

GRATIA

Second Edition 2020





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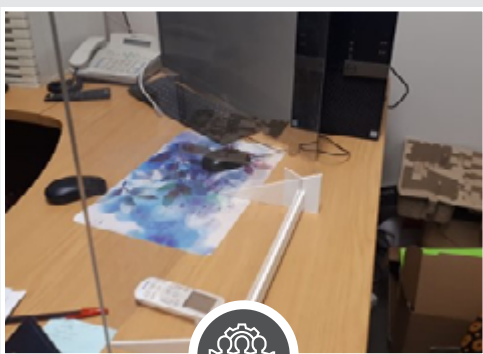
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PREVENTION OF COVID-19



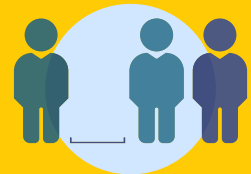
WASH HANDS

HAND SANITIZER



WEAR MASK

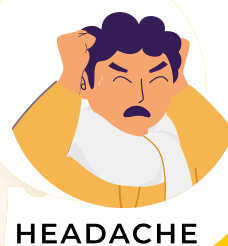
SOCIAL DISTANCE



AVOID HANDSHAKE



SYMPTOMS



Acting Vice-Chancellor and Principal: Prof. David Ngidi



2020 had to be revised.

Despite the COVID-19-related challenges, the university remains steadfast in its quest to monitor its performance on the implementation of the 2020 Institutional Operational Plan (IOP), which is reviewed on a quarterly basis. The university has also embarked on the review process of Vision 2020; the 2016-2020 Strategic Plan; and the 2016-2020 Transformation Plan. Parallel to this process was the setting of Vision 2030; the 2021-2025 Strategic Plan; the 2021-2025 Transformation Plan; and high-level strategic indicators/targets for 2030, by using the 2020-2025 Enrolment Plan as reference. All our stakeholders have been involved in these processes. The CUT Situational Analysis and Vision 2030 were approved by Council. The Strategic Plan 2021-2025 and Annual Performance Plan (APP) 2021, derived from the Strategic Plan 2021-2025, are to be approved by Council at its meeting of 28 November 2020.

In conclusion, on behalf of the CUT Management and Council, I would like to acknowledge our external partners including industry, businesses, universities, government, and society at large, for their continuous and unwavering support. We remain committed to assist our students to succeed in the 2020 academic year.

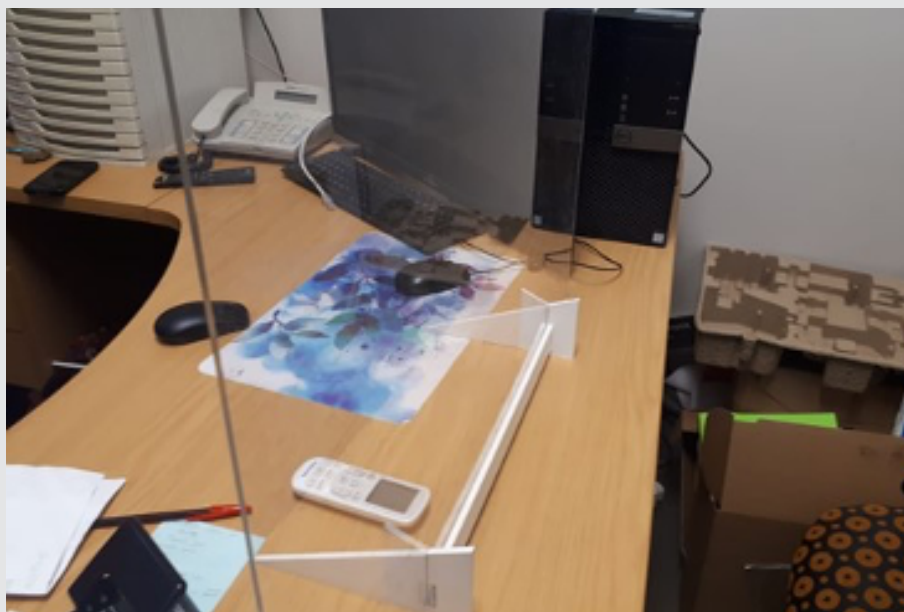
Prof. DP Ngidi
Acting Vice-Chancellor and Principal

The COVID-19 pandemic continues to wreak havoc globally and cause massive crises to human beings and universities. Nonetheless, we have continued under challenging circumstances to enhance the operations of the university, with the emphasis on academic activities, in order to complete the 2020 academic year successfully.

Towards this end, during the hard lockdown, we acquired 5 000 electronic devices for students in need, as well as zero-based and other data options. We also implemented guidelines; online curricula; supporting mechanisms, such as our learning platforms; and training to ensure the readiness of students and staff for online instruction.

Furthermore, we developed alternatives for students in remote areas with limited or no access to e-technology. The relaxation of regulations under level 1 of the lockdown enabled us to bring 89% of the students back to campus, including students who experienced connectivity challenges when learning from home. This was done under strict observation of lockdown level 1 regulations related to social distancing, the wearing of masks, and sanitisation. Catch-up plans to assist students who experienced connectivity challenges had to be put in place, and the Academic Calendar





Protective Perspex easy assemble screen designed by CUT Lecturer meets WHO requirements



The protective perspex screen designed by Mr Gerhard Beukes is put to test.

Covid-19 pandemic not only wreaked global havoc but changed lives and opened the doors of many possibilities.

CUT Lecturer in the Department of Mathematics, Science and Technology Education, Mr Gerhard Beukes, designed an easy to assemble Protective Perspex screen that meets WHO requirements. Asked about how his innovation came about, Gerhard Beukes, Mechanical Technology Lecturer, said he came up with his sought-after screen to protect himself and family against possible COVID-19 infection during lockdown level one. "I just made one for myself then my colleague asked if I could make another one... and then everybody in the department wanted one!"

Gerhard wanted to make something that could protect him against possible COVID-19 infection during lockdown level one, but without limiting interaction with students and colleagues. The Protective Perspex Screen, dubbed the "Sneeze Guard", meets the World Health Organisation requirements for product development in terms

of measurements and the material used. The screen can be shipped in a flat pack, and easily assembled without requiring any fasteners. The screen slots into the wooden base, and for a personal touch, you can have your name engraved on the base.

Prof. Wendy Setlalentoa, Acting Dean of Humanities, said she is excited about this initiative that will facilitate safe interaction among colleagues, lecturers, and students. "We hope to get a buy-in from other departments, faculties, and even other universities."

In addition to addressing the physical distancing requirements of lockdown level 1, it also promotes innovations and entrepreneurship skills at the CUT.



Masters Engineering student flourish as dedicated start-up entrepreneur in Hydro-IT



In 2019, CUT student-Gareth Gericke, entered the Idea Generator (i-Gym) innovation challenge with his invention Hydro-IT and won some cash prize from the competition. I-Gym with the assistance of experts and lecturers, provided him with the platform to further explore and develop his idea into a product that can be commercialised. His business is now further enhanced as he is an i-GYM EDP participant.

Gareth is a dedicated start-up entrepreneur, founder of Hydro-IT and a full-time master's student in engineering within the field of the Fourth Industrial Revolution, and is well noted with international publications. He is optimistic and always trying to go the extra mile to make a name for himself.

"The i-GYM first started me off on my journey by giving me the necessary tools and platforms to learn and develop my business and product. We are newly registered and hope to launch the first municipal pilot by the end of this year," he said.

He explained that the major challenge of water wastage due to leaks is one of the factors that inspired his innovation. "As many citizens in South Africa struggle with water restrictions, I was baffled by the number of times I saw water leaks on my way to and from the university. I was wondering what I could do to fix that. My invention-Hydro-IT, aims at eliminating water leaks in South Africa by installing Internet of Things (IoT) Water Monitors on municipal pipelines to detect, control and communicate water leaks. With South Africa having a national water loss average of 39% and wasting up to 5 billion litres of water (which amounts to approximately 1 billion Rands) per annum, our technology, promises to reduce those numbers to be on par with world leaders in this sector."

Dr Izabeth Conradie, Manager: CUT Idea Generator, said that Gareth was the winner of the i-Gym innovation challenge 2019 and as part of the prize money he attended the memorable SLUSH event in Finland. "He entered as a student and his business has advanced him to an i-GYM EDP participant. We accelerated the connection with UCT and CUT Infrastructure to facilitate a testing site. He also made contacts at SLUSH with possible stakeholders in the Netherlands."

It is also worth noting that Gareth's business has been doing exceptionally well. He has published an article in the 2nd ICERA Journal; he is the EDHE Regional Round Winner (Tech Category) & EDHE National Finalist, SAIS Boost-UP Stand-Up Finalist, SAIS Boost-Up Start-Up Winner, SA Innovation Summit Finalist and BRICS Young Scientist School Finalist.

When advising other students who aspire to be like him, Gareth said, "I believe the work done at the CUT Idea Gym is a shining example in South Africa for entrepreneurs to pursue their dreams. The team gave me the necessary start-off, some encouragement, and knowledge to run my business and are dedicated to helping those who are willing to put in the work. If you have any idea and assistance, I believe they will be able to assist you as they did with me."



Meanwhile, on 13 November Gareth Gericke, a Master's student in Electronic Engineering competed in the finals of the BOOST UP pitch competition for start-ups that use technology to solve a societal challenge.

He was among the 18 finalists from South Africa, Botswana, Namibia, Tanzania, and Zambia. His startup business was featured in CUT's presentation at the recent Student Entrepreneurship Week (#SEW2020), which is an annual event of the Entrepreneurship Development in Higher Education (EDHE) programme of Universities South Africa.

Gericke is also a contender in the finals of the EDHE Entrepreneurship Intersvarsity competition, which took place on November 26 and 27, in Gauteng. He won the regional round of the tech category in July.

He is on a winning streak with his company Hydro-IT, that produces monitors that use Internet of Things technology, known as IoT, to check, control and communicate water leaks on municipal pipes, costing the country millions of Rands annually.

Hydro-IT and Market Research App won him two internal CUT awards, the 2019 and 2020 i-GYM's Innovation Challenge consecutively, for their software applications. Last year's win included the opportunity to attend the major technology and startup event, the Slush Festival, in Helsinki, Finland.

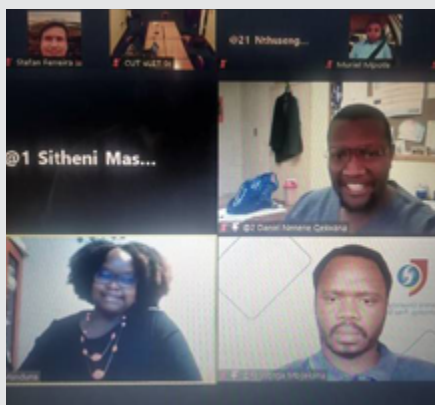
"My passion started two years ago when I realised people in Cape Town were suffering, due to water leaks. The majority of them were unable to have full access to their water security", he said. In fact, Cape Town was threatening to become one of the first metropolitan cities in the world to reach Day Zero when its taps would run dry. Gericke wondered if there was a way he could help "through my studies and university", he said.

He says there are times when he does not know if he can balance time between studies and his company. Fortunately, the resources on campus have made it easier. "When I first started off as an engineer, I knew nothing about business but thankfully, the mentors at the Idea-Gym were able to give me the necessary tools and training in order to start my own business, and run it successfully," Gericke said.



Innovation Hub: The Idea Generator (i-Gym) where ideas transform into opportunities. The centre offers a developmental hub where students, employees and the public under the supervision of experts and lecturers, can go to develop their innovative ideas and projects into products that can potentially be commercialised. Other studentpreneurs who were in the national finals EDHE Entrepreneurship Intersvarsity 2020 are Mike Natuyamba; with his business, Candice Vision Aid; Lefu Sello, with his business Vintage Tutoring Academy; and Thandeka Mhlafulu, with her business, Pro Ocre.





Management Sciences host their first virtual prestige Research Seminar



The Faculty of Management Sciences held their first virtual Prestige Research webinar on 07 October 2020. The guest speaker and Executive Director of the International Centre for Transformational Entrepreneurship at Coventry University, Prof. Gideon Mass, provided an insightful presentation on Management Science research agenda.

He shed light on how their institution is reasoning in terms of the research agenda and also reflected on some areas of COVID-19's impact on the world, the role of research and potential issues of going forward.

He believes that certain things need to be thought through as the pandemic has had a tremendous impact globally. "Everybody in the world is talking about unemployment and people are scared about this new thing. They feel stressed and scared due to the tremendous uncertainty caused by this pandemic. Psychologists refer to it as collective stress and denial, making people react differently in this uncertainty and solutions are not always clear because nobody has the experience of this pandemic, which creates a further unsettling environment."

He further said that the world is facing continuous changes and that is influencing the way people think about research. "There will most likely be future shocks. Today if we think about the system in which we operate, it is complex and by no means an easy way. The system is behaving in a self-driven manner and that influences everything, what we research and the way we are going to teach as well. We need to address issues in different ways, we cannot just do it according to the old or traditional ways."

When reflecting on the impact of COVID-19 on the economy, he said that there are winners and losers in economies. He highlighted that online shopping and food delivery seem to be winning, while hotels, restaurants and sports industries are struggling. "If you just walk around, you will see closures of businesses that just could not win or survive the pandemic. There can be changes, but sadly, the current picture is a decline in economies all over the world. What we have learned so far is that we need a more holistic view, we need deeper research and specific things that we can focus on. We need to balance current challenges with future solutions. We need to think of the contextualisation of solutions because for me, research without solutions is questionable."

In conclusion, he said that the new normal differs from person to person, country, and university. "Each person needs to unpack that to maximise the social impact in the environment in which they are. We need to accept that changes will be constant, and we should include that into our research models. We need research that will accelerate change, aid survival, and increase growth in a continuously changing environment. Researchers should be fit to change and be more futuristic in finding clues on how to manage the future better."



CUT STEM Academy introduces high school learners to robotics



Some of the 9 learners from HTS Louis Botha who attended the robotics workshop. They were ecstatic to work on computers and experiment in programming robot driving base to perform different tasks.

The easing of lockdown restrictions under level 1 has enabled the STEM Academy to kick start the long-awaited workshop on robotics for high school learners. The workshop took place on 05 to 07 October 2020 and was facilitated by Mr Viwe Mqaqa, Assistant Lecturer, Mr Gareth Gericke and Mr Teboho Ntsinyi, both Masters students from the Department of Electrical, Electronic and Computer Engineering.

About 20 grade 9 learners from HTS Louis Botha could not contain their excitement when their teacher, Mrs Via Bezuidenhout, informed them that they were selected to attend the 3-day workshop at CUT. The main objective of the project is to promote interest, learning and creativity in robotics through imaginative and entertaining experiences. It provides a stimulating learning environment for learners to improve their skills and enrich their knowledge in computer electronics and troubleshooting of electronic systems which are skills required in the digital era.

When asked about the importance of the workshop, Mr Mqaqa said that “the education landscape can no longer depend solely on regimented classroom learning, assignments or examinations as a means of teaching and evaluating students’ success, they should also consider valuable, applicable, hands-on methods of teaching to improve comprehension of scientific concepts”.

The workshop aimed to introduce learners to the design, construction, operation, and application of robots. Furthermore, the learners learned how robots use sensor inputs in decision making and how to control motors to make a robot perform an action. Presentations and demonstrating on how robot technologies are applied in solving real-world problems were also done. The learners were also taken step-by-step through the Design Process, showing them how scientists and engineers think and solve problems.

There are plans to expand the project and include more schools in 2021, particularly the under-resourced schools that do not usually get opportunities to participate in such initiatives.



Scholars at CUT unpack different research frameworks in the academic sphere



Pictured is Prof. Willie Tafadzwa Chinyamurindi, NRF rated researcher and an Associate Professor from the University of Fort Hare.

The Centre for Enterprise and Entrepreneurship Studies in the Faculty of Management Sciences held a webinar on 27 October 2020, to discuss various research frameworks in the academic sphere. The aim of the discussion was to explore and unpack the differences between conceptual, theoretical, and analytical frameworks.

Prof. Dennis Dzansi, Director: Centre for Enterprise and Entrepreneurship Studies, said that the workshop would help unlock doors not only for students but also for anyone who wants to learn, and those who are in the research territory. "I take special delight in welcoming esteemed researchers and professors in the

faculty who still believes learning endless."

The guest speaker, Prof. Willie Tafadzwa Chinyamurindi, NRF rated researcher and an Associate Professor from the University of Fort Hare, shared his knowledge and unpacked ways in which academics can do better in their research. His presentation was structured into theoretical, conceptual, and analytical frameworks.

Prof. Chinyamurindi applauded CUT for the entrepreneurship conference which is focused on the broader African context and on how ideas can be informed. "What is missing and what is critical is for us to take a step away from the old theories and start finding ways in which we can generate our understanding of knowledge and contextual variants of what it means to be scholars within an African context."

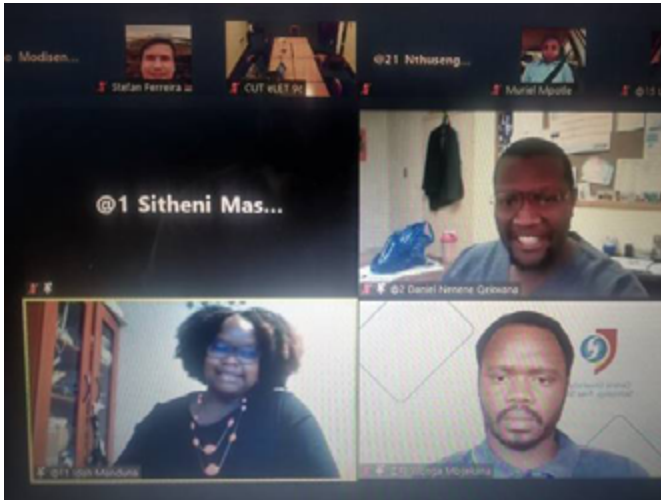
When defining theoretical framework, Prof. Chinyamurindi said that it comprises of the different theories and theoretical constructs that assist to explain a phenomenon. "A theoretical framework is a single formal theory that sets out the various expectations that a theory posits and how they would apply to a specific case under analysis, and how one would use theory to explain a particular phenomenon. When a study is designed around a theoretical framework, the theory is the primary means in which the research problem is understood and investigated. Although theoretical frameworks tend to be used in quantitative studies, you will also see this approach in qualitative research."

The conceptual framework describes the different concepts one would need to know and to understand a particular phenomenon without pretending to create casual links across variables and outcomes. The framework helps to identify and refine the concepts, define literature search and structure, select suitable data collection, and identify potential explanatory theories. It is also used to outline possible courses of action or to present a preferred approach to an idea or thought. It is like lenses through which you can see a particular phenomenon."

"Other authors describe an analytical framework as a conceptual framework that helps analyse particular phenomena, but I believe that the most important element of an analytical framework is instrumental. The purpose thereof is to help undertake analyses. Researchers use elements of analytical framework to deconstruct a specific concept or set of concepts or phenomenon," he said.



Faculty of Health and Environmental Sciences hosts their first virtual Prestige Research Day



The Faculty of Health and Environmental Sciences carries out research projects that are informed by the need to render critical research and developmental services to the community.

On 28 October 2020, the faculty held their first virtual Prestige Research Day to highlight and showcase the inter-and- multi-disciplinary research in line with its Research, Innovation and Engagement (REI) agenda.

In his welcome address, Prof. Samson Mashele, Dean of Health and Environmental Sciences said that one of CUT's strategic objectives is to develop a strong culture of research and innovation with pockets of excellence. He said that research is not just about producing articles, but it is about coming up with innovative solutions that could shape the future. "Our faculty is not just increasing the number of articles but also striving to solve problems out there." He also spoke about pockets of excellence within the faculty and how his colleagues strive to ensure that they make an impact in the society.

Guest speaker Prof. Nenene Qekwane, a renowned specialist in Veterinary Public Health registered with the South African Veterinary Council spoke about the impact of COVID-19 on livestock production in South Africa. In his presentation, Prof. Qekwane indicated that during the lockdown period, major food and agricultural economic activities were declared essential, which gave an opportunity for livestock production to continue although in some cases, other sectors related to the livestock industry were declared unessential and that had a negative impact on livestock production in South Africa.

He said that the current pandemic is likely to have severe economic and social consequences for the livestock industry, which may lead to a decrease in food security and increased poverty and inequality. "Livestock supply and distribution chains are likely to be affected.

We are likely to see the restructuring of the agricultural livestock sector, re-positioning and diversifying, workforce reduction and business shut-down particularly in response to the harsh conditions and realities that we find ourselves in." However, she said, "there are also opportunities and the 4IR farmers need to think out of the box and embrace these new coming technologies."

He further said that managing the impact of COVID-19 requires human, animal and environmental perspectives. "This collective is needed in identifying the most appropriate intervention strategies. The current outbreak has shown that human health is integral to environmental and animal health. We need collaborations between government, policymakers, non-governmental institutions, and scientists to try and deal with COVID issues. Going forward, everybody needs to put their heads together in dealing with this pandemic," he said.

Prof. Qekwane recommended that all stakeholders in the food value chain should develop strategies to ensure uninterrupted livestock production without compromising the human welfare. "Strong collaboration between research institutions and government is needed, to guide control strategies, including policy. We need Private-Public Partners in terms of funding, and we also need to develop regional, national, and Pan-African strategies for dealing with pandemics in general. Where possible, ongoing efforts to support farmers must continue adapting farm management strategies. The agricultural sector must embrace the 4IR to minimize labour challenges and enhance the local market."

In conclusion, he pointed out the key research areas that can be looked at. "I think there is socio-economic studies that need to be done to look into the impact of COVID-19 in livestock production in South Africa, welfare status of farmers and farmworkers in relation to COVID-19, welfare status of livestock during and post COVID and spatial disparities in COVID-19 effect among livestock farmers."

Prof. Alfred Ngowi, Deputy Vice-Chancellor: Research Innovation and Engagement presented on the use of Artificial Intelligence in contact tracing. He said that as the transmission rate increases, the development of innovative means of screening and detecting COVID-19 cases remains imperative. "The adoption of the 4IR technologies, particularly the Artificial Intelligence (AI) and Big data is expected to make significant contributions towards facilitating contact tracing. AI-based Convolutional Neural Networks (CNN) is a state-of-the-art model for feature identification and selection from AI for medical diagnostics to mobile technology for data collection, to aid in contact tracing, symptom checking and predicting outbreak. Technologies associated with the 4IR offer efficient and effective ways to cope with the speed, scope, and impact of the COVID-19 pandemic. Nature inspired computing is helpful in feature identification and when combined with AI-based Convolutional Neural Network model, it enhances classification accuracy."



Academics reflect on teaching and learning practices at the 5th annual SoTL Conference at CUT



COVID-19 has no doubt affected how universities operate, bringing forth new challenges and experiences for both staff and students. In a two-day Scholarship of Teaching and Learning (SoTL) conference hosted by CUT, academics gathered virtually to reflect and improve their ways of teaching and learning. The conference was held on 08 and 09 October 2020 under the theme: Promoting new pedagogies and teaching practices in higher education.

Prof. Karin Wolff, Senior Teaching and Learning Advisor in the Faculty of Engineering, Stellenbosch University and one of the two keynote speakers presented on: 'Seeing, Hearing and Speaking out: Lessons from the COVID era for HE in South Africa.' In her address, Prof. Wolff shared some lessons learned and challenges experienced from the COVID-19 era within South African Higher Education.

She stated that the global pandemic would be remembered in Higher Education as the moment that cast a spotlight on the incontestable relationship between three key facets of educators mandate: to facilitate the development of knowledge, citizenship and skills by providing cognitive, affective and systemic support aligned to the epistemological, ontological and praxis dimensions of the curricula.

She said that never has the age-old 'head-heart-hand' philosophy been more significant, as exhausted educators continue to innovatively tackle the challenges of enabling meaningful learning for all in an inclusive environment while using

often limited technologies. "Being in HE in 2020, may well prove to be the moment we realized our collective humanity. The sudden shift to Emergency Remote Teaching (ERT) has presented the HE community with both unprecedented challenges and disruptive, possibly transformational opportunities. In order to develop the whole person, the head-heart-hand philosophy and fulfil higher education's mandate to inculcate knowledge, citizenship and skills, our cognitive affective and psychomotor educational objectives should be aligned to epistemological, ontological and praxes curriculum dimensions."

Another speaker, Prof. David Pace, an emeritus Professor of European History at Indiana University, delivered his keynote address on: 'Catching Students who are slipping through the Cracks: The Decoding the Disciplines Paradigm,' Seven Steps to Increased Student Learning.

He stated that decoding rests on the assumption that students frequently have difficulty because crucial steps that they must follow in their courses are automatic for their teachers that these have become invisible and, thus, are not taught. "By focusing on places where the learning of a significant number of students gets stuck and then systematically exploring what professionals in the field would do to get past these bottlenecks, college teachers can help more students succeed in their courses."



CUT strengthens internationalisation for students planning future collaboration in business



The Central University of Technology, Free State's (CUT) Advanced Diplomas in Tourism Management as well as Hospitality Management students recently started to participate in the Global Partners in Education (GPE) programme in their Strategic Management class. This initiative contributes to the vision of internationalisation at CUT whereby intercultural cooperation and exchange is fostered and global engagement is encouraged.

The GPE strengthens and adds value to the academic programme of CUT students through the content covered in the programme. It is closely linked to the course content for students in Strategic Management classes and strives to provide students with a link to international best practices vis-à-vis South African best practises.

Dr Eben Proos, Lecturer in the Department of Tourism and Events Management said that both these departments embrace the CUT vision of internationalisation.

"Students have the opportunity to engage directly via online platforms with their counterparts in the USA and France. This internationalisation initiative holds great significance for CUT, specifically for students as it is a student intensive programme. The students are responsible for most of the interactive effort, whilst the lecturers facilitate the discussion sessions. Students are required to conduct research on certain topics and communicate with their partners before and during each session," said Dr Proos.

"Students are further exposed to world views on different business topics and experience different cultures, ensuring that international, intercultural, and global dimensions are integrated during the programme. Through participation in this programme, students' views and knowledge on international business topics are broadened."

"Students that participate in the GPE programme are further encouraged to build relationships with their international counterparts after the completion of the programme. The programme exposes them to new and up to date technology practices that are of particular importance in the Fourth Industrial Revolution," he added.





CUT virtually commemorates the legacy of Nelson Mandela



As we slowly adapt to the new normal and learn to live alongside COVID-19, the Centre for Applied Food Sustainability and Biotechnology (CAFSaB) in the Faculty of Health and Environmental Sciences held a virtual commemoration of Mandela Day on 17 July 2020.

The annual event is a global call to action that celebrates the idea that everyone has the power to transform the world and the ability to make an impact.

The two entrepreneurs in the fields of water and food analysis, Ms Shirleen Theisinger and Dr Elsabé Botes delivered insightful presentations on how their businesses are coping amidst the global pandemic.

Ms Shirleen Theisinger, Managing Director and Lab Quality Manager: SMT Labs, mentioned that being part of essential services and fully operational during lockdown was a blessing for her business. "Some of our challenges was that not all staff members could work from home, we did not know how to implement social distancing in the lab, could not follow the quality programme as normal, could not visit our clients and do sampling and our clients were unsure about their situation and production, and they were cutting their quality costs to save money."

Looking into the future, Ms Theisinger said that they need to focus on new strategies and re-evaluate their plans. "We need to realise that we are all in uncharted territory, circumstances have changed, and the need has changed, so we need to adapt."

On the other hand, while most of the companies are barely making money during these tough times, Director: Test It Lab, Dr Elsabé Botes said that one of the positive outcomes of the COVID-19 crises is that they have been doing better financially because of the directive to constantly wash hands. "We deal with water quality testing and municipalities have added water infrastructure in the form of JoJo tanks. Due to that, we have seen an increase in our monthly turnover."

In her presentation, she stipulated five approaches; leadership, buy-in, trust, boundaries and tools, that makes business work for them during COVID-19. She further said that she is inspired by this Mandela Day of 'taking action and inspiring change'. "The only way we can inspire change is by doing and living it."

When asked what message they would like to share with South Africa on this Mandela Day under the theme Take action, inspire change they said: "We cannot deny patriarchy, racism and things that happened in the past. However, we need to analyse and understand our history so that we can have a firm footing, turn around and look to the future. We also need to stop focusing on ourselves and realise that if we want to survive as a country, we need to stand together and make things happen."



CUT encourages a culture that embraces inclusivity, diversity, and equality



Discrimination based on sexual orientation and gender identity remains a thorny issue in South Africa and other African countries and the atmosphere of intolerance has escalated from ideological condemnation of homosexuality to hate and physical violence.

As part of embracing the CUT 2020 theme, "Reimagining CUT: Co-creating vision 2030- our people, our voices!" The transformation office held the big debate on a virtual platform to share views on the topic: "How can institutions of Higher Learning enable a conducive environment for Lesbian Gay Bisexual Transgender Queer Intersex and Asexual" (LGBTQIA+) for employees and students.

Panel members consisting of staff, students and Human Rights representatives deliberated on the topic and shared some insights and challenges faced by the LGBTQIA+ community within the Higher Education sector and possibly how these challenges can be tackled. This also created a platform to engage on sexual diversity issues through human rights-based approach in relation to equality security, dignity, fairness, and respect within the institution.

The debate was intended to encourage an institutional culture where all forms of unfair discrimination is uprooted whilst promoting a culture that embraces inclusivity, diversity, and equality. The debate also explored strategies for diverse sexuality and gender identities to navigate and enable the wellbeing and safe environment within institutions of Higher Learning.

In her opening remarks, Prof. Ntswaki Malebo said "there is no doubt that the society influences our interactions especially how we treat each other in South Africa and the African continent. We have observed an increase in homophobic attacks physically or emotionally within our communities and employees and students tend

to emulate behaviours that are reflective of the society that they come from."

She also mentioned that historically it has been observed how legislation can enable and constrain certain engagements. One such legislation being the apartheid legislation which played a significant role in the evolution of the higher education sector. "This legislation not only segregated individuals by race but outlawed homosexuality through the immorality amendment act, and this meant the rights of LGBTQIA+ employees and students were not legally recognised. We are grateful that our legislation has since been amended to be inclusive. It is against this backdrop that CUT created this platform for all of us to engage in sexual diversity issues through a human rights-based approach."

Prof. Percy Sepeng, Senior Manager: Institutional Renewal and Transformation, said that as a Unit, it is important for them to learn from this process and ensure that their policies do not discriminate. "We are coming from a background or context that is not friendly with change and we know that change is painful. Changing minds at a university needs to be workable because universities are not only there to construct knowledge, but also to contribute to the existing one. To win this battle of discrimination against LGBTQIA+, we should work hard to advocate change, create awareness and also, encourage their presence and participation in strategic leadership positions and decision-making forums within the workplace," said Prof. Sepeng.

Panel members included Nkosana Tshisa, Junior Lecturer at CUT, Ninothando Hlanganani, CUT student, Dr MT MaseTshaba, Chair of the Department of Decision Sciences at UNISA, Kudzai Maurine, Human Rights Activist and final year student at Midlands State University in Zimbabwe, Maraka Lefera, Naledi Morojele, Human rights Officer at the South African Human Rights Commission.



'I am generation equality: realizing women's rights' - CUT celebrates women's month



CUT joined the country in celebrating women's month with a virtual seminar held on 18 August 2020.

Facilitated by Reynell van der Ross, Industrial Psychologist and Senior Talent Management at CUT, the webinar featured women from all levels within the institution, who addressed issues faced by women under the theme: I am generation equality: realizing women's rights. The panel included Mpho Mbeo: Faculty Officer, Faculty of Engineering, Built Environment and IT; Gloria Pule: Departmental Manager, Welkom Campus; Lucy Makhokolo; Third Year Student, Welkom Campus; Prof Freda van der Walt: Assistant Dean, Teaching And Learning, Faculty of Management Sciences and Dr Ntsoaki Malebo: Senior Director, Centre For Innovation and Learning CUT.

Mpho Mbeu shared statistics highlighting that women in education still tend to be underrepresented in leadership positions. "The university still has a long way to go to make sure that all of us are treated equally because women are competent leaders, yes there are policies in place, there are strides that the university is making to ensure that they are elevating women to top positions but there is still a gap that has to be closed."

Gloria Pule touched on what exactly is referred to when we say women's rights. She said, "some of us are not really sure of what our rights are. We need to be educated, its high time as women in the CUT community realise how important it is to be educated and to encourage each other to reach that level."

Lucy Makhokolo added that it is important to remember that women's month is not only about celebrating women who are identified as women because they were born female. "As women we need to stand together and be there for one another. In order to do this, we need to accept those individual as well."

Prof Freda van der Walt highlighted the gender-based violence pandemic and mental health. "Whereas the Covid-19 strategy suggested that citizens should stay at home, this place of safety is exactly where gender-based violence is flourishing. Gender based violence is detrimental to women's health. Health does not imply survival because women are victims of GBV, they often carry life-long hatred, anger and shame with them which intoxicate their minds; we have now become a battlefield where we self-destruct rather than heal."

Dr Ntsoaki Malebo spoke about her journey of growth within CUT. "As a girl from a small town with no opportunities available for young girls, I came to CUT as a Post-Doctoral Fellow, and I had to navigate my space within the university up until I reached the level that I am currently at. Surround yourself with women and men who will encourage and push you because at the end of the day, we stand on the shoulders of giants."

In absentia, CUT Chancellor, Madam Justice Mahube Molemela wrote "As we demand what is due to us, let us remember the plea of those who are vulnerable and voiceless. Our institution is undoubtedly a forward-looking University of Technology. Four years ago, it appointed its first female Chancellor, living up to its motto that CUT is a cut above the rest."

Meanwhile, on another platform, CUT's Transformation Unit brought together a sterling line of distinguished experts in academia to discuss the ongoing challenges faced by women in Higher Education and to find solutions to these challenges.





Prof. Vuyokazi Nomlomo, Dean of Education at the University of Western Cape, said that while we have excellent policies and organisations which aim to reduce the issue of gender inequality, there are still many inequalities in various space.

Prof. Mantsoe Diale, SARCHI: Clean and Green Energy: Department of Physics at the University of Pretoria, encouraged experienced women in academics to play a more significant role in their students' lives to ensure that they inspire them to also become academics.

"You have to catch their attention in the first year, share with them what you do in your research facilities, be prepared to be the absent mother because as a woman it is normal for them to come to you for mothering. Know your institution very well so that when a student comes to you, you know where to send them for help and look for opportunities for them and lastly, strengthen your postgraduate pipeline," she said.

Dr Thandi Mgwebi, Deputy Vice-Chancellor: Research, Innovation and Internationalisation at Nelson Mandela University, focused on using funding to propel women in Higher Education. She shared some of the available opportunities for women in academics.

Prof. Wendy Setlalentoa, Acting Dean: Faculty of Humanities, concluded the discussions by highlighting the inequality that is still faced by women at CUT. She said "At CUT we have a total number of 27 employees at the level of Associate, and Professorial level, of which, 19 are males. We only have nine full-time Professors of which few are females and only two were recently promoted to full professorship. However, a positive side is that female academics who are in senior and middle management positions mentor and coach junior female academics. In fact, we have taken it upon ourselves as female academics to uplift and mentor each other," said Prof. Setlalentoa.

Ms Edith Sempe, Deputy Director: Research Development Support Research Development, said that CUT has proven over the years that it is outstanding in development, but have challenges in terms of retention as most of the female academics who are resigning are quite senior, experienced researchers and academics.

Prof. Sheila Matoti, Professor of Education and Head of the Scholarship of Teaching and Learning (SoTL) stated a few challenges faced by women in academia, including the stringent criteria for promotion, accessing teaching loans for junior employees and a shortage of dedicated mentors. She mentioned that there are also age restrictions on applications for research grants, which poses a challenge because often women leave academia to start their families and when they return, their age is beyond the age criteria for some grants.



CUT hosts successful Virtual Study Abroad Fair for the region



CUT held a successful two-day virtual study abroad fair in collaboration with the University of the Free State (UFS), Sol Plaatje University (SPU), the International Relations Departments of the Free State Provincial Government and the Northern Cape Provincial Government. The first-ever regional Virtual Study Abroad Fair took place on 01 and 02 October 2020.

According to the CUT Center for Global Engagement, Universities in the Free State and Northern Cape had been arranging a Study Abroad Fair for many years, however, COVID-19 presented them with the opportunity to enhance their virtual communication with international and local partners, and stage an event that could easily be attended by any person with the interest and ability to take part.

Guests included Free State MEC for Education, Dr Tate Makgoe; CUT Deputy Vice-Chancellor: Research, Innovation and Engagement, Prof. Alfred Ngowi; Sol Plaatje University Senior Manager: Communication and Marketing, Office of the Vice-Chancellor; Kashini Maistry and UFS Director: Office for International Affairs, Cornelius Hagenmeier.

Various International Education agencies and Embassies exhibited the various scholarship opportunities available in their countries and globally; including USA, UK, Hungary, German Academic Exchange Service (DAAD), Nuffic Neso South Africa, Southern African Nordic Centre (SANORD), China, Sweden, RUDN University, Switzerland, DHET, France and many more.

Ms Martina Moss, CUT Admin Coordinator: Center for Global Engagement said that the success of the event has shown the need for such an event, and that they plan to continue to hold more in the years to come. "We had 497 registrations yesterday [1 Oct. 2020] and today we are sitting at 334, which is a resounding success for the first-ever Regional Virtual Study Abroad Fair. We hope to make this event an annual event where the partners remain CUT, SPU, UFS FSPG and NCPG," she said.

CUT employees also benefited from this event as many of the above-mentioned Education Agencies and Embassies shared funding and other opportunities for joint programmes and projects "At CUT, our CGE remains open for our students to enquire about these opportunities, they may contact us at studyabroad@cut.ac.za and we will be happy to engage with them on this exciting opportunities," concluded Moss.



Prince Michael of Liechtenstein delivers CUT's Sixth Annual Herman Mashaba Lecture on Entrepreneurship



Capital is not created by government; capital is solely created by business, by people working and having ideas.' These were the words of His Serene Highness Prince Michael of Liechtenstein, who delivered the 6th Annual Herman Mashaba Lecture on Entrepreneurship, which CUT hosted virtually on 05 October 2020. Prince Michael of Liechtenstein, Chairman of Industrie- und Finanzkontor Ets. as well as Founder and Chairman of Geopolitical Intelligence Services AG Vaduz, spoke on the topic of Entrepreneurship, basis for sustainability.

"A resilient economy has to be built on businesses which thrive, compete, employ people, pay taxes, produce useful goods and provide useful services. At present the term sustainability is wildly used, and even misused. Sustainability today is strongly used in matters of ecology, but we should see it wider and in a long-term view. It is the optimal use of resources and optimal use of labour force, capital, especially providing a sustainable resilient national economy as basis for prosperity, full employment and capital which is a necessary ingredient of a blooming society," he said.

He added that government should play a role in encouraging and supporting entrepreneurship in society. "Rather than creating more programs, government should rather take away limitations, which might be red tape and too high taxes. Whether something new will really be innovative and succeed, you can only know if you try it. What can be done is to put together agencies which can help people structure their ideas into a business plan and to help identify if it is plausible."

He added that the role that universities play in encouraging entrepreneurship is vital. "This is a very important role of the university, by teaching and giving knowledge is to create an atmosphere of knowledge on the one side, curiosity and developing ideas on the other side. Universities can give the necessary education and theoretical tools, but what is important is to give the notion of responsibility. And also, so a certain motivation to do or create something, to be curious, it is part of the role of universities anyway to teach people how to be curious, not only to transfer knowledge," concluded His Serene Highness Prince Michael of Liechtenstein.



Faculty of Health and Environmental Sciences hosts virtual Public Lecture to address how livestock biodiversity contribute to food systems transformation in South Africa



The Faculty of Health and Environmental Sciences virtually hosted a Public Lecture on 19 October 2020, to address how livestock biodiversity can contribute to food security. The lecture was presented by Prof. Este van Marle-Koster, Head of the Department of Animal and Wildlife Sciences from the University of Pretoria.

In her deliberations, Prof. van Marle-Koster focused on the livestock sector as the contributor to the food systems transformation. She spoke about an immense impact that COVID has had on food and hunger in South Africa in the past months, and how the pandemic has uncovered new opportunities and research priorities for researchers.

"The COVID pandemic referred to as 'the black swan phenomenon' has affected the whole world with its unexpected arrival and continuously unpredictable outcome. The agricultural sector being the essential service in SA, continued to produce food for its population but the downside is that although SA could produce the food, unemployment and household income declined due to the pandemic, restricting access to affordable food. Already in April 2020 the NID survey reported that 40% of our SA household had run out of means to secure food. This emphasises the complexity of our food systems and the need for an integrated food chain, which will accommodate all levels of production of safe and affordable food."

She also said that despite the efficient global food production, up to 9% of the world population is affected by hunger, which translates into more than 2 billion people not having access to safe nutritious food daily. "Food insecurity increases the risk for malnutrition, undernutrition and obesity. In our country, despite ongoing socio-economic transformation and efforts to improve security and inequality, our food system remains a challenge. In the majority of low and middle-income countries in the world as in SA, the importance of food system

transformation is recognized as part of economic development as well as prosperity. The roots of the SA food system are embedded in our historical development change and transformation overtime. Livestock biodiversity can directly and indirectly play a role in the food systems framework for enhanced food security."

She further highlighted that the food system drivers are usually external factors such as organization technology development, climate change and economic growth.

"Diversity as a driver can play an important role in the uptake of modern technology on various levels. It is clear that livestock farmers and keepers form the backbone of SA agriculture. We can confirm that we have the resources, but the question is why are we not using them? How do we ensure that these resources we have in terms of livestock, pigs and poultry is part of the food system and food transformation?"

In closing, Prof. Koster said that the South African food system is dynamic and is linked to the overall complexities of the society. There is a need for a systems approach which could exploit the full potential of livestock biodiversity within the current food system. "The systems approach will capture all the elements of the food system to lead to an equitable and inclusive transformation of our food system. It will take the concerted effort, as the African Proverb states 'if you want to go fast, go alone, if you want to go far, we go together. I think it is time for livestock farmers and South Africans to go together. If we cannot breathe and eat, we do not exist. We need food not only to exist but to live, be healthy, work and contribute to our society."



COMMUNITY ENGAGEMENT AND PARTNERSHIPS



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT donates sanitisers in commemoration of Mandela Day



Back: Letlotlo Letuka; Lesego Bahumi, Tshidi Magengenene, John Polisa and Dr Jane Nkhebenyane. Front: Lehlohonolo Qhanya.

With recent reports raising alarm that some hand sanitisers do not meet the approved standards, many people are concerned about what is being put on their hands when entering public places.

The Faculty of Health and Environmental Sciences staff and postgraduate students have produced sanitisers as part of their efforts to curb the spread of the Coronavirus. The team have donated 67 bottles of 500ml of sanitiser to the Lebone Village in Bloemfontein.

Dr Jane Nkhebenyane, CUT Acting Head of the Department of Life Sciences said the university has been working with Lebone Village for the past six years and they are the first people who came to mind when this initiative loomed. "As part of our Mandela Day commemoration, we thought we could use our self-manufactured sanitisers to help curb the spread of COVID-19.

Lebone village currently houses 42 boys and girls from ages of 3 years old to 23 years.

Lulu Polisa, staff member and care giver at Lebone village explained that the pandemic has meant that they do not receive as many donations as they usually would. "The sanitisers are going to help us immensely as we will use them to sanitise the children's hands, but also for our staff, especially those who do not reside at the village. They will be able to stay sanitised when they leave the premises and when they arrive in the morning. When we receive visitors, we will sanitise them as well," said Lulu Polisa.

The faculty also donated some of the sanitisers to Ferreira Hospice and Hertzogville Hospice.

COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and partners bring power of artificial intelligence to graduates



CUT has introduced Microsoft's Artificial Intelligence programme (AI) to address the demand in the province, and South Africa in general. The AI programme, which was launched on 28 July 2020, went live on 3 July 2020 and aims to skill employees with the in-demand skills of the 4th Industrial Revolution (4IR).

"This University programme provides organisations with an opportunity to bring on board a groomed AI Engineer with the certified skills and hands-on project experience needed to assimilate into the workplace of the future, quickly and seamlessly," says Professor Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement.

The programme, developed by Microsoft and delivered by its partner Cijima, has been designed to pass on the skills employers value and need by teaching young multi-disciplined graduates with limited or no work experience to explore, transform, model, and visualise data, as well as create the next generation of intelligent solutions.

"Enabling South African talent with AI training and certification will change the journey and destiny of our country in a period where technology is driving innovation and changing all spheres of society," says Aranka Verster, Business Unit Manager, School of Digital at Cijima. The CUT Innovation Services (CUTis) and the Free State Provincial Government will be the first to benefit from the programme's training, which has been designed to enable the skills transfer, to the university lecturers who will lead the programme in the coming years. It will tentatively be open to the general public for enrolment from 2021.

"The collaborative nature of the AI University Programme will unlock the value of AI and the role it will play in workplaces of the future. By bringing together private and public sector partners, students, facilitators, mentors, coaches, and industry experts, the programme will enable the development of critical AI skills that will help our young people become more work-ready and employable, as well as help organisations adapt to the ever-changing demands of the world of work," says Lillian Barnard, Managing Director of Microsoft South Africa.

The 12-month programme will use a blended learning model that includes the integration of self-study, online learning, classroom instructor-led training and a flipped classroom.

This will cover:

- Mentorship and coaching by industry experts,
- Business skills,
- Microsoft Azure AI Associate Certification,
- Flipped Classroom,
- Guest Lecturers,
- Career days,
- Examination and Certification.

Asked about the benefit of the programme to the province, Free State Premier Sisi Ntombela said government and all stakeholders involved understand that harnessing the benefits of AI training and certification to drive innovation, requires strong partnerships. "As we move further into the Fourth Industrial Revolution, we will see the value that Artificial Intelligence can bring to modern workplaces, therefore empowering employees in providing a competitive edge. These kinds of initiatives are more significant currently as the country grapples with the Coronavirus, which requires all of us to think out of the box and be innovative. By using technology to augment human potential, whilst still ensuring that jobs are not lost, we will have the ability to drive critical growth across the province, as well as empower our young talent with the skills needed to navigate a rapidly changing world," said Premier Ntombela.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT Microsoft AI Programme students share testimonials



The Central University of Technology, Free State (CUT) introduced Microsoft's Artificial Intelligence Programme (AI) in July this year, to address the demand in the province, and South Africa in general. Students from CUT and the Free State Premier's office who have been taking part in the pilot programme, which has been running for four months, have expressed that it has been a fulfilling experience and change of perspective.

The programme – developed by partners Microsoft and Cijima – has been designed to pass on the skills employers value and need by teaching young multi-disciplined graduates with limited or no work experience to explore, transform, model, and visualise data, as well as to create the next generation of intelligent solutions.

Microsoft Certified Facilitator, Carlo Chiriseri said that the students have been working on using Artificial Intelligence to positively impact society. "We are trying to implement Artificial Intelligence into the environment we have so that we can use it to solve problems. We realised that we were not really implementing AI at the level we are at, so our delegates are working on proof of concepts, which is the practical aspects of actually building their AI projects that are going to formulate strategies and solutions that are actually world-class and these solutions are not going to be kept in the books but will actually be implemented to make business in society," explained Chiriseri.

Professor Alfred Ngowi, Deputy Vice-Chancellor: Research, Innovation and Engagement said that the aim of this programme is to ensure that AI technology is not only for the elite. "At university level we want to make sure that artificial intelligence is incorporated in the curriculum. Every time people talk about the Fourth Industrial Revolution people talk about engineering, technology, but this is not so, this is for everybody, including humanities and social sciences. We want to use artificial intelligence to make sure that we increase the efficiency of our operations, this technology gives us many opportunities of foreseeing possibilities which were not there before," added Prof. Ngowi.

Watch the [HYPERLINK "https://www.cut.ac.za/news/cuts-microsoft-ai-programme-students-share-te"](https://www.cut.ac.za/news/cuts-microsoft-ai-programme-students-share-te) AI students testimonials



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Netcare Foundation donates an X-ray machine to the CUT laboratory



L-R: Mr Tefo Ramanamane, Hospital Manager of Netcare Universitas Private Hospital shaking hands with Dr Belinda van der Merwe, Senior lecturer: Radiography after officially handing over the C-arm x-ray machine (right).

On 9 November 2020, the Netcare Foundation donated a C-arm x-ray machine to the Department of Clinical Sciences – Radiography. The donation is envisioned to prepare students for the clinical environment while still on campus.

Various interdepartmental simulation training sessions and formal assessment have been conducted and the machine will be utilised during operating theatre simulations for the radiography students. This type of fluoroscopy equipment provides real time imaging during surgical procedures.

Theatre simulations were conducted off campus in the Radiography program since 2016 under the leadership of Dr Belinda van der Merwe and Mrs Marcelle Ramos Swanepoel. Simulations included internal and external lecturers, private and government employed healthcare providers, actors and assessors from Radiography and Clinical Technology. Medical simulation can be used in the training for both undergraduate and healthcare professionals (Riabtseva et al, 2015).

The machine was wheeled - in front of the Ellen Khuzwayo building, CUT Bloemfontein campus

Although the redundant C- arm will not be used for patients, the department received the necessary licence from the Directorate Radiation Control in the Department of Health to operate the machine during training on manikins that are designed for x-ray attenuation to represent the human body.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and Old Mutual donates clinician masks and face shields to the Free State Department of Health



FS Health MEC, Ms Motsheng Tsiu; FS Premier, Ms Sisi Ntombela; CUT Director: CRPM, Dr Gerrie Booysen and Interim Provincial General Manager of Old Mutual, Mr Silas Sebilane.

Since the country was struck with COVID-19 infections, the Central University of Technology, Free State's (CUT) Centre for Rapid Prototyping and Manufacturing (CRPM) has been using their technological expertise to assist the province with medical equipment. CUT partnered with Old Mutual and donated at least 1000 face shields, 1000 respiratory masks and 10 000 filters to the Department of Health. The handover took place at the official opening of the converted parking space which will now be used as expanded bed space for COVID-19 patients and the 60 High Care Beds at House Idhalia, both situated at Universitas Academic Hospital.

Dr Gerrie Booysen, Director: Centre for Rapid Prototyping and Manufacturing (CRPM) explained that in March, they began working alongside clinicians from the Department of Health to identify problem areas. "The clinician respirator masks was one of the identified problem due to the supply chain issues in importing these products into the country, so we went through a rapid product development process to get to a final product assisted by the 3-D printing and tooling that had to be made to end up with a product today that is actually tested and can be rolled out into the community," said Booysen.

The high quality FMP2 CUT Clinician respirator was developed, manufactured, tested, and regulated all in three months highlighting the exceptional product development capabilities in the Free State.

In the beginning stages of the project, Old Mutual recognised the impact that the CUT Clinician FMP2 mask could have in the lives of Free State clinicians and co-funded with CUT for the first donation of 1000 face masks and 1000 face shields to the Department of Health.

Old Mutual contributed R170 000 and the CUT added a further R85 000 to manufacture the much-needed PPE. The CUT, MerSETA CICAM, DSI MedAdd and PDTs also sponsored the manufacturing of injection moulding tooling to the value of R 993 600 to be able to mass-produce the mask, straps, and filter housing.

"As Old Mutual, we are quite privileged to have been able to forge partnership with CUT and make this meaningful contribution to the Free State community. We truly cherish the role that we have played, and we are thrilled that this clinician respiratory mask will save lives, not only of our doctors but also of the ordinary citizens. We are not only being concerned with the financial well-being of our community, but we are equally concerned about the well-being and safety of our people. We hope that our contribution will go a long way in enabling a positive future for our community. We are thankful for this partnership and the role that they have played," added Silas Sebilane, Interim Provincial General Manager of Old Mutual.

The CUT Clinician mask is fully developed and tested and is currently in production and 2000 units can be manufactured each day.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS



Old Mutual and CUT partnered to donate 1000 face masks and 1000 face shields and 10 000 filters to the Free State Department of Health. The CUT Clinician mask is fully developed and tested, and 2000 units can be manufactured each day.



CUT Director: CRPM, Dr Gerrie Booysen and Interim Provincial General Manager of Old Mutual, Mr Silas Sebiloane.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT innovations inspire collaborative partnerships



The delegation touring the various innovation facilities at CUT.

CUT hosted Fikile Kuhlase, Head of Old Mutual Foundation; Princess Gabo Moroka-Motshabi, of Barolong Royal House, Kaizer Motaung Junior and Richard Mabaso, Chief Executive Officer of Imbumba Trust on 8 September 2020, for a tour of CUT innovation centres.

The tour included the CUT Sanitizer Project, the Solar Power Project and the Centre for Rapid Prototyping and Manufacturing (CRPM), which has received a significant contribution from Old Mutual to produce medical health devices which CRPM had prototyped.

Prof. Henk de Jager said: “All our students are creative, and we need to create an environment for them where their creativity will be unlocked. We need to create graduates, it’s a given, but the real purpose of that is to make an impact on our society, improve the lives of people and to assist government to grow our economy, and that is why we value our partnerships.”

Head of Old Mutual Foundation, Fikile Kuhlase said he was impressed by the collaboration between the provincial Old Mutual and CUT-CRPM. “Being here is really to explore what possibilities there are and where else there is a need for support. Our biggest portfolio in the Old Mutual foundation is education, and there are several initiatives that we are involved in, but it is interesting to hear about the innovation eco-system in particular. As Old Mutual, our support was mainly around e-learning and online resources which still could not reach those that are marginalised. I am happy to be here with our partners to explore further into where we can tap in for more support,” said Kuhlase.

“This has truly been a great learning experience. Our foundation is of the basis of making change through education and sports and put a relief for hunger and social injustice to make proper change. The things that people have a passion for is much easier to use as a transformation platform to uplift and help others in the long term. It is special for us to be here because another thing that COVID-19 has taught us is that we have to think out the box along the lines of innovation and entrepreneurship, and that mentality is the one that is making a change in the world,” added Kaizer Motaung Junior.

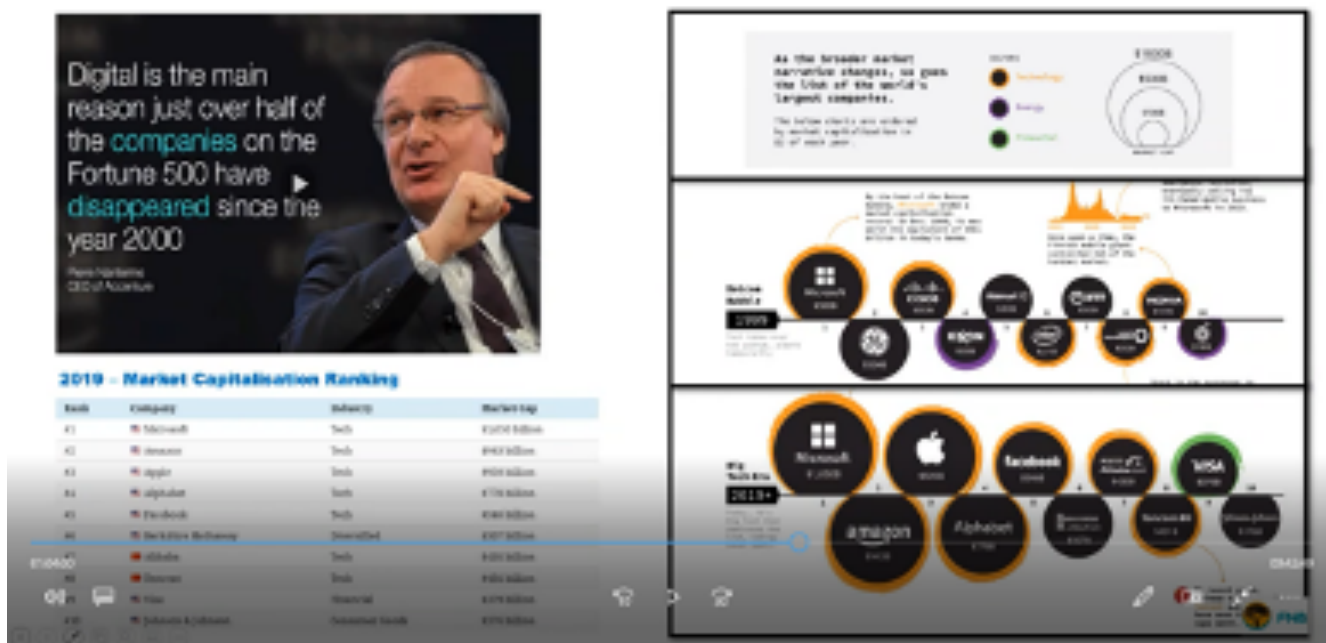
The Chief Executive Officer of Imbumba Trust and Trek4Mandela Expedition team leader Mr Richard Mabaso, was also among the guests who visited CUT innovation centres. Through Trek4Mandela Project, he has climbed Mount Kilimanjaro six times to raise funds for sanitary towels, which is one of the initiatives his foundation focuses on. “What Prof. De Jager mentioned about creativity, sometimes it’s in a certain environment; sometimes its outside, but all it means is that creativity is in our brains, so we can see problems and challenges and find opportunities to create solutions that will not only benefit us, but other people,” said Mabaso.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT in partnership with FNB seek ways to leverage 4IR technologies for local economic growth and development

BE THE DISRUPTOR OR BE DISRUPTED



The spread of coronavirus not only changed the way we live, work and relate to our surroundings, but it has also dented the already unstable economy. This outbreak came at a time where organisations are still grappling and adapting to the new technologies brought by the 4th Industrial Revolution (4IR). The pandemic is also a wake-up call for organisations to accelerate digitisation, become relevant to the fast-changing world and ensure that business continues as usual.

On 13 August 2020, the Central University of Technology, Free State in partnership with First National Bank (FNB) held a webinar to try and find ways to leverage 4IR technologies for local economic growth and development.

Two guest speakers, Messrs Hugo Pienaar and Mitesh Chotu, presented on business and economy beyond the pandemic. They both gave insightful presentations on what can be possibly done to resolve the economy and how 4IR can be used to address the challenges brought by the pandemic and assist vulnerable people.

Mr Hugo Pienaar from the Bureau for Economic Research (BER), Stellenbosch University, asked, "to what extent will we see businesses not re-open and how long will it take for those businesses to be replaced by new businesses employing new people?" He further touched on the business cycle downswing, which he said is a broader term that refers to when the general economy is performing below its long-term trend. He also pointed out that the virus has had an extremely negative impact on the already depressed economy.

Another guest speaker, Mr Mitesh Chotu, a well-established Area Solution Architect at Microsoft, with knowledge spanning several industries and technology domains, also provided his views on 4IR technologies.

He said that looking at the post COVID-19 era, one of the most critical and essential things to have in place is the right teams and skills set to tackle future challenges. "When you look beyond pandemic scenarios, you see many clients focusing on complex initiatives where they use Artificial Intelligence (AI) to screen employees in the workplace and enabling AI for workers to be safer. They focus a lot of agenda of work from anywhere scenarios, no longer is it fixed on a brick and mortar building where employees need to work. Transformation does need a bit of a holistic approach to what must be applied across people, process and technology. What the pandemic situation has shown us is that when companies apply the use of technologies correctly, they are able to successfully support the people as well as the internal processes during the tough economic times, making them much more resilient within the workplace."

As a university, the CUT established the CUT COVID-19 Relief Fund (CCRF) to lend local support. Relief will be financial or in-kind, for example, technological devices, medical products, or other inventions, as well as products and services aimed at assisting vulnerable community members and students.

Contributions can also be made via FNB public recipient list on the banking APP. Search for: CUT Student Account.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Eskom Expo/STEM Academy Science Camps learner shines at the virtual 2020 Africa Science Buskers Festival



Mr Tshepo Lenkoe from Senakangwedi Secondary School showing off his invention at the 2019 Free State Regional Science Fair.

The STEM Academy is a project established by CUT in partnership with the Free State Department of Education. Its mandate is to support school curriculum delivery and inspire learners' interest in STEM subjects. Learners are exposed to Science experiments and mentored by science experts. CUT partnered with the Eskom Expo for Young Scientists in 2019 and through this partnership, primary and secondary school learners received mentorship from CUT academics. The mentors assist these learners with conceptualising science projects in response to challenges within their communities.

Mr Tshepo Lenkoe, a Free State grade 12 learner from Senakangwedi Secondary School in Botshabelo, was awarded the coveted gold medal and a cash prize at the 2020 Africa Science Buskers Festival for his scientific invention in August 2020. He is also a gold medal winner in the Free State Regional Science Fair held at the CUT in 2019. Tshepo's project involved building a prototype umbrella that can convert solar energy into electrical energy. Tshepo's project dubbed 'Five Steps into the Future' also competed amongst many in the 2020 virtual i-GYM Innovation Challenge that took place from 22 September 2020.

Tshepo has been part of the Eskom Expo/STEM Academy Science Camps launched at CUT in February 2020 but due to the pandemic, his and other young scientists' projects have been receiving support and mentorship virtually from the Department of Electrical, Electronic and Computer Engineering, Faculty of Engineering, Built Environment and Information Technology and the Department of Mathematics, Science and Technology Education in the Faculty of Humanities. The support received from this team of experts has played a prominent role in Tshepo's invention and success.

In Tshepo's case, the Provincial Coordinator for the Eskom Expo, Mr Nicho Swartz, identified the potential of the project and approached the CUT Centre of Sustainable Smart Cities (CSSC) and the STEM Academy for this learner's guidance. The CSSC focuses on research that can produce new technology, products, devices, structures, methodology contributing towards the development of a Sustainable City of the Future. The centre has in the past worked closely with the Eskom Expo to identify experts in relevant fields to guide learners with their projects, which led to participants receiving gold prizes at international level as well as mention in the South African parliament. "It is worth noting that many of these learners come from quintile 1,2,3 schools and lack basic resources, so giving them access to computer labs with internet access, has expanded their horizon," said the Provincial Coordinator for the Eskom Expo Mr Nicho Swartz.

Mr Swartz applauded Dr Izabeth Conradie, Manager: CUT Ideas Generator, who saw it fit to include the Eskom Expo projects in their annual challenge, not just to allow them an opportunity to win some cash, but rather, provide them with training on business and entrepreneurship skills. "This was because the expo project was just a school project and it ended with that, while so many of them had real-world applications and the potential to be commercialised. This, I believe, is the vision for this partnership to see these projects through to complete development and possibly assisting the innovators in marketing their products and possibly even start their own businesses," said Mr Swartz.

Dr Nicolaas Luwes, an activity leader in the centre, was approached to test the project and identify the scientific methods needed for such a system. With this guidance, Tshepo was able to produce scientific method results validating the specifications of his system. The role of the CUT CSSC Expo mentor program is only to guide the learners for quality improvement, but the onus of the work, innovation and experimentation still fall on the learners. "In the case of Tshepo, he is the innovator and young scientist that was able to take away some scientific guidance and won an accolade. With Industry 4.0 making manufacturing easier and more cost-effective, young scientists like Tshepo and his love and focus on STEM, could only improve South African industrial capabilities," said Dr Luwes.

The learners were scheduled to submit their online assessments on 04 December 2020 and winners will be announced soon after.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT and Matjhabeng Municipality sign MoU to strengthen impact on society



Prof. Henk de Jager, and Mr Nkosinjani Speelman, Executive Mayor of Matjhabeng Local Municipality at the signing ceremony.

The Central University of Technology, Free State (CUT) and the Matjhabeng Municipality signed a Memorandum of Understanding on 14 October 2020 at the CUT Welkom Campus. CUT strives to be engaged in solutions and making a meaningful impact through social and technological innovation.

Both the Mayor of the Matjhabeng Local Municipality, Mr Nkosinjani Speelman, and Municipal Manager of Matjhabeng, Ms Zingisa Tindleni, are CUT alumni, which made the occasion extra special. "This partnership is going to help us with skills development to strengthen the municipality. Our infrastructure is ageing, but we don't have skills. We need the new generation to tell us how we can deal with those issues, and also, need CUT to help us achieve this," said Speelman.

Prof. Henk de Jager reiterated the importance of partnerships. "CUT is a public university and we are here to serve the people. Our mandate is to produce graduates, conduct research and produce innovation outputs that have impact in the society. Our partnership with the municipality is to therefore enhance that impact," said Prof. De Jager.

"Through the support of the municipality, CUT will be able to meet current on-campus student residence demands and expand its academic programmes by means of construction of new buildings and sports grounds."

Ms Morakane Mothekhe, Senior Manager at Matjhabeng Municipality, added that the MoU marks an important milestone towards the development of the area. "The community has been given a lot of promises and by not achieving or reaching out to them creates a lot of uncertainties. It is projects like these that will address exactly that. When people see open spaces, to them it's just open spaces and they do not know how that piece of land can be used to revive the economy and help alleviate poverty. We are going to design plans and strategies of maximum utilization



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

CUT partners with SABELA L Brands Group for corporate sector driven projects to impact communities



Front: Ms Lindiwe Nyamsi, CEO of SABELA L Brands Group; Prof. Alfred Ngowi, CUT Deputy Vice-Chancellor: Research, Innovation and Engagement; Ms Nomsa Mosuwe, Former CUT Councillor. Back: Mr Norbert Nyamsi, SABELA L Brands Group; Dr Johnson Lulua, Chairman of Sabela L Brands Group; Mr Molefi Motsoeneng, CUT Technical Officer: Technology & Innovation and Prof. Solomon Makola, Acting Deputy Vice-Chancellor: Resource and Operations.

The Central University of Technology, Free State (CUT) has signed a Memorandum of Understanding with SABELA L Brands Group on 29 October 2020 at the CUT Welkom Campus. The initiative is a part of CUT working towards positioning itself as a leading African university through partnerships.

Former CUT Councillor Nomsa Mosuwe said "It's very important as universities to partner with brands like yours [SABELA], to ensure that the education we provide to our future leaders is addressing macro-economic and socio-economic imperatives. You cannot wait for inspiration, you have to chase after it and as an institution, we want to chase it with a club of like-minded people like you."

Mosuwe added that partnering with business ensures that when students graduate, there is a place for them in the corporate sector. "Technology is what we embrace to drive our strategy, because from first and second year, we want to position our students that before they finish their studies they are identified by brands so that is how we proactively address unemployment. We identify students while they are doing their second year and we go to brands such

as yours [SABELA] to say you are specialising in food, how can we partner from a research and development point of view, to address your problems and then place these students that are providing innovative ideas proactively to your institutions so that you warm up to them, and probably before they even finish their studies, they will be employees. That is the strategy moving forward," said Ms Mosuwe.

Norbert Nyamsi, from Sabela L Brands Group added that they are partnering with CUT as they want to make a purposeful impact. "There is a lot of research and you have so much knowledge, but we are not focusing on theory but on the practical part. We have identified two lacks within our own existence, social and economic. Although we are a profit-making organisation, we are willing to extend from a social perspective and invest our know-how and resources," said Nyamsi.

Sabela L Brands Group has pledged to fully fund campus projects in both Bloemfontein and Welkom, within the next 6 to 9 months, aiming to make an impact in the community.





CUT's phenomenal woman Lerato Mogotsi among the Mrs SA top 50 semi-finalists



The Central University of Technology, Free State (CUT) congratulates and celebrate one of its own, Mrs Lerato Mogotsi, for making it to the top 50 Mrs South Africa semi-finalists. Lerato is a Senior Lab Technician: Natural Sciences, in the Department of Mathematics, Science and Technology Education in the Faculty of Humanities and is currently pursuing her PhD studies in Environmental Health.

Mrs South Africa is a journey that has gained the reputation of Women-Empowerment Program and prides itself in producing the very best in real, relatable, and modern South African women. The program celebrates marriage and the essence of being a bona fide woman.

This program was created for married women who would ordinarily not have such a platform to compete and be ambassadors for South Africa on a global scale. The opportunities and platform that have been created for Mrs South Africa entrants are significant in every way and truly creates a ripple effect across the country. Through the journey, women find themselves again and learn that they are never too old to follow their dreams and become voices of change.

Asked about her goals and aspirations, Lerato expressed her appreciation and excitement for being nominated and recognised in such a prestigious event. She also mentioned that her wish is to add value towards improving the quality of education in South Africa through her skills, experiences, and knowledge. "I am very honoured to be part of this journey, although it was not easy, but it was worth it! I have grown in so many ways, and my confidence levels are on top. In this journey, I have learnt to communicate without fear and what humbled me most is that I was recognised by other phenomenal women who also aspire to live their dreams. I would like to use my experience and skills to impact on the lives of learners in underprivileged schools through science," she said.

Her advice to married women is to be the best version of themselves and always follow their dreams.

The Mrs South Africa brand showcases the virtues of South Africa, the spirit of Ubuntu, and the real relatable women of the country. The pageant also aims to celebrate all women in their unique femininity and share true South African stories to empower and uncover the true beauty that shines from within. CUT also believes in empowering women to flourish and become the best version of themselves, and this achievement not only made CUT proud but Free State as a whole.

The Top 50 judging round and process was conducted via various online platforms and audited by BDO South Africa. The Mrs SA official judges were Tatum Keshwar, Matapa Maila and Nicole Capper.

The new Mrs South Africa will be announced in February 2021.



Cytotechnologist and CUT Alumnus makes her mark in health care



Ms Bogadi Lorato Mongale is a Cytotechnologist who has dedicated her career to Laboratory Health Services and Health Research.

She pursued her degree in Biomedical Technology at the Central University of Technology, Free State (CUT) and her research work earned her a publication in an international scientific journal with high impact factor. This later earned her a nomination at the prestigious Standard Bank Top Woman in Science Awards 2017.

Ms Mongale infiltrated the Clinical Research industry and is now part of one of the best global pharmaceutical company serving as a Medical writer.

Bogadi believes that success can be attained academically but giving back to the community is very close to her heart. She is a founder of an organisation that adopts maternity wards in public hospitals- 08 - 08 Adopt a Maternity ward. Her organisation packages baby essentials goody bags to gift mothers, newborn babies and Midwives annually on her birthday. This empowering initiative earned her a nomination at the 2019 Woman of Stature Awards under Health Care.

Bogadi prides herself with her tenacious spirit, the will to learn new things and pushing herself out of her comfort zone. She believes in empowering women and using each gift in her life pocket to change one life at a time.

CUT Alumnus awarded prestigious 2020 Rhodes Scholarship



24-year-old Tinashe Ngwenya has recently earned the 2020 Rhodes Scholarship to pursue his master's degree in Future Propulsion and Power at the University of Oxford.

Tinashe is currently studying engineering; specialising in Mechanical and Aerospace Engineering at the University of Botswana and is set to graduate first in his class. He will then proceed to the University of Oxford in 2021 for his graduate studies where he wishes to pursue a study in Future Propulsion and Power.

Tinashe is a graduate of the Central University of Technology, Free State (CUT) where he attained a professional license of Certified Solid Works Associate in Mechanical Design. He was also part of the university team that built the electric car prototype and worked as a Product Development Engineer Intern.

Established in 1902, the Rhodes Scholarship has seen extraordinary growth as one of the highly sought-after international scholarship programmes, empowering outstanding graduate students from around the world. Its objective is to provide a unique opportunity for these graduates to pursue and embrace intellectual growth within their respective fields of study, ranging from law to sciences. He joins distinguished recipients including South African mathematician, Loyiso Nongxa, South Africa's first Black Rhodes scholar, who obtained a Doctor of Philosophy from Oxford University in 1982. As well as the Former President of the United States of America, Bill Clinton, who received his Rhodes scholarship in 1968.

"Indeed, CUT is proud to be associated with Alumnus Ngwenya Tinashe," said Prof. Alfred Ngowi, CUT Deputy Vice-Chancellor: Research, Innovation and Engagement.



CUT students showcase their talent at Turbine Art Fair 2020



One of the exhibitors, Zizicelo Sifumba, who completed her BTech Fine Arts (majoring in painting) in 2018. She is currently pursuing her master's degree in Fine Arts.

Three CUT students recently showcased their artwork at the Turbine Art Fair 2020, an online art exhibition hosted in partnership with the Free State Art Collective. The Turbine Art Fair, which goes by the slogan "Where visionaries meet" opened its online art fair from 28 August-02 September 2020. Xola Brilliant Sello, Zizicelo Sifumba and Sylvester Zanoxolo Mqeku are the three CUT students who were amongst the selected 'Free State Five'.

The purpose of the art fair was to showcase how far these students have come in their journeys as artists and to share what is emerging from little-explored central South Africa with the rest of the world.

Xola Brilliant Sello, is an Advanced Diploma in Studio Arts student and a first time exhibitor at TAF. Born and raised in a creative family in Botshabelo, Free State, Sello's art making examines the spirit of confidence, economically unresolved issues and the spirit of 'ubuntu' as not to be critical towards one another.

Zizicelo Sifumba, is a master's student who hails from Sterkspruit in the Eastern Cape. Sifumba's paintings are inspired by intersections of arts practice and community work. Her paintings are a continuous attempt to depict the experience of a South African in a metaphoric and non-literal manner.

Sylvester Zanoxolo Mqeku, also a master's student, was born in Mount Fletcher and grew up in Umtata, Eastern Cape. His work is an experiment with negative and positive imprints; liquid clay is used to capture forms, marks and imprints made in damp plaster sand and often becomes visual warnings and emblems of what nature is imaginable with future natural environments.

The RMB Turbine Art Fair (RMB TAF) is a uniquely South African art fair, as it presents a platform for showcasing established and new talents in an environment that is immersive, accessible, and inclusive.

RMB TAF 2020 presented visionary new projects during the online fair, including Tactile Visions-- an exhibition of specially curated textile-based artwork from a range of established, mid-career and emerging contemporary artists. RMB TAF 2020 also showcased presentations of digital and new media-based work and highlighted the careers of select mid-career artists.



For the love of food - CUT lecturer shares her career journey



Dr Lisa-Mari Coughlan is a Senior Lecturer in the Faculty of Management Sciences: Hotel School. Earlier this year, she was among the Vice-Chancellors Excellence Award recipients under the category: Advanced Career Teaching. "It is an honour to be an award recipient in the Management Faculty with so many inspiring and hardworking colleagues. I am also grateful for having received my third VC's award during my time at CUT. I have put a lot of effort into my teaching and appreciate the acknowledgement." In an e-talk with Dr Coughlan, this is what she had to say about her career and success:

Have you always been interested in Hospitality?

As high school learner, I toyed with the idea of becoming a teacher, but the hospitality industry won me over. Fancy restaurants and hotels exuding glamour and style, hosting celebrities and leaders of nations and creating lifelong memories for guests is what I dreamed of becoming.

What is your favourite part of the industry?

Food! Like most people on the planet, I have always enjoyed food and relished studying it, especially through my PhD research. I love the story behind the food on your plate. The passion that went into cultivating every ingredient; the journey the food and its producers have taken; the different cultures you can experience through eating and the memory created by having a unique dish. Eating predominantly plant-based myself has also made me more aware of nourishing your body for optimum health while keeping food intriguing.

What did you wish you knew 10 years ago?

Except maybe for knowing which stocks to invest in, nothing else. I am a firm believer of enjoying every phase of your life and choose to be mindful of today rather than looking back.

What is the best decision you ever made?

Doing my master's degree full time. This allowed me to focus on propelling my academic career before having to split my attention between studies, work, and raising a family.

What advice would you give to anyone interested in the hospitality industry, especially considering the major impact COVID-19 had on many hospitality businesses?

Persevere. We are a bunch of creatives in the hospitality industry. I have heard some amazing ideas that restaurants and hotels have come up with during this time to keep their doors open and their staff employed. Business might look different going forward, but we will serve again!

Dr Coughlan highlights the impact that educators are making in the lives of students. "One encouragement can stick with a student, change their attitude, and alter the course of their future."



Beauty without boundaries – Somatology student chats about her field



Ms Palesa Motaung is a Somatology student at heart, who loves watching the change a treatment brings to clients. "Not just physically, but also emotionally." Although it may become challenging to complete all the practical and theoretical outcomes of the programme, good time management sees her through. "I love everything about the course. The key is to revise all the work covered in class on the same day."

Palesa loves working with people and enjoys helping them to feel better and providing them with ways to take care of themselves. She is the recipient of the global Cidesco International and Babor Student Scholarship Programme.

Cidesco International, the popular beauty and education association, partnered with Babor, the German luxury skincare company to offer this scholarship. Students at accredited Cidesco institutions in selected countries, including the United States and South Africa, could apply. "I feel blessed above all else," Palesa says about this exceptional achievement. "When I think about the financial challenges that I have faced since my first year and the sacrifices that my parents made, being able to tell them about the scholarship was a moment I will cherish forever."

The journey to Somatology

After completing matric, Palesa took a gap year before enrolling for a course in Primary Healthcare at a local college. "Into my second year, I realised that I was not passionate about the programme, and that working with patients in palliative care was truly emotionally exhausting. I started researching a career that would allow me to work with people and health but in a different way. At the end of my third year, I applied for Somatology and got accepted. Somatology allows me to help people without putting my emotional health at risk. It is not about changing an individual but about working on what is already there and improving on it."

Palesa looks up to Dr Gloria Tshukudu, first black South African woman to qualify as a plastic surgeon, for inspiration. "She shows me that just because it is hard to reach, does not mean that it is impossible. Some people have laughed at my big dreams or how far-fetched they sound, but she makes me believe in myself and the power that wants to change your community has." Palesa dreams about gaining experience on a cruise ship for a few years after she graduates, before opening her spa to share her knowledge with her community.

Remember your sunscreen

"I cannot say that enough! Sunscreen is the one thing that every person should apply to their skin every day." Her beauty secret is water. "It is truly a miracle worker, and I also use avocado oil with any product that contains hyaluronic acid." Palesa's go-to snack is green apple slices with peanut butter spread. "And I love fries with ice cream... it tastes better than it sounds!" To relax, she opts for candlelight and good music.



CUT Alumni Association discusses transformation agenda



Participants at the Transformation workshop: from left: Mssr Kagisho Metseng, Kabelo Moremi, Itumeleng Chuene, Unathi Henama, Chabana Chabana, Thabo Mzamani, Ms Keneiloe Mogorosi, Mr Itumeleng Matete and Ms Jacqui Pietersen.

The Central University of Technology, Free State (CUT) held an Alumni Workshop on 21 November 2020, to discuss the university's transformation agenda and its contributions to the current transformation debates in the sector. The purpose of the workshop was to allow the Alumni Association an opportunity to also have an engaging analysis of the University's current transformation challenges and to re-examine the role that the association can play in support of the university's vision.

CUT Senior Manager: Institutional Transformation and Renewal, Prof. Percy Sepeng, highlighted the importance of the university to have their definition of transformation, and that the Alumni Association should be in a position to make significant contributions that not only facilitate, but also influence the policy direction of the institution. "One of the key transformation agenda items is the transformation effort that leads to having an institution such as CUT aimed at reversing the past inequalities. We cannot be in a process to redress past inequalities if we have the fear of really challenging the status quo," said Prof. Sepeng.

Prof. Peter Thuynsma, an expert in fundraising and development within the higher education sector focused specifically on fundraising and friend-raising. "Fundraising essentially in our case is a return on investment. If you are serious about raising money in a self-sustaining way, you consider a governing principle. One that has worked for me and in several other situations is 'be prepared to give before you can get'. Do not always ask, forgetting that you need to give. And that is literally the cornerstone of the Alumni Association," said Prof. Thuynsma.

CUT Alumni Association President, Mr Chabana Chabana said that CUT Alumni should be represented at all levels of strategic structures of the University. "We are happy that we have been produced by this particular institute. Part of our graduate attributes is community engagement and leadership. For us to be an active alumni association, we must be able to engage our surrounding communities. COVID-19 has brought its challenges to higher education, the subsidy that we get from the Department of Higher Education and Training (DHET) is going to take a nosedive. Part of our mandate is to speak to these issues and fundraise so that we can assist the university," he said.



