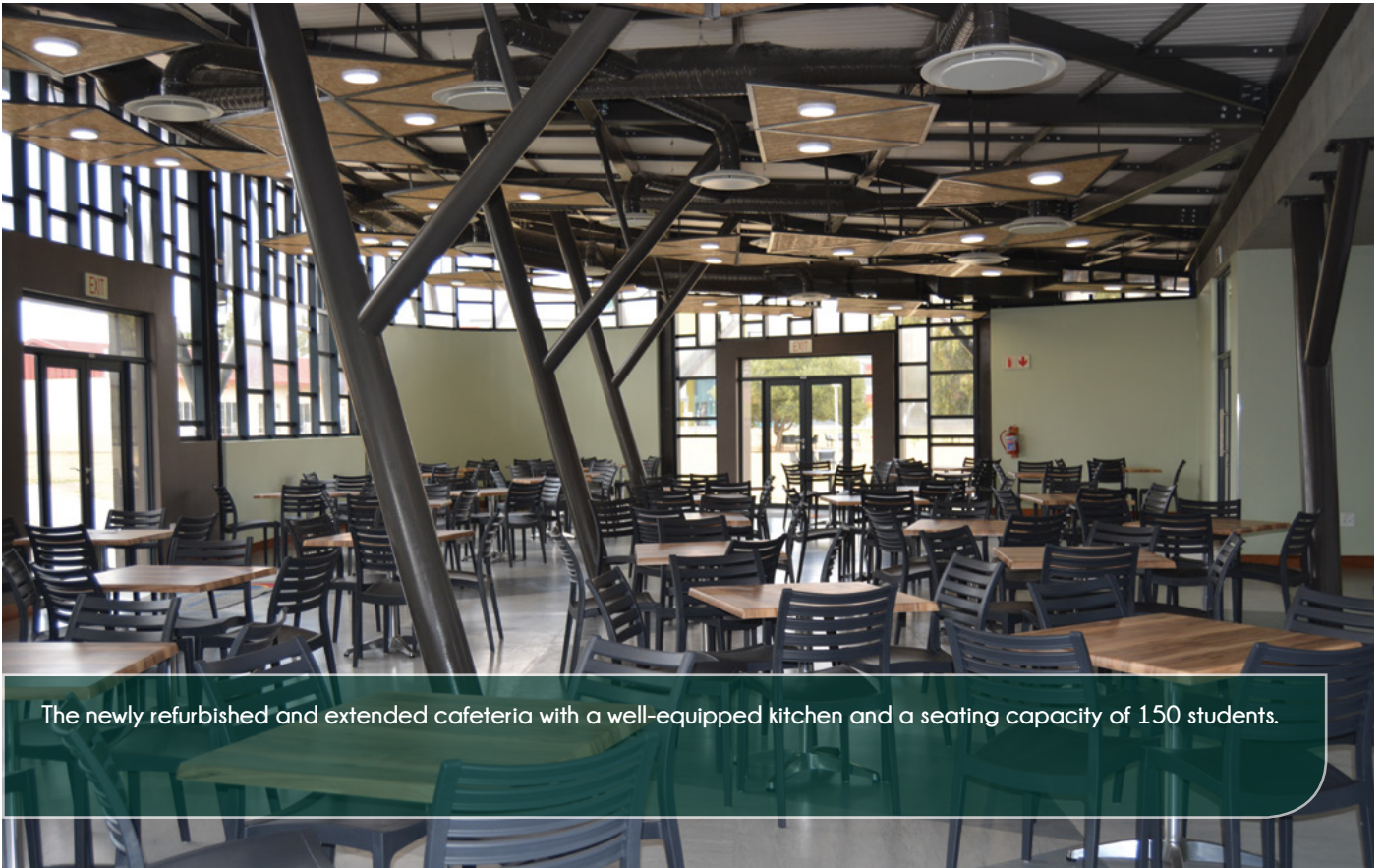
The Central University of Technology, Free State (CUT) is passionate about the academic development and wellbeing of employees and students. Welkom Campus is making important landmarks in the history of its existence and is transforming into a fully-fledged and vibrant university campus. This is evidenced by the opening of the state-of-the-art cafeteria and health care clinic on 10 October 2019 as a significant moment of change and transformation on the campus.

In his address, Prof. Henk de Jager, Vice-Chancellor and Principal said that he was ecstatic about the progress that was taking place at Welkom Campus and pleased to be part of the historical day on campus. He mentioned that the cafeteria and clinic are critical elements of the academic project at any university, as they serve many purposes including improvement of healthful living among staff and students, provision food and drinks, a conducive environment and common meeting place for staff and student's social networking.

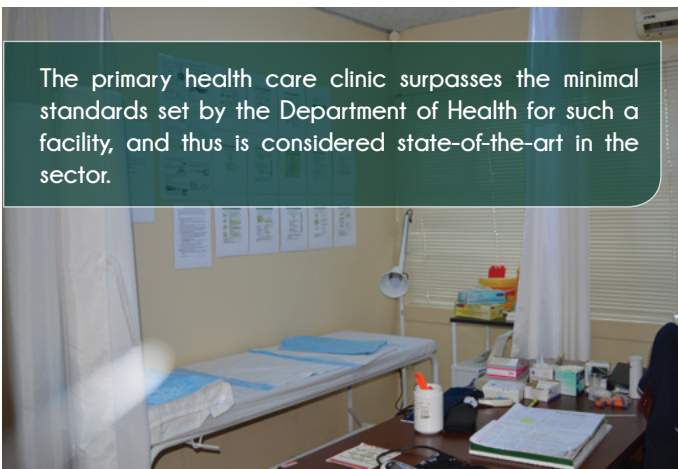
"I am grateful that this project is completed and will serve its purpose of bringing people together; it is much easier than in a formal environment like a lecture hall. It is, therefore, an integral part of student development because through socialisation, we can enhance ourselves, make new friends and acclimatise."

Prof. de Jager opened the clinic, a structure which was designed refurbished from an old existing building by internal employees. The entity is envisioned to promote and contribute to the wellbeing of staff and students. About R10 million was invested in this project with the support from the Council and the Department of Higher Education and Training.





The newly refurbished and extended cafeteria with a well-equipped kitchen and a seating capacity of 150 students.



The primary health care clinic surpasses the minimal standards set by the Department of Health for such a facility, and thus is considered state-of-the-art in the sector.



PRIMARY HEALTH CARE CENTRE



Central University of
Technology, Free State

CLINIC SERVICES

OPERATING TIMES

Monday to Friday : 08h30 to 16h00

Clinic contact : 057-391-3674



PROCEDURE:

- ▶ Attendance is by appointment only, except in an emergency.
- ▶ Identification:
 - ✓ **Students:** Valid/current CUT student registration card/or proof of current registration with ID document
 - ✓ **Staff:** Valid staff card

SERVICES:

- ❖ Stabilization of emergencies while waiting for ER Emergency services
- ❖ Doctor and/or nurse consultation (minor ailments & chronic care)
- ❖ Sexually Transmitted Infections
- ❖ HIV Testing Services (HTS)
- ❖ Screening (Pregnancy, blood glucose, Hypertension, Body mass index (BMI), blood cholesterol and blood haemoglobin)
- ❖ Provision of contraceptive methods (FP)
- ❖ Cervical cancer screening (Pap-smear)
- ❖ Condom distribution
- ❖ Youth services



Regional “studentpreneurs” compete for national intervarsity finals



Pictured here is a group of student entrepreneurs who made it to the finals. They are seen here with the judging panel from left to right: Mr Andrew Setho, from TIA and one of the Judges; Sibulele Tyala, category 4 winner from CUT; Dr Norah Clarke, Director: Entrepreneurship at Universities South Africa and Department of Higher Education and Training; Theron Sethibe, category 3 winner from Sol Plaatje University; Grace Mthembu, category 1 winner from University of the Free State; Mr Given Madhlophe panel member from SEDA, and Christopher Rothmann, category 2 winner from University of the Free State.

The increasing rate of unemployment in South Africa demands that universities move away from the notion of producing job seekers, to encouraging students to consider entrepreneurship as a career path.

The Central University of Technology, Free State (CUT) promotes a culture of innovation, and always strives to instil an entrepreneurial mindset amongst its students.

On 8 August 2019, CUT held the Entrepreneurship Development in Higher Education (EDHE) Intersvarsity Competition regional rounds, where students from CUT, the University of the Free State (UFS) and Sol Plaatje University (SPU) pitched their ideas to a panel of judges in five minutes, under the four categories Innovative Ideas, Tech Business, Social Impact, and General.

The aim of the competition is to identify and support student entrepreneurs who have been able to establish their own businesses, together with those who have innovative ideas that they would like to pursue whilst studying.

Of the ten contestants who participated in the regional rounds, only four students, under four categories, progressed to the national rounds, which took place in Gauteng on 18 September 2019. The winners were Grace Mthembu and Christopher Rothmann, both from UFS, with the Electricity System and Liquid Culture companies; Theron Sithibe from SPU, with the company Lola Foodz; and Sibulele Tyala from CUT, with the company THC Sportswear.

Prof. Alfred Ngowi, Deputy Vice-Chancellor (DVC): Research, Innovation and Engagement said that entrepreneurship and innovation are the only things that will not be affected by machines in the 21st century.

“We have realised that, despite the abilities of technology, entrepreneurship and innovation must be at the core of what students should learn. Most of the work that is being done today will be taken over by machines in the coming years, and we need to be prepared.”

He further motivated the student entrepreneurs to take a front seat in becoming job creators and overcoming the panic caused by the Fourth Industrial Revolution (4IR). “Pitching your ideas is equally important, and already makes you a winner. Continue to market that idea, and find other avenues to put them out there. Let us ensure that the Central region is pioneering when it comes to entrepreneurship.”

Dr Norah Clarke, Director: Entrepreneurship at Universities South Africa (USAf) and the Department of Higher Education and Training (DHET), said that this year, the competition does not aim to solve all business problems immediately, but intends to create 28 national heroes. “This competition aims to make sure that your universities are aware that you exist, and can take the necessary measures to support you better as future entrepreneurs, and that is what our job on a national level is. We have that job of advocating for better support for you. At the finals, we will also be recognising the university from which the overall winner comes, as we want to encourage universities to support you as best as they can. We want people to know you, acknowledge and be able to recognise your faces, so that they stop fearing business. We want you to be national heroes who will inspire others.”

Winners in the final rounds will receive the following cash prizes: Innovative Idea – R10 000; Tech Business – R10 000; Social Impact Business – R10 000; and General – R10 000. The overall “studentpreneur” for 2019 will receive R50 000.



CUT inspires creative thinking during Innovation Week



Innovation has become increasingly important not only at a university level, but also at school level. Abigail Bloem, grade 9 learner from Eunice Secondary School was one of the learners from Bloemfontein schools who were invited to exhibit their projects and prototypes.

On 5 September 2019, the CUT Idea Generator hosted the Innovation Week finals in a quest to unlock creative thinking and provide a platform for upcoming entrepreneurs to learn, share ideas, network, and ultimately collaborate.

18 CUT Welkom students presented seven ideas, some in groups, and some as individuals, on 15 August 2019; 35 students presented their ideas on 3 September 2019 at the Student Day Challenge of Innovation Week at the Bloemfontein campus, whilst nine staff members presented 12 ideas on 4 September 2019.

The nine finalists, comprising three employees and six students or student groups from both the Bloemfontein and Welkom campuses, participated in the final Innovation and Entrepreneurship Competition, and presented their smart ideas to a panel of judges.

As a university of technology, CUT actively supports and encourages creativity and innovation amongst employees and students. CUT has an Idea Gym (i-Gym), which offers a developmental hub where students, employees and the public, under the supervision of experts and lecturers, can develop their innovative ideas and projects into products that can potentially be commercialised.

Mr Gareth Gericke was the overall winner in the student category for his innovative idea, IoT Water Monitor, walking away with a R15 000 cash prize, whilst Mr Allan Kinnear obtained first place in the employee category for his innovative idea of Recyclable Nespresso Coffee Pods, also receiving a R15 000 cash prize.

Presenters Mr Roy Maponya, Chief Executive Officer (CEO) of the Dr Maponya Institute, and Prof. Luke Chimuka from the University of the Witwatersrand (Wits), shared their journeys as innovators and entrepreneurs, as well as the lessons they learnt along the way.

CUT and SAHRC addresses human rights challenges



CUT employees and students engaging speakers and raising questions to the Human Rights Commission representatives. Some of the audience felt that the situation is self-hatred from one African to another while others felt that it is an underlying issue that has been ignored by the government and the commission itself.

In light of the recent xenophobic attacks in some parts of the country, the South African Human Rights Commission (SAHRC) in the Bloemfontein region, in association with CUT's International Office, hosted a Human Rights Dialogue on 3 September 2019 to address key human rights challenges faced by the country, and to create public awareness of the roles and responsibilities of stakeholders in upholding and protecting human rights.

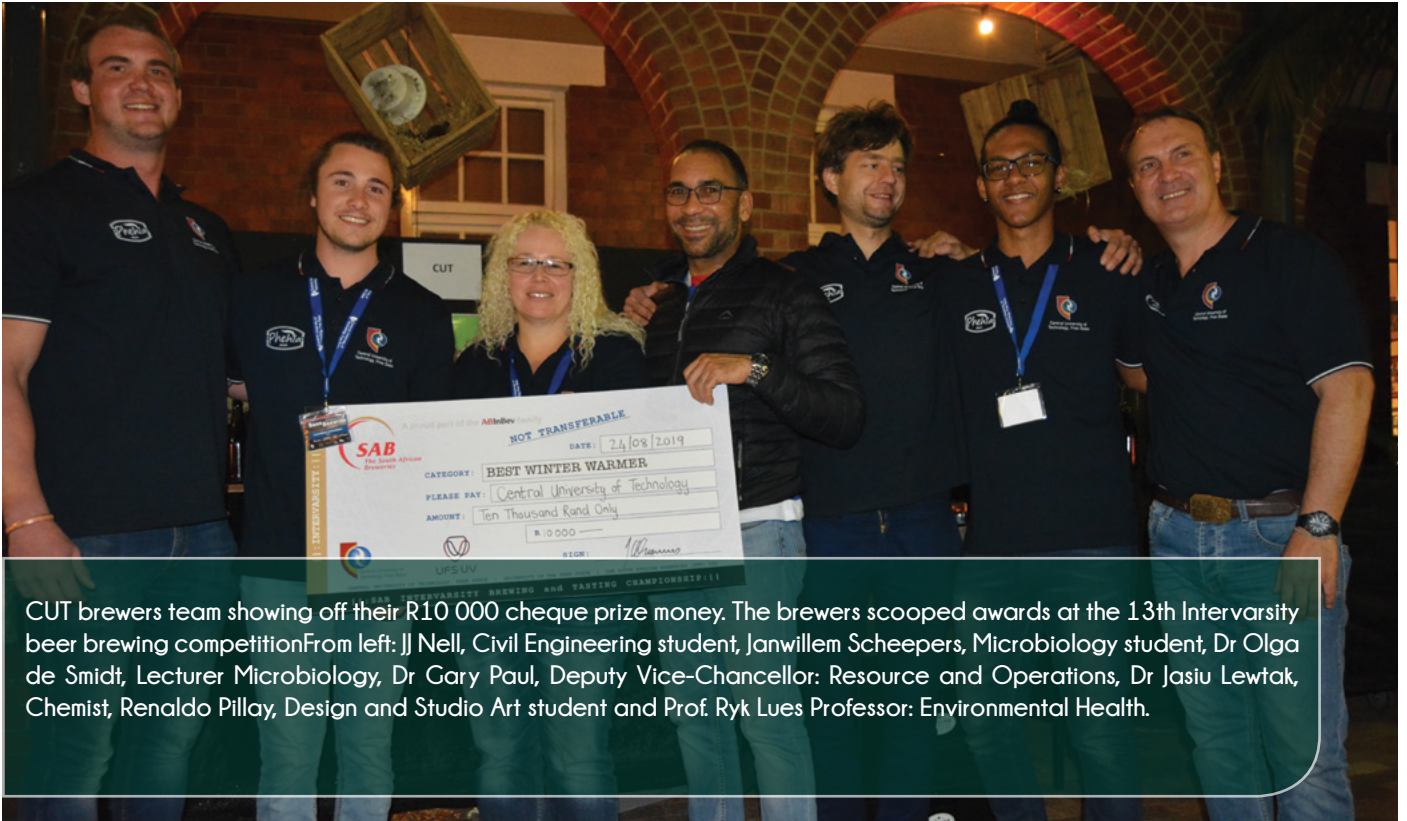
When addressing the audience, Mr Thabang Kheswa, Free State Provincial Manager of the SAHRC, said that people who do not know their rights, tend to violate the rights of others. He emphasised the need for South Africans to step up, protect non-nationals, and salvage the little respect that is still left for the country. He further mentioned that if such actions continue, South Africa will be isolated in economic participation. "With our already unstable economy, matters can only get worse." He also touched on problematic matters such as easy access to borders, drugs, human trafficking and a lack of information.

Ms Naleli Morojele, Human Rights Officer, spoke about xenophobia vs. Afro-phobia, and indicated that what is currently happening in South Africa is based on Afro-phobia, rather than xenophobia. "I am saying this because we are only attacking African foreign nationals, while European nationals such as the Portuguese, Greeks, Romanians and so on, are living peacefully in this country." She said that she is positive that the national initiative will bring peace, and an end to this tragic situation in the country.

Prof. Alfred Ngowi, Deputy Vice-Chancellor (DVC): Research, Innovation and Engagement, encouraged the audience to go back to their communities, spread the word, and speak out against these attacks. He further commended South Africa for the strides made in putting the Constitution together, and not adopting the oppressor's way of life. "We have opened our borders to the world with the intent of growing the economy and participating in the international market. Being able to come together in this kind of a forum, sit down and discuss a way forward around these burning issues, is the first step in the right direction for us as a nation", he said.



CUT brewers scoop awards at 13th Intervarsity Beer Brewing Competition



CUT brewers team showing off their R10 000 cheque prize money. The brewers scooped awards at the 13th Intervarsity beer brewing competition. From left: JJ Nell, Civil Engineering student, Janwillem Scheepers, Microbiology student, Dr Olga de Smidt, Lecturer Microbiology, Dr Gary Paul, Deputy Vice-Chancellor: Resource and Operations, Dr Jasiu Lewtak, Chemist, Renaldo Pillay, Design and Studio Art student and Prof. Ryk Lues Professor: Environmental Health.

Following a successful Beer and Food Affair on 22 August 2019, CUT hosted 14 universities who competed in the 13th South African Breweries (SAB) Intervarsity Beer Brewing Competition.

Participating universities were challenged to brew different categories of beer for the competition. Beers were subjected to rigorous judging, under the leadership of Dr Chris Roth from the University of Pretoria (UP). Qualified beer judges were invited to the event to judge the 85 participants' beer entries by means of a blind tasting.

The competition forms part of SAB's efforts to support universities in developing microbreweries, which serve as valuable training grounds for students in Microbiology, Chemical Technology and Engineering programmes.

The challenge, which is a brainchild of Mr Anton Erasmus, Trade Brewer at SAB, aims to promote home brewing and the beer culture in South Africa, encourage responsible beer appreciation amongst students, and introduce prospective SAB employees to the business.

After SAB became part of AbInbev, the event was hosted in the Free State for the first time in 2018 and was a joint venture between CUT and the University of the Free State (UFS). In the same year, the CUT team, "Brewski", won the People's Choice Award for Interbru Witbier, and, this year, the team made the university proud by winning the Winter Warmer Award and the People's Choice Award, walking away with R10 000 for each of the two prizes won. Other winners included

the University of Stellenbosch (US), who won the Best African Premium Lager and Best of Show prizes; the University of Cape Town (UCT), who won the Best Indian Pale Ale (IPA) category; and North West University (NWU), who took home the prize for the best label.

Dr Jasiu Lewtak, one of the team members and a Postdoctoral Research Fellow, said that, as a team, they are very happy and proud to have won the awards, considering the fact that their equipment is not as advanced as that of other universities. "It is the first time that Phehla Brewery wins two awards in one competition, given the fact that most universities have much more advanced equipment than us. With the little equipment that we have, we managed to create an excellent product, which we believe worked out very well for us during the competition. We are very happy and regard our success as something to be proud of."

Dr Lewtak also mentioned that four market-ready beers from Phehla Brewery were recently launched, and he and his team are looking into commercialising the products.

The event was sponsored by Test It LAB, Anton Paar and LiquidCultures.



CUT offers conducive environment to support students with special needs



The fully quipped Centre for Disability Unit, which serves as a central resource and a starting point for coordinated support for students with disabilities.

The Central University of Technology, Free State (CUT) Disability Unit recently upgraded equipment in the centre to support and enhance a conducive learning environment for students with special needs.

The Disability Unit serves as a central resource and a starting point for coordinated support for students with special needs. The unit also creates inclusive environment, which encourages them to be independent and be able to cope with their daily activities around campus. The Centre is highly supported by the Supplement Instruction (SI), an academic assistance programme that aims to enhance academic support and interventions towards student performance and retention.

Among the services provided are volunteer buddies, who serves as orientation and mobility guide assistance for the blind and partially blind students, record lectures using digital recorders, assist in scribing, mentoring and coordinate special library services.



Ms Irene Leburu, 3rd Year National Diploma- Office Management, happy to receive a voice recorder device from Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning.

Facilities available include magnification software and braille embossers for both the blind and partially blind, additional time concessions during tests and exams, technical academic assistance to keep abreast with technology advancement, foster independence, advocate counseling and advice on any challenges faced. The disabilities catered for include visual impairment, physical and hearing disabilities

According to Mr Mohau Manyarela, Senior Coordinator: Student Academic Support, the centre has advanced greatly and upgraded with new advanced devices so that students don't lag with technological advances perpetuated by the 4IR. "The world of technology is moving fast and so is our centre. We are doing our best to make their lives easier while they pursue their dreams. We support them from barriers that might prevent them from fulfilling their potential, and the university has also improved building access. Thanks to the NSFAS Disability policy for providing financial support, which enables the disability student fees office to facilitate the aiding devices and other support they need."



Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning, handing over the Braille device to Ms Nyakallo Thaele, first-year Bachelor of Education in languages.



Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning, handing over a special laptop to one of the disabled students, Ms Mamokone Mohlabane, 2nd Year National Diploma- Office Management and Technology.





MMM conducts environmental health survey at Joe Slovo Square Township
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CUT and business partners tee off at inaugural Welkom Golf Day
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Oral health education outreach programme a success
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CUT and UFS join scientists in commemoration of National Science Week
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2nd Annual Free State Youth Leadership Summit held
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Grey College fourth-time High School Quiz Whizz winner
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COMMUNITY ENGAGEMENT AND PARTNERSHIPS

MMM conducts environmental health survey at Joe Slovo Square Township



Faculty of Health and Environmental Sciences students, in partnership with Mangaung Metropolitan Municipality, MMM, conducted an environmental health survey at the Joe Slovo Square Township, in order to establish baseline data for rodent infestation emanating from waste management.

To ensure a successful project, which also fulfilled the requirements for students' work-integrated learning, 225 premises were inspected in partnership with the Life Sciences Student Organisation (LISSO) and the MMM's Health Services and Solid Waste Division.

Preliminary results revealed that the study site is characterised by environmental conditions conducive to the breeding and survival of rodents, and thus there is a high possibility for the transmission of diseases of public health importance.

This gloomy reality is propelled by the unavailability of effective waste management facilities and residents' ill-informed personal choices.

Various interventions to address the rodent infestation and unsanitary environmental conditions were noted, and it was recommended that an in-depth system analysis and implementation be considered, due to the nature of challenges within the community.

Further investigations included inputs into the development of appropriate management systems regarding environmental health service delivery in the area, and quantifying the volume of work, time and human resources required to implement systems. Other variables of importance included food premises' compliance to local food legislation.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

TUT meets CUT to discuss possible areas of collaboration



CUT executives and staff warmly welcomed Tshwane University of Technology Vice-Chancellor and Principal, Prof. Lourens van Staden (2nd from right). He is seen here with Prof. David Ngidi, DVC: Teaching and Learning, Prof. Henk de Jager, CUT Vice-Chancellor and Principal, Dr Nothemba Mrwetyana, Registrar and Prof. Alfred Ngowi, DVC: Research Innovation and Engagement (front row from left). Back row from left: Dr Gerrie Booysen, Director CRPM, Mr Dan Maritz, Director Communications and Marketing, Prof. Samson Mashele, Dean of Health and Environmental Sciences, Dr Tebogo Matlho, Senior Lecturer: Education, Dr Garry Paul, DVC:Resops, Dr Johannes Hattingh, Senior Lecturer: Tourism.

On 08 November 2019, the Tshwane University of Technology (TUT) Vice-Chancellor and Principal, Prof. Lourens van Staden, visited CUT to engage, discuss, explore possible areas of collaboration and establish potential projects and endeavors for the two universities to partner in the future.

Prof. Henk de Jager, Vice-Chancellor and Principal mentioned that the reason he appreciates TUT is the fact that it is one of the best UoT's in South Africa, it is ranked amongst the top 10 universities and has strong research programmes with 13 SARCHi chairs under their belt.

"I think it is important for us to work together and I believe that partnerships should be a win-win situation. As much as we are going to draw some knowledge from them, I believe that they will equally learn a lot from us."

Prof. Van Staden, said that there is a need for collaboration within the South African higher education landscape and what he is looking for in an institution is not the size, but quality. "It is an honour for us to be here. Our strategic plan is to align ourselves with the six administration of the government. We want to make knowledge useful and conduct the type of research that will add value to the socio-economic challenges of South Africa. We are not just here to talk; we really want something with CUT including all the UoT's. I believe that we must complement one another."

At the round table discussions, TUT proposed on building onto the already existing partnership with CUT on the Technology Station in Electronics, hand hygiene monitor (3D print and electronic and mechanical design), braid sealer and multi-use wall socket. From CUT's side, areas of collaboration that loomed from the discussions include the forensic sciences, waste and water management, intelligent manufacturing, French South African Institute of Technology (FSATI), energy smart campuses sustainability, institution effectiveness and support, drug development and tissue engineering. Other projects of collaborations include women scientist programmes, undergraduate research exposure and STEM initiatives, future rail technologies, technology transfer and the business school.

It was further proposed that the two Research Innovation and Engagement DVCs from both institutions meet and drive the collaboration to the next level.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and Eskom collaborate to encourage STEM participation in the region



Presenting the winners at the Expo are: Mr Bob Tladi, Chief Director, Education Development and Support: Free State Department of Education (left), Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement (right) and some of the Regional Science Fair winners.

The 4th Industrial Revolution (4IR) has taken the world by storm, presenting complex and challenging problems that require a skilled workforce in that will remain relevant.

In response to these challenges, CUT and Eskom Expo co-hosted the Eskom Regional Science Fair from 25 to 27 July 2019. The two entities entered into a partnership with Expo for Young Scientists to encourage the participation of young, inquisitive minds in Science, Technology, Engineering, Mathematics and Innovation (STEMI) activities within the province. This expo is one of 35 regional expos held in all provinces across the country on an annual basis.

The purpose of the fair is to empower the brightest young scientists from schools in the disadvantaged communities to participate in pursuit of improving and unearthing their technical and research skills in STEM fields. For CUT, this expo emanates from the need to build and consolidate its institutional capacity, to ensure that structures and systems are in place to effectively offer pre-university programmes to learners in these scarce programmes.

The project strongly supports CUT's vision of engaging with the communities it serves in order to improve their quality of life. The university took all the secondary school learners on a tour of the facilities that CUT has to offer, thereby exposing them to all the facets of a successful career. Learners were expected to develop an inquiring mindset; to improve their scientific, technical and research skills; and to take a keen interest in STEM subjects and careers.

Approximately 265 learners from the region participated in the competition to showcase their innovative science and engineering investigations. Judges, comprising of educators, subject specialists, university students and Eskom Expo enthusiasts, assessed the 217 exhibited projects. A total of 51 learners received bronze medals, whilst 60 received silver, and 35 received gold medals. Learners from Primère Meisieskool Oranje received the greatest number of gold medals, and medals overall. A total of 23 projects were shortlisted for a second round of judging by professionals, and 11 of the 23 projects were chosen to represent Bloemfontein at the International Science Fair which took place in September 2019.

Executive Director of the Eskom Expo, Parthy Chetty, said: "Now in its 40th year of existence, Eskom Expo continues to provide a unique platform for the thousands of bright young minds in our country to showcase their talent, which would otherwise have been lost in the system. The potential of our country is dependent on these bright minds to be groomed into future scientists and innovators".

The Eskom Special Award winners were as follows:

- Best Energy Project: Micayla Mc Mahon – Eunice Primary School
- Best Innovation Project: Phakiso Thinane – Senankwagwedi Secondary School,
- Best Female: Michelle Britz & Chrismarie van der Walt – Primère Meisieskool Oranje,
- Best Development: Abigail Bloem – Eunice Secondary School.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and Molemela family join hands to launch books dedicated to Dr Molemela and Bloemfontein Celtic supporters



Prof. Henk de Jager, Vice-Chancellor and Principal, Mr Michel Litsili, Former Bloemfontein Celtic player, Mr Victor Mahatanya, one of the founders of Bloemfontein Celtics, Mr Molefi Mika, Author of the two books entitled Dance Siwelele and Resilient Ntate Molemela, Mrs Catherine Mathobisa, Wife to the late Mr Norman Mathobisa who was also one of the founding members of Celtics and Mr Sello Molemela, son of the late Dr Petrus 'Whitehead' Molemela.

On 15 July 2019, CUT joined hands with the Molemela family, Bloemfontein Celtic supporters and authors to launch two books dedicated to Dr Molemela and Bloemfontein Celtic supporters, namely Dance Siwelele and Resilient Ntate Molemela. The books were written by Mr Molefi Mika, former Sowetan Sports Editor, and Mr Teboho Setena, researcher and current Editor of Express Newspaper.

Dance Siwelele is based on the rich history of the establishment of the Bloemfontein Celtics, its founders, the founding generation of players, the ownership thereof, as well as the uniqueness of staunch supporters, whose singing and dancing are unmatched. Resilient Ntate Molemela is a comprehensive and inspiring biography of the late Dr Petrus Molemela, who managed the Bloemfontein Celtics for more than 20 years. The biography details his triumphs through tribulations, from being mocked and ridiculed during childhood, to becoming a notable business entrepreneur and football administrator as owner of the Bloemfontein Celtics.

CUT's relationship with Dr Rantlai Molemela dates back to 2006, when he was awarded an Honorary Doctor Technologiae: Management degree (DTech: Management (honoris causa)) for his contribution in sports development in the Central region and South Africa as a whole.

When welcoming the guests at the book launch, Prof. Henk de Jager, Vice-Chancellor and Principal, said that CUT as a public university automatically becomes a university for the people of the region, South Africa and beyond. He spoke of Dr Molemela as a fearless sports administrator, who made major contributions to the soccer fraternity in South Africa. "It is an honour for us as a university to be associated with Dr Molemela. He was an intellectual, entrepreneur, political activist, community leader and a gallant who remains part of our own narrative of where we come from, the advancements we have made, and the future we are building for the people of this community, and for generations to come. Dr Molemela will forever be a part of us, as one of our buildings is also named after him."

Mr Mika said that: "When good things happen in sports, we tend to forget easily. If you work in the media fraternity, you don't realise that your role is also to help as a main stakeholder; we tend to forget that we are the watchdogs in sports. The birth of these books and the story of Ntate Molemela and Celtics are of historic importance, and needs to be documented, so that the coming generations can know about him and the selfless contributions he made towards the development of soccer in this country, not forgetting the sacrifices and commitment made by supporters".



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and business partners tee off at inaugural Welkom Golf Day



CUT hosted an inaugural Golf Day in Welkom on 18 October 2019 as part of the university's effort to raise funds to support needy students.

The hosting of the Golf Day has afforded the university an opportunity to build an important, strategic partnership with local businesses and other stakeholders who play a pivotal role in the economic development of Matjhabeng, which currently requires revitalisation. All sponsors played golf on the day to help CUT's Wellness Centre to provide more food parcels, book vouchers, transport fees and meal tickets to students.

The Director: Welkom Campus, Prof. Oupa Makola, said that it was a privilege and honour to host the inaugural Welkom Campus Golf Day, aimed at collaborating with small-, medium- and micro-sized enterprises (SMMEs) in developing the local economy, but, most importantly, "to help us to achieve our goal of making sure that no student at CUT ever goes to bed hungry. We look forward to working with these critical partners in 2020 to host yet another CUT Golf Day in Matjhabeng".

The sponsors who made the day possible include Giel De Wet en Seuns, Redefine Properties (with OFM), BEE Embroidery, Topline Sports, Eon Communications, LTK Giants Tours, Capitec (Pty) Ltd, Goldfields Casino and Entertainment, ER24, Lejweleputswa District Municipality, Cell C, and FNB.

Winning golfers on the day were awarded home appliances.

First-year Radiography students reach out to local primary school learners



First-year Radiography students on their way to service the Mangaung Primary School as part of their annual community outreach programme. The students have displayed three of the ten CUT graduate attributes, namely, community engagement, communication and teamwork.

First-year Radiography students reached out to 80 Grade R learners of the Mangaung Primary School as part of their annual community outreach programme. The purpose of the programme is to promote teamwork, and to instil the importance of reaching out to those less privileged. When asked about what they have learnt from the programme, CUT students Debora Mabotja and Simbongile Nxele both shared the same sentiments as they reflected on the activities held.

"This programme has taught us how to work in a team; socialise with new people; appreciate what we have, as some people are less fortunate than us; and live our CUT values."



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Oral health education outreach programme a success



Dr. Jeanne Oosthuysen, Senior Lecturer: Dental Assisting, demonstrating optimal hand-washing practices to the primary school learners.

The Central University of Technology, Free State (CUT), through its graduate attributes programme, has taken great strides in ensuring that their students are market ready. Graduate attributes are competencies, skills and qualities that students should develop during their course of study.

On 11 September 2019, the Faculty of Health and Environmental Sciences reached out to the small community of Smithfield, approximately 132 km southeast of Bloemfontein, to educate the Smithfield Primary School learners about oral health.

The outreach project, “Warriors against germs”, was a combination of Nelson Mandela Month and Oral Health Month efforts from the faculty and served the dual purpose of simultaneously giving back to the communities from which students come, and to instil graduate attributes.

The CUT outreach team consisted of student volunteers from the Dental Assisting and Radiography programmes, and was led by lecturers Dr Jeanne Oosthuysen, Senior Lecturer: Dental Assisting; Dr. Je’nine Horn-Lodewyk, Lecturer in the Department of Clinical Sciences, Radiography programme; and Ms Henra Muller, Lecturer in the Department of Clinical Sciences, Radiography programme.

Ms M Mokhotsoa, a Grade 3 educator and Departmental Head at the school, expressed her gratitude to CUT for visiting the school to teach the learners such important life lessons, which they will practise for the rest of their lives. In addition, she mentioned that their small community hardly ever gets visitors from major academic institutions, and this has really excited the learners and their parents. “The children in our community have just been exposed to a world they never knew existed. For CUT to be here and making our kids aware that such institutions exist and are open to everyone, gives them hope of studying further. They are also excited and motivated to see diversity in the CUT team, because the common belief amongst these learners is that tertiary institutions are only for White people. This memory is going to last them a lifetime”, she said.

Ms Mokhotsoa further indicated that basics like healthcare, water and sanitation are a luxury in the community, and that there is a high unemployment rate due to a lack of education in the area.

The students enjoyed sharing their knowledge with the learners, and also entertained them during “warriors against germs”. The outreach programme was sponsored by Colgate, who donated more than 300 toothbrushes, toothpastes and Protex bath soaps in support of the event.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and UFS join scientists in commemoration of National Science Week



CUT, in partnership with UFS, took to the communities to join millions of scientists across the country in commemoration of the National Science Week held from 29 July to 02 August 2019.

National Science Week (NSW), an initiative of the Department of Science and Technology (DST), is an annual celebration of Science, Engineering and Technology (SET) that seeks to share scientific knowledge and research, exhibitions and demonstrations of science-based activities in order to create a society that is knowledgeable of the value of Science, Technology, Engineering, Mathematics and Innovation (STEMI) in everyday lives.

Local communities, learners and teachers from schools around the province attended a bootcamp and workshop, which involved exhibitions, demonstrations and presentations by key stakeholders in the Free State. This year's theme, "Facing the harsh realities of climate change", addressed the current and future challenges faced due to climate change.

In their discussions, the panel unpacked topics such as embracing the Internet of things (IoT) in facing the harsh realities of climate change; addressing the relationship between climate change, natural disasters (floods, droughts and wildfires) and underground water resources; and the potential of artificial intelligence (AI) technologies to monitor and predict climate change, in order to create awareness of the impact of climate change on water resources, particularly surface and groundwater.

The effect of AI as a useful tool for assessing and predicting the impact of climate change on groundwater resources, was also addressed.

"The impact of climate change on water resources has exacerbated in recent times, and climate change has affected surface and groundwater adversely. Due to the unseen nature of groundwater, investigating the impact of climate becomes a challenge; hence, artificial intelligence is an important tool for predicting, assessing and monitoring the impact of climate change on water resources. The IoT can proffer solutions for effective monitoring and forewarning in order to prevent the negative impact of climate change on water resources", said Prof Muthoni Masinde, Head of Department: Information Technology (IT).

Other events in different areas of the province included a demonstration of the Adaptive Environmental Management System for the Lejweleputswa District, spearheaded by Ms Mpho Mbele, IT Lecturer at the Welkom Campus, and a Sensor Programming, Climate Change Vulnerability and Adaptation by Women in Informal Settlements Workshop, which was presented in Sesotho to the QwaQwa community at the UFS QwaQwa campus.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

2nd Annual Free State Youth Leadership Summit held



From left: Mr Mabutho Mthembu chairing the discussions along side Ms Nthabiseng Mdweksha, Ms Mosa Thakalekwala, Ms Tshegofatso Mojanaga, Ms Bosisiwe Skele, Mr Siphe Zenani, Mr Sonwabile Dwaba, Mr Giel de Villiers and Ms Maraka Lefera who engaged in thought provoking discussion on the current topics affecting high school learners.

The Central University of Technology, Free State (CUT) in partnership with Youth Managers Foundation (YMF) held their 2nd annual Free State Youth Leadership Summit under the theme: 'Empowering the African Child.

The foundation focuses on developing young change-driven leaders from high school level, who undertakes a responsibility of addressing social ills threatening to cripple their schools and personal lives and society at large. A panel of industry leaders and young leaders were invited to engage in thought-provoking discussions and unpack topics such as: the formalisation of grade 9 as a second exit point of schooling and how this decision will impact the quality of education in South Africa and the ruling against smacking or spanking of children in South Africa.

From the debates it was clear that the motion of grade 9 becoming a second exit point is good on paper as it opens up more skills development and vocational learning, but the question arose of whether the country is economically ready to receive such learners looking at the high unemployment rate of capable and qualified graduates.

Mr Mabutho Mthembu, Executive Chairman and Chief Operating Officer said that government is not promoting learners to exit at grade 9 but is rather paving a way for those who are not academically able. "The grade 9 exit is meant for those who are not academically inclined irrespective of how hard they push themselves therefore, government is stepping in to say instead of frustrating and putting pressure on them they can exit at grade 9 and explore vocational learning instead."

Dr Logan Munsamy, Lecturer: Government Management said that the education system must play a greater role in building an inclusive society by providing equal opportunities and helping all South Africans to realise their full potential, in particular, those that are disadvantaged. "We are living in a free South Africa and learners should not be punished when they do not understand. Skills development is needed especially in understanding the role of education in a democratic South Africa such as understanding the two exit levels. Inequality defined by race, gender, geographic location, class and language hardens society imprisoning learners by the circumstances of their birth."

In conclusion he said that the partnership between the CUT and YMF must be an equal partnership which will support the Youth Management Foundation in all its endeavours to achieve its aims and objectives.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Grey College fourth-time High School Quiz Whizz winner



Mirror-mirror on the wall, who's the smartest of them all... Grey College Secondary School learners took the cup for the fourth time at the CUT 21st annual High School Quiz Whizz competition. From left: Benson Wu, Ms Marlene Stoltz: Teacher, Hendrik Combrinck, Daniel Edwards and from Grey College Secondary.

Grey College Secondary School learners won the High School Quiz Whizz competition for the fourth time when they took the cup at the 21st Annual High School Quiz Whizz Competition hosted by the Faculty of Engineering, Built Environment and Information Technology (FEBIT).

The competition is a fun science, mathematics and technology game for learners. The quiz not only tests their knowledge, but engages them in a unique and fun way, stimulating their brains to think faster, building confidence, motivating them, and creating a sharp memory. Most importantly, it is aimed at raising awareness of the importance of science, technology, engineering and mathematics (STEM) subjects in the era of the Fourth Industrial Revolution (4IR). The competition is also an effort to increase the university's involvement in the scientific and technological activities of high schools and communities.

This year, six schools from Bloemfontein and Botshabelo competed against each other, racing to answer rounds of gruelling quiz-show-style questions to secure a spot in the finals. Grey College Secondary School, Sand du Plessis High School and Sentraal High School managed to reach the finals, where Grey College Secondary School gave the two schools a run for their money, and won the competition for the fourth time since its inception. They previously won the competition in 2001, 2013 and 2015.

The schools received certificates, floating trophies, and nine bursaries to the value of R97 500.





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CUT Management shows appreciation to employees



Winner-employees at the inaugural Employee Appreciation Day.

CUT Management held the inaugural Employee Appreciation Day at the Welkom campus on 16 August 2019 to show their appreciation to staff members for the dedication and hard work they invest in realising the vision of CUT.

When opening the ceremony, Prof. Oupa Makola, Director: Welkom Campus, expressed his gratitude for the efforts of Management to celebrate the day at the Welkom campus for the first time. "On behalf of our employees, I wish to convey our gratitude to the CUT Management for bringing this event to us here at Welkom. This day is intended to help us build a caring and grateful university community, as well as show our support and appreciation to employees who will always walk an extra mile. I know that each and every one of you have contributed to the development and advancement of CUT in various areas of your life. Some may have done so in small, yet meaningful ways, while others have gone an extra mile. We still say thank you to each and every one of you."

Prof. Henk de Jager, Vice-Chancellor and Principal, acknowledged the union leadership for the role they played in making the day a reality. He said that the day is dedicated to all CUT employees, to enjoy with Management.

"Through all the challenges we have experienced, this is the day we would like to express our appreciation to each and every employee of this institution. Looking back at the past three years, it was indeed a challenging period for the higher education sector, and we would like to thank you for your contributions and support to Management in steering the ship to ensure that we still have a sound university. We want you to take hands with Management to promote a positive and supportive institutional culture where people are inspired, valued and appreciated. We want to create an environment in which you as employees and students can truly flourish. Be assured that we care about you as the CUT family, and we do not want you to face challenges on your own. We are here for you."



Employees celebrated at the 4th annual Vice-Chancellor's Excellence Awards



Research Group winners in the Innovation Award category: Mr Thabo Ngobeni, Prof. Dillip Das and Mr James Honiball (middle) received a R30 000 cash cheque to enhance their research endeavours. They are presented by the Vice-Chancellor and Principal, Prof. Henk de Jager (left) and Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research and Engagements. DVC: Research Innovation and Engagement.

CUT hosted its annual Vice-Chancellor's Excellence Awards on 30 October 2019 to celebrate the exceptional performances of its employees who have distinguished themselves among their peers for their contributions and exceptional achievements in research and innovation, teaching, community engagement and support services categories, which are aligned with the university's vision. The awards are also meant to sustain the spirit of excellence amongst employees to continue delivering quality education in the higher education landscape.

When acknowledging the recipients, Prof. Henk de Jager, Vice-Chancellor and Principal said "Excellence is a continuous moving target and these awards should encourage you to do better in 2020 and beyond. As CUT, we have embraced the human project which focuses on valuing people who are prepared to walk the extra mile. These accolades are a symbol to recognize your hard work and dedication and it is only through people like you that we can create an exceptional university. As we celebrate you tonight, we also want to thank you for bringing credit to this university. Without your tireless efforts, this institution is nothing."

In conclusion, Prof. De Jager extended his appreciation to the families and spouses of recipients for the undying support they have provided to their loved ones. "You are the safe haven for our employees. It is through your love and support that we have gathered here tonight."

The recipients not only received certificates of excellence but were also awarded with cash cheques to enhance their research endeavors. The nominees received awards in the following categories: teaching, research and innovation, scholarship in community engagement and support staff.

Mr Titus Williams, one of the recipients in the support staff category received a R10 000 cash cheque for his hard work and diligence in serving the university. He is flanked by the Vice-Chancellor and Principal, Prof. Henk de Jager (left) and Deputy Vice-Chancellor: Resources and Operations, Dr Gary Paul.





The Vice-Chancellor's Excellence awards recipients are from left-front row: Dr Eben Proos, Early Career Teaching award winner, Ms Tsholofelo Tshehlana, Specialist and Supervisors award, Mrs Lisa Nel, Community Engagement award, Prof. Henk de Jager, Vice-Chancellor and Principal, Dr Saheed Oke, Early Career Research award, Prof. Dillip Das, Innovation award, Mr Thabo Ngobeni, Innovation award. Backrow from left: Mr James Honiball, Innovation award, Mr Titus Williams, Senior and Middle Management award, Prof. Kanzumba Kusakana, Mid- Career Research award, Dr Ben Kotze, Advanced Career-Teaching award.



Mr Titus Williams, one of the recipients in the support staff category received a R10 000 cash cheque for his hard work and diligence in serving the university. He is flanked by the Vice-Chancellor and Principal, Prof. Henk de Jager (left) and Deputy Vice-Chancellor: Resources and Operations, Dr Gary Paul.



Welkom Campus Ladies Soccer team crowned champions of the 2019 Free State SASOL Women's League



Celebrating their victory and holding their hard-earned trophy high are champions of the 2019 Free State SASOL Women's League-the Welkom Campus ladies' soccer team (Ixias FC- Welkom Campus).

Welkom Campus ladies' soccer team (Ixias FC- Welkom Campus) were crowned as champions of the 2019 Free State SASOL Women's League on 26 October 2019 at Sasoloburg. Eight teams participated in the play-offs and Ixias FC (Welkom Campus ladies soccer team) met Ace Milan at the final where Milan was walloped 3-0. Ixias will be representing the Free State Province in the SASOL League National play-off, which will be held in Gauteng province from 02 -07 December 2019. The winner of the National Provincial League will be promoted to Women's National League.

The team was led to victory by the following hardworking, dedicated and supportive leaders: Mr. Thabo Koena-Coach, Mr. Mpho Mafatle-Assistant Coach, Ms. Mmami Mphatsoe-Team Manager and Ms Motshedisi Montso, Captain.



Pictured from left are Ms Elizabeth De Kock, Chairperson of Free State Women's Football, Mr Letima Mokgorosi, President: SAFA Free State, Ms Motshedisi Montso, Ixias FC Captain, Ms Desiree Ellis, Coach: South Africa Women's National League.



CUT students put their skills to the test at inaugural University Sports South Africa (USSA) e-Sport Tournament



CUT eTitans (CUT-eSports team) proved their mettle by finishing in 2nd place after the host university (University of Stellenbosch-Maties) took top honours. The young and brave 2nd year students from Faculty of Engineering, Built-environment and Information Technology team tested their skills and represented CUT at USSA eSports Tournament Championships. The top three university winners are Stellenbosch University- 1st position, CUT-2nd spot and North West University in 3rd position.

The days when e-games used to be referred to as "couch-potato sports" are long gone. Today, with the Fourth Industrial Revolution (4IR) upon us, the realm of e-sport and gaming is rapidly becoming a worldwide buzz, with university student players also getting in on the action.

e-Sport is a billion-dollar industry overseas, and has made its way into South Africa over the past few years. Universities are now formally affiliated with University Sports South Africa (USSA), and launched e-sport for the first time at Stellenbosch University (Maties) in September 2019, where 88 of the best student gamers from 11 universities competed against each other in the tournament.

Earlier in the year, the CUT Department of Information Technology (IT), under the tutelage of Mr Leon van der Linde, a lecturer in the department, Team Manager and CUT Gaming Co-ordinator, launched the university's first own competition on video gaming (e-sport), called "CUT Gaming", to pace the participants for USSA's main competition. Two events, featuring games such as FIFA 19, Counter-Strike: Global Offensive, and Call of Duty Black Ops, were featured.

Upon realising the team's talent, skills, readiness and determination, CUT Gaming was later affiliated with USSA, enabling them to compete in the mainstream competition.

To qualify for the tournament, 64 students from all faculties competed, and the top eight students who would eventually compete in the main tournament were identified.

According to Mr Van der Linde, CUT's e-sport team, the CUT eTitans, did exceptionally well for an inaugural tournament. "Our future strategy is to improve from here, close the small gaps, and aim for the top. My dream is to establish an e-Sport Lab on campus, where our e-sports teams can practice and play throughout the year to be on top of their game. The most wonderful thing about it, is that it is not only restricted to certain demographic areas, age, gender or race; it is a sport for everyone, and I personally see it growing beyond limits."

He further mentioned that the sport only requires passion, practice, skills and determination. "I wish to attract more first-year students in 2020, so that we can grow our teams", he said.

Sponsors in support of CUT Gaming include Compuden, a local computer store in Bloemfontein, and ASUS South Africa, a component manufacturer.



CILT appreciates mentors



From left: Prof. Friedrich-Nel, Acting Senior Director: Centre for Innovation in Learning and Teaching; Mr. BBG Molokwane, Teaching and Learning Coordinator: Humanities; Ms. MK Mabanza, Overall Best Mentor; Ms. Z Malan, Teaching and Learning Coordinator: Faculty of Engineering, Built Environment and Information Technology; Mr. M Masoeu, Teaching and Learning Coordinator: Health and Environmental Sciences; and Ms. K Matete, Teaching and Learning Coordinator: Management Sciences.

In 2013 CUT introduced the Student Mentorship Programme to provide students with a supportive environment that will motivate and assist them develop to their maximum personal and academic potential.

The CUT mentorship programme provides a framework for positive interaction between students, mentors and lecturing staff. More importantly, trained mentors provide leadership and support to students during mentoring sessions. These sessions are designed to help connect learners, provide them with information on campus resources, give them a sense of belonging and open possibilities of connectedness to the world.

On 18 October 2019, the Centre for Innovation in Learning and Teaching (CILT) hosted an award ceremony to honor and celebrate the hard work, dedication and sacrifices made by these mentors throughout 2019.

The peer mentors were awarded based on a number of categories such as:

1. Best Peer Mentor per Faculty,
2. Most Involved Peer Mentor in the Faculty
3. Most Innovative Peer Mentor in the Faculty
4. Most Compassionate Peer Mentor in the Faculty and lastly the Best overall Peer Mentor in Bloemfontein Campus.

The best overall mentor award went to Ms. MK Mabanza, from the faculty of Humanities.





Springbok Edition