



Central University of
Technology, Free State

GRATIA

First Edition 2019

Reimagining CUT:
Living our values



ABOUT THIS ISSUE



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VC Message



Feature Story



Research Excellence



Academic Programmes



University Life



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The Central University of Technology, Free State (CUT) remains steadfast in our endeavours to reimagine CUT as a “transformational, transformative and entrepreneurial university and ‘model’ University of Technology (UoT) in Africa, impacting on the socio-economic development of the Central region of South Africa and beyond”. Our innovation ecosystem has been strengthened with the establishment of a Task Team that will lead the way in preparing the institution for the Fourth Industrial Revolution (4IR). Strategic projects related to the 4IR and Circular Economy (CE) have been launched, including, inter alia, the smart campus, artificial intelligence, robotics, 3-D printing, Internet of Things (IoT), and an e-waste plant.

From 2012 to 2015, we focused on the Academic Project, in order to improve the relevance and impact, and enhance the quality of our learning, teaching, research and innovation practices. Since 2016, the CUT Transformation Plan 2016 – 2020 serves as the guiding document used by the CUT Council and Management to drive and monitor the transformation project at the university.

We embraced the 2016 theme of “The Year of Innovation and Entrepreneurship” with many accolades and achievements – to such an extent that the Department of Higher Education and Training (DHET) recently indicated that CUT is “the leader in the country pertaining to interventions in innovation and entrepreneurship”. The theme for 2017 was “The Year of the Human Project”, focusing on staff, students and other stakeholders, and enhancing the human reconciliation drive, whilst the theme for 2018 was “Reimagining CUT: Embracing Servant Leadership”. Servant leadership is a philosophy and set of practices that enrich the lives of individuals, build better organisations, and ultimately create a more just and caring world. This year (2019)’s theme, “Reimagining CUT: Living our values”, is aimed at being true to the CUT brand by living the values we stand for – “walking the talk”, and at all times functioning according to the highest ethical standards engrained in the culture of the university. We want to show to the world that CUT graduates are different; that they are people with high ethical values that will be leaders in our society.



The overall student headcount for 2019 at CUT is 20 484 students, compared to 19 460 in 2018, representing an increase of 5,26%. The Bloemfontein campus recorded an increase of 3% in the number of students (15 562 students in 2019, compared to 15 400 in 2018), whilst the Welkom campus recorded an increase of 13,8% (4 622 students in 2019, compared to 4 060 students in 2018).

This pattern is in line 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 twelve successful graduation ceremonies during April 2019, at which 4 251 students graduated, including 29 master's and 10 doctoral degree students. It is the first time that we have reached the 4 000 mark during our autumn graduation ceremonies.

During the past few years, CUT, similar to many other higher education institutions, experienced the effects of the #Fees-Must-Fall campaign. This has had numerous traumatic repercussions at emotional, psychological and spiritual level for both employees and students. Not only has this been traumatic for CUT employees and the student body, but it has been indicative of the immense stress and pressure that many of our employees and students are experiencing, also due to the normal challenges of life. Therefore, Management has implemented Employee and Student Assistance Programmes for 2019/20 to enhance the health, wellness and well-being of our employees and students, focussing on, inter alia, psychosocial support, clinical support, health management, life management, trauma management and counselling. We care about each person as the CUT family, and we do not want anyone to face these challenges on their own.

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.

A number of activities to enhance teaching and learning, research and innovation, and community engagement practices at the university were recorded during the past semester. Measures to strengthen partnerships and funding opportunities for CUT were also implemented. The university analysed all research activities during the past two years to align all research programmes with the Sustainable Development Goals (SDGs) of the United Nations (UN) and the reimagining drive of the university. This process was completed, and Senate approved the following research centres at its meeting of 25 February 2019:

- Centre for Applied Food Security and Biotechnology (CAFSaB);
- Centre for Diversity in Higher Education Research;
- Centre for Enterprise and Entrepreneurship Studies;
- Centre for Rapid Prototyping and Manufacturing (CRPM);
- Centre for Sustainable Smart Cities; and
- Centre on Quality of Health and Living.

On behalf of the CUT Council and Management, I would like to acknowledge all our external partners – including businesses, industry, government and society at large – for your support. In addition, the university cannot be successful without the continuous support of, amongst others, the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), Universities South Africa (USAf), professional bodies, science councils, and the National Research Foundation (NRF). 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, Alumni Association, the unions, student leaders, alumni and parents, for your commitment and support.

Following feedback from the community, it is clear that they have noticed the renewed attempt to reimagine CUT. We have all the elements to achieve this vision. Let us, as a collective, continue to promote high moral, ethical and legal standards at our university, aligned with our theme for 2019 – “Reimagining CUT: Living our values”.

Kind regards / Ditumediso tse mofuthu / Vriendelike groete

Prof. Henk de Jager
Vice-Chancellor and Principal





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PDTS hands over specially designed wheelchairs



At the hand-over ceremony, the two recipients, Mr Letshego Motlhanke and Luckyboy Khookane (front row seated) are over the moon with their newly designed chairs. They are flanked by from left: Mr Daniel Maritz, Director: Communications and Marketing, Mr Lawrence Mc Donald, MEC for Police, Roads and Transport: Mr Sam Mashinini, Ms Adri Mc Donald, Mr Katlego Makgeledisa PDTS Intern, Mr. Mr Allan Kinnear, PDTS Project Engineer, and Mr Schalk van der Merwe, Project initiator (seated-right).

For persons with disabilities, a wheelchair contributes to a normal lifestyle, improves quality of life, and enhances the prospects of employment, education and participation. Simultaneously, it reduces the cost of care and dependency. Unfortunately, the financial situation of most state patients enables only a select few to obtain a wheelchair from private wheelchair companies.

On 15 March 2019, the Product Development Technology Station (PDTS) at the Central University of Technology, Free State (CUT) and Mr Schalk van der Merwe, who has been wheelchair bound for 27 years, handed over specially designed wheelchairs to Messrs Letshego Motlhanke and Luckyboy Khookane, two patients of the Occupational Therapy Department at the MUCCP Clinic, situated in a low-income area of Bloemfontein.

For the past two years, the PDTS and Mr Van der Merwe, the initiator of the project, have been working on developing a multifunctional, affordable, stronger and flexible wheelchair, to provide a sustainable, reliable solution to improve the mobility of persons with disabilities in rural areas and townships.

Also present at the handover ceremony was the Free State Member of the Executive Council (MEC) for Police, Roads and Transport, Mr Sam Mashinini, who was extremely impressed with the brilliant initiative and proposed a meeting between the PDTS, Mr Van der Merwe and the recipients to further discuss the matter. "I really like the idea, especially because it is not only going to address challenges faced by people with disabilities, but will also empower them and create jobs. The wheelchair looks strong and comfortable. We need to engage with stakeholders working with people with disabilities to assist in building more chairs and grow your product. I also need to meet with people with disabilities, for them to see the product, and determine whether it can address the challenges they are facing, because they are the market. If they demand, then we can come into the space. As for me, I am happy with what I see, and I believe this can address the problem."

Mr Van der Merwe said that he aims to open a workshop where people with disabilities can manufacture the assistive equipment, thereby supporting people with disabilities holistically. "The idea is, we want to employ people with disabilities to manufacture the chairs themselves. I have built everything myself, so I know that it is possible. To date we have trained two people with disabilities, which for me is also a way of empowering our disabled people and create jobs."





CUT-PDTS team who made dreams possible. The team worked with Mr Schalk to design and build special designed free wheel chairs, a solution for rural mobility in the low-income areas.

The recipients, Mr Letshego Motthanke from Mafora in Bloemfontein, and Mr Luckyboy Khooane, a Grade 12 learner from Kopanong Secondary School, said they are grateful and ecstatic to receive such comfortable and flexible wheelchairs, and that it will not only make life easy for them around their homes, but also enable them to manoeuvre in the rough terrains around the township. "It is like riding a bicycle. I like the fact that my arms will be able to stretch as well", said Mr Motthanke, who has been wheelchair bound for more than 25 years following a car accident. Mr Khooane said he is happy to receive a chair that is easy to use, comfortable, stronger and faster compared to his old one. "I would like to thank Mr Van der Merwe and the CUT-PDTS for thinking of us in their creation. I am looking forward to an enjoyable ride to school, and visiting my friends anywhere without worrying about bad roads", he said. Luckyboy lost his mobility four years ago when he sustained frostbite whilst at initiation school.

According to the CUT-PDTS team and Mr Schalk van der Merwe, the idea of building a sustainable wheelchair that incorporates a clip-on hand cycle/free wheel came from a hand bike.

"The free wheel helps with mobility and reliability of wheelchairs in rural areas, and long-distance traveling. The sustainable wheelchair is a three-in-one solution for all aspects faced in rural mobility of persons with disabilities. A person with a disability will have a reliable wheelchair to move around indoors, and a clip-on hand cycle/free wheel to improve mobility on rough rural roads and over long distances. What we need is a way to bring this into the market, and the success of this project will mean that disabled South Africans will have access to wheelchairs that are reliable and affordable."

"Producing a wheelchair that is reliable will reduce the burden on the government to supply wheelchairs, as the turnover of wheelchairs will be reduced. Local governmental and private hospitals will be able to afford, and have access to these wheelchairs. Manufacturing these devices locally will also lead to increased local economy, job creation, and will also provide skill development opportunities for persons with disabilities."

Mr Van der Merwe is actively involved in wheelchair and hand bike racing, thereby gaining much experience in the field of wheelchairs and the use thereof. In 1995, he built himself an aluminum racing wheelchair, as he could not afford the imported chair. "The chair handled well, and competed uncountable races. Other people with disabilities used to stop and ask me about my chair, and from then, I have built about 55 of these racing wheelchairs from my garage. Currently, I am experimenting with other kinds of hand bikes to bridge the gaps of all terrain challenges that wheelchair users encounter."



Luckyboy Khooane with his grandmother, Ms Matshidiso Khooane.



PDTS realises Camino dream for friends



Teamwork made Rensché du Toit and Corine de Jonge's Camino walk possible. Pictured in the back row, from left to right, are Mr Marinus Potgieter, Manager: PDTS; Ms Corine de Jonge; Mr Allan Kinnear, Project Engineer: PDTS; and Mr Katlego Makgeledisa, PDTS Intern. In the front row, from left to right, are Ms Rensché du Toit enjoying her unique, custom-made wheelchair, and Mr Schalk van der Merwe, initiator of the project.

The Product Development Technology Station (PDTS) at the Central University of Technology, Free State (CUT) continues to contribute positively to communities through its social and technological innovations.

The centre played a significant role in realising retired, lifelong friends Rensché du Toit and Corine de Jonge's dream to do the Camino Pilgrim Walk. According to Du Toit, who has post-polio syndrome, and De Jonge, who suffers from Hashimoto's autoimmune disease, they have always wanted to do the walk, but the rough terrains made it almost impossible for a wheelchair-bound person to ride through.

"Without the wheelchair, it would have been impossible. It gave us access to places where it would have been impossible for an ordinary wheelchair to manoeuvre. The concept is excellent for rough terrains and rural areas, and will empower people with disabilities, increase their flexibility as well as mobility. Looking back at where it all started, I would say I am grateful to the PDTS Team and Mr Van der Merwe for realising our dream. This was a special trip for us, and I am proud to say that we made it", she said.

Walking the Camino is a great achievement that requires much perseverance, courage, and strong mobility. The Camino de Santiago is a 780 km pilgrimage route through Spain, popularly known for its hiking trails and rough terrains.

The PDTS in collaboration with Mr Schalk van der Merwe managed to design and build a three-in-one sustainable wheelchair. Mr Schalk van der Merwe has been wheelchair-bound for 27 years. As the initiator of the project, all that Mr Van der Merwe wanted was a sustainable, multifunctional, affordable, durable and flexible wheelchair that is suitable for rough terrains and rural areas. "My wish was to have a multifunctional and low-maintenance wheelchair, and I am glad that the PDTS designed a three-in-one special wheelchair that can drive on tough terrain, has a hand cycle that can be connected to it, and a free-wheel version. What is more important, is that it can be made generally available to anyone at an affordable cost."

The PDTS, however, only had approximately two weeks to design and build the wheelchair before the Camino journey, which took place from 4 to 20 September 2018.

Mr Allan Kinnear, Project Engineer: PDTS, said that although the request was made on short notice, he is delighted that it passed the Camino test. "The fact that this mobile chair overcame some of the obstacles on the route, shows it works perfectly. Our greatest objective was to have a sustainable wheelchair that can be serviced every two years, and last a lifetime." He further stated that the challenge faced in South Africa is not about wheelchairs, but sustainable wheelchairs. "Normal chairs brake regularly, and have to be replaced often, and for me, that is not durability", he said.

Mr Kinnear also mentioned that the product will be further improved, and that possible adjustments would be incorporated according to Ms Du Toit's feedback on the prototype.

Asked about his experience in the project, Mr Katlego Makgeledisa, PDTS Intern said there were many challenges in the making of the wheelchair, but through teamwork, they managed to meet the deadline. "This wheelchair was specifically designed to withstand conditions of walking through the trails of Camino. When we started, it seemed impossible, but once we were done and saw it functional, it was the best feeling ever", he said.

When asked about the material used and their future plans, the team said that, because normal chairs brake regularly, and have to be replaced constantly, they opted for custom-made castor wheels, which are more durable.

Although the chair is one of the first prototypes, similar chairs are available in the market. However, they are more expensive, and are only manufactured and sold on request. The centre currently awaits funding to commercialise the product.



CUT Professor presents at World Bank Water Week in Washington, DC



Prof. Muthoni Masinde demonstrating the simplicity of the ITIKI Drought Prediction Tool app on her mobile phone.

Prof. Muthoni Masinde, Head of the Department of Information Technology (IT) in the Faculty of Engineering, Built Environment and IT was invited to present an innovative drought-forecasting tool, developed by her in 2016, at the renowned World Bank Water Week from 02 to 04 April 2019 in Washington, DC. Leading innovators, thought leaders, partners, etc. attended the conference to link the best global knowledge with implementation, whilst bringing cutting-edge solutions to critical challenges.

The tool developed by Prof. Masinde combines the use of indigenous knowledge (including insects predicting drought) with scientific weather forecasts, to predict localised weather, augmented with Information and Communication Technology (ICT) aids such as artificial intelligence, wireless sensor networking and mobile phones, where all data is fed into computer models to determine the prospects of rain or drought. Prof. Masinde is a blessing to farmers in South Africa, Kenya and Mozambique, given the fact that drought accounts for 80% of the catastrophes that transpire in the regions.

According to Prof. Masinde, growing up in Kenya experiencing these drought conditions, and seeing how rain patterns impacted the region, sparked her career interest in meteorology. "My motive is simple: if farmers can predict when and where rain will or will not fall in a specified region, they can plan accordingly with water conservation, planting and irrigation. This is a truly unique innovation, as only the farmers in the regions can know that the knowledge they live with daily can help predict weather patterns."

"The weather and planting information is distributed to the farmers through text messages that can be received on simple and low-cost mobile phones. We have achieved significant progress thus far, and I want to do what I can to support Africa, and overcome our challenges. Conferences such as these are perfect global platforms that gives me a chance to tell our unusual story", she said.

She also believes that the data and language used by the weather bureau may be difficult for ordinary people to understand. "With our ITIKI Drought Prediction Tool, my team can send out SMS reports in many different tribal languages."

She further mentioned that indigenous knowledge is not a mysterious methodology, but lessons that have been cultivated by generations through nature's hints. "In the village where I grew up, we learnt that, if a particular insect appeared in large numbers, it basically signified something. This I learned from my mother, who also learnt from hers. Basically, what we have is a bridge between two knowledge systems – indigenous knowledge and science."

When asked about the future of the ITIKI Drought Prediction Tool, Prof. Masinde said she is looking to expand the programme to other African countries. "We aim for three areas of impact: accuracy, relevance to small farmers, and increasing yields for the farmers."

Prof. Masinde was one of approximately 500 delegates to be invited to the flagship event.



ITIKI brings solution to draught challenges in Africa



ITIKI Team celebrating five years of success. From left is Jason Brown, Administrator and App Developer; Prof. Muthoni Masinde, Associate Professor and Head of Department of Information Technology, CEO and Founder of ITIKI project and Adeyinka Akanbi, Lecturer, IT and Operations Manager of the project.

As a threatening natural hazard, drought may cause tremendous loss to agriculture, ecosystems, and other sectors. In ancient times, small scale farmers used to rely highly on indigenous knowledge to predict the occurrence of rainfall and critical cropping decisions, but this knowledge seems to be disappearing due to climate change.

Growing up in Kenya and inspired by her own experience, Prof. Muthoni Masinde, HoD: Faculty of Engineering Build Environment and Information Technology (FEBIT), came up with a drought predicting tool that bridges the gap between indigenous knowledge and scientific knowledge. This drought predicting tool for Africa's small-scale farmers and flagship project called Information Technology and Indigenous Knowledge with Intelligence (ITIKI) was officially launched on 20-21 June 2019.

The drought early warning system forecasting tool integrates indigenous and scientific drought forecasting and uses a mobile application, a web portal, and SMS service to pull weather information through a network of sensors that monitor weather conditions for farmers. The system is anchored on the novel integration framework called ITIKI and forecasts are available via the ITIKI Smartphone App and USSD service.

Prof. Masinde said that the tool is a unique innovation that will help farmers deal and adapt to changing climate. "The weather and planting information is distributed to the farmers through text messages in their home languages and can be received on simple and low-cost mobile phones. We have achieved significant progress thus far, and we want to do what we can to support Africa and overcome our challenges. The tool has effectively been implemented in Mozambique, Kenya and South Africa and we are looking to expand into other African countries."

Indigenous knowledge ensures that the system is relevant, acceptable and resilient. ITIKI further employs three Information and Communications Technology (ICT) tools like mobile phones, wireless sensor networks, and artificial intelligence to enhance the system's effectiveness, affordability, sustainability, and intelligence.

CRPM celebrates years of innovation and excellence through 3D printing technology



Mr Skhumbuso Makhoesa is not shy to show off his new ear. He was born with one normal ear, and the other one was underdeveloped. The CRPM team intervened and designed a prosthetic ear, which he wears with confidence.



Ms Princess Moshokane, a victim of car hijacking who was shot in the face has since regained her smile and confidence, thanks to the Carl and Emily Fuchs Foundation, Prof. Cules van den Heever, Dr Gerrie Booysen and his team for her facial reconstruction.

The Centre for Rapid Prototyping and Manufacturing's (CRPM) capabilities in the design and manufacturing of patient-specific implants through 3D-printing technology have undergone significant strides. For the past four years, the CRPM has been the beneficiary of the Carl & Emily Fuchs Foundation grant to the value of R2,25 million for the Changing Faces, Changing Lives project. Through the project, many lives of ordinary people have been changed for the better and to date, the centre has designed 17 3D printed implants.

On 22 May 2019, the Centre celebrated the impact that Additive Manufacturing (AM) has made in changing faces and lives through the grant support from the Carl and Emily Fuchs Foundation.

Prof. Alfred Ngowi DVC: Research Innovation and Engagement said that the 'changing faces changing lives' project is aligned with CUT's vision of technological and social innovation.

Dr Gerrie Booysen, Director: CRPM applauded the patients for their bravery, courage, willingness and most importantly, for entrusting their lives with them. He said that the purpose of the 4-year project was to focus on the medical niche and the pool of expertise to improve and better the quality of life not just for state patients but also for private patients where there is a backlog of patients waiting for operations.

Ms Corne Booysens, representative from the Carl and Fuchs Foundation gave a brief background of how and when the foundation started. She congratulated Dr Gerrie Booysen and his team for their dedication and achievements. "It is always a pleasure to work with people who are passionate and dedicated about making a difference in other people's lives. I am feeling proud about what we are all achieving in the center of our beautiful country. Congratulations to you and your team."

In her testimony, one of the recipients and car hijacking victim, Ms Princess Moshokane said, "I lost my teeth, confidence and smile which took me seven years to get back. It was the darkest and most challenging years of my life as I was told that the reconstruction surgery is unaffordable. At the time I was a breadwinner at home working at a bank as a consultant, so I knew there was no way I was going to get that sum of money. I was devastated and didn't know what to do until I met Prof. Cules van den Heever and through him, I met Dr Gerrie Booysen. I was then told that there was a company in Germany that is interested in funding my surgery. There was hope and I knew that God was on my side. Today I am standing in front of you with a smile and confidence, I no longer hold up my hand to cover my mouth, I'm able to smile again, socialize with people like before and go out with my friends. I am very thankful and happy. I came through a long journey and I want to thank Prof. Cules, Dr Gerrie, and the rest of the team for what they have done for me, I will remain forever grateful."



Stakeholders who have made it possible for the patients. Front row from left is Ms Baesi Ramodula, CEO: Pelonomi Hospital, Ms Corne Booysens, representative from Carl and Fuchs Foundation. Back row: Dr Gerrie Booysen, Director: CRPM, Prof. Alfred Ngowi, DVC: Research Innovation and Engagement and Mr Gcobane Quvile, CEO: CUTis.



CUT academics amongst the NSTF-South32 Awards finalists



At the gala dinner, Dr Gerrie Booysen, Director: CRPM (centre), received the prestigious award on behalf of his team of engineers.

The CUT - Centre for Rapid Prototyping and Manufacturing (CRPM) recently participated in and won the Innovation Award: Corporate Organisation category for innovations and research and/or development at the 21st annual National Science and Technology 2018/2019 NSTF-South 32 awards, also known as the 'Science Oscars' of South Africa.

The prestigious event was held on 27 June 2019 at Gauteng. The awards were celebrated along with over 600 guests and more than 50 different organisations from the broader community. The CUT-CRPM team forms part of the cream of the crop of the Science, Engineering and Technology (SET) community.

The university is proud of the CRPM to win the 2018/2019 NSTF Awards. This award is based on many years of investment that CUT has put in CRPM. This Innovation-Corporate Organization Award has been given to CUT in recognition of its pursuit to lead Additive Manufacturing (AM) in the higher education sector in Africa and the pivotal role it is currently playing within the medical field. Through that, the university will continue to provide its partners with exceptional tools and solutions to maintain a lead in 3D printing technology and to bring about the social and technological innovations in the country.

The NSTF Awards were established in 1998 as a collaborative effort to recognise outstanding contributions to SET and innovation by SET-related professionals and organisations in South Africa. This includes experienced scientists, engineers, innovators, science communicators, engineering capacity builders, and organisational managers/leaders, as well as data and research managers.

The university is currently hosting the Research Chair in Medical Product Development through Additive Manufacturing (3D printing technology)- an initiative intended to South Africa's research outputs and innovations in areas that are crucial to our national innovation strategy. The research chairs are tenable at universities and research agencies that are deemed to be leaders in selected fields such as CUT in Additive Manufacturing or 3D printing technology. It is a highly competitive initiative amongst all South African universities and research agencies.

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 (AM); allowing staff and students to open up new ideas that come with this technology. The CRPM's goal is to create safe environments for medical practitioners to share their ideas and form a consortium between doctors and CUT's product development centres to drive development.





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"Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do." - Pele



Centre for Proteomic and Genomic Research (CPGR) introduces new course



CUT employees, postgraduate students from both CUT and UFS and CPGR delegates who formed part of the two-day workshop.

Delegates from the Centre for Proteomic and Genomic Research (CPGR) visited the Central University of Technology, Free State (CUT) from 19 to 20 February 2019 to introduce the new Foundation in Omics course to postgraduate students in Health and Environmental Sciences at CUT and the University of the Free State (UFS).

The CPGR offered a two-day course focusing on standard molecular technologies to advanced genomic and proteomic (omics) application. The programme is aimed at scientists who are new to omics, as well as researchers who are interested in an overview of a dynamically evolving field. The topics of the course included Introduction to Next-generation Sequencing (NGS); Real-time Polymerase Chain Reaction (PCR); Proteomics; and Bioinformatics, and the following were addressed: project design; ethics; quality management systems; NGS technology; and basic bioinformatics. The course will soon be offered in blended learning, where onsite learning will be combined with online learning, with emphasis on applied skills.

The CPGR was created in 2006 with a view to establish a modern, world-class omics facility that meet the needs of the scientific community in academia and industry in South Africa. The centre originated from an initiative by the South African Department of Science and Technology (DST), and is funded by the Technology Innovation Agency (TIA). It aims to support the development of an internationally competitive bioeconomy, as envisioned in the DST's strategic plans.

According to Ms Linda de Waal, Sales and Marketing Leader of CPGR, the organisation developed the Foundation in Omics course in 2017 as a result of rapidly changing molecular technologies and biochemistry. "It is not only about the new students getting exposure to the new technology, but also about students who qualified five to ten years ago, who now work in laboratories to have access to these new technologies. Within the CPGR, we have proteomics and genomics platforms to train young scientists, and assist them in shaping and designing their projects as the technology is new to them. Through CPGR, scientists will have convenient access to high-end discovery and targeted molecular technologies, thereby facilitating hypothesis-generating and -validating work under one operational umbrella."

Dr Ntsoaki Malebo, Senior Lecturer in Biochemistry/Microbiology, said the purpose of the session was to host an introductory workshop in the omics field for students. The session is also projected to assist in introducing the most recent omics technologies in their research. "With this knowledge, students will be able to investigate how microbial proteins are affected by cell processes or the external environment using proteomics. These techniques can be applied generally in the field of food safety, agriculture, phytomedicine, microbiology, biochemistry, molecular biology, water and environmental research, including cancer research. This will be followed by a laboratory-based training at the Centre of Proteomic and Genomic Research later in the year. We are grateful to the TIA for funding us, and to CPGR for facilitating the workshop."



6th innovation in learning and teaching conference a success



Academics and presenters at the 6th innovation in learning and teaching conference who shared different views on how universities can enhance teaching and learning for students from diverse environments. Front row centre-4th from left: Dr Manyane Makua, Senior Director: Teaching and Learning Development Centre (TLDC), Dr Mpho Jama, Senior Lecturer in the Division Student Learning and Development (DSLSD) in the Faculty of Health Sciences at the University of Free State, Dr Modise Motalenyane, Senior Lecturer and Departmental Manager for Education and Professional Studies at Welkom Campus and Prof. Mabokang Monnapula-Mapesela, former CUT Senior Director for Centre for Innovation in Learning and Teaching (CILT).

The Centre for Innovation in Learning and Teaching held a seminar on 20-21 June 2019 focusing on enhancing teaching and learning by promoting university values in diverse environments. Academics and researchers who attended the conference shared their different approaches on how universities can tackle learning and teaching of students from different environments, who join universities with greatest expectations, hoping to change their living conditions and that of their societies.

In her presentation entitled "Integrating values in curricular and co-curricular education environments and activities", Dr Mpho Jama, Senior Lecturer in the Division Student Learning and Development (DSLSD) in the Faculty of Health Sciences at the University of Free State and one of the keynote speakers, spoke about the hopes that universities bring to students from diverse backgrounds on digital platforms that creates exceeded expectations, future aspirations and dreams to change the world, and contribute towards their societal changes and social injustice. She also mentioned the lack of integrating humanistic practices in the education environment.

"As universities, we portray ourselves as institutions that are built on values and as we market ourselves using graphics and beautiful happy pictures of our students, we tend to forget that our target group is from the diverse generation."

"When prospective students decides to join our universities, they must be ushered into an environment that embraces values, give dignity and foster their well-being, but unfortunately, when they finally arrive, the situation is different from what they saw on our social media platforms and brochures, as our university only focuses on the cognitive environment and practices therefore neglecting the humanistic environment. Notably, such environments lead to fragmentation and tensions between the academic and humanistic practices and do not foster a holistic development and the well-being of a student," she continued.

Dr Jama also touched on the perspectives of how universities can integrate humanising practices by integrating values in curricular and co-curricular education environments and activities as she believes that the university environment can be a harsh place to be especially for student from poor backgrounds. She placed emphasis on practices that often subject students to inordinate stress resulting from hostile and inhumane education environments.

Another keynote speaker, Dr Manyane Makua, Senior Director: Teaching and Learning Development Centre (TLDC), presented on 'Enhancing teaching and learning by promoting university values. He mentioned challenges that Higher Education (HE) in South Africa are facing and asked if universities should be designed around students.



ACADEMIC PROGRAMMES

In his presentation, Dr Makua spoke about the dramatic changes that are taking place in the Higher Education (HE) space that have significant implications in what universities teach and how they teach. He said that local and global pressures placed on HE, coupled with the recognition that the status quo is unsustainable, are fuelling innovation initiatives at a rapid pace across the HE ecosystem. He further argued that the landscape of HE is no longer the same and cannot afford to be so.

"HE is experiencing multiple challenges on an endless basis thus the system is continuously placed under pressure to respond to demands from various constituencies which have a vested interest in how things eventually turn out. Central to these, are high student demands that have lately been the central agenda that preoccupies everything."

He mentioned other challenges like language accessibility, poverty and entitlement by both academics and students. He said that the issue of entitlement is not only an institutional issue or a student issue but broadly, it is a societal issue that needs to be dealt with at a high level if we want progress as a nation and as a sector.

"The HE system does not address inequality in a way that it should but rather reproduces it. In SA, quality education becomes available to those who can afford it and those who can't, just drops out of it. Growing society, inequalities and sexual harassment of students are real issues and they not only affect SA but all institutions across the world. All challenges identified, points out to what we should be doing and how we should be teaching our students and interacting with them in our institutions. The degradation of ethics and values is a real issue."

He said that when students enter universities, they already have enormous challenges and some of them deal with those challenges in silence and some of those challenges account to why they are performing or not performing.

"Universities cannot afford to sit on the side-lines and be aloof as they are located in the very same societies plagued by these issues. National drop-out rate is high, although slightly dropped but it is still high. We are stuck with youth unemployment or unemployable youth because they studied what is not there in the market."

In conclusion, Dr Makua emphasised that universities should create a system of tracking what and how students are taught for quality assurance purposes and always canvass the students' voice. "We must actively and collectively focus on promoting excellence and not just talk about it. We must commit to lifelong learning and ensure that we are always relevant and current. We must place our students at the centre of learning because they are our priority, core and the heart of the institution, and the way we interact with them should reflect that ethos. If universities talk about teaching and learning as their core business, they must allocate enough resources to what is core, he said."

Education terminology translated into Sesotho



CUT Education Technology Lecturers, students and Language Practitioners, representatives from the Department of Sport, Arts, Culture and Recreation and Lexicographers from the University of the Free State.

The quest to develop lexicons and translate science, engineering and technology education terminology into Sesotho continues. The Centre for Innovation in Learning and Teaching (CILT) and the Department of Languages and Social Sciences Education in the Faculty of Humanities held a two-day workshop from 24 to 25 April 2019 to develop Sesotho terms for education terminology by translating and borrowing. 230 of the 411 terms were translated.

The ongoing project follows a student transformative approach, and responds to a directive from the Department of Higher Education and Training (DHET) to develop African languages in higher education.

Prof. Mike Mhlolo, Associate Professor: Postgraduate Studies Education, believes that language is one of the major contributing factors to poor performance and educational outcomes. "Language stands out clearly as a major contributing factor, yet the right to one's language and cultural identity is enshrined in the Constitution. Students have a right to be taught and learn in a language that makes sense to them. When we teach them in languages that are foreign, we are infringing upon their constitutional rights. Although there is a right to receive education in a language of choice, I believe this is tempered by restriction on resources in terms of being able to translate scientific terms into a language they understand, and be able to make sense of the concept that is being studied."





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CUT donates 102 school shoes to Hodisa Technical Secondary School learners | Page 39



Most students ever graduate at autumn graduation ceremonies



NDip Language Practice graduates, Zelda Ntsidwa, Mahlape Thaele, Relebohile Mohlathe and Alice Akata toss their mortarboards in the air as they celebrate their achievement.

The Central University of Technology, Free State (CUT) is proud to reach the 4000 mark during the autumn graduation ceremonies held on 04-05 April at Welkom campus and 08-12 April 2019 at Bloemfontein campus. In this season alone, the university conferred 4 251 degrees and diplomas including 29 masters and 10 doctoral degrees.

Prof. Henk de Jager, Vice-Chancellor and Principal, said: "CUT has made history, it is for the first time that we have reached the 4 000 mark during our autumn graduation ceremonies. This is a great achievement for the institution".

He congratulated the students for their achievements, and thanked them for choosing CUT as their intellectual home. "Today, we send you off as CUT graduates, but, most importantly, as our ambassadors and proud alumni, confident that you are at the beginning of a new journey of exciting and endless possibilities that are ahead of you. We are not saying goodbye to you because you are going into the real world, this is your home and you will always be welcome. Go out there, make your mark, and make us proud. By graduating today, you are certainly intelligent."

"Build your character and protect your moral qualities; live your values; and be the change that people will see in society. CUT graduates are different; they are people with high ethical values and will be leaders in the society. Thank you for choosing CUT. You must leave this ceremony with a duty to uphold the good name of the institution as your alma mater. Please continue to further your studies. I want to see many more master's and doctoral gowns here in the years to come, and you should be the ones wearing them," he said.

He also thanked parents, friends, guardians and relatives for their support. "You have made many sacrifices to see your children, friends and spouses succeed in their studies. Although you are certainly very proud of the graduates' achievements, remember their achievements are yours too. The CUT community is very pleased and proud to share and celebrate this day with you."



CUT Chancellor celebrates with newly graduated doctors



The newly hooded doctoral candidates at the Chancellor's Doctorandi dinner. Ten Doctoral degrees were conferred in the Autumn season. From left: Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning, Drs: Joel de Lange, Steven Kgano, Motsamai Masebekoa, Ellen Blekie, honorary doctoral recipient, Madam Justice Mahube Molemela, the soiree hostess, Sandile Koko, Hermanus Jordaan, Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagements and Prof. Laetus Lategan, Senior Director Research and Post Graduate Studies.

The CUT Chancellor, Madam Justice Mahube Molemela, hosted the Doctorandi Dinner on 11 April 2019, to celebrate the newly graduated doctors' hard-earned achievements. The purpose of the event is to celebrate the academic excellence of the university's graduates, and acknowledge them for their contribution to the advancement of CUT as a true centre of learning, with partners from government, business and industry.

"CUT, government, business and industry represents a model of collaboration that is not only mutually beneficial to all partners, but also central to our commitment to uplift the communities we serve. This is why we are always grateful to have such partners, and we thank you for your support. Clearly, we have common aspirations that are inherent to prospects of growth, not only in this region, but also in South Africa as a whole", said Madam Justice Molemela.

She congratulated and applauded the graduates for obtaining their degrees. "Obtaining a doctorate is indeed a hard-earned achievement, and we commend you for attaining the highest pinnacle of academia. This is indeed a special moment in your academic life. Remember that this is just the beginning of your path as scholars of note, and we have no doubt in our minds that you will excel in the same way as you have done thus far. You play an important role in making CUT an innovative centre of excellence, and I want all of you to contribute in making your thesis a living document. Let it not sit there and gather dust. We are now in the 4th Industrial Revolution, and I wish that someone from this university can make a mark in this era," she concluded.





Dr Joel Johannes De Lange

Doctor of Education

Promoter: Dr Luzaan Schlebusch, PhD (CUT), **Co-promoter:** Prof. Shiela Matoti, PhD (CUT).

Dr Joel Johannes De Lange's topic: "School management teams' impact on educators' job satisfaction in the Free State province"

His studies focused on the impact of school management teams (SMT) on educators' job satisfaction levels in the Free State province. The research findings indicated that participant educators experienced substantial job dissatisfaction that inhibited their job fulfilment, and which puts quality education in schools at risk.



Dr Mpfokaze Bokhatsi Maope

Doctor of Education

Promoter: Dr Awelani Rambuda, PhD (UP), **Co-promoter:** Prof. Gawie Schlebusch, PhD (Vista University).

Dr Mpfokaze Bokhatsi Maope's research topic: "Towards a development of a quality external support framework for the Further Education and Training (FET) phase physical sciences teachers in Lejweleputswa district".

The research revealed that teachers attended subject-specific workshops and have managed to form collaborations with peers where they planned lessons together. However, teachers felt challenged by a lack of funds to buy science equipment, inadequate supply of science textbooks, and low learner interest in the subject.



Dr Stephen Kgano Sebeela

Doctor of Education

Promoter: Dr Awelani Rambuda, PhD (UP), **Co-promoter:** Dr Clement Moreku, PhD (CUT).

Dr Stephen Kgano Sebeela's topic: "The relationship between the leadership of the school and the performance of Grade 12 learners in the North West province"

Dr Sebeela's study explored the association between the performance of grade 12 learners and the nature of leadership at schools. The results revealed that in secondary schools, transactional leadership was the most implemented leadership style, followed by distributed leadership, transformational and capacity-building leadership. The least implemented leadership style was strategic leadership.





Dr Evodia Maisaiah Phakisi.

Doctor of Education

Promoter: Dr R Bhagwandeem, PhD (Jabalpur, India), **Co-promoter:** Dr Awelani Rambuda, PhD (UP).

Dr Phakisi Evodia Maisaiah's topic: "Evaluating the primary school science teachers' pedagogical practice in multi-grade classrooms in Lesotho"

Dr Maisaiah explored problems associated with the teaching of primary school science in multigrade classrooms. The research revealed that teachers adopt a quasi-monograde strategy when they teach. Teaching in a multigrade classroom demands a well trained and innovative teacher who can meet the challenges associated with multigrade teaching. The study recommended retraining and reskilling of multigrade teachers, and that the Lesotho curriculum should include multigrade teaching.



Promoter: Dr JR Maimane, Dr Motsamai Joseph Mosebeka and Prof. Nellie Feza, Dean of Humanities.

Doctor of Education

Promoter: Dr JR Maimane, PhD (Vista), **Co-promoter:** Dr MP Rankhumise, DEd (UniZulu).

Dr Mosebeka's topic: "The Technical and Vocational Education and Training as the basis for societal development: The comparative study of the Republic of South Africa and Lesotho."

His doctoral study investigated technical vocational education and training (TVET) as a basis for societal development from the perspective of lecturers of the Polytechnic College in Lesotho, and the Motheo TVET College in South Africa. It was found that both institutions raise career awareness, but with a focus on prospective secondary school students, disregarding their current students. Furthermore, education and training are provided in curricula responsive to both countries' societal and national development goals. It is recommended that institutions under the control of both governments and the private sector should improve infrastructural developments and recruit more lecturers. Instructional technology should be a priority for TVET colleges. Furthermore, both colleges should formulate an integrated policy that will be beneficial for both countries.



Dr Ikechukwu Frank Aneke with Dr Pinky Nothemba Mrwetyana at the graduations.

Doctor of Civil Engineering

Promoter: Prof. MMH Mostafa, PhD (Liverpool), **Co-promoter:** Dr A Moubarak, PhD (PSU).

Dr Aneke's topic: "Behaviour of unsaturated soils for road pavement structure under cyclic loading."

In his doctoral study, Dr Aneke investigated the geotechnical behaviour of unsaturated soils for road pavement structure under cyclic loading on South African pavements using the application of unsaturated soil mechanics, which is an entirely new area of geotechnical engineering. The findings revealed that subgrade soils with a high plasticity index and swelling potential pose uncommon challenges to engineers, and trigger pavement failure. The findings were published in peer-reviewed conference proceedings and accredited journals. His study is well researched, with a novelty contribution to the body of knowledge.





Dr Sandile Phillip Koko is congratulated by his Promoter, Prof. Kanzumba Kusakana (left) and Prof. Herman Vermaak (right).

Doctor of Electrical Engineering

Promoter: Prof. Kanzumba Kusakana, DTech (CUT), Co-Co-promoter: Prof. Herman Vermaak, PhD (Twente).

Dr Koko's topic: "Optimal energy management modelling of a grid-connected micro-hydrokinetic with pumped hydro storage."

His doctoral study focused on energy optimisation modelling for both the grid-interactive and non-grid-interactive micro-hydrokinetic pumped-hydro-storage systems, aimed at minimising electricity bills and maximising the return on energy sales. He developed a control algorithm that led to the effective management of disturbances caused by load demand uncertainties. The external examiners commended that the results of this ground-breaking research contribute substantially to technological-scientific knowledge in engineering. Four accredited journal articles, six international and national conference papers, and a book chapter were published from the findings of the research.



Dr Eltony Mugomeri draped by the Registrar, Dr Pinky Nothemba Mrwetyana at the graduations.

Doctor of Health Sciences in Biomedical Technology

Promoter: Prof. WMJ van den Heever-Kriek, PhD (UFS), Co-promoter: Dr D Olivier, DTech (CUT).

Dr Mugomeri's topic: "Isoniazid preventive therapy for tuberculosis occurrence in HIV-positive patients in Lesotho."

His doctoral study evaluated the effectiveness of isoniazid preventive therapy (IPT), and the durability of such effectiveness for tuberculosis occurrence in HIV-positive patients in Lesotho. His major finding was that IPT was effective when administered within one year of commencing antiretroviral therapy, with efficacy declining after four years, highlighting the need for IPT-booster doses. Challenges affecting the implementation of IPT were linked to health system factors, emphasising the need for a comprehensive health systems approach to the implementation of IPT in Lesotho. His work accrued three publications in reputable journals, was presented at the International AIDS Society Conference in the Netherlands (AIDS 2018) and informed the Southern African regional policy on TB prevention in people living with HIV.



Doctor Technologiae: Agriculture

**Dr Hermanus Lukas Jordaan (L)**

Promoter: Prof. Peter Fourie, DTech (CUT), Co-promoter: Prof. Ryk Lues, PhD (UFS)

Dr Hermanus Lukas Jordaan's topic: "Development of a rhino anti-poaching model for game farms and nature reserves in the Free State province of South Africa."

In his doctoral research, he developed a rhino anti-poaching model for game farms and nature reserves in the Free State, South Africa. In order to protect rhinos in the Free State, there is a need to manage the risk of poaching through a practical model that can assist in the effective protection of rhinos. Factors contributing to rhino poaching were identified, and Free State rhino breeders' preparedness for the poaching onslaught was measured. The Rhino Anti-Poaching Model determines current poaching risk, identifies weaknesses on rhino sites, addresses problem areas, enables efficient monitoring, and predicts possible future poaching risks. The study enhances rhino breeders' understanding of the risk of rhino poaching, and the need to enhance their security measures through the effective use of the Rhino Anti-poaching Model. The research findings were submitted to various scientific journals.

Dr Lukas Chipfupa (R)

Promoter: Dr FV Nherera-Chokuda, PhD (Cornell University), Co-promoter: Prof. Peter Fourie, DTech (CUT).

Dr Lukas Chipfupa's topic: "Vegetation gradients, soil microbial pools and carbon sequestration in cactus-invaded semi-arid rangelands of the Western Free State."

In his doctoral research, he investigated the dynamics of herbaceous and browse forages, soil microbial pools and carbon sequestration in creeping prickly pear (*Opuntia humifusa*)-invaded western Free State rangelands. These rangelands contribute significantly to red meat production and ecotourism. However, invasive species accelerate rangeland degradation. Although displacement of herbaceous forage species was notable, with higher depletion of soil microfauna relative to grass- and shrub-covered areas, organic matter under prickly pears improved, and phosphorus and magnesium levels were higher. Continued decline in rangeland-carrying capacity will negatively impact red meat production in the western zone. The study generates knowledge and creates awareness of invasive species and promotes the rehabilitation of degraded rangelands affected by invasive alien species. The research outputs were published and presented locally and internationally, amongst others at the Australian Rangeland Conference.



Dr Ellen Blekie honoured with Chancellor's Excellence Award



Chancellor, Madam Justice Mahube Molemela presenting Dr Ellen Blekie with the Chancellor's Excellence Award at the 2019 autumn graduations. Dr Blekie is the third recipient of this award since its inception in 2017. With them are Prof. Alfred Ngowi, DVC Research, Innovation and Engagement (left) and Prof. David Ngidi, DVC: Teaching and Learning (right) and academic staff.

CUT's Chancellor, Madam Justice Mahube Molemela honoured Dr Ellen Blekie with the Chancellor's Excellence Award at the autumn graduations for her remarkable contribution to the community of Thaba Nchu with a record of well-established distinction and achievements in community service initiatives and innovations in the region.

This award is conferred to those individuals who have contributed profoundly to the progress of human society based on their leadership abilities demonstrated consistently and their capacity to guide and motivate others to excellence, with a proven commitment to serving and improving the community. Dr Blekie is the third recipient to receive this award since its inception in 2017.

When receiving her award, Dr Blekie expressed her sincere appreciation and thanked CUT for thinking of her contribution to society. "I am overwhelmed and excited about what is happening. I would like to thank the Chancellor, Vice-Chancellor, Senate and everyone at CUT for thinking of me."

"I never expected this. To me, I was just doing my job and helping people. I hope the students who are here will take it to heart that whatever you do someone is watching. It is up to you to see that this country is becoming a better place to live in, and I hope that you will try to have the qualities that will one day land you on this platform."

Born and raised in Nigel, Heidelberg district, Dr Ellen Blekie attended school at the well-known Lovedale education centre in Alice, Eastern Cape. Upon matriculating, she furthered her studies at the University of Fort Hare where she completed her BSc in 1953. She then joined Wits University to pursue her medical studies and was one of a small group of black women who were the very first to be allowed to study Medicine.

After completing her studies, she served as a medical doctor in Durban, Benoni and the Baragwanath Hospital. From 1968 to 1971, she was invited to work in Swaziland, where she met several exiled members of the ANC. She became part of the struggle for liberation from the apartheid regime.



CUT student leaders lead by example



Prof. Henk de Jager, Vice-Chancellor and Principal congratulating the FNB CUT Ixias captain, Mr Rayno Nel after graduations. Rayno received his BTech: Electrical Engineering qualification on 10 April 2019.



CUT Student Representative Council (SRC) President, Sabelo Rorbet Ngwenya received a qualification in Baccalaureus Educationis: (FET): Specialisation: Technology on 09 April 2019.



Two graduates turn their disabilities into achievement



Happy moments for Mojela Isaac Vena who received his qualification Baccalaureus Education (FET) Specialisation Technology qualification and Mbulelo Lee-John Boko who received his Baccalaureus Education (FET) Specialisation: Natural Sciences. They both travelled and experienced the same fatality when they got into accidents on different occasions that resulted in loss of mobility.

Wheelchair-bound graduates Mojela Isaac Vena and Mbulelo Lee-John Boko wheeled their chairs over the stage to receive their qualifications at the 2019 autumn graduation ceremonies. The two students are a true testament that disability is not inability. The two were involved in accidents at different occasions that resulted in loss of mobility and left them wheelchair bound.

Mbulelo Lee-John Boko said that his journey at CUT was not easy, but he managed to pull through. He came to CUT in 2012 as any other normal student and was supposed to graduate in 2017. However, during his final year, he was involved in a car accident that left him paralysed, thereby delaying his studies. "I never lost hope, because when I started, I had a goal and a million dreams. Life threw me many curve balls, but through hard work, determination and patience, I made it. Look at me now", he said

Mojela Isaac Vena also lost his mobility in an accident in 2013. He joined CUT in 2008 but had to quit his studies to recuperate after the accident. In 2017, he decided to give it another try, and to finish what he started. "Coming back for the second time was not easy, as I had to face many challenges. Moving around campus was not that difficult, as most of the buildings are wheelchair friendly. The only challenge I faced, was when elevators were not working. It was frustrating, because I could not attend class. I am happy that I managed to finish and receive my qualification, despite what I had to go through. As a person you must not let your situation determine your destination or hinder you from achieving your dreams. It is through hard work and perseverance that I managed to pull through."



Proud father, Prof. Henk, drapes his daughter at CUT graduations



A special moment for dad Prof. Henk de Jager, Vice-Chancellor and Principal as his daughter, Melandie van Heerden graduated her BTech Project Management.

The daughter of Prof. Henk de Jager, Vice-Chancellor and Principal, Melandie van Heerden, was amongst the 4 251 students on which a qualification was conferred at the university's autumn graduation ceremonies, graduating with the BTech in Project Management – a memorable moment for father and daughter alike.

Ms Van Heerden obtained a BA in Industrial Psychology and Psychology from the University of the Free State (UFS), after which she enrolled for the BTech in Project Management at CUT. According to the newly capped alumnus, who currently holds the position of Operational Manager at Sereni T People Development, the postgraduate qualification offered at CUT has a stellar reputation, and she is convinced that the new degree will contribute significantly to her professional life.

When asked about her experience, she said that "the practical examples and experiential knowledge of the lecturers were valuable, and the flexibility in the choices for attending classes offered for part-time students was convenient. But I have to say that the opinions, experiences, and world knowledge of my fellow students were very insightful".

CUT is indeed a university of choice, graduating an industry-ready workforce and entrepreneurs. As Prof. De Jager said in his congratulatory speech, "CUT graduates are different, they are people with high ethical values that will be leaders in the society".



Deputy Minister of Higher Education and Training graces Welkom campus graduation ceremony



The Deputy Minister of Higher Education and Training, Honourable Buti Kgwaridi Manamela, graced the Faculty of Management Sciences Welkom graduation ceremony held on 04 April 2019.

For the first time in the history of the Welkom campus, the Deputy Minister of Higher Education and Training, Mr Buti Manamela, graced one of the campus' graduation ceremonies. The ceremony took place on 04 April 2019, and was one of three sessions held at the campus over two days. His presence not only made the day extraordinary, but also made graduates feel special.

Mr Nkosenjani Speelman, Executive Mayor of the Matjhabeng Local Municipality; Mr Francis Mahlangu, Principal of the Goldfields Technical Vocational Education and Training (TVET) College; and Mr Veli Mabena, Principal of the Maluti TVET College, also attended the ceremony.

When delivering his congratulatory message to the graduates, Mr Manamela said that he was excited to be part of the graduation ceremony, and that it gives him great pleasure to see students realising their dreams and reaching their goals. "I believe in success, and achievements like these, should always be recognised and celebrated. This is a special day for our graduates, but, more importantly, their parents, family and friends. Graduation is a culmination of hard work, long hours of studying and applying yourself to your selected area of study, and therefore, today, we are here to celebrate your milestone. One thing about this day is that it gives you not only a sense of purpose, but it reflects a journey that you have travelled and thus, worthy to cherish.

Your certificate is not just a piece of paper, it signifies the struggle and sacrifices you and others went through to get to this point. It is a culmination of a goal that you set for yourself in a mission to your desired career path. It transmits your aspiration and desires to escape poverty, to create a better life for you and your family, to be a recognised professional in your chosen field, and to make your mark in your community and society. Your graduation certificate is also an entrance ticket into the labour market, and it's something we have to show off, because no one can take it away from you."

Mr Manamela, who is also currently studying said that approximately 83% of those who are employed essentially have some form of qualification. In 2017/2018, there were 173 000 postgraduate students, and this figure is expected to increase by 2,5% in the coming year. "I hope this is not the last time that you will be graduating. I am still studying, but it's not only that; we need as many of you as possible to pursue your postgraduate studies, and we also need as many of you as possible to replace aging staff who are part of the academic community. We need you to take the future of our country to greater heights, and all of that starts with you."

He further encouraged new graduates to continue learning new skills, challenge themselves and specialise. "Your graduation today must set you on a new path to achieve better and greater lengths. I hope I will not see any of you standing in the streets with a placard stating, 'I'm a graduate of CUT, and I'm unemployed', because that's not what our university system is about. CUT has prepared you to be the best that South Africa expects you to be, and as you go out there, you need to be self-sufficient, think beyond the formalities of employment, make an impact in your communities, take advantage of opportunities presented to you, and build a better society," he concluded.

In closing, Prof. Henk de Jager, Vice-Chancellor and Principal, said that the university community is proud to share and celebrate the day with graduates and their loved ones, and thanked them for choosing CUT as their academic home. "You are leaving this ceremony today with a duty to uphold the good name of CUT as your alma mater. Make wise use of the tools and the knowledge you acquired, and be the change in society. We would like to see you back as postgraduates, and until you get that red gown one day, your journey still continues."

A total of 845 students, including five master's and four doctoral candidates, graduated at the ceremony.



2019 SAUPEC & PRASA Conference held at CUT



Dr Hendri Geldenhuys, SAIEE President welcoming the audience at the SAUPEC/RobMech/PRASA 2019 conference.

CUT's Department of Electrical, Electronic and Computer Engineering and the South African Institute of Electrical Engineers (SAIEE) jointly hosted the 2019 SAUPEC/RobMech/PRASA Conference from 28 to 30 January 2019. The conference incorporated the 27th Southern African Universities Power Engineering Conference (SAUPEC) Conference, the 11th Robotics and Mechatronics Conference of South Africa, and the 29th Annual Symposium of Pattern Recognition Association of South Africa (PRASA), and brought together experts from industry, academics, students in electrical engineering, pattern recognition, robotics and mechatronics to present research papers and network.

In his welcoming address, Dr Hendri Geldenhuys, President of SAIEE, said that the conference is more exciting this year, as RobMech and PRASA have joined the organisation. He further expressed the hope that their partnership with RobMech and PRASA would grow from strength to strength.

SAIEE strives to provide leadership in the electrical and electronic engineering discipline in order to support its members to become more effective practitioners, so that the quality of life of all communities in Southern Africa is improved. "SAIEE is your career partner, and it is going to assist you in getting to the end of your career. SAIEE gives you an opportunity to network with your fellow engineers around the country."

Prof. Kanzumba Kusakana, General Chairperson of SAIEE, said that the conference fits well with the vision of shaping the future of students. He said that it provides academic exposure to projects and developments taking place in the real world. "South Africa has many great research institutions producing high-impact work in multiple different areas. Between representatives from all over the country and fresh insight from abroad, we really hope that this conference will provide a forum to host new exciting discussion and growth connection between the different research and industry fields. It is my hope that you find the conference fulfilling, stimulating and enjoyable."



Some of the exhibitors who graced the event to showcase their work includes COBOTS, ABB, HORNE Technologies, Altair, Egston Power and SAICE.

Mr Cobus Vermeulen, Director, and Mr Martin Walzer, Project Manager of Karah Assets, delivered a keynote address, and presented a paper on "Optimised Solar PV Tracking Solutions" and how it can have an impact in terms of meeting demands in a more efficient and effective manner, one of such is already implemented at CUT.

Karah Assets, in collaboration with CUT, installed solar plants that produces 153,59 kW power through ground-mounted 8-m high panels secured on masts. The power generated is fed into the local grid of the university, and the process is closely monitored. The monitoring also extends to temperature and irradiation, for purposes of training staff and students involved in the project.

Mr Vermeulen said that their viewpoint is to "apply market-ready, but latest technology to the industry, so we always want to keep abreast with the latest technology available, and bring optimised solutions to our clientele". He further stated that the plant will be beneficial to students in the Renewable Energy Technologies programme in terms of research on panel yields and radiation temperatures.

Mr Walzer said that their philosophy is to go high performance with solar. "We are focused on high-performance installation based on single and dual axes tracking, the latter of which involves installing a dish on a mast using maximum light detection. The tracking device is triggered by sensors, and the east/west orientation (where the sun is), is determined. In overcast situations, the device is capable of tracking the brightest spot in the sky, and not necessarily where the sun is."

In conclusion, he said that the plant is over-fulfilling its predictions, and that it is a privilege to work with CUT's Department of Electrical, Electronic and Computer Engineering to implement these solar panels.

The conference was sponsored by the Institute of Electrical and Electronics Engineers (IEEE), SAIEE and the Robotics Association of South Africa (RASA).



CUT and DESTEA promotes entrepreneurship



Mr Lucky Sithole, CEO and Mr Bheki Mdelwa, COO from Kweli Meats (Pty) Ltd impressed the judges with their business idea. They won first prize and bagged R450 000 towards expanding their business.

CUT's Vision 2020 focuses on producing "quality social and technological innovations in socio-economic development", for purposes of job creation and community engagement. The university always strives to promote and encourage an entrepreneurial and innovative spirit amongst staff, students and the community.

The CUT Idea Gym (i-Gym), in collaboration with DESTEA, hosted the third Agro-processing Development Fund Programme on 14 March 2019 as a way of unlocking creative minds with the entrepreneurial motive to enhance socio-economic development. The event served to facilitate engagement with potential external investors, funders and sponsors, with the aim of sourcing funding for various projects; existing businesses; and staff, students and upcoming entrepreneurs who seek funding for their ideas to start or expand their businesses.

Nine Small-, Medium- and Micro-sized Enterprises (SMMEs) in the agro-processing industry pitched their business ideas to a panel of judges and potential funders, constituting representatives of the Department of Agriculture and Rural Development, Land Bank, the University of the Free State (UFS), the South African Bureau of Standards (SABS) and DESTEA.

Of the nine contestants, three winners were announced. The judges' decision was based on the uniqueness and sustainability of the business or product, the market for it, and job creation. The first prize, to the value of R450 000, was awarded to Kweli Meats, whilst Atlehang Marino won the second prize, to the value of R350 000, and Mimmie Projects and Trading, third prize, to the value of R200 000.



CUT and NMMU open discussions on strategic partnership



Back row: Dr Oswald Franks, Executive Dean of Engineering, Built Environment and Information Technology, NMMU; Prof. Henk de Jager, Vice-Chancellor and Principal; Prof. Derrick Swartz, former Vice-Chancellor and Principal of NMMU; Dr Gary Paul, Deputy Vice-Chancellor: Resource and Operations; and Dr Gerrie Booysen, Director of the Centre for Rapid Prototyping and Manufacturing (CRPM). **Middle:** Prof. Samson Mashele, Dean of Health and Environmental Sciences; Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement; Prof. Herman Vermaak, Dean of Engineering, Built Environment and Information Technology.

Front row: Prof. Nellie Feza, Dean of Humanities, and Dr Johan Badenhorst, Deputy Director: e-Learning and Educational Technology.

CUT hosted a delegation from Nelson Mandela Metropolitan University (NMMU) to explore and discuss projects between the two universities, that could potentially enable the sharing of expertise and knowledge. Both institutions are uniquely positioned in terms of the South African landscape and their areas of research. CUT – an inland university with active research in the agricultural sector, and a recognised leader in prototyping and Additive Manufacturing (AM) – and NMMU, located in the coastal region – could both contribute niche foci to this partnership.

Prof. Derrick Swartz, former Vice-Chancellor and Principal of NMMU, and Dr Oswald Franks, Executive Dean of the Faculty of Engineering, Built Environment and Information Technology at NMMU, met with CUT's Executive Managers and several other stakeholders, to explore potential partnering by assessing current projects at both universities.

A campus tour, including visits to the CUT Centre for Rapid Prototyping and Manufacturing (CRPM) and the CUT Solar 1 Project, the latter of which currently provides a percentage of the campus' electricity, followed the discussions.

Online programmes; sharing of resources between the two universities; and how such sharing of resources could be extended to other institutions in South Africa, were also discussed. Both universities would continue to explore the potential for partnering, and agreed that engagements in this regard would carry on.



2nd International Conference on Entrepreneurship Development



L-R: Dr Thabo Mokoena, Chief Director: Integrated Economic Planning, DESTE, Prof. Crispin Chipunza, Assistant Dean: Research Innovation and Engagement, Prof. Dennis Dzansi, HoD: Business Support Studies, Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement, Prof. Larry Dwyer, PhD Visiting Research Professor, School of Business, University of Technology, Sydney, Prof. Tshedi Naong, Head of the Department: Business Management and Prof. Albert Strydom, Dean: Faculty of Management Sciences.

Education in innovation and entrepreneurship, with the aim of transforming graduates from job seekers into job creators, has become part of Universities of Technology (UoTs). The Central University of Technology, Free State (CUT) constantly seeks to build an engaged, purposeful, innovative and entrepreneurial UoT; a university that goes a step further to contribute towards empowering its graduates to help develop the city and the region.

From 03 to 05 April 2019, the Centre for Enterprise and Entrepreneurship Studies (CEES) in the Faculty of Management Sciences hosted the 2nd International Conference on Entrepreneurship Development (ICED), under the theme "Sustainable Entrepreneurship Development for the 4th Industrial Revolution".

The purpose of the conference is to support the research agenda in entrepreneurship in the Central region; to promote entrepreneurship and internationalisation within CUT; and to promote the institution and its participation in the 4th Industrial Revolution. The conference brings together academics, researchers and professionals, providing a platform for them to exchange and share their experiences and research results on all aspects of entrepreneurship and development for the 4th Industrial Revolution.

The keynote speaker, Prof. Larry Dwyer, Visiting Research Professor at the University of New South Wales Business School in Sydney, Australia, and Adjunct Professor in the Faculty of Economics at the University of Ljubljana and the Griffith Institute for Tourism (GIFT) at Griffith University, based his presentation on the role of social entrepreneurship in tourism planning.



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He defined entrepreneurship as the process of creating value by bringing together a unique package of resources to create or exploit market opportunities. He said that, in the knowledge-driven economy, this process is critical in both large and small businesses. "Entrepreneurship plays a critical role in tourism development. Entrepreneurs identify opportunities for tourism development, take risks in the phase of uncertainty, open new markets, new product development and innovation. All these activities are part of an entrepreneurial approach to tourism operation and tourism development."

He further said that entrepreneurship is key to economic growth, productivity gains, job creation and tourism. "World-wide, tourism is associated with large growth in the number of travels and expenditure. Expenditure of tourists is more important than numbers; more numbers create environmental and social costs. The key factor determining tourism growth is increasing income and wealth."

Prof. Dwyer also spoke about social entrepreneurship as a process where social, environmental or humanitarian goals are sought alongside business goals. "Business enterprises are potentially important contributors to the social and environmental development of communities, societies and destinations. Social entrepreneurs can advance the knowledge of business models that support sustainable tourism development, and this is a neglected area of research that demands our immediate attention."



Prof. Keolebogile Shirley Motaung, Biomedical Scientist and Assistant Dean: Research, Innovation and Engagement of Science at the Tshwane University of Technology. She is the founder and Chief Executive Officer of Global Health Biotech (Pty) Ltd, and President of the African Tissue Engineering and Regenerative Medicine International Society.

Another keynote speaker, Prof. Keolebogile Shirley Motaung, a Biomedical Scientist and Assistant Dean of Research, Innovation and Engagement in the Faculty of Science at Tshwane University of Technology (TUT); founder and Chief Executive Officer (CEO) of Global Health Biotech (Pty) Ltd; and President of the African Tissue Engineering and Regenerative Medicine International Society, encouraged postgraduate students to be job creators instead of job seekers, and to start businesses from their research work. "As parents and academics, we need to change our mindset, and start encouraging our children to get an education and become entrepreneurs. I wish someone would have told me to get a degree and create jobs, but now our parents encourage us to do otherwise. Becoming an entrepreneur is not a walk in the park, it requires hard work, vision, purpose, perseverance and passion."

She elaborated on the systems that do not support and empower students to be entrepreneurial, stating that "Universities of Technology (UoTs) are always criticised when they are actually supposed to be leading, and this is merely because of the system. The template used by research students for their proposal is only good for publishing; it does not empower them to create jobs for themselves. It is up to us as academics to decide whether we still continue to train students to wear their red gowns and struggle, or help them to get their hands on deck. Where they usually talk about problem statement, we need to replace it with value proposition". She further highlighted some of important aspects that are lacking in the template, such as customer segments, customer channels, customer relationships, key resources, key activities, key partnerships, cost structure, and revenue streams.

According to Prof. Motaung, the non-discussion of hurdles with start-up companies in proposal templates is another factor preventing graduates and researchers from advancing. She indicated that factors such as concept development, obtaining seed funding, obtaining substantial funding, securing intellectual property (IP), recruiting experienced managerial and non-managerial staff, obtaining space for operations, developing strategy, and managing development should enjoy focus. "Incubators need to be established in the university to assist with commercialisation. Allow students to translate their ideas into commercialisation by not threatening them that the IP belongs to the university, have that MoU between students and supervisor, should the supervisor not be interested, then students should be given that opportunity. Start incorporating entrepreneurship into the curriculum", she advised.

The event was proudly sponsored by the Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEa); Great Zimbabwe University; First National Bank (FNB); Pearson; Van Schaik; the National University of Lesotho; and Juta Publishers.



DTI visits CUT to discuss funding opportunities



Ms Ncomise Mcata-Mhlauli, Chief Director: DTI presenting on the Technology and Human Resources for Industry Programme (THRIP).

Delegates from the DTI visited CUT on 28 March 2019 to share and discuss funding opportunities offered through the Technology and Human Resources for Industry Programme (THRIP).

THRIP was established to respond to the shortage of high-level technical skills within the industry, and to improve the competitive edge of South Africa's industry through the development of advanced technologies and highly skilled people. Towards this objective, government, industry and academia is to embark on collaborative research and development programmes in science, engineering and technology on a cost-sharing basis.

Ms Ncomise Mcata-Mhlauli, Chief Director of the DTI, said that the purpose of their visit was to provide support for research and product development, and to collaborate with the university on matters pertaining to the agro-processing and cosmetic industry. "As the DTI, we provide different types of support in terms of research, development, as well as product commercialisation. We want to make sure that we industrialise different agricultural sectors and the cosmetic industry. We also want to strengthen partnerships with universities, industry and government to create networks, linkage and collaborative projects that will address issues of unemployment, industrialisation and economic growth. We want to make sure that we have incubation programmes with universities, especially around agro-processing products."



Mr Solly Molepo, Deputy Director: DTI, Ms Ncomise Mcata-Mhlauli, Chief Director: DTI.



World Intellectual Property (IP) Day celebrated at CUT



Mr Jared McIntyre, wheelchair rugby (seated front row), Back row from left: Dr Kerry Faul, Head of NIPMO, Prof. Henk de Jager, Vice-Chancellor and Principal, Ms Thamaray Govender, TIA, and Mr Teboho Steven Oupa Mohoje, Toyota Cheetahs and Springbok rugby player.

CUT joined hands with the National Intellectual Property Management Office (NIPMO), Small Enterprise Development Agency (SEDA), Technology Innovation Agency (TIA), Department of Science and Technology (DST), Department of Trade and Industry (DTI) and the Free State Development Corporation (FDC) in celebrating World IP Day, which is aimed at promoting the role of IP in society.

The theme for this year, "Reach for gold", took a closer look into the world of sport, and focused mainly on sporting heroes, and all the people around the world who are innovating to boost sport performance and the global appeal of sport.

Prof. Henk de Jager, Vice-Chancellor and Principal of CUT, said that it was a privilege and honour for CUT to host the event. "This day is very important, as we regard sport as a form of recreational exercise, but it is in fact a very serious drive of transformation and social cohesion. It also explores how innovation, creativity and IP rights can protect and support the development of sport, and its enjoyment across the world."

"It is also a critical and important driver for economic development of our country, and that is why we have top players who have built their names and have changed the way we look at sports. They are no longer just names, but top brands on and off the field. They epitomise how sports have become a multibillion-rand industry that generates investment in players and facilities, whilst employing millions of people who also entertain us."

Prof. De Jager also spoke about how technology brings about innovative solutions to sport by using artificial intelligence, which is embraced at CUT. "As a university, we focus on our core role to promote the innovation ecosystem. We have embraced entrepreneurship as a study stream for undergraduate learners to expose them to entrepreneurship. CUT remains committed to social and technological innovations for the betterment of society. If we are serious to address the social challenges in this country, we need to collaborate as role players, embrace the importance of IP in society, and the role it should play in promoting economic development. As universities, we have the responsibility to make a difference in the lives of the people, and the only way to do it, is to grow the economy."



CUT donates 102 school shoes to Hodisa Technical Secondary School learners



At the handing over, pictured are some of the 102 learners who benefitted from the “one child, one pair project that was spearheaded by Carnival Committee students. A total of 162 pairs of school shoes were donated by both staff and students for the 10th anniversary of Mandela day. From left: Registrar, Dr Pinky Mrwetyana, Thandeka Boo, Mathabo Lechesa, Deputy Registrar, Ms Ntokozo Dlamini, Kagisho Tyikili, Manager in the office of the VC, Ms Laura Botha, Ntswaki Sebatane and Vice- Chancellor and Principal, Prof. Henk de Jager.

On 18 July 2019, the Central University of Technology, Free State (CUT) in collaboration with the Carnival Committee students joined efforts to celebrate the 10th anniversary of Mandela day and make a difference to the learners of Hodisa Technical Secondary School in Rocklands, Bloemfontein. Hodisa was officially adopted by the university in 2018 and for this year’s Mandela day celebration, a total of 102 pairs of school shoes were donated to the needy learners under the theme: “Action against poverty” with sub theme: “Take Action, Inspire Change and Make Everyday a Mandela Day.”

Laliga Lephokwane, Carnival Committee Media and Entertainment member and “One Child, One Pair” Project Leader said he took the pain of going to school without shoes in the freezing winter season of Free State and made it personal as he was once that child. “I took this pain personal because in grade six and seven, I was one of those children without shoes. I am thankful to my university community and colleagues for heeding the needy call as we managed to put a smile on these children’s faces.”

Prof. Henk de Jager, Vice- Chancellor and Principal applauded the Carnival Committee students for taking giant steps in uplifting communities and making an impact in society. “By working together in a network of partnerships, we can connect the needs with the resources and have far greater impact in society.”

He advised learners to work hard, take education seriously like Tata Madiba, listen to their parents and teachers to achieve more, and always aim for the stars. “I wish you all the best in your studies. Work hard to achieve success and never stop dreaming. May God bless you and keep you in his hands.”

The School Principal, Mr Rabela said Hodisa is blessed to have a guardian like CUT. “This is the day that we have been looking forward to. This is one of the highlights of the year and we feel very special to receive such gifts for our learners. As Hodisa, we want to thank all the people who played a role in making this day a success.”



CUT strives to produce competent graduates



Prof. Henk de Jager, Vice-Chancellor and Principal handing over a well-deserved prize to Rethabile Moletsane. Rethabile is a Construction Management student, who won the prize for her ability to demonstrate an understanding of 'customer service' – as one of the CUT values at the roadshow.

The constantly changing work environment is in demand of graduates who not only possess a qualification, but also the generic, softer skills from CUT's graduate attributes project; learning programmes; and extra-curricular, co-curricular, sporting and cultural activities.

On 26 April 2019, the Centre for Innovation in Learning and Teaching (CILT) hosted a graduate attributes roadshow to raise awareness of the ten graduate attributes, and to ensure that students understand, achieve and embrace these attributes.

Prof. Henk de Jager, CUT Vice-Chancellor and Principal, said that graduate attributes are soft skills that students need to possess to succeed in their careers and social lives. "If you have and possess these skills, you will succeed in your life, and they will remain with you forever."

He said that every university exists to serve its students, and that CUT is no different, as it puts the needs of students first. "As a university, we need to assist you to graduate and play a critical role in improving the lives of the society. We are here because of you, and we need to serve and support you. The Centre for Innovation in Learning and Teaching has been established to support you in your studies, as management, we value the importance of these graduate attributes."

He also touched on the 2019 theme of "Reimagining CUT – living our values". These values include integrity, diversity, innovation, excellence and customer service. "We don't want you to just graduate, we want you to be much more than graduates. We want you to live these values, have integrity, excel in your work, think outside the box, be innovative, have good customer service, and be diverse. Each one of you might not know it, but you are all creative in your own special way, and it is important for us as a university to instill these graduate attributes in you. I want you to tell yourself that you will commit to your studies and unlock your creativity", he said.



Deputy Minister tours CUT Welkom campus



Deputy Minister of Higher Education and Training, Mr Buti Manamela walking about Welkom Campus to see new infrastructure. His tour was guided by Prof. Henk de Jager, Vice-Chancellor and Principal, Prof. Solomon Makola, SRC members and Cllr Nomsa Mosuwe.

The Deputy Minister of Higher Education and Training, Mr Buti Manamela, visited the Welkom campus on 04 April 2019 to witness the progress made with the construction of state-of-the-art buildings at the campus, which includes student residences, the newly established Incubation Hub, the medical centre, faculty buildings, upgraded cafeteria and the jungle gym.

The ministry had invested R700 million towards these infrastructure developments at CUT since 2011, in support of the university's academic agenda. Mr Manamela said that university education is important for the country, and, therefore, government is investing significantly to improve access and promote a quality academic environment.

When asked about his impression of the progress made at the Welkom campus, he said: "I am very impressed about what I am witnessing here, and seeing the growth of this campus really warms my heart. This simply shows that government's commitment towards expanding higher education and infrastructure is a priority, and I am thrilled to hear that the university is committing to maintaining the existing buildings. This is really music into my ears".



Minister Manamela happily engaging with groups of students throughout his tour.



First-year B.Ed student Lerato from Christiana in the North-West had an opportunity to chat with the Deputy Minister Manamela and Campus Director, Prof. Solomon Makola.



Welkom campus welcomes learners at the 2019 Open Day



From left is Valentina Peleh from Unitas High School, Ivy Moeketsi from Letsete High School and Kapeng Ntsane from Mosala High School happy to have received information and goodies from the Dental Assisting department.

The Central University of Technology, Free State (CUT) opened its doors to grade 12 learners, teachers and parents at the 2019 Open Day, to experience campus life, meet face to face with academics, explore all programmes offered, and make informed choices about future careers.

When welcoming the guests, Dr Gary Paul, Deputy Vice-Chancellor: Resource and Operations, said that university life is an exciting experience, and that learners must count themselves blessed and privileged to be able to experience the atmosphere.

"Our aim is to give you information that will empower you to make the best possible decisions regarding the field of study that you want to pursue. I trust that today will be enlightening, and that your experience will become real for you that you cannot wait to walk through the CUT gates as a student", Dr Paul said.

He also highlighted that, as a University of Technology(UoT), CUT provides students with the skills that will empower them to become competent graduates who will contribute to the advancement of the economy.

"What we pride ourselves in as a University of Technology, is that we prepare our students for work and for life. Our purpose is to work with you to create a path in your life that will enable you to become a citizen that can contribute to the advancement of the economy and your personal growth", he said.

His advice to prospective students was a game plan to go by in order to succeed in life. He mentioned pillars of the game plan strategy: setting goals, working hard, never giving up, and becoming men and women of integrity.

"In order for you to be successful when coming to university, you have to set goals for yourselves, because goals provide a road map, because if you do not have that map, your life is as good as unplanned. Always work hard, anything that comes easy in life is worthless. Hard work doesn't kill, and there is no alternative for it. The third thing you need to remember as part of your game plan, is to never give up. Giving up is not an option, and must be completely excluded from your mind and vocabulary. Lastly, live every day of your life with integrity. Do not put a price tag on who you are, or compromise your integrity. I want to see you growing in your careers, and becoming men and women of integrity".



CUT unites to celebrate Africa Day



The CUT young ladies dressed in their Ba-Tswana traditional attires made from animal skin. The ladies are preparing to perform the *setapa* “the tap” dance.

The Central University of Technology, Free State (CUT) celebrated Africa day on 25 May 2019, to signify Africa’s identity and unity. Staff and students came together dressed in their different and colourful African attires. The day was filled with lots of fun and activities where they enjoyed cultural performances, music and cuisines from different African cultures. Exhibitions of different stalls, Pan African fashion show, parade, and arts & crafts formed part of the day.

Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement, said that Africa day is an important day for Africa. “On this day, we celebrate our diversities, as CUT employees and students, we reflect on the successes and challenges as CUT in Africa. The objective is to create, maintain and increase awareness for the public at large. The 2019 theme “Healthy Lifestyle Prolongs Life” was selected to emphasise the significant relationship between a healthy lifestyle and premature mortality. This theme is in line with aspirations of the 2016 agenda of the African Union, which is prosperous Africa based on inclusive growth and sustainable development.”



Ladies serving ‘lesheleshele’ brown soft porridge popular among the Basotho culture.



Candid dialogue about healthy living at CUT Africa Day



Panel members engaging on a heated topic of living a healthy life to prevent diseases and prolong life. Ms Mamajara Moloi from the Free State Department of Health talking about non-communicable diseases caused by obesity, which leads to diabetes, hypertension, heart failure, stroke then ultimately death.

CUT commemorated the Africa Day celebrations with various partners by hosting a dialogue on healthful living.

This year, Africa Day commemoration took a closer look into health issues under the theme “a healthy lifestyle prolongs life” to empower and inform Africans about health risks attached to living an unhealthy lifestyle. The theme choice was selected to put emphasis into the significant relationship between unhealthy lifestyle and premature mortality, which is in line with “A prosperous Africa based on inclusive growth and sustainable development”. This also seeks to radically transform African agriculture to enable the continent to feed itself, have a high standard of living, quality of life and well-being for all,

Prof. Hesta Friedrich-Nel, Associate Professor: Radiography, Ms Nozizwe Manyana and Ms Mamajara Moloi from the Free State Department of Health, addressed the audience on leading a healthy lifestyle and ways of taking care of oneself to prolong one's focus. The discussion focused on five focal points; namely, nutrition, physical activity, alcohol and substance abuse, smoking and sexual behaviour.

Ms Mita Soaratlhe and Ms Mampotseng Monnanyana from the Cancer Association of South Africa (CANSA) were among the speakers who expressed their passion for treating and caring for cancer patients. “Walking the walk with them and teaching others about cancer is dear to me. Teaching society about the disease can help us to overcome the challenges of dealing with the disease itself and regular check-ups for everyone is important”, said Ms Soaratlhe.

In attendance were also Mr Sabelo Ngwenya, SRC president and Mr David Makhoali, former SRC president and Alumni treasurer who represent the future leaders of Africa. They contributed to the discussion on the role of youth in the continent and how universities could contribute to expanding healthy lifestyle agenda within the context of Africa.

Mr Thabo Shingange from South African Union of Students (SAUS) and Mr Phiwe Mathe from Free State Legislature are both passionate about African development and matters of governance. They spoke about the Africanisation of the higher education sector and how it was linked to the objectives of the 2063 Agenda.



CUT partners with Massachusetts Institute of Technology



Front row from left: Prof. Alfred Ngowi, Deputy Vice-Chancellor of Research, Innovation and Engagement, Mr Glarington Quvile, CEO: CUT Innovation Services (CUTis), Prof. Hazel Sive, Professor of Biology at MIT, Founding Director of J-WEL Higher Education and MIT-Africa initiative, Ms Michelle Huang, MIT graduate, Alice Lin, senior student at MIT and Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning. They are flanked by other CUT staff members from different departments who formed part of the discussions.

On July 15-16, 2019, CUT hosted Prof. Hazel Sive of the Massachusetts Institute of Technology (MIT) who led a workshop on Educating with Problem-Solving Approaches under the auspices of MIT-Africa Initiative. This initiative is part of collaborative projects between CUT and Massachusetts Institute of Technology in the USA that will ensue from this workshop.

Her presentation focused on pivotal aspects of higher education curriculum that contributes to student success and promote problem-solving skills. She spoke about how students can solve problems and use knowledge to address real-life challenges and learn from failure while working across various fields and ready for employment in the changing world of work.

As the result of the disruptions caused by the Fourth Industrial Revolution (4IR), the 21st century is in need of students that are confident, entrepreneurial problem solvers who have tools to form a career, resiliency across the changing face of work, and power to contribute to economic growth. Within the landscape of developing educational approaches and technologies, educators are challenged to devise new, productive curriculum that will motivate students, and promote achievements and success.

The workshop follows a visit by Prof. Alfred Ngowi, Deputy Vice-Chancellor of Research, Innovation and Engagement, and Mr Glarington Quvile, CEO: CUT Innovation Services (CUTis) to MIT in April 2019, that was aimed at establishing collaboration with MIT in a number of areas including innovation, entrepreneurship, research, and new approaches in education (including open learning) under the auspices of MIT-Africa and MIT-South Africa Initiatives.

MIT is a highly ranked institution globally, established in 1876 with the motto "Mens et manus" (Mind and Hands) that is rooted in its founding. Unlike other universities that focuses on the classical education, MIT puts emphasis on practical education as they believe that innovation and entrepreneurship are the must-have skills thus practice should be infused in the curriculum to emphasise learning by doing.

The Workshop formed the first step of the envisaged CUT-MIT collaboration that will be anchored by membership to the Abdul Latif Jameel World Education Lab (J-WEL Higher Education), which convenes a global community to promote excellence and transformation in education. The workshops conducted by MIT J-WEL include: Curriculum Design; High Impact Research; A University Entrepreneurship Ecosystem; University Leadership & Governance; and Technology Licencing.





Top Hotel School students honoured
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CUT alumnus rises above the ranks
Page 52



CUT student named 2019 Enactus
South Africa Excellent Student
Leader | Page 57



Guillaume Pelser shines at archery
championships | Page 58



United States Consul General visits CUT



L-R: Tseliso Mpekoa, Ms Refilwe Molelane, Prof. Chrispen Chipunza, Consul General of the United States Michael McCarthy, Prof. Henk de Jager, Prof. Herman Vermaak, Ms Gerda Winkler and Mr Leolyn Jackson.

The Consul General of the United States (US) visited CUT on 04 March 2019, as part of a long-standing relationship the university has with the US Consulate Johannesburg. Since its inception, the relationship contributed greatly to an increase in the number of CUT students and staff in US educational projects, such as the Fulbright, Civic Leadership and Community College Initiative programmes. The appetite for mobility to the US has also led CUT's redirection to formalise academic and research collaboration with US higher education institutions.

Consul General Michael McCarthy regards himself as an ambassador of CUT, highlighting the university's world-class research initiatives. He fondly referred to the outputs of the Centre for Rapid Prototyping and Manufacturing (CRPM), emphasising their medical research.

Prof. Henk de Jager, Vice-Chancellor and Principal, and Consul General McCarthy both agreed that the university will continue to explore ways to expand its footprint in the US, with the full support and guidance of the US Consulate Johannesburg.

Sweden's top-ranked research and education university Uppsala visits CUT



Back row, from left: Prof. David Ngidi, Deputy Vice-Chancellor: Teaching and Learning; Prof. Henk de Jager, Vice-Chancellor and Principal; Dr Gary Paul, Deputy Vice-Chancellor: Resources and Operations and Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research Innovation and Engagement.

Front row: Ms Erika Dabhikar, from Uppsala University with the CUT Woman in Leadership programme candidates. Ms Laurika van Straaten, Manager: Language Services; Ms Helene Kotze, Deputy Director: HR Operations; Prof. Wendy Setlalentoa, Associate Professor: Teacher Education, Prof. Eva Åkesson, Vice-Chancellor: Uppsala University; Ms Reynell van der Ross, Talent Management Specialist; Ms Edith Sempe, Deputy Director: Research and Development Support and Ms Ntokozo Dlamini, Deputy Registrar: Academic Administration.

Delegates from Uppsala University, Sweden (UU) visited the Central University of Technology, Free State (CUT) on 07 May 2019, to strengthen the already existing partnership.

CUT and UU have been partners for four years, and to date, the two institutions have collaborated in two Erasmus+ programmes including staff and student exchange.

The latest collaboration is Erasmus+ YEBO, International Credit Mobility as well as Erasmus+ Capacity Building of Higher Education project called YEBO, Internationalisation of Doctoral Studies in South Africa and South Africa - Sweden University Forum (SASUF). Through this partnership, participants will be given a once in a lifetime opportunity to shadow a female VC of Prof. Eva Åkesson's calibre. Prof. Åkesson is Vice-Chancellor at Uppsala University.



CUT and Mangaung Metropolitan Municipality renew their partnership



Cllr Olly Mlamleli, Executive Mayor of Mangaung Metro sealing the agreement with Prof. Henk de Jager, Vice-Chancellor and Principal.

CUT and the Mangaung Metropolitan Municipality (MMM) renewed their partnership agreement on 14 February 2019. The parties first entered into a Memorandum of Understanding (MoU) in 2016 to establish a framework for the negotiation of the proposed co-operation between them, which is aimed at contributing to the development of the Free State province.

In his address, Prof. Henk de Jager, Vice-Chancellor and Principal of CUT, said that both national and international Higher Education Institutions (HEIs) are facing many changes, and it is critical for universities to join forces with the government to devise solutions to those challenges. "As a university, we are proud to be associated with the city, and we believe that we, as critical role players, together with Mangaung Metro, can build and mould the economy of this region and beyond."

He further said that CUT is focused on producing social and technological innovations to enhance the socio-economic development of the region and beyond. "We want to instil entrepreneurial skills among our students, and we can only do it in partnership with you."

Prof. De Jager mentioned that the following matters, amongst others, deserve attention: road closures, safety and security, visibility in the city, and the land exchange between CUT and the Free State Sport Science Institute (FSSSI). He also spoke about the importance of a forum, comprising of representatives of the city, the University of the Free State (UFS) and CUT, that can engage as a collective to strengthen capabilities, and impact positively on socio-economic development.

Cllr Olly Mlamleli, Executive Mayor of Mangaung, said that the MoU provides a framework for further discussions on specific disciplines that are critical for co-operation, namely; training and skills development, research and innovation, and economic development. "I consider these areas of co-operation as disciplines because we expect the university to evoke expertise on relevant theoretical and empirical perspective to help us master the day-to-day practices of these issues. We do not want to lean on consultation services when facing complex issues, but we desire your expertise to balance interdependence and institutional autonomy between our organisations. This interdependence will even unlock other plans for the institution. Together, let us establish the city to be globally safe to work, invest and live in, as envisaged by the Municipal Council. Together we can do more."

She further said that the current education system is struggling to produce, job-ready graduates, who can make the dream of a better life for all a reality.

"Our education system must be able to produce people who will be able to help us drive the economy and bring solutions to challenges faced. We must be able to come up with noble ideas, and think outside the box. I want to challenge this institution to come on board, assist and advise us. This partnership extends beyond improving good governance, but by this, we seek to empower our people to stand a better chance of contributing to local community development reconciliation, and realise the ultimate goal of establishing developmental local government. This calls for the relevant faculties of this university and different departments of the municipality to develop close working relations for the successful implementation of this MoU. If we do not do that, we will have a dead document. This must not be a corpse; the soul must come from a partnership of officials coming together", she concluded.

In her closing remarks, Cllr Mlamleli pledged R1 million to CUT towards the university's female empowerment programmes.



Department of Business Management celebrates top achievers



From left: Ms Madeleine Botha from Professional Provident Society Holdings Trust (PPS), Prof. Tshedi Naong, Head of Business Management, and Mr Sefako Ramphoma, Lecturer: Business Management congratulating Ms OD Mahumapelo (2nd from right) for her hard work. Ms Mahumapelo received an award for the best 1st-year student in Diploma Marketing with an average of 76%.

The Department of Business Management in the Faculty of Management Sciences held an award ceremony on 07 March 2019 to celebrate and acknowledge excellence amongst its staff and students. In his congratulatory and encouragement message to outstanding students, Prof. Tshedi Naong, Head of Department, said that the department believes in hard work and excellence. "We looked at a special group of students who have achieved an average of over 75%, and as a special group, you have already set standards to live by. On behalf of the department, I would like to say we are proud of you, and we really appreciate the efforts put together by both you and your lecturers."

Speaking on behalf of the students, Mr Innocent Lebatla, an award recipient from the Welkom campus, thanked the department for recognising the excellence and hard work of its students. Mr Lebatla said that CUT provides a platform for students like him to demonstrate different learning styles, and to make their dreams a reality. He based his speech on success, the power of silence, and real solutions to problems. "Avoid negative people, as they are a problem to every solution. Push yourself harder, because no one else is going to do it for you. Stop complaining, and start doing. Real solutions to challenges starts with sharing your knowledge and helping others."

Prof. Albert Strydom, Dean of the Faculty of Management Sciences, said that achieving excellence at a young age is a key factor that will determine future success. "Your achievement is a sign that you have the characteristics of what is needed to be successful, and amongst them are discipline, determination, endurance, drive and passion. These are all the characteristics that will make you successful in your careers. Surely, in a country like South Africa, with a high unemployment rate, you will be entrepreneurs and job creators. When you go out there, demonstrate these characteristics, be true ambassadors and alumni of this institution, and make us proud", he said.



Ms W Nompukane (middle) flaunting her awards received for the best 2nd-year student in Human Resource management with an average of 80%. She is flanked by Prof. Tshedi Naong, Head of Business Management and Dr Lineo Dzansi, Snr Lecturer: HR Management.



Proud moments: Best 2nd-year Diploma in Marketing achiever with 80% average went to Mr Innocent Lebatla (middle) from Welkom Campus. He is congratulated by Prof. Tshedi Naong, Head of the Department: Business Management (left), and Mr Sefako Ramphoma, Lecturer: Business Management.



FEBIT hosts annual prize-giving ceremony



Prof. Herman Vermark, Dean: Faculty of Engineering, Built Environment and Information Technology (FEBIT) congratulating Dr Elisha Markus for being the 2018 Mid-Career Researcher in the faculty.



H Roberts with 77% average received the best BTech student in Civil Engineering for 2018, with him is Prof. Yali Woyessa, Associate Professor in Civil Engineering. The student also received a cash prize worth R 1 000 from the Department of Civil Engineering.

On 10 April 2019, the Faculty of Engineering, Built Environment and Information Technology hosted its annual prize-giving ceremony to recognise the outstanding performance of students and staff. All nominations were based on the best academic achievements of students from January to December 2018.

At the annual ceremony, certificates, floating trophies and vouchers were awarded to the top achievers. Awards categories included best higher certificate, national diploma, BSc, BTech and postgraduate students from all six departments within the faculty.

Guest speaker, Dr Cobus van Rensburg (PhD (Eng); MBA, PMP), Specialist: Engineering Project Improvement, Senior Vice-President and Director of the Board of the PMI South Africa (SA) Chapter of the Industrial Development Corporation (IDC) of SA Ltd, spoke about the rapidly developing and evolving world and landscape in which older people lived, and that students and the current generation have to enter.

He said that change is increasing rapidly, and that society is being exposed to disruptive changes on a daily basis. He also said that new technology is constantly evolving, and that society is experiencing growth like never before. "We are still getting into grips with the concept of constantly being out of our comfort zones, and this is something that we are not good at. The new normal is that today is not like yesterday, and this is the world that we live in. It completely changes the workforce that you as students have to go into."

He further mentioned that the World Economic Forum recognises the ten most innovative and disruptive technologies as augmented reality, lab-grown meat, algorithms for quantum computers, super advanced personal assistance, advanced diagnostics for personalised medicine, gene manipulation, artificial intelligence (AI), electroceuticals, AI-led molecular design, and implantable drug-making cells.

"As new graduates, your challenge is that modern technology, with all its advancement, makes it easy for you to stay in your comfort zone, binge, watch TV, do online shopping, music streaming, and online food delivery. Each of you need to decide if you really want to stay in your comfort zone and stagnate, or be prepared to face your fears, and reach into your growth zone. Successful people of the future will be those that are changing consistently, not constantly. Never before did humanity have such vast potential for personal development, but you need to grab the opportunity and run with it. This institution has now equipped you with the tools and skills necessary to make a huge impact in our country, and the rest is up to you", he concluded.

Staro Process Control sponsored three trophies, and three industrial process controllers with variable speed drives and software valued at R37 800, to the top achievers in the Department of Electrical, Electronic and Computer Engineering, whilst the Professional Provident Society Holdings Trust (PPS) sponsored R2 100 each to the best achievers in the Department of Built Environment; R1 00 each to those in the Department of Electrical, Electronic and Computer Engineering; R2 000 each to those in the Department of Information Technology; and R1 000 each to those in the Department of Mechanical and Mechatronics Engineering.

The Association of South African Quantity Surveyors (ASAQS) sponsored R2 9000 each to the top achievers in the Department of Built Environment, as well as an additional award of R1 600 and a R500 book voucher. The guest speaker received a 3D-printed component in polymer, and another in titanium from the Centre for Rapid Prototyping and Manufacturing (CRPM), whilst the top achievers in the Department of Mechanical and Mechatronics Engineering were awarded trophies that were 3D-printed by the centre.



Top Hotel School students honoured



From left is Ms Grethé Muller, Acting Head of Hotel School is with 2018 Best Third-year students, Johan Minnaar, Esther Kassongo and Willa Greyling.

On 25 April 2019, the Department of Hospitality Management in the Faculty of Management Sciences held its annual awards ceremony to recognise and honour the school's top-achieving students and staff. Certificates, bursaries and trophies were awarded to deserving students.

Tsogo Sun awarded bursaries to the value of R28 750 each to Palesa Mosikatsana, Willa Greyling, Esther Kassongo and Zandile Mwanda. Ms Mwanda is pursuing her MTech in Hospitality Management, whilst Palesa Mosikatsana, Greyling and Kassongo are registered for the BTech in Hospitality Management.

Luxury Hotels and the Culture, Arts, Tourism, Hospitality and Sport Sector Education and Training Authority (CATHSSETA) also sponsored some of the prizes.

CUT alumnus and employee, Chef Obakeng Mholo, said that it takes a special kind of human being to work in the hospitality industry. He advised students to always ask questions, as that will help them to grow and learn more about the industry and what it entails. "I believe that, with determination, self-belief, hard work, sacrifice and being humble, you will make it. Those were my tools to make it in this industry, and I hope that, as I pass on my knowledge, you will achieve what I have achieved, and hopefully follow into my footsteps and beyond."



CUT alumnus rises above the ranks

**Dr David Mohale CUT Alumni**

One of CUT's illustrious alumni, Dr David Mohale, was recently appointed by President Cyril Ramaphosa to serve on the Municipal Demarcation Board. Dr Mohale, who is currently the Director: Special Projects in the Office of the Vice-Chancellor and Principal at the Durban University of Technology (DUT), is one of the youngest people to be appointed to this board.

Dr Mohale obtained the BA Degree cum laude from the Central University of Technology, Free State (CUT) in 2006, and was awarded the Vice-Chancellor's Best Academic Performance Award. Considering that he also served as Chairperson of the South African Students Congress (SASCO) in the Free State, and the university's Students' Representative Council (SRC) President at the time, this is a significant achievement, as, in addition to their academic workload, SRC Presidents have to serve on Council, Senate, the Institutional Forum (IF) and several other university structures.

Whilst studying, he was the Free State Correspondent for the Cape Town-based soccer tabloid, *Laduma*.

Since leaving CUT, he continued to invest in his empowerment, amongst others obtaining a Master's Degree in Public Policy from the University of the Witwatersrand (Wits), and a PhD in Development Studies from the University of South Africa. He further holds various certificates in leadership, local government planning, processes, systems and structures, and is a published author.

He served in the Provincial Executive Committee of the African National Congress Youth League (ANCYL) and the Young Communist League, and was appointed as the Spokesperson of the ANCYL in the Free State. He played a prominent role in placing the policy agenda of the organisation in the public domain, and carried out this responsibility at the time the ANCYL introduced a debate on "economic freedom in our lifetime", which, amongst others, centred around the nationalisation of mines.

Dr Mohale was employed in local government for more than a decade, where, having fulfilled numerous roles, he became acquainted with, and seasoned in local governance. He also had a short stint as Assistant Lecturer in the English Department at the CUT Welkom Campus.

He has been the spokesperson of the ANC in the Lejweleputswa District since 2012. In 2007, he was elected as the Deputy President of the CUT Convocation at the university's annual general alumni meeting, and is currently a member of the Executive Committee of the CUT Alumni Association.

Dr Mohale is an ardent reader and a former newspaper columnist. In addition, he was a participant in the CUT-LEAD Development Programmes. Furthermore, he spends time working with young people on their leadership development. Amongst others, he has worked with the District Department of Basic Education, serving as motivational speaker for Grade 12's and teachers. A development enthusiast, he is currently a participant in the Black Management Forum (BMF)'s Young Professionals Development Programme.



CUT Lecturer attends 69th Lindau Nobel Laureate meeting



Young scientists engaging with the Nobel Laureate Wolfgang Ketterle.

Dr Thandi Gumedé, Lecturer in the Department of Life Sciences, was selected as one of the 600 exceptional young scientists globally to participate in the 69th Lindau Nobel Laureate meeting, which took place from 30 June to 05 July 2019 in Lindau, Germany.

The Lindau Nobel Laureate meeting is an annual meeting that serves as a platform for outstanding young scientists to discuss key questions in science with 30 Nobel Laureates. The purpose of the meeting is to foster exchange amongst scientists of different generations, cultures and disciplines. The scientific programme of each meeting is based on the principle of dialogue. The different sessions include lectures, discussions, master classes and panel discussions designed to activate the exchange of knowledge, ideas and experience amongst Nobel Laureates and young scientists.

Dr Gumedé said that, as a young black woman, she feels empowered and excited about her Lindau experience. "This meeting enabled me to connect with greater scientific community from 89 countries. This was a perfect platform for me to engage in the global affairs. I have learnt a lot from this experience and going forward I take ownership of my work and believe that one day it will change the world"

Dr Gumedé started her academic career as a Tutor, Student Assistant, Laboratory Assistant, and Consultant for the Centre of Teaching and Learning at the University of the Free State (UFS), where she was later appointed as an Academic Facilitator. She also held a position as Part-time Lecturer in Chemistry in the Department of Life Science at CUT, where she is currently appointed as a Lecturer.



From left: Nobel Laureate Donna Strickland, Dr Thandi Gumedé and Valentine Saasa (CSIR).

She was born and raised in Harrismith in the Free State, and holds a BSc (Chemistry/Physics and Biology), BSc Honours (Polymer Science), MSc (Polymer Science) and a PhD from the University of the Free State (UFS). In her PhD study, she conducted an investigation into the crystallisation kinetics and physical properties of biodegradable polymer blends, which included the carbon nanotubes masterbatch. She was supervised by Prof. Luyt from Qatar University, and Prof. Müller from the University of the Basque Country (UPV/EHU) in Spain.

Thus far, Dr Gumedé has published six research papers in peer-reviewed journals, and has presented her work at national and international scientific meetings. Being a model student, she was presented with a Diploma of Distinction for a student presentation at the Polychar World Forum Conference on Advanced Materials at Stellenbosch University in 2014.

In her message to young aspiring scientists, she said that "it is our responsibility to solve our world problems, and I believe we are capable enough. This reminds me of a quote that says: 'Science is the light that keeps us out of the dark ages. It may not solve all our problems, but it shows us the path to the solutions. And the more we know, the more questions we find. It is a never-ending search for answers that will continue for as long as humanity exists.'"



CUT Vice-Chancellor and Principal appointed as Deputy Chairperson of South African Technology Network (SATN)



Prof. Henk de Jager, Vice-Chancellor and Principal, has been unanimously appointed as Deputy Chairperson of the South African Technology Network (SATN) for a two-year term, with effect from 1 January 2019.

CUT is already making major contributions towards driving the SATN agenda within the higher education sector, a fact to which the various presentations made by CUT Executives to date attest.

This, however, is not the only accolade achieved by Prof. De Jager. He was also appointed as the Chairperson of the newly established World of Work Strategy Group (WSG) of the Board of Universities South Africa (USAf). He also serves as a member of the Executive Committee (Exco) of the USAf Board.

Chancellor receives honorary qualification: Doctor of Law



CUT Chancellor, Madam Justice Mahube Molemela.

The Central University of Technology, Free State (CUT) Chancellor, Madam Justice Mahube Molemela, was awarded an honorary degree of LLD (honoris causa) at the University of the Free State for her impact on the society.

The ever so driven and stanch CUT Chancellor, Madam Justice Mahube Molemela embarked on her legal journey after matriculating from Thaba Nchu's Albert Moroka High School in 1981. Her professional career commenced in 1987 with her appointment as a prosecutor at the Thaba Nchu Magistrate's Court.

She practiced as an attorney in the Free State and later as a Director at various private law firms. In 2018, she was appointed at the Supreme Court of Appeal of South Africa. She has acted as judge in both the High Court as well as the Labour Appeal Court in the period 2005 to 2008 before she was appointed at the Free State bench in 2008.

She served as a member of the Black Lawyers Association from 1987 to 2008; as a trustee of the Black Lawyers Association Legal Education Centre for the period 2003 – 2008; and as an advisory board member of the Free State Centre for Human Rights from inception of the Centre to date.

The Chancellor also made history when she was appointed as the first female Judge President of the Free State division of the High Court, and the second female to be appointed in this capacity in South Africa.

Her involvement in the community ranges from actively empowering farm workers and upcoming farmers through initiatives of the Free State Rural Development Association, to presentations and training facilitated on forms of business enterprises. Her involvement in the legal profession and legal community includes serving as a councillor for the Free State Law Society and board member of the Free State School for Legal Practice of the Law Society of South Africa. Her dedication, passion and years of hard work is being recognised and CUT is proud to be associated with her.



7th annual PwC and CUT Business Ethics awards



The 2019 best presenter title went to Kebogile Mokodutlo (2nd from left) from The Invincible Six group who presented on Corporate Espionage. She is flanked by Mrs Annette Loots, Senior Manager at PwC Central Region and panel member (left) Ms Nandi Lubbe, Business Ethics Lecturer and coordinator and Mr Mojalefa (Jeff) Mosala, Lecturer at UFS, panel member and external subject moderator.

The international audit firm PricewaterhouseCoopers (PwC) in partnership with the Department of Accounting and Auditing in the Faculty of Management Sciences, co-hosted their 7th annual Business Awards in a continuous quest to raise awareness among accountancy students regarding various unethical aspects occurring in both the public and private sectors.

Driven by the business ethics lecturer and co-ordinator, Ms Nandi Lubbe, the Business Ethics IV (BNE41AB) course is a compulsory module in all the BTech programmes offered by the Department of Accounting. As part of their semester mark for the module, students are assessed by way of a formal presentation and the teams participate enthusiastically in this exciting and incentive-driven project where it is compulsory to work in groups, think outside the box, track the South African media, read newspapers, learn good time management skills and debate vigorously among team members in a safe learning environment.

"The expertise gained through this business ethics project aims to enable students to make informed decisions when faced with unethical dilemmas in the work place, equip them for employment in a field that involves various moral dilemmas in the private as well as the public sectors, integrate their theoretical knowledge with real-life ethical dilemmas and enables them to have a better understanding of our environment and society," said Ms Lubbe.

Topics such as ethical decision making, resolving ethical dilemmas, social responsibility and corporate governance are also covered in the scope of researched topics. "This also assist us in focusing on developing their soft skills such as self-promoting, advertising and communication skills. At the final assessment stage and awards presentation session, our students get an opportunity to network and acquire information from subject experts and contacts for their work integrated learning and future employment opportunities."

The final assessment and selection of the three winning teams and overall best presenter was done by an interdisciplinary panel of judges. The panel consists of staff members from the faculty, the University of the Free State and PwC specialising in governance and business ethics.

When addressing the students, Mr. Gerhard Geldenhuys, Director: PricewaterhouseCoopers, Central Region said that it is important to make the most of what they have and lead by example. "What you have experienced and learnt here is golden. Go back to your communities and the world, lead by example and make a difference."

The three winning teams as well as the overall best presenter received certificates and cash prizes sponsored by PricewaterhouseCoopers.



Enactus-CUT partners with Letsemeng Municipality to ignite LED project



The Letsemeng Community members ready to kick-start the project with Enactus-CUT and other stakeholders to revive the medicinal plant project.

The Enactus-CUT in collaboration with African Solutions Institute and Centre for Applied Food Security and Biotechnology (CAFSaB) took an initiative to partner with Letsemeng Local Municipality to ignite the Medicinal Plant Project, a Local Economic Development (LED) project that was abandoned and vandalised in 2016. The ground-breaking ceremony took place at Letsemeng Medicinal Plant in Petrusburg on 8 June 2019.

Enactus is an international non-profit organization dedicated to inspiring students to improve the world through entrepreneurial innovations, turning ideas into actions that will ultimately transform the lives of communities and create a better future.

The Faculty Advisor, Professor Crispen Chipunza said that reviving the Medicinal Plant Project will not only spark fresh energy within the Letsemeng local community but will also bring growth, empowerment, job creation, awareness, as well as unlocking new business opportunities. He also pledged support and assured the community that CUT will bring-in students and academics with different expertise to ensure that the project is a success.

Enactus-CUT Projects Manager, Mr Thembisile Tyopo said that the main objective of the project is for the community to own the entire value chain and to help them renovate the facility for optimal operation. "We have raised funds to renovate the facility and sponsor equipment that will be used in the project operations. In partnership with African Solutions Institute (ASI), we have also trained the beneficiaries on basic business management skills and have scheduled more trainings which will unfold as the project gains momentum."

Acting Mayor of Letsemeng Local Municipality, Councilor Sello Bahumi, applauded Enactus-CUT for the glorious initiative that will give hope to Letsemeng. He also urged the community to work hard together with the Enactus team in order to improve their standard and quality of life.

Dr Manduna from CAFSaB advised the community to study their soil and check the safety of the medicinal plants for them to have a high crop yield.

Miss van Loggerenburg, Extension Officer from the Department of Agriculture in Petrusburg said they are busy with a long-term project plan of producing other crops, the use of solar power and also, linking the project with trade.



CUT student named 2019 Enactus South Africa Excellent Student Leader



Glorious moment for Mr Thembisile Tyopo, the 2019 WV de Wet Student Leader Excellence Award winner (right), he is seen here with Mr Dirk Uys: Chief Financial Officer Rich Products Corporation Africa (left), and Mrs Letitia De Wet: Chief Executive Officer and Country Director- Enactus South Africa (middle). Thembisile walked away with a highly coveted Enactus- South Africa trophy and a certificate.

CUT second year Electrical Engineering student and Enactus CUT Projects Manager, Mr Thembisile Tyopo, scooped the 2019 WV de Wet Student Leader Excellence Award at the Enactus South Africa national competition held on 8 and 9 July 2019 at Sandton, Johannesburg.

Mr Tyopo was amongst the highly competent university students from 24 participating universities in South Africa who are also participants in the Enactus programme. A proud Enactus-CUT Projects Manager, Thembisile, has led his team on several projects such as Local Economic Projects in partnership with Masilonyana Municipality, Harmony Gold Mine, First National Bank, Letsemeng Municipality, African Solutions Institute and Centre for Applied Food Sustainability and -Biotechnology (CAFSaB).

As one of the judging measures, candidates were expected to document their proven leadership capabilities and demonstrable competencies through direct and consistent participation in a social entrepreneurship or social empowerment projects in their communities.

In their comments, the Enactus South Africa judging team said that Thembisile is a living testimony of an outstanding leader who has lived the Enactus values of integrity, passion and innovation through the multiple livelihood strategies and methodologies that impacted the lives of marginalised communities.

"His nomination and success did not come as a surprise to us as he has proven himself beyond reasonable doubts with his great leadership and social enterprise strides in disadvantaged communities in the Free State Province. These projects improved the standard of living and quality of life of underprivileged communities which faced great adversity of poverty, inequity and unemployment in the country," said Miss Maraka Lefera, one of the team members and former Enactus South Africa Junior Alumnus of the year award winner.

Prof. Crispin Chipunza, mentor and Enactus-CUT Faculty Advisor, said that Thembisile has undoubtedly shown sustained support and dedication to the CUT Community Engagement programmes that contributed to the socio-economic development of the Free State Province. "The young leader has made us all proud. He has left an indelible mark on the CUT social entrepreneurial landscape. Well-done to the entire team for keeping the flag up high."

Asked about his achievement, Mr Tyopo said he feels happy and blessed to win such a prestigious award and more importantly, is proud to be part of Enactus-CUT. "To win such an award on behalf of my team and the institution is an enormous achievement. I want to show my peers, fellow classmates and friends that Enactus is an engine of development for self-improvement and they must get involved," he said.



Guillaume Pelser shines at archery championships



19 year old bowman never dreamt of pursuing archery as his passionate sport. Looking back, Guillaume Pelser wishes he could have started earlier.

First year Civil Engineering student, Guillaume Pelser, came out tops at the International Field Archery Association (IFAA) indoor world championships held in Wellington, New Zealand. The 19-year-old bowman competed against archers from various countries under the Freestyle Unlimited Young Adult Male category. He secured first position and set a new world record with a score of 900 out of 900.

Pelser said that his passion for archery started in October 2016 when he was attending the "I love the Free State festival" that was held at Emoya Estate where the Tempe archery was exhibiting. "I was attracted to the Tempe archery stall and I went there, picked up a bow and tried to shoot and I enjoyed every minute of it. To my surprise, I had done so well on the day that the Tempe archery club chairperson asked me to join the club. In November 2016, my parents bought me a second-hand compound bow and I never looked back."

Pelser also said that he started participating in competitions and received the Free State colours in 2017 and 2018, and in July last year, he participated for the first time in the IFAA Indoor archery competition in Welkom and won a gold medal.

"In November 2018, the IFAA indoor nationals were held but I could not attend, as I was busy with my matric exams. Fortunately, I got invited to participate in the world championships in New Zealand due to the gold medal I won in Welkom. I am very happy and honoured that I was able to attend the competition and ultimately won. It is a great honour to know that all my hard work and dedication to the archery sport had paid off. My goal in archery is to qualify as a world champion in all different archery competitions."



