

Thetha

Alumni & Friends Magazine, February 2020



Choir 25 yrs

Amalaphu Obulumko

Celebrating a decade of isiXhosa doctorates

Footprints in the Sand

Tracking our clever ancestors

New Medical School Striding Ahead



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Offering health, hands and hope

"It's a privilege to give the people of South Africa hope." These words by Springbok rugby coach, Rassie Erasmus, were in response to questions about the pressure being placed on the 15 players and support team to bring home the William Webb Ellis Rugby World Cup trophy. This is as it is, and must be, for Nelson Mandela University – a privilege to offer hope of a better life, not only for our students and staff, but all those we seek to serve in living the legacy of our namesake, Nelson Mandela.

Our innovative new medical programme, which we are confident will become a reality in 2021, is a tangible example of our privileged role as an institution of higher learning in seeking solutions to the challenges that confront our society. We're proud of our primary-based, preventative education model, inspired by Cuba's health care success story, because of its relevance for our own South African health care needs. This is also why we chose Missionvale Campus in its under-resourced surrounds as home to the country's 10th – and long-awaited - medical school.

As we pioneer this health model of the future, a team of international researchers is uncovering the secrets of the pioneers of the past at Pinnacle Point near Mossel Bay. Their findings indicate that it was here that the cradle of human culture as a species – our innovative ancestors – began.

The privilege of serving through our learning, teaching, research and engagement is further captured through the University's hearts and hands with our "architects for public good", groundbreaking research into outer space and the creative zeal and drive of individual staff, students and alumni to make the world a better place in their various spheres of life.

First-year fashion student Luke Rudman visually jolts us to tread more softly with his recycled designs, Professor Jean Greyling takes his TANKS into the townships, introducing children to the world of coding, and alumnus Unathi Lutshaba enlightens us as to the value of the creative economy.

Each, and many others featured in this, our third edition of Thetha, like Auditor-General Kimi Makwethu and Nelson Mandela Foundation head and alumnus Judy Sikuza, offers us hope.

And so too for our institution. Nelson Mandela University, like our Springbok rugby team, has a responsibility far beyond its lecture halls and research laboratories, to try to overcome the many challenges of this country. We remain confident that by working together (#strongertogether) we can do so because we all know, to quote Nelson Mandela "that education, more than anything else, improves our chances of building better lives".

It must be our privilege to do so.

Debbie Derry
Editor

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NEW MEDICAL SCHOOL

Striding Ahead

Port Elizabeth has been waiting for a medical school since 1946. It's a giant boost for both public health and the local economy, writes Heather Dugmore.



Professor Fikile Nomvete, the new Director of the Medical Programme, checks out the new anatomage table, the only one of its kind in South Africa, that will be used as a virtual cadaver for medical students.

"When I am at the Missionvale Campus standing in one of our medical school lecture halls, I almost don't believe that we have come this far," says the Executive Dean of the Faculty of Health Sciences, Professor Lungile Pepeta.

"It's been very intense, and we have worked incessantly to get the accreditation for a medical school at Nelson Mandela University approved. We have also had to secure support from numerous stakeholders, including the Eastern Cape Department of Health, the Office of the Premier of the Eastern

Cape, the National Department of Health and the Department of Higher Education and Training (DHET).

"The full funding required from the DHET was not available and we were advised to phase in the facilities. We had to think about this carefully, as a whole lot of facilities are non-negotiable if you are to launch a fully operational medical school.

"That's when the idea of repurposing the Missionvale buildings was born – these would meet the needs of our medical school."

Under construction

Multiple teams and stakeholders are working around the clock to fulfil the complex requirements of a medical institution.

These include lecture halls, a skills laboratory for second to final-year students, and basic science laboratories for physics, chemistry, physiology and anatomy. There will be over 60 offices for medical staff members on the Missionvale Campus, as well as new spaces created for the medical school at nearby Dora Nginza hospital and the associated clinics.

The Executive Dean of the Faculty of Health Sciences, Professor Lungile Pepeta (right), is a paediatric cardiologist and a fellow of the College of Paediatricians of South Africa (FC. Paed. (SA)), Colleges of Medicine of South Africa. He is also a fellow of the Society for Cardiovascular Angiography and Interventions from the United States of America (FSCAI (USA)).

The Faculty of Health Sciences currently has about 4000 students in ten departments, namely: Dietetics, Emergency Medical Care, Environmental Health, Human Movement Sciences, Medical Laboratory Sciences, Nursing Sciences, Pharmacy, Psychology, Social Development Professions, and Radiography.

All Faculty of Health Sciences departments work together in a transdisciplinary manner through the Integrated Transformative Professional Education (ITPE) platform with the theme: *Transforming health sciences education to support equity in health.*



“We deliberately chose the Missionvale Campus for our medical school, the 10th in South Africa, because it is in the township areas of Missionvale and Zwide, populated by working class, unemployed and financially strapped communities,” Prof Pepeta explains.

“Missionvale Campus was originally part of the old Vista University, built for black people during the apartheid years. Situating the medical school here, as well as our extended programme for nursing science and emergency medical care programme, is all about committing to proper healthcare for all our communities, and contributing to urban renewal and development.”

Before the University can open applications for the six-year MBChB degree starting in 2021, the curriculum, along with the infrastructure and equipment to support the programme, must be approved following a site visit by the Health Professions Council of South Africa (HPCSA) and the Council on Higher Education (CHE).

New blood

Medical students will be selected for the first MBChB cohort in 2021.

“Our first choice will be Eastern Cape matriculants with a pass rate of 60% and over, and we require maths, physical science, life science and English,” says Prof Pepeta.

“BSc students wanting to switch over to medicine must have a pass rate of 60% and over.”

He adds that 60% of matric admissions will be from non-fee paying schools (Quintile 1-3), and there will be an 80% direct admission from schools with 20% from universities.

The school will also accept as many as possible of the Cuban-trained South African medical students returning each year. These undergraduates study medicine in Cuba and complete their sixth year in South Africa.

“We will train them here for their final year and employ them in the province once they graduate.”

Staffing-wise, Prof Pepeta and his



team are receiving many CVs from all over South Africa and internationally.

“People at all levels are wanting to be part of our new medical school, and many have said they are keen to move to Port Elizabeth. Our staffing needs are considerable. The basic sciences alone require more than 60 staff.”

The Director: Medical Programme has been appointed and started on 1 October 2019. He is Professor Mfanufikile Nomvete, a gastroenterologist from Livingstone Hospital and former head of its Internal Medicine Department.

The faculty is currently looking to appoint the Director for Research, Director for Teaching and Learning,

and coordinators for the Distributive Training Platform. All the clinicians at the provincial hospitals in the Nelson Mandela Metro – Livingstone, Dora Nginza and Port Elizabeth Provincial – and private hospitals, are extremely excited about the medical school, says Prof Pepeta.

The government is also working on upgrading the wards, pharmacies and outpatient facilities at Livingstone and Dora Nginza, and a new catheterisation laboratory for diagnostic imaging of heart conditions is being installed and due for completion at PE Provincial early in 2020.

“The whole health services platform will improve in the province

once the medical school is up and running.”

Health for all

“We are training medical practitioners to be fit for purpose – to practise and treat people in all our communities,” says Prof Pepeta.

“From first year to the final year of this six-year degree, our students will train in communities in the urban and peri-urban environment in the metro, and in district hospitals in the Eastern Cape, including Cradock, Graaff-Reinet, Makhanda (Grahamstown) and Humansdorp.

“In all these centres, we will have district or rural extensions of our campus, with accommodation and

Cuba and the four pillars of medicine

“Our medical school model is unique in South Africa, and we have incorporated some of the best elements from the Cuban medical training model for our medical school programme,” says Prof Pepeta.

“It’s a comprehensive approach to medicine that focuses equally on the four pillars of medicine – disease prevention, health promotion, treatment and rehabilitative medicine. The system produces well-rounded (comprehensive) general physicians, appropriately trained for South Africans’ medical and health needs. They are trained to practise in diverse communities – from the cities to the deep rural areas.”

Prof Pepeta says that he was initially sceptical about this approach until he visited Cuba and experienced, first-hand, the “quality and appropriateness of their comprehensive medical training for our country’s needs.”

While South Africa is recognised for training world-class healthcare practitioners – and it’s important to maintain our high standards – it is also crucial to introduce new, population-wide approaches to health, he explains.

The efficiency and professionalism of Cuba’s system speaks for itself in that country’s health statistics: life expectancy in Cuba for the population is ±80 years while ours stands at ±60 years; infant mortality is two per 1000; ours is soaring at 30 – 40 per 1000.

In Cuba, 80% of medical practitioners are comprehensive or specialist family physicians and only 20% are specialists in other areas of medicine or are super specialists. In South Africa, it is the reverse, with many in private practice or emigrating overseas.

The Cuban system laid the foundation for top specialists such as Dr Khanyisa Makamba, who was among the first cohort of South Africans to be trained in Cuba from 2012, and who subsequently went on to specialise in urology in South Africa.

How did Cuba get it right?

Prof Pepeta explains: “Through their comprehensive healthcare system, based on the four levels of care, everyone in the health system focuses on advancing health rather than only on treating disease. Home-based care and local clinics are efficiently aligned to polyclinics or what we call community health centres.

“One community health worker looks after about 50 households in their community, and they know every single person’s health status, disease status, medication, the names of the pills, and whether they are running out. They educate the patients about their health, their disease condition and the medication they are taking. They work with a team of health professionals, from doctors to physiotherapists to psychologists to dieticians to focus on all four levels of care.”

New technology a game-changer

The University's medical school is set to house the most advanced anatomy and skills laboratories in the country.

The anatomy lab will feature the latest global technology available, including Anatomage virtual anatomy dissection tables, used for interactive anatomical education, radiology, surgery and research.

Nelson Mandela University will be the first medical school in South Africa to use the Anatomage tables, which are used in medical schools in Europe and the US.

The skills labs will feature the Body Interact Table, with a simulated patient. No other university in South Africa is currently using this technology.

The Anatomage tables are the stuff of science fiction – and a superb 21st-century learning tool for today's technologically-aware generation.

The table's features include:

- full external and internal anatomy of male and female – with all the realism of living humans;
- a 3D body platform enabling students to rotate the bio-digital human using their fingers trackpad-style;
- the body can be 'cut' and operated on with the system's touch-interactive cutting tools;
- cuts reveal internal structural detail, with users scrolling; through the plane of the last cut – or cutting again to explore more anatomical features.

These exciting tools will enable students to repeatedly practise working with the human body, while also studying embalmed cadavers for a unique view of virtual and real bodies at the same time, says Prof Pepeta.

The Body Interact Table (virtual human patients) will take medical students through common emergencies such as heart attacks. If, for example, the patient has a heart attack, the student responds, and the system scores them at the end and debriefs them on what they did correctly and what they did wrong. This kind of technology significantly advances medical school teaching.



The Cuban connection

From 2012, South Africa sent large numbers of students to Cuba, which offers an excellent fit-for-purpose medical training programme.

With our country's rapid population growth, explains Prof Pepeta, the Department of Health wished to address the problem of our universities producing fewer than 2000 doctors per year – a figure which could not match the ratio of two doctors per 1000 people.

Students were sent to Cuba through the *Nelson Mandela-Fidel Castro Medical Collaboration*.

The new medical school has been purposely positioned at the University's Missionvale Campus, amidst those who need proper healthcare most.

"We deliberately chose the Missionvale Campus for our medical school, the 10th in South Africa, because it is located in the township areas of Missionvale and Zwide"

lecture rooms where our students will link up to the main campus via audio-visual technology to participate in lectures, conferences and procedures. The students will be doing clinical work at that stage and attending patients based on issues being dealt with in lectures.

"We also intend to work with the private sector to train our students.

We must use all the resources we have to train the best medical practitioners for our country.

"Lectures can be delivered

from any of our campuses or from anywhere in the world, and vice versa. This system ensures the same quality of education throughout, and at the same time it serves to upskill the doctors in all our hospitals and ensure that they earn their continuing professional development points.

"Port Elizabeth-based trainers will visit our partner district hospitals, and multi-skilled staff members will accompany the students to give them back-up and

support."

The school's interprofessional education concept is also a win-win for both patients and students.

Alternatively known as Integrated Transformative Professional Education (ITPE), it involves health professionals training together in communities and sharing expertise in respective skills areas.

"All the disciplines in the Faculty of Health will retain their autonomy and identity, and, at the same time, their scope of practice will be enhanced by the medical school, as every discipline will have presence in the clinical space, which is currently underutilised."

Prof Pepeta is confident that the University's proactive, committed and pioneering approach to addressing health education will reap benefits for the local community and beyond.

"There is so much more we can do to improve population health, quality of life and the life-span in South Africa, and I am confident that our new medical school will help us achieve this."

Refurbishing of the campus in preparation for the country's 10th Medical School is well underway.





For the common

Kimi Makwetu was a popular guest speaker at Nelson Mandela University in August last year.

GOOD

Cape Town-born Auditor-General (AG) Kimi Makwetu has been head of the highest audit institution in South Africa for the past six years.

The office of the Auditor-General of South Africa (AGSA) is the only Chapter 9 institution that, by law, must audit and report on how the South African government has spent taxpayers' money.

Makwetu, a chartered accountant, holds a Social Sciences degree from the University of Cape Town and a BCompt Honours degree from the University of Natal.

After working his way through the

ranks at various corporates, he was a director in Deloitte's forensic unit before his appointment as deputy AG in 2007 and then AG in 2013.

As a purveyor of honesty, transparency and accountability, the AG's position in these ethically

challenging times could be said to be arduous in the face of a public service administration where lack of accountability is rife.

This, Makwetu says, is because of years of poor political leadership that looked away in the face of the

growing rot in state institutions.

"During this time, there was an absence of accountability at the top to give support to the development of strong institutions. Those that shared the vision of accountability were more than likely overwhelmed by those who did not think the same way," he explains.

"I think this has been the biggest contributor to the muddled environment in which we have found ourselves; where accounting officers have failed their fiduciary duties and got away with it, as there have been few consequences."

A clean sweep

Thanks to a crucial amendment to the Public Audit Act, which was signed into law in April 2019, the AG has more strength and authority for his office to go after habitual wrongdoers.

Where a case of irregular expenditure cannot be backed up by documentation or a credible explanation, the AG can refer it to law enforcement agencies for further investigation.

"You then hand it over to the entity that will investigate; it could be the Hawks, the public protector,

SARS, the Public Service Commission - any one of those.

"We have the power to say: 'Here is the risk that we have identified in the audit, which has got all the elements of material irregularity. Will you get to the bottom of that?'"

This means that if irregular expenditure that has been identified during the audit has not been addressed after numerous engagements with the administration concerned, the AG can issue a certificate of debt, holding the accounting officer personally liable for this irregular expenditure.

“The amendments to the Public Audit Act are trying to say we will develop a mechanism through the audit process which puts you in a position where you must do what the law requires you to do as the accounting officer. If you fail to implement our recommendations, then it becomes a binding remedial action. You shall do it.”

Holding to account

Makwetu is adamant that in terms of the Public Finance Management Act, the accounting officer takes the rap.

He admits that political pressure may occasionally play a role in influencing senior officials to break the law, but urges the officials to stand firm. He suggests government and officials revisit the National Development Plan, specifically Chapter 13, which proposed ending political meddling in the appointment of accounting officers in order to professionalise the public service.

“The current government relapses can only be turned around if the political leadership was to take the lead in a wholesale clean administration in the public sector.”

Makwetu stresses the continued lack of accountability in municipalities seen in the 2017/2018 local government audit outcomes, where only 18 municipalities were able to obtain clean audits, down from 33 the previous financial year.

“Leadership sets the tone at the top of any organisation. If the leaders are unethical, have a disregard for governance, compliance and control, and are not committed to transparency and accountability, it will filter through to the lower levels of the organisation where there will be a poor ethical climate.

“Basically, the money South Africa loses annually due to financial mismanagement and unethical behaviour could be used to address pressing needs, such as providing free higher education to deserving poor students, and quality accessible healthcare to the entire population. Wasted public spending can and must be put to better use!”

As a leader, Makwetu’s



Family man

Hidden behind his public persona, Auditor-General Kimi Makwetu is cheerful about his formative years in Gugulethu.

“My mother sold meat products to migrant labourers, while my dad worked in construction. I often tell people that I was financially trained at home before going to institutions of public learning, where I got formal certificates and recognition, but if you look at me, I look just like one of the guys I grew up with in the township!”

Makwetu is passionate about his family. He is married and has three children, two boys and a girl. Naturally, after the glare of public life, he revels in family time together and loves to spend hours with his cricket-playing sons.

Wandile, the eldest, flew the South African flag high when his U19 team represented the World Cup in New Zealand – and when he captained the U19 squad touring England.

“My wife and I try not to miss a game when our sons are in action.”

“If the leaders are unethical, have a disregard for governance, compliance and control ... it will filter through to the lower levels of the organisation ... ”

philosophy is to empower the people he works with and allow them to conquer themselves.

“It is also about permitting them to master significant systems of government, as well as to appreciate the fact that in government, you have a great opportunity to contribute to a greater good. If everyone had the ability to exercise their independent thinking toward achieving that goal, the end result may well be better than the

beginning for us.”

Makwetu feels his biggest accomplishment since joining the AG is helping people grow their potential and talent.

“As an individual and what we’ve done collectively as a team, we have played our part in multiplying the ranks of professional accountants in South Africa, and many of them have been absorbed into various levels of responsibility in the AG.”

2019 ALUMNI AWARDS

Nelson Mandela University celebrated the 10th anniversary of the Alumni Awards and the Alumni Relations Office in 2019. The Alumni Association introduced the awards to acknowledge the achievements of graduates nationally and internationally. These achievements have not only been in their various disciplines but often also in other disciplines and areas of life which have a positive impact on society. So you can have a Health Sciences graduate doing some exciting things in the tourism industry or a graphic designer who develops award-winning apps.

Director of Alumni Relations Paul Geswindt shared that since the inception of the Alumni Awards in 2009, 32 Rising Star, 38 Achiever and 15 Special awards have

been conferred. These individuals can be proudly acknowledged as notable Alumni of our University. Former recipients include leaders of global, national and local organisations, as well as individuals who excelled in their various academic disciplines to bring the arts and sciences to life.

In 2019, the University celebrated the achievements of two Achievers and four Rising Stars. The 25th anniversary of the University Choir was also recognised with a special award. The Choir is a great cultural and ambassadorial force of our university and all the individuals who contributed to its success, past and present, were recognised with the Special Award. (Also see page 40)



Among those at the 2019 Alumni Awards were (back, from left) Alumni Relations director Paul Geswindt, award recipients Litha Soyizwapi, Robin West, Quinton Uren, Mzukisi Kota, Alumni Association president Khwezi Blose, (front, from left) recipient Dr Thakane Ntholi, Vice-Chancellor Professor Sibongile Muthwa and Alumni Association vice-president Michelle Mbaco. Absent: Judy Sikuza (Inset).

2019 Alumni Achiever Award Recipients

Quinton Uren

Delivering world-class assembly facilities to the automotive sector has led to global success for Bay company Jendamark Automation, which has founder and Managing Director Quinton Uren at its helm. The company exports manufacturing assembly solutions incorporating Fourth Industrial Revolution technologies, to countries across Europe, Africa, Asia, North America and South America. Uren studied mechanical engineering at what is now Nelson Mandela University in the late 1980s and got his first taste of automotive engineering as part of the General Motors cooperative training scheme. He soon realised he wanted to be his own boss and, after acquiring two Computer-Assisted Design (CAD) workstations, started his side business, Nasquin Designs. This became a full-time operation and, in 1992, Nasquin joined forces with Jendamark Electronic Component Industries – combining their synergies in software, electrical, electronic and mechanical design to form Jendamark Automation. Following the global economic recession of 2008, Jendamark expanded its focus to the export market – and the business has gone from strength to strength, with sales offices established in Germany and the United States and a full manufacturing facility in India. The company has twice received the Eastern Cape Exporter of the Year Award and in 2018, Uren was named Industrialist of the Year at the CNBC Africa All Africa Business Leaders Awards.

Robin West

Netherlands-based Robin West is Vice-President of Expedition Operations for Seabourn, an ultra-luxury cruise line, which travels to more than 170 iconic World Heritage Sites as the official cruise partner of the United Nations Educational, Scientific and Cultural Organisation's (UNESCO's) World Heritage programme. Headquartered in Seattle, Washington, the six-star cruise line operates all around the world, with trips ranging from short seven-day Caribbean cruises to exotic 100-plus-day around-the-world adventures. In his role as vice-president, West, who studied Human Movement Sciences at what is now Nelson Mandela University in the 1990s, is responsible for the overall planning and management of all aspects of Seabourn's expedition operations to Antarctica, the Arctic and other destinations around the globe. West is also a Member of the Executive Committee of the International Association of Antarctica Tour Operators (IAATO), which promotes safe and environmentally-responsible private sector travel to the Antarctica and comprises more than 100 respected companies and organisations worldwide. In 2015, West received a Seabourn award for Leadership Excellence for helping Seabourn achieve its highest ratings yet. Seabourn is one of 10 cruise line brands within the Carnival Corporation Group, the world's largest travel leisure company, with a combined fleet of over 100 vessels. West, who started his career as the owner and operator of two adventure companies, has worked in the expedition industry for 15 years, acquiring a deep knowledge of some of the most remote and exciting places in the world. Based on his knowledge and experience he now heads up Seabourn's latest development, two new ultra-luxury purpose build expedition vessels.

2019 Alumni Rising Star Recipients

Mzukisi Kota

Mzukisi Kota is a partner and director at Johannesburg-based Webber Wentzel, one of the top law firms in the country, and the most recent recipient of the coveted African Law Firm of the Year at the 2019 African Legal Awards. Involved in legislating towards a more sustainable environment, Kota specialises in energy and infrastructure projects, matters of public law, and the regulation of industries or sectors. In the energy sector, he advised the South African Department of Energy in the development and implementation of its highly-acclaimed Renewable Energy Independent Power Producers project. He has also advised a broad range of clients on projects across the energy, petroleum pipelines, gas, rail, ports and mining industries and sectors. Kota graduated with an LLB degree from Nelson Mandela University in 2007 and was awarded a Skye Foundation scholarship to study for his LLM in the Netherlands in 2009. In 2018, he was recognised by Chambers Global as an Up and Coming Outstanding Lawyer in the field of public law. He is a member of the Law Society of the Northern Province, and is published in numerous print media on a wide range of issues, including land expropriation without compensation and the proposed Eskom restructuring.

Dr Thakane Ntholi

Dr Thakane Ntholi is passionate about demystifying science, especially geology, and making it more accessible to students and communities. She obtained her PhD in Geology and Earth Stewardship Science in 2017, with research focusing on using leading-edge technology to treat acid mine water in the deep gold mines of South Africa, managing and reversing its damaging environmental impact. The model she developed, called the Passive Underground Mine-Water Purification System (PUMPS), is used in the Witwatersrand gold mines today. Her unique scientific expertise has seen her rise quickly through the professional ranks of the Council for Geoscience in South Africa, where she is Acting Mapping Programme Coordinator. She is also the Council's project manager for the Mine Environment and Water Management Programme. She has been involved in research and training visits nationally and internationally, including visits to the Geomicrobiology Group at the Department of Geoscience at Princeton University, United States, and the GFZ German Research Centre for Geosciences in Potsdam, Germany. Dr Ntholi has also guest lectured at institutions, including Nelson Mandela University, the University of Cape Town and the University of Free State. Awards received include the Golden Key (UCT Chapter) in 2013 and first prize in a Science Slam competition, hosted through the South African-German 2012/2013 Year of Science in Berlin, Germany.

Judy Sikuza

Psychology honours graduate Judy Sikuza is the Chief Executive Officer of the Mandela Rhodes Foundation (MRF), which provides postgraduate scholarships and leadership training opportunities to Africans who show leadership potential, in line with its overarching mission to build exceptional leadership in Africa. Sikuza, a Mandela Rhodes Scholar in 2007, joined MRF in 2014 and has held several managerial and director positions as head of the Foundation's flagship Scholarships and Leadership Development Programme. She was instrumental in the successful execution of the 2013 to 2018 strategy to double the number of Mandela Rhodes Scholars in Residence, and has led strategic projects for the Foundation, such as its 15-year impact study and the 100 Scholars for Madiba's 100th celebrations. Since 2014, she has represented the Foundation as a non-executive board director of Oxford University Press (Southern Africa), chairing the board's social and ethics committee. Sikuza has been invited as a keynote speaker, panellist, moderator and programme director on several public platforms locally and internationally for institutions such as the Graça Machel Trust, Obama Foundation, Oprah Winfrey Leadership Academy for Girls, Oxford University and various school principals' association conferences. Other achievements include being selected as an Archbishop Desmond Tutu Leadership Fellow and one of Michelle Obama's Young African Women Leaders.

Xolisa *Litha* Soyizwapi

Graphic design graduate and self-taught software app developer, Litha Soyizwapi, is the founder and creative director of Glyfik4 Branding and Design and LightOS Digital, serving a range of top clients including Gallo, Nedbank, Miriam Makeba and South African Tourism. He

is also the designer and developer of the GauRider, a mobile app that helps people track bus and train times for the rail network service Gautrain. The app reached number one in the travel category of the iPhone, in the South African AppStore. He recently released GauRider 2.0, which helps commuters track spending on their Gautrain gold cards, and is now looking forward to developing a South African taxi app. Highly regarded in international technology circles, Soyizwapi is a sought-after public speaker, having been invited to speak at respected national and global conferences including TEDx Soweto, TEDx Johannesburg, the Creativate Digital Festival in Makhanda, Release Notes in Indianapolis, Indiana (a conference for independent developers who have their own successful businesses, as a result of developing programmes using Apple's IOS and Mac systems), Layers in San Jose, California, and Accenture Digital Talks, which are livestreamed across the world.

2019 Special Award Recipient – Nelson Mandela Choir 25 years of excellence



The Nelson Mandela University Choir was presented with a Special Award in recognition of 25 years of excellent music and ambassadorship by all those who served the choir. The choir proudly represented the University nationally and internationally and had the opportunity to perform for Queen Elizabeth II, as well as our University namesake, Nelson Mandela. See story on page 40.

THE IMPORTANT ROLE OF THE ALUMNI ASSOCIATION

Nelson Mandela University's Alumni Association is unique because its goals and functions include areas that are traditionally part of convocation as well as alumni relations responsibilities. As a result, the Association is a more effective and efficient governance and alumni relationship building structure. Its main role is to support and enhance the realisation of the University's vision and mission through maintaining and

expanding positive relationships with all graduates through utilising and maximising their expertise, goodwill and influence in support of the university.

Alumni Association members elect new executive committee representatives every three years, as well as alumni representatives to serve on the University's Council and Institutional Forum (IF). The latter

representatives also form part of the Association's Executive Committee. Alumni are represented on a number of institutional committees, including the Graduation Planning Committee, Arts, Culture and Heritage Committee.

The following Association members were nominated and elected in various portfolios for a three-year term.



PRESIDENT

Khwezi Blose is the MD and owner of Tina Consulting: Quantity Surveying Services and Siyaya Hygiene Services. He holds the following Mandela University qualifications: BSc (Construction Economics) '05; BSc Hons: (Quantity Surveying) '05. Mr Blose is also an Alumni representative on Council.



VICE PRESIDENT

Michelle Mbaco is a Training and Development Consultant and holds a BCom '05 and MA: (Development Studies) '12. Ms Mbaco is also an Alumni representative on Council.



TREASURER

Welcome Kupangwa holds a BCom (Business Management) '14; BCom Hons (Business Management) '15 and MCom '14 and is a Lecturer at Nelson Mandela University in the Department of Management Practice.

Elected Executive Committee Members



Adv Thanduxolo Nkala is a LLB '16 graduate and is the Managing Director at 4IR as well as an Advocate of the High Court of South Africa.



Ayanda Mlatsha holds a BCur (Extended Program) '12 and Diploma: (Nursing Education) '17 and is the Coordinator and Student Liaison Officer in the Nursing Science Department at Nelson Mandela University.



Lithemba Xotyeni holds a BAdmin: (Political & Government Studies) '13 and is an Administrative Assistant at Nelson Mandela Metropolitan Municipality.



Athenkosi Sityata has a BCom: (General) '17 and PG Dip: (Financial Planning) '17 qualification and is the Finance Assistant for the Mandela Bay Development Agency.

Other Members



Elected (2018) Institutional Forum Member representing alumni

Khaya Matiso (IF Representative) holds a BTech: (Business Administration) '02 and an MTech (Business Administration) '03 and is the Principal at Port Elizabeth TVET College.



Secretary of the Alumni Association and Director: Alumni Relations

Paul Geswindt is Director of the Alumni Relations Office, which is responsible for the day to day running of the Association, as well as Secretary of the Association. He holds a BComEd '90, PG Dip in Educational Management '06 and an MA in Development Studies '13.

Ex-Officio members of the Alumni Association Executive include:

- Dean of Students – Luthando Jack
- Deans Forum Representative – Dr Muki Moeng
- Senior Director: Strategic Resource Mobilisation and Advancement – Dr Denver Webb
- Senior Director: Communication and Marketing – Chantal Janneker
- SAS President – Keanan Bouwer
- SRC President – Thembaletu Nyikilana
- Alumni Relations Coordinator – Santhoshini Petersen (Alumni staff)
- University Shop Manager – Shene Du Toit (Alumni staff)

For more information regarding the Alumni Association please visit alumni.mandela.ac.za or email alumni@mandela.ac.za to get a copy of the Alumni Association Constitution, or to find out about the various activities of the Association.

Alumni Association

Mission

The association supports and enhances the realisation of the University's vision and mission through maintaining and expanding positive relationships with its members and through utilising and maximising their expertise, goodwill and influence in support of the university.



The Association goals include

- Enhancing the image of the association both inside and outside the Nelson Mandela University community as an important stakeholder body and an asset to the university to support the realisation of the university's mission and goals.
- Fostering loyalty to and pride in Nelson Mandela University among members, through effective communication so that they may positively influence others.
- Fostering the provision of opportunities for Alumni to contribute in financial and other meaningful ways to the advancement of Nelson Mandela University.
- Providing Alumni opportunities to benefit from their relationship with the university.
- Promoting the ideals and purpose of the university to constituencies and stakeholders of the university.
- Promoting, protecting and maintaining the rights of the Alumni Association.

Contact: Nelson Mandela University Alumni Relations

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Alumni Relations Centre
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Around 160 000 years ago, a massive ice age wiped out most living creatures on Earth – but evidence suggests that a small pocket of Middle Stone Age people survived right here on South Africa’s temperate, food-rich southern Cape coast. Nicky Willemse reports.

Footprints in the sand

For more than a decade, researchers from all over the world have made important discoveries suggesting that the humans who lived here were much cleverer than their ancestors and could very well be the forefathers of everyone alive today.

The southern Cape coast, with its prolific shellfish, edible plants and warm Agulhas current causing predictable rainfall, would have been one of few spots on the planet where humans could survive an ice age.

More than a decade of groundbreaking research in this area, through the South African Coast Palaeoclimate, Palaeoenvironment, Palaeoecology, and Palaeoanthropology (SACP4) project, has unearthed the earliest evidence for modern humans’ intellectual development.

“With the evidence available today, it is very possible that modern

cognition emerged on the Cape south coast ... You can observe more about modern human development here than anywhere else,” says Mandela University botany professor Richard Cowling, a co-principal investigator in the SACP4 project, and head of the African Centre for Coastal Palaeoscience (ACCP) at Mandela University.

Tracking the past

The area studied stretches from SACP4 research sites at Pinnacle Point caves in Mossel Bay to Wits University sites at Blombos Cave, Klipdrift and Klasies River Mouth further along the coast. But it also stretches seawards towards the palaeo-Agulhas plain, an area now under water, which would have been



Left: Circles in the sand – African Centre for Coastal Palaeoscience (ACCP) research associate Dr Charles Helm demonstrates how early humans may have made patterns in the sand. Right: Playing a key role in the South African Coast Palaeoclimate, Palaeoenvironment, Palaeoecology, and Palaeoanthropology (SACP4) project are (from left) principal investigator Professor Curtis Marean, co-principal investigator, Nelson Mandela University botany professor and African Centre for Coastal Palaeoscience (ACCP) director Professor Richard Cowling and ACCP national deputy director and botany lecturer Dr Alastair Potts.

savannah grasslands during the ice age, supporting large, now extinct herbivores like the giant Cape zebra and buffalo.

The signs of early cognitive development among these early people is that they created art, including using red ochre for decoration, and made sophisticated stone tools using fire. And, just as we busy ourselves with sand art on the beach – drawing patterns or building sandcastles – so did they.

Their omega-rich diet from the sea shallows would have spurred this intellectual growth – and it’s likely they understood lunar and tidal cycles in order to make the most of their foraging expeditions to the shoreline, which at that time was several kilometres away from the caves in which they lived.

Through optically stimulated luminescence (OSL), which measures the last time a grain of sand was exposed to light, researchers have dated at around 70 000 to 164 000 years ago the time when our ancestors lived in the area.

All these findings have shifted the start of human cognitive development from some 40 000 years ago in Europe, a view long-held in scientific literature, to 100 000 years earlier, in South Africa.

“The southern Cape coastline is now most probably the cradle of human culture for us as a species,” says ACCP research associate Dr Jan De Vynck, an expert on early human activity along the southern Cape coast.

The world’s oldest shellfish restaurant

The oldest shellfish use on the planet – dating back some 168 000 years – has been discovered at Pinnacle Point, so scientists assume the foragers’ survival depended largely on the marine and other food resources they were able to find.

To build an accurate picture of how these early marine dwellers survived, researchers have enlisted the help of Khoi and San descendants living in coastal communities around Stilbaai, Gourits and Arniston, who continue to gather mussels, *alikeukel*, octopus, red bait and other shell fish from the rocks in the sea shallows – just as their

ancestors once did.

They use screwdrivers and other metal tools to pry the high-protein offerings from the rocks.

But scientists have gone as far as to have them make and use the bone and wood sea-foraging implements their earliest ancestors may have used.

“These local communities still have an inherent indigenous knowledge about intertidal foraging that we hope would be a good modern analogue to understanding prehistoric aspects of the sea economy,” says Dr De Vynck.

“We have found that the foraging (particularly with wooden implements) is very productive.”

Ancient art acknowledged

To describe the sand patterns made by humans, African Centre for Coastal Palaeoscience research associate Dr Charles Helm and his team proposed a new term, “ammoglyph”, which has since been accepted by the palaeo-art community.

“Ammos” and “glyph” are the Greek words for “sand” and “a carving, image or symbol”, respectively.

These extensive aeolianites (cemented dune deposits) and cemented foreshore deposits are a critical discovery, says Dr Helm.

“Evidence of a human presence on these ancient dunes and beaches is more substantial than has been thought (and) this evidence would buttress that of other avenues of research that attest to the cognitive abilities of early humans in this region.”

The search for ammoglyphs on the Cape south coast has the potential to become a new field of study – a “meeting point of archaeology, art, ichnology, palaeoanthropology, pattern recognition and sedimentology,” he explains.

The earliest sand art

Among the most recent evidence for humankind's cognitive and creative development along the Cape south coast was the discovery of images drawn on the sand some 70 000 to 158 000 years ago.

One of the sand artworks discovered appears to be a near-perfect circle, with a depression in the centre. Two nearby oval shapes suggest that the person who drew it was kneeling and would have used a forked stick (in the same way a maths compass is used) to draw the circle.

Other patterns found include a "hashtag" pattern, which resembles known palaeo-art in the region, as well as two possible animal images, one potentially taking the form of a sting ray.

These discoveries were made by African Centre for Coastal Palaeoscience research associate Dr Charles Helm and his team, who over the past decade have discovered some 140 fossil track sites – made by reptiles, birds and mammals – along the southern Cape coastline.

These include the first fossil

tracks of hatchling sea turtles, from some 100 000 years ago, as well as the 2016 discovery of around 40 footprints made by early humans travelling down a dune surface some 90 000 years ago.

The art and track sites have been preserved through a natural cementation process. For example, tracks made in wet sand at the bottom of a dune are preserved when wind blows fine dry sand (from the top of the dune) over the beach surface. With layer after layer after layer of sand, the tracks are preserved.

Testing predictions through 'video game-type' modelling

Instead of just hypothesising about how Middle Stone Age human beings might have behaved, researchers are putting their speculations to the test through "agent-based modelling".

Basically, they recreate the ancient world in a video game-type environment, where they test how the humans or "agents" would have acted or moved.

To do this, they use a map of a relevant area, including the various vegetation and marine habitat types. They carry out foraging experiments to determine how many calories people could gain from each food type for each month, including plant food, intertidal resources, game, water, and so on.

All of this data is logged in the model.

"This is quantitative social science, instead of us just trying to guess," says SACP4's principal investigator, palaeoanthropologist Professor Curtis Marean, from the Institute of Human Origins at Arizona State University, and an honorary professor at the African Centre for Coastal

Palaeoscience at Nelson Mandela University.

"Models such as this allow us to ask 'what if' questions of the past that cannot be asked of the archaeological record. For example, we can ask 'what if' people understood the connection between the moon and the tides and 'what if' they did not?"

"Would this have an impact on the bounty from the sea? And, guess what? The model shows us that people who understand this connection are able to significantly increase the amount of food obtained from the sea."

This is significant, because one of the signs of cognitive development discovered at the caves is that early humans appeared to maximise their sea foraging expeditions by following the cycles of the moon.

By making the journey during spring tides, when the moon is full or new, and when the tides are at their highest and lowest, they were able to reach the more calorie-rich shellfish on rocks that were normally submerged, and were better able to sustain themselves.



Did you know?

- Dr Peter Nilssen, an archaeologist, and Jonathan Kaplan, the director for Cultural Resource Management in Mossel Bay, discovered Pinnacle Point caves in 1999 during an archaeological survey that was part of an environmental impact assessment survey for the then proposed Pinnacle Point Beach and Golf Resort. Nilssen alerted his friend and PhD supervisor Curtis Marean – and, a few years later, the SACP4 project was born.
- A piece of rock art with an ochre crayon drawing on it, discovered at Blombos cave and estimated to be 73 000 years old, is globally accepted as the oldest art of our species. The Smithsonian Institute in Washington DC, United States has requested to have the artwork on loan, to display alongside the work of world-famous artists.

It is similar and can exceed production rates inferred from other ethnographic studies globally. For instance, protein gathered from the shoreline is comparable to or can exceed protein gathered by bow hunters in Kenya, targeting game. Sea foragers on the southern Cape coast can gather about 1492 calories per hour.

"We found the height of the water was the biggest influence on how productive a coast can be. The lowest tides were the most productive."

Dr De Vynck says there is evidence to suggest that the way early man foraged was an evolutionary process.

"Modern human beings were completely adapted to optimally exploiting intertidal resources some 90 000 years ago."

He says the fynbos in the area, with its underground storage units, would have also been a rich source of food for early humans.

"In Stilbaai today, Khoi and San people are still eating 58 species of fynbos, including the berries, leaves and bulbs."

This rich field of study has cast a spotlight on the immense value of knowing and understanding our coastal ancestors – and given them their rightful place within humanity's evolutionary journey.



Pointers to the past - the Pinnacle Point caves at Mossel Bay were once home to a small group of Middle Stone Age people.

Second year architecture students at work on Crèche13 (from left) Helane Richter, Mokgeti Machete, Cameron Watkins (in the window), Rachel Molisy and Katelin Hagemann.



FOR THE PEOPLE, by the people

A portable, beautifully designed crèche in the informal settlement of Airport Valley, Walmer Township, Nelson Mandela Bay, is a fine example of sustainable, social enterprise architecture. It also has deep pedagogic and academic implications about architecture – by whom, for whom, with whom?

The Crèche13 project was conceived and designed by second year students at Nelson Mandela University's School of Architecture as part of their academic

curriculum, in collaboration with the Airport Valley community.

They identified an existing crèche, which caters for about 40 children, in a shack construction in dire need of attention in Airport Valley.

These children and the current caretakers, Tembeka Mbada and Nombulelo Zweni, will move into Crèche13, situated at a site nearby.

The innovative project draws on a pre-manufactured "kit-of-parts" strategy which allows for portable architecture, using low-cost materials (corrugated iron and standard timber), low-tech construction techniques, recycled shipping containers and roof sheeting.

"The architecture of Crèche13 reinterprets the use of industrial materials to create a

Model of Crèche13

dignified, habitable building that also contributes delight for the children in this area, which is typified by dire living conditions," says architect and lecturer in architecture at Mandela University, John Andrews, who is leading the project.

He and his second-year students costed the construction at an economical R280 000, with the added commitment of raising the funds to build it, sourced from the University, private sector, individuals and demolition site materials donated by construction companies.

An essential aspect of the project was engaging with Airport Valley and Walmer Township representatives on the entire process, from design development to completion.

"This is an important project within Walmer Township's and Airport Valley's overarching goal to alleviate crime in our community by improving the living conditions and dignity of the area," says Walmer Township ward councillor, Ayanda Tyokwana.

"Crèche13 is a quality construction that contributes to a conducive environment for our pre-school children to flourish. What the University has done is great and we are very grateful for the partnership."

The building was manufactured on campus before it was driven to site in January 2020.

The rationale behind its portability is that the crèche can be moved anywhere.

This makes it compatible with the dynamic environment of the South African informal settlement landscape while complying with stringent municipal regulations.



Crèche13 was assembled on campus and will be driven to Airport Valley in January 2020



Roofing structure of Silindokuhle Pre-school in Joe Slovo West



Community architect Kevin Kimwelle (Professional Associate Nelson Mandela University)

wooden pallets and bottles, is used as a pre-school, and as a community centre for church, funerals and educational initiatives,” Kimwelle explains. “It has also been extended to include a spaza shop, carpenter’s workshop, and a bottle recycling and SME space.”

It has received several accolades, including the 2018 South African Property Owners Association’s (SAPOA) Most Transformative Project in South Africa.

In Walmer Township, the Masifunde Changemaker Academy he designed in association with Port Elizabeth firm Ateljee Architects, was recently awarded the 2019 Regional Award for Architecture by the South African Institute of Architects – Eastern Cape (SAIA-EC).

It’s a low-carbon, low-energy structure built from combined conventional and unconventional materials,



Lighting effect of the Joe Slovo Community Centre at night

bicycle constructed from recycled waste from Isuzu trucks, which enables Moko to collect waste efficiently, while giving him visibility, pride and dignity.

Kimwelle has secured a partnership with Isuzu trucks, Port Elizabeth, which has provided a truck for the project builds.

He explains that community members participate in the builds, and as part of the process, spin-off businesses are created by members of the community, such as making furniture from the pallets or learning how to build their own spaza shops.

“It’s about architecture and development coming together and it takes bold people to commit to a social innovation approach.”

Kimwelle’s work is one of the many leading-edge social innovation and community projects in South Africa showcased on a new online global network and digital creativity space called Common Good First, launched on 22 October 2018 at Nelson Mandela University’s Bird Street Campus in Port Elizabeth.

Visit www.commongoodfirst.com



Waste picker Kusta Moko on his innovative recycling bike



Spaza shop from recycled pallets for owner Thembakazi Thelma (pictured here), Joe Slovo community

utilising passive design principles (natural lighting and ventilation with no mechanical or electrical systems). It was named the 2018 South African Property Owners Association’s (SAPOA) ‘Most Transformative Project in South Africa’.

The Masifunde Changemaker Academy is home to Walmer Township’s first Montessori pre-school. Since July 2018, 27 learners (3 to 6 years) attend pre-school and after-care here, facilitated by three qualified practitioners.

One of Kimwelle’s latest projects is the Penguins Learn and Play Centre – an early childhood development centre in Nelson Mandela Bay Metro’s Gqebera township, built from eco-bricks (two-litre plastic bottles stuffed solid with non-biodegradable plastic and waste to create a reusable building block for internal walls).

This project connects well with another of his projects – a waste bicycle for Wilson ‘Kusta’ Moko – a recycler who collects waste within Walmer Township, and who will assist in the construction of the eco-bricks. In this case, the social innovation is the prototype

A prospering partnership

Master’s in architecture alumnus, Kevin Kimwelle, was awarded the honorary position of Professional Associate by Nelson Mandela University in June last year for his engaged research and community architecture, featuring innovative green designs in township and working class areas. He is the first ever Professional Associate of the University.

He devotes his skills to co-creating buildings with communities in Joe Slovo, Walmer and Kwazakhele Townships in the Nelson Mandela Bay Metro, using recycled materials such as wooden crates, glass and plastic bottles.

He recently secured a three-year German Academic Exchange Service/DAAD-funded programme with Professor Silke Flaßnöcker of the Wismar University of Applied Sciences, Germany. He is also collaborating with Lawrence Technological University, USA, led by Professor Scott Shall of the International Design Clinic.

“The multi-purpose Joe Slovo Community Project we designed and was built from recycled



‘Wine Bottle Wall’, Joe Slovo Community Centre, with community member Patricia Piyani

Community vision

Simon Galland, of Collectif Saga Architects in Port Elizabeth’s Baakens Valley, completed his fourth year of architecture at Nelson Mandela University as an exchange student from the National School of Architecture in Nantes, France, where he completed his master’s. Collectif Saga works on projects in Port Elizabeth and Nantes.

“Before we start a building project in any community, we spend time in the community and have workshops with the local people to understand their vision and how we can turn this into architecture,” says Galland. “We use our skills as architects to serve the needs of the local population and contribute to the aesthetic and revival of areas that are not generally associated with architecture.”

“We found that a lot of people living in townships have good construction skills, often using recycled materials to build their own homes”.

For all their projects, Collectif Saga scours the city in search of waste materials, which they transform into building components.

After collaborating on the Joe Slovo Community project, Collectif Saga went on their own to design and build the Silindokuhle Pre-school in Joe Slovo West, which won the 2018 AfriSam-SAIA Award for Sustainable Architecture and Innovation.

“We worked with a group of ladies who ran pre-schools from their homes, and we designed a ±300m² building that is now used for children aged one to six years in the morning, and for extra lessons for high school learners in the afternoon.”

Collectif Saga’s latest project is an agricultural training centre in Walmer Township where six older people who have been successfully growing organic vegetables, will teach younger people how to grow their own food and be self-sustainable.



Interior of Masifunde made from recycled pallets

WOMAN of steel shows her METTLE

Architecture Alumnus
Lizette Smith heads
a structural steel
manufacturing firm
which is helping to
build the metro, writes
Gillian McAinsh



The new pedestrian bridge across the Baakens River was crafted by Lizette Smith's steel company



BUILT TO LAST – Lizette Smith is the managing director of Bisho Steel, a successful structural steel manufacturing business. Photo: Gillian McAinsh

Based in Despatch, Bisho Steel is the only female-owned structural steel company in the Eastern Cape with a qualified architect leading the team.

Smith's father started the business in 1972 and today she and her brother Cornelis Bakker run the firm once known as Despatch Steel Construction.

"My father focused mainly on industrial applications, whereas after I joined the company, my background led us to be successfully involved with architecturally sensitive projects such as the Tramways Building," says Smith.

From making burglar bars and handrails nearly 50 years ago, Bisho Steel now tackles projects in Nelson Mandela Bay and farther afield.

"Our core service is providing structural steel to the building industry: commercial, health, education, industrial, domestic,

agriculture and architectural applications."

Iconic structures on which Smith's firm has worked include the Pearson Conservatory, UDDI Science Museum and more recently – one of her personal favourites - the Baakens Valley pedestrian bridge outside the Tramways Building in town.

"I had a passion for architecture and an insight into the building industry and hence I studied architecture at UPE, now Nelson Mandela University, and graduated with my BArch degree in 1990."

She worked for an architectural firm until motherhood led her back to the family-friendly environment of Bisho Steel, albeit in a junior administration position. Although her father founded the firm, Smith still had to pay her dues and work her way up.

Fast forward 25 years and she is

now in the managing director's chair herself, guiding a staff of 50.

"For any success in business you need to be supported by a team with the same goals and vision because this is not a one-man show. Your work people become like an extended family."

She acknowledges her degree has given her a competitive edge.

"Architecture helped me to understand the built environment. It gives you a different eye to observe the 'flavour' of a building.

"My kids mock that I always look up at the roof, whether it's in a mall, church, or whatever, to see what it is constructed from!"

That structural eye is almost bred into Smith. "As the youngest of four children, I remember accompanying my father on trips to various building sites for inspections and steel deliveries."

Today Smith's daughter is studying fine art and her son is studying building science so "the genes do flow through".

She is determined to get the family business safely through these economically tough times.

"The construction industry has always been very up and down; it is not stable and it is in a slump now. Fortunately, however, we've been very busy and we haven't felt the pinch."

She relishes watching projects take shape.

"You take them from quoting to drawing to fabrication to painting to installing – the thrill of seeing something from paper to reality is mind-blowing.

"You are leaving your footprint for the next generation."

And in the case of Lizette Smith, that footprint is cast in steel.

Skin colour is not the determinant of knowing yourself in the world, says Dr Sam Nzioki, director of Nelson Mandela University's new Centre for Philosophy in Africa.

KNOWING YOURSELF

"You can't biologise or racialise culture. My idea of knowing myself in the world is African, but my skin colour is not the determinant. This reduction of people to a template of colour is vicious racism and something that was weaponised by history. But it is not culture. Culture is a complex of multi-layered realities of knowing oneself and how one lives one's life." These are the words of Dr Nzioki who joined Nelson Mandela University in October 2018.

The Centre for Philosophy in Africa and the SARChI Chair in Identities and Social Cohesion were both launched in February 2019 as part of the university's revitalisation of the Arts and Humanities, and the Faculty of Arts' journey in "thinking differently".

"Through the Centre we explore culture, ethical living, decolonisation and Africanity as some of the central concepts of what the discipline of philosophy in Africa means for the scholar and everyday person in Africa."

An inclusive approach

The question of "what is philosophy in Africa?", he emphasises, is not confined to the discipline of philosophy. It exists in all disciplines and the Centre is positioned to have an institution-wide presence in asking the big philosophical and curriculum decolonisation questions, whether in mathematics, physics, pharmacy, psychology, education, economics, the arts, or any other discipline.

"It requires transdisciplinary, Africa-purposed research for which we do not have extensive research depth at this time.

"One of the first objectives of the Centre is therefore to conduct and stimulate inter- and transdisciplinary, and intra-institutional philosophical research, with a focus on developing a canon, maxims and concepts that are purposed for Africa and Africanity."

Nelson Mandela University embraces this as one of the

expressions of being an African university.

The Centre is currently thinking about how to develop "a bold packaging of philosophical processes" to engage school learners, students, teachers, lecturers and postgraduates in the critical thinking tools of logic, knowledge creation and how to think and live ethically.

Ethics, Dr Nzioki explains, "is not just about life orientation; it is a rigorous way of asking questions and taking responsibility for being in the world. This is the foundation of a living philosophy from which a philosophy in Africa can develop. It is also essential in this time when far too many leaders, public servants and corporate heads are finding themselves on the wrong side of ethics."

The key, he says, is to ask ourselves what it means to "do" philosophy as a way of life. "It borrows from the ancients, where



Dr Sam Nzioki

philosophy is not just a play with ideas; it is a vigorous combat of the mind and self – a constant realisation of 'I don't know but I continue to learn'."

The Centre proposes this as one of its main ideas and is engaging with like-minded people, including students and staff, as intellectual activists across all disciplines.

What is inspiring is the revitalisation of young people wanting to study philosophy and ask the questions of life. The students in Dr Nzioki's philosophy classes are from the sciences, humanities and law, and they are taking it as a subject, not a module.

In 2018, a group of mainly undergraduate students from a broad range of disciplines further

took it upon themselves to create the *Thinkers Collective*.

"They asked me to give them a Friday meeting space, and they are debating the big decolonisation questions about how you emancipate yourself and give yourself capacity, even if you come with tools from a bad legacy.

"They explore how to use these tools to sharpen their world; to unlock tenacious prejudices, including race and identity politics, and hegemonic capitalist issues.

"I encourage them to think about philosophy as a way of changing or expanding how they think about life and problem-solving. It's exciting to witness them increasingly questioning the binary view of reality, as reality is not that simple."

"Through the Centre we explore culture, ethical living, decolonisation and Africanity as some of the central concepts of what the discipline of philosophy in Africa means for the scholar and everyday person in Africa."

LAW

Faculty's PgA

SUCCESS

Top law firms from around the country are drawing from the Faculty of Law's Postgraduate Associate (PgA) talent as candidate legal practitioners.

The Faculty of Law has invested significantly in its own students by creating work opportunities for top LLB and LLM graduates. The initiative is led by the Executive Dean of the Faculty of Law, Professor Avinash Govindjee, who devoted resources to growing a cohort of postgraduates in order to facilitate their studies, enhance their employability and advance their leadership abilities.

At the same time, this increases the pool of candidates for filling academic vacancies, predominantly with outstanding black and female South Africans.

The programme is managed by



Ntemesha Maseka

PgA Ntemesha Maseka's research interest lies in international humanitarian law, which forms part of public international law. "I am currently researching the accountability of UN peacekeepers for sexual violence. My work considers this topic from an international law perspective – particularly humanitarian law, human rights law and criminal law," she explains. Maseka is looking at this from the South African perspective, "as this is one of the countries pushing for a more coherent framework of accountability. Ideally, the peacekeeper who has committed the crime should come back and face prosecution; the complexity is that it straddles international law and military law."



Mmusho Mokgwetsi

PgA Mmusho Mokgwetsi is doing his master's on the Law of the Sea with Professor Patrick Vrancken, specifically the FAO Port State Measures Agreement, which came into effect in 2009 and to which Africa became a party in 2016. "The crisis in our fish resources and oceans only came to the fore in the 1990s and we need to identify and address the gaps as a matter of urgency," he explains. "One of the gaps I have identified is the sharing of information between states, because at present there isn't a platform or legal structure for two coastal states to share information."



Gundo Mukwevho

LLB graduate **Gundo Mukwevho** was a PgA in 2017 and joined law firm Joubert Galpin Searle in Port Elizabeth as a candidate attorney in 2018. His PgA appointment was his first exposure to the working environment and he says it "did wonders" for him in terms of maturing him and developing him as a suitable candidate attorney for a reputable law firm. It enhanced his sense of responsibility, accountability, time management, communication skills and confidence.



Phiwokuhle Ncanywa

LLB graduate **Phiwokuhle Ncanywa** was a PgA in 2017 and joined law firm Joubert Galpin Searle in Port Elizabeth as a candidate attorney in 2018. Ncanywa says his PgA year proved to be a powerful gateway to the employment arena and assisted him in securing his candidate attorney appointment. He explains that he gained a different level of maturity through his experience and contribution as a member of the faculty where he engaged with lecturers and professors, several of whom are also involved in the legal field as consultants and commissioners.

the Deputy Dean, Dr Lynn Biggs, who also heads the faculty's Learning and Teaching Committee, and it was formally introduced as a faculty institution in 2017 when the faculty appointed nine PgAs. This grew to 15 in 2018, and 22 in 2019 (with 12 of the PgAs from 2018 remaining with the faculty for a second, final year).

PgAs receive a market-related salary and contribute to lectures on the diploma courses, run tutorials and assist with marking. The PgAs preside in the first-year Moot Court exercise and are peer-mentors to first-year students. They are also given a solid amount of time to focus on their LLM or LLD studies.

A growing number of PgAs have secured articles at reputable law firms or have joined the Bar while still registered for their postgraduate

qualification. The vast majority of PgAs are South African, with a few originating from other African countries, notably Zimbabwe and Zambia.

A win-win situation

Embarking on postgraduate research for the first time can be a daunting endeavour, but with support it can be an inspiring, exciting time. To encourage the latter, the faculty's Professor Patrick Vrancken, the SARCHI Chair in the Law of the Sea and Development in Africa, leads monthly 90-minute lunchtime research hub sessions where PgAs and other postgraduate students ask questions about any aspects of the research process with which they are grappling, and benefit from sharing experiences in a collegial

environment. Faculty of Law staff members who are engaged with research, frequently attend and participate in these sessions.

As part of the leadership programme, once a month on Fridays, the faculty invites business professionals, legal specialists and notable, successful individuals from a range of professions to provide insights on pressing issues, including the impact of politics on the law and South Africa (such as how land expropriation without compensation impacts the economy and the country); what it is like to practise as an attorney or advocate; how to budget and plan financially (many of the PgAs and candidate attorneys are receiving a salary for the first time); how to market themselves and see themselves and the faculty as a brand; and what impacts positively and negatively on this, including the do's and don'ts of social media.

It is hoped that PgAs will ultimately form a community representing some of the most successful graduates that the Faculty of Law has produced. It is expected that many of the PgAs are going to become successful legal practitioners, business people or academics, and that they will, in future, be able to re-invest their time, experience and resources for the benefit of the next generation of Mandela Law students.

A growing number of PgAs have secured articles at reputable law firms or have joined the Bar while still registered for their postgraduate qualification.

Labour Law at coalface of change

Shifts and schisms in the trade union landscape, waves of retrenchments and court challenges to collective labour law, questions on the state of management-worker relationships – Sam Venter explores what these mean for South Africa’s democracy, economic growth and global competitiveness today.

These are relevant questions for the Nelson Mandela University Faculty of Law as it marked the 20th anniversary this year of introducing the coursework Master’s (LLM) degree in Labour Law that has formed the cornerstone of a key strength for the faculty.

“Twenty years ago, the questions were different – a new and progressive labour law regime was just beginning to roll out, giving effect to the rights provided by the new Constitution – but the principle of developing specialist practitioners able to act, advise, engage and influence a socially just labour law and labour relations environment remains the same,” said the programme’s founder, Professor Adriaan van der Walt.



Dr Jennifer Bowler

“Effective union-management, and employee-management, relationships contribute positively to company performance.”

Good for democracy

Reflecting on the current state of collective labour law, conference speaker Imraan

The ensuing decades have seen the faculty become recognised as a centre of expertise not only for the Master’s programme and its graduates who are now leading practitioners in labour law and labour relations, but also for the practical training, consultancy and research provided by the Labour and Social Security Law Unit (LSSLU) headed by Prof Van der Walt.

Meanwhile, much has changed in the labour law and employment relations environment since 1999 – economic downturns affecting the power of trade unions, questions about the impact of the Fourth Industrial Revolution on the future of work and collective labour relations, significant amendments to the Labour Relations Act and landmark judgments in the Constitutional Court and Labour Court.

“*Quo Vadis?*” for collective bargaining, collective labour law and strike law in South Africa thus seemed an apt question for the labour law alumni reunion conference in Port Elizabeth in July.

Mahomed, a BCom LLB alumnus and Practice Area Leader for employment law at legal firm Lawtons Africa in Johannesburg, said the emergence of new trade unions such as AMCU and the breakaway of NUMSA from trade union giant Cosatu were leading to “shifts in our labour law environment, because there is willingness to challenge”.

“We are now seeing unions like AMCU and NUMSA pushing the development of collective labour law, where historically this was led by Cosatu as the biggest federation. Unlike Cosatu, they’re not constrained by allegiance to the tripartite alliance, they’re willing to challenge the constitutionality of provisions of the Labour Relations Act, and to take on the way that collective labour law has been developed through the courts.”

He said the most extreme example of the principle of majoritarianism which has come into play was the 2018 case of AMCU vs Royal Bafokeng Platinum, currently awaiting the outcome of an appeal to the Constitutional

Court.

AMCU members were retrenched, and bound by a full and final settlement clause in an agreement concluded with the majority union (NUM), without participation of AMCU in the retrenchment process – and without the employees even being informed that they were earmarked for possible retrenchment.

The Labour Court and Labour Appeal Court upheld the principle of majoritarianism and disagreed with AMCU’s argument that it was “constitutionally objectionable” to exclude a minority union and its members from a collective agreement on their retrenchment.

“Our labour law was actually designed to grant a hearing before dismissal. It’s good to have the pushback – unions are also beginning to say the system in some respects is not working. Although it shows that the structures of traditional labour law are under pressure, and even though there is contestation in the workplace, it is all occurring within the framework of the LRA and employment law.

“This is great. It’s robust. The more of this we see, the better for our constitutional democracy.”

Global competitiveness

At the same time as South Africa’s global competitiveness “regained momentum” to rise seven places to 60th in the World Economic Forum (WEF) 2019 Global Competitiveness Report*, the same report rated the country’s management-labour relationships close to the worst in the world (139/141 countries), and has done since at least 2011.

“This is cause for concern,” said Dr Jennifer Bowler of Mandela University’s Industrial and Organisational Psychology department, “as we know that effective union-management, and employee-management, relationships contribute positively to company performance.”

Speaking at the conference, she said: “Strikes, high levels of disputes and absenteeism are seen as examples of uncooperative management-labour relationships and low levels of trust. The ‘wisdom’ of the WEF favours decentralised bargaining, seeing South Africa’s centralised approach as reducing flexibility and increasing costs.”

However, she said recent research showed that in the low-trust environment of many South African workplaces, trade unions and shop stewards play a crucial role in mediating the relationship between employees and management – and there is a need in non-unionised workplaces for similar employee representation and participation.

“The relationship between management and shop stewards as employee leaders is highly influential in shaping employees’ relationships with the organisation. Constructive management-shop steward relationships could positively impact employee-organisation

relationships, in turn leading to better employee and company performance and greater competitiveness,” she said.

Bowler’s research showed that the strongest positive influence on the relationship between shop stewards and managers was their value system: “That is, if they believe that they both have a vested interest in the performance of the organisation, in the need for working together to create wealth, then they work at the relationship.

“A deficiency in the LRA is that it doesn’t move employee participation beyond unionised companies and

“Challenges to legislation and precedent are good for our constitutional democracy”

a focus on collective bargaining. Where you have trade unions, you *have* to engage with them. But where you don’t have trade unions, the obligations on employers to engage with employees are limited.

“The LRA should foster employee participation beyond trade unions because it’s clearly linked to improving performance and ultimately competitiveness,” she said.

Reflecting and building

“Twenty years seemed like a good time to reflect – on the strengths we’ve developed, on the critical mass of our alumni contributing to labour law development and practice, and the new questions and challenges facing students, academics and practitioners,” Prof van der Walt said.

For Dean of the Faculty, Professor Avinash Govindjee, himself a graduate of the LLM Labour Law, the significance of gathering high-profile alumni together for the conference was not only to showcase the diverse areas of labour law and labour relations where graduates are making an impact, but also to act as a springboard for bringing the expertise and experience of leading practitioners into the faculty to complement the education of the next generation.



Imraan Mahomed

Turning **MATHS** into a masterpiece

The Grade 8 to 9 winner in the “maths in nature” category was Luke Ferreira from Redhill High in Johannesburg, for his exploration of mathematical patterns in cave art, in his artwork “Pale Face”.



Look closely at nature and you’ll see that flowers are parabolas and a snake’s skin a masterpiece of symmetry. Study any cityscape and you’ll find a multitude of mathematically-precise shapes.

For the past two years, Nelson Mandela University’s Govan Mbeki Mathematics Development Centre (GMMDC) has been encouraging high school pupils to find mathematics in the world around them – and then turn it into art, through a unique maths-art competition.

“There is so much maths in art, and so much art in maths ... we are looking for beautiful drawings, created using maths,” says GMMDC’s competition coordinator Carine Steyn.

Last year’s pilot competition was run in Eastern Cape schools, drawing more than 100 entries. This year, it was expanded across the country, attracting nearly 600 submissions, with entrants finding their inspiration in nature, man-made objects, modern cities and traditional cultures, such as Ndebele houses, Xhosa beadwork and San and Khoi cave art.

The top entries were exhibited in Austria in July, at the annual conference of the Bridges Organisation, a leading body globally which promotes research and interest in the connections between mathematics and art.

Future focus

The Bridges Organisation is also spearheading a new global shift in education called STEAM, the acronym standing for Science, Technology, Engineering, Art and Mathematics, which GMMDC is promoting in South African classrooms.

“STEAM is a more modern approach to mathematics, where pupils are encouraged to explore the links between mathematics and the arts,” says GMMDC director Professor Werner Olivier.

The annual maths-art competition is open to all high school pupils. In 2019, the two categories they could enter were “maths in nature” and “maths in man-made designs”. They are adjudicated on artistic merit, and on how creatively they represent the links between mathematics and the arts.

“The competition adds an innovative educational layer to our centre’s technology-blended approach to the teaching and learning of maths and science,” says Prof Olivier.

“It aims to develop creative young thinkers, who are better equipped to tackle the skills challenges they will face in their future careers in the Fourth Industrial Revolution.”



First in the “maths in nature” (Grade 10 to 12) category was Lauren Damstra from Eunice Girls High School in Bloemfontein, whose artwork “Infinity” used the vastness of outer space to represent “the terror of things we don’t know”.

Placed first in the Grade 8 to 9 “maths in man-made designs” category was Caitlin Wilde from Fish Hoek High School in Cape Town, for her “Heritage Mandala”, inspired by traditional Zulu patterns.



First in the Grade 10 to 12 “maths in man-made designs” category was Morgan Durrheim from Beaconsfield High in East London, whose artwork “Hidden Mathematics” explored famous ancient and modern landmarks, from the Pyramids of Giza to Disneyland’s famous castle.





Computing Sciences Prof Jean Greyling teaching learners coding with TANKS.

“There are 25 000 schools in South Africa and 16 000 of them don’t have access to computer labs”

Taking coding to kids

Technology lies at the heart of the Fourth Industrial Revolution and will play a key role in future careers. But what happens if you’re a learner in a disadvantaged school, with no access to a computer? Nicky Willems reports.

To help prevent youngsters from being left behind, the Computing Sciences department at Nelson Mandela University has launched a unique game called TANKS, which introduces children to the world of coding.

Searching for a solution to address the shortage of software developers in a country where

schools have limited access to computers, Byron Batteson developed TANKS as his honours project in 2017.

His lecturer, Professor Jean Greyling, who is passionate about sharing coding with kids, helped to turn his student’s vision into reality, commercialising and rolling out the game, which by the end of October

2019 had reached more than 15 000 children.

The game, which Batteson continues to maintain, essentially takes the form of a puzzle. Working in groups, learners piece together commands on puzzle pieces to move an army tank through a maze, to shoot at obstacles.

When learners have completed the puzzle, they photograph it with a cell phone, and a mobile app translates it into coding. Once successful, they can progress to a more difficult level.

“There are 25 000 schools in South Africa and 16 000 of them don’t have access to computer labs. We want to get to those kids who are never exposed to computers ... We want to build awareness of coding as a career option,” says Prof Greyling,

who won the University’s Innovation Excellence Award this year, and is a finalist in the South African Breweries Foundation’s Social Innovations Award.

TANKS was originally developed for children aged eight to 12, but Greyling has used it successfully with all ages, including first-year university students.

“The game is extremely relevant in this country, in the context of President Cyril Ramaphosa’s drive to promote coding and robotics in schools.”

The homegrown project is also attracting international interest, with Prof Greyling being invited to the United Nation’s Educational, Scientific and Cultural Organization’s (UNESCO’s) Mobile Learning Week in Paris in March 2019.

“UNESCO received around 300 applications and invited 60 to attend and share their stories on education that works in disadvantaged communities.”

The University of Oldenburg in Germany is piloting the game in several schools, and it has also attracted the interest of several African countries, who are looking at ways to implement the game in their education systems.

“There are other coding games that have been developed and introduced in Africa by massive

multi-nationals, but you need computer labs. What I’m saying is: ‘Listen, we can do this without labs.’

“We have developed game kits, which go to participating schools. Each kit contains eight games, 11 instructional videos and lesson plans. This allows the school to present the workshop to 40 kids at a time ... We are also trying to get sponsorship for one mobile phone per kit.”

Prof Greyling has trained facilitators in every province to present TANKS workshops at schools – and has also trained unemployed youth to run “coding clubs” in townships, to expose even more learners to TANKS, while generating a small income for themselves.

Last year, Johannesburg’s public libraries ran a citywide TANKS tournament – and in October, Prof Greyling ran a similar initiative in Port Elizabeth. “For me, this is more than just a game. It has the potential to change people’s lives.”

A song

for all seasons

2019 marked the 25th anniversary of South Africa's first multi-racial university choir – formed at the very start of this country's democracy – and celebrated a journey of excellence that has taken Nelson Mandela University's talented singers across the world.





At the request of the University's arts and culture department, conductor Junita Lamprecht-van Dijk started the choir in 1994.

"In those early days, we experienced amazing social and musical challenges because we were so far removed from one another. But it was a wonderful opportunity to introduce different music cultures to each other, and to get to know each other.

"In a way, our choir has been a successful microcosm of South Africa ... I actually wrote my master's thesis on the choir, exploring this theme."

As society opened up and became more integrated, the gaps narrowed. "But in a way, we've gone full circle and we're experiencing similar challenges now (with the country and universities facing new challenges), but we are managing them."

Lamprecht-van Dijk said her main aim with the choir had always been to empower its members, enabling those who are musically talented to shine.

"We have a young man in the choir at the moment, Sivuyile Mazizi, who is composing and arranging his own works for the choir ... Another very creative choir member Siba Ngewu is responsible for the

choreography."

Destined for greatness

Over the years, many of the choir members have gone on to achieve further choral success.

Perhaps the most successful among them is Sidumo Nyamezele. He was the choir's traditional singing leader from 1996 to 2002 and studied conducting under Lamprecht-van Dijk, before going on to teach at St John's College in Johannesburg.

"When the World Youth Choir toured South Africa, he was responsible for teaching them African music, which was a very great honour." Nyamazele conducts the acclaimed Mzansi youth choir in Johannesburg.

The choir's mix of African traditional, classical, Western European and Latin American songs have made them a favourite on world stages.

"I think the success of the choir can, in a huge way, be attributed to the dedication and enthusiasm of the singers – they perform a diverse repertoire that makes an impact on those who hear it," says Lamprecht-van Dijk.



2019 celebrations

All past and present members of the choir were invited to share in its 25th anniversary celebrations, held on November 8 and 9. The festivities included an awards ceremony hosted by the University's Alumni Association, and a sundowner performance and dinner, which included performances by old members at the South Campus Auditorium. At this event, the choir premiered a new composition, *Psalmus*, by Peter Louis van Dijk, while choir alumni Siphokazi Molteno, an acclaimed mezzo soprano, and Kwande Cakate, a saxophonist and member of the well-known group Just 6, which featured in the new *Lion King* movie, performed on their own and with the choir.

Hitting a high note



1994–2000: On separate occasions in the Bay, the choir performed before Queen Elizabeth II and former president Nelson Mandela, who told them: "I am so proud of you; you truly reflect the spirit of the new South Africa." In 1996, the choir embarked on its first international tour, participating in the International Festival of University Choirs (FICU) in Valencia, Spain. This exposure led to an invitation in 1998 to perform at the centennial celebrations of the Philippines.



2000–2007: The choir featured in a film on Robben Island, based on the life of Nelson Mandela, and they participated in fully-sponsored international tours to a second FICU event in Spain and the Voices International Choral Festival in Norway.



2007–2010: The choir toured the United States for the world premieres of *Windy City Songs* and *Magnificat* (composed by Peter Louis van Dijk) in the Lyric Theatre, Chicago. They were invited to the famous La Fabricca del Canto choral festival in Italy and also performed for the Italian press launch of the 2010 Fifa World Cup in Milan. They won their first international choir competition in Spittal an der Drau, Austria in 2009.



2011–2012: The choir enjoyed two successful tours to Argentina and China (Beijing), performing for national radio and TV stations through the International Federation for Choral Music's (IFCM's) World Choral Symposiums. They enjoyed further global acclaim with the success of a flash mob in Greenacres Shopping Mall in Port Elizabeth, shared virally on YouTube, which has notched up many awards both nationally and internationally.



2014–2015: IFCM invited the choir back to China (Shanghai and Nanjing), and they were the only African choir invited to sing in the first Choral Expo in China's Macau Island, the gambling hub of the East.



2016–2019: The choir was invited to the United States and Canada in 2016, but the trip coincided with the start of the #FeesMustFall movement in South Africa, and they were unable to go. The choir was showcased on television in Varsity Sing's finals on KykNet.



First year Visual Art student Luke Rudman has won a Stamp Out Marine Plastic Pollution (Stomp) award for his innovative protest art inspired by the University's Tributaries Project.

Rudman's accolade at the Commonwealth Litter Programme (Clip) conference in Cape Town in December came after he created a dozen plastic rubbish "monsters" which invaded Nelson Mandela University South Campus in August 2019.

Photos: Sharon Rudman

ART

against plastic

The performance artist designed each piece and body-painted the live models in partnership with Greenpeace Africa to highlight the danger of plastic pollution.

He was invited to recreate the artwork for the opening of Nelson Mandela Bay's summer tourism season.

One of the models, for example, student Mmeli Mdala (pictured left), wore a garment made from plastic collected from forests and bushes, shaped to form a piece representing

land pollution. Department of Philosophy Associate Professor Andrea Hurst modelled a wounded Earth Angel representing the damage man's pollution causes to the earth.

Rudman – who has more than 10 000 followers on his @pseudellusion Instagram profile – also did an Instagram takeover of the @greenpeaceafrica account for several days to highlight the ecological devastation caused by plastic pollution.

In his words:

"Plastic everywhere.
Plastic flooding our oceans,
Consuming our land.
We all know about the problem
We have become desensitised to
the campaigns encouraging us to
use less plastic.
We justify our massive everyday
pollution
So long as we stay comfortable
we will not change.
But without change we are
doomed."

“Countries are being deprived of taxes, citizens of jobs, food and income, and fisheries and environments are being destroyed. Africa is particularly vulnerable and loses more than \$20-billion (R290-million) per year,” says Professor Hennie van As, who presented on South Africa’s first Fisheries Law Enforcement Agency, FishFORCE, at two major international ocean conferences held at Nelson Mandela University in March 2019.

An admitted advocate, Prof van As is Director of the Centre for Law in Action, a professor of Public Law at Nelson Mandela University and head of FishFORCE.

Established in 2016 by Nelson Mandela University in partnership with the Norwegian Ministry of Foreign Affairs and South Africa’s Department of Agriculture, Forestry and Fisheries (DAFF), FishFORCE equips enforcement agencies to handle the increasingly complex investigations and prosecutions of fisheries crime throughout Africa and the world.

“Our marine living riches are literally being stolen from our waters. We are losing vital natural, economic and food resources through rampant fisheries crimes and yet insufficient attention is given to law enforcement in this environment. Why are they not being protected to the same extent that we protect our gold or work to protect our rhinos?” says Van As.

Buy-in from INTERPOL

FishFORCE has buy-in from the world’s largest international police organisation, Interpol as well as the African Union and the United Nations Office on Drugs and Crime.

Fisheries crimes affecting the fisheries sector range from illegal fishing to human and drug trafficking, forced labour, fraud, forgery, corruption, money laundering and tax and customs evasion. These crimes pose a significant challenge to fisheries law enforcement agencies across the world.

“Fisheries law enforcement requires traditional policing methods and tools, and expertise in law, criminology, police science, as



FishFORCE training on Fisheries Crime Law Enforcement in South and East Africa, led by Professor Hennie van As and attended by Kenyan and South African officials and universities.

POLICING OUR SEAS

Organised crime linked to the illegal harvesting, processing and trading of fish and seafood is so huge globally that it is effectively a parallel economic system, undermining sustainable economic growth. Heather Dugmore investigates.

well as fisheries management and conservation,” says FishFORCE chief operating officer Michael de Lange.

“The aim is to achieve intelligence-led investigations and prosecutions of criminals engaged in

fisheries crime.”

Increase penalties

Cases prosecuted as Illegal, Unreported, Unregulated (IUU) fishing have had very limited success, with

Fishforce training

1 JUNE 2018 → 31 MAY 2019

Short Learning Programmes:

- Law Enforcement by Peace Officers
- Train the Trainer
- Prevention of Corruption and Taking of Statements
- Species Identification and Fisheries Technology

Agencies Trained:

- Department of Agriculture, Forestry and Fisheries’ Officials
- South Africa National Parks’ Officials
- City of Cape Town

 **207**

 **133**

TOTAL 340

KENYANS
 **9**  **6**



FishFORCE training in Tanzania. The FishFORCE Academy is helping to build fisheries law enforcement capacity along the east coast of Africa.

An analysis of trade routes by the international wildlife trade monitoring group TRAFFIC, suggests that up to 43% of the illegally harvested abalone was traded through a number of non-abalone-producing sub-Saharan African countries to Hong Kong between 2000 and 2016; 21% originated from Mozambique, 7% from Zimbabwe and 6% from Zambia. The latter two countries are landlocked, and the analysis shows that the commodity is transported from South Africa into these countries where it is "legalised" and exported to Hong Kong.

For more information visit:
fishforce.mandela.ac.za

penalties amounting to a rap on the knuckles and regarded as "the cost of doing business" by culprits.

Instead, van As argues, they should be addressed under the Prevention of Organised Crime Act, with severe penalties of 25 years to life.

"It is encouraging to see that three recent major abalone racketeering cases have done this, with sentences of 18 to 20 years.

"Together with the National Prosecuting Authority (NPA), we are getting to the bottom of why prosecutions for fisheries-related crimes often fail. The regulating and policing of fisheries vessels in the past has been too compartmentalised and full of loopholes because of the many different players involved.

"We are now collaborating with the South African Police Service (SAPS), Defence Force, NPA and Home Affairs to develop a combined offensive."

Research and training

A cornerstone of FishFORCE is to facilitate research and innovation so that fisheries law enforcement

officers have the most updated information, techniques and tools available.

"FishFORCE is currently training fisheries control officers, police officers and prosecutors in South Africa and Kenya, where there is already a FishFORCE academy. Others are being opened in Angola, Namibia, Mozambique, Tanzania, Madagascar, Mauritius and Seychelles," says Prof van As

"We are also assisting with training along the Indian Ocean Rim, including countries like Indonesia. Organised fisheries crime knows no borders, and neither do marine living resources."

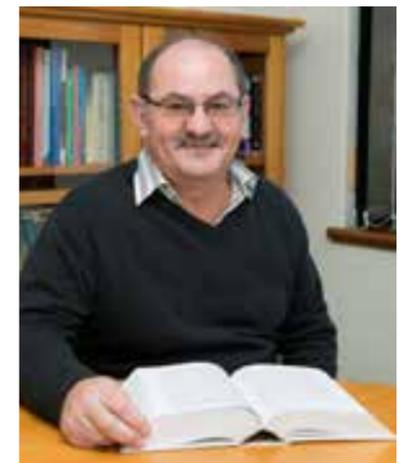
In 2019 alone, FishFORCE trained 181 port security officers and their supervisors and managers in South African ports. Twenty staff members of the National Ports Authority were also trained as trainers. FishFORCE is also currently investigating the use of drone technology to assist agencies with monitoring and surveillance operations.

The training developed and delivered by FishFORCE provides formal qualifications, such as a Higher Certificate in Criminal Justice

and a Diploma in Law Enforcement. These were specifically developed in order to professionalise the sector, promoting fisheries law enforcement as a career choice.

"We hope that the multi-faceted work conducted by FishFORCE will help to address the issues we face in addressing fisheries crimes, and we pride ourselves on being at the forefront of the fight to strengthen South Africa's protection of its marine living resources," says Prof van As.

"The aim is to achieve intelligence-led investigations and prosecutions of criminals engaged in fisheries crime"



Professor Hennie van As



Top – Triton: a three-person ocean research vessel with a diving depth of 2300m that will be used by researchers on REV I. Bottom – Rendering of REV I, the largest, most advanced marine research platform in the world, currently being built in Norway, will help the world to better understand our oceans and what is happening to our marine resources. Photos: REV Ocean

All aboard: As a leading ocean sciences research facility, Nelson Mandela University is among South African stakeholders and organisations invited to submit proposals and participate in scientific campaigns organised by REV Ocean (revocean.org), a new international marine research

initiative targeting climate change, acidification, marine pollution and the over-exploitation of marine resources, with the aim of focused and innovative ocean research and solutions.

When REV Ocean has completed its REV I vessel in 2021, the \$350-million (R5-billion)

REV I will be the largest and most advanced marine research platform in the world. International scientists, research institutes, and innovative thinkers will submit proposals: if successful, they will have free access to the vessel and its state-of-the-art technology for at least three years.

Gentoo penguins – these ones pictured at the Falkland Islands some 600km off the coast of Argentina – move onto land during their breeding season from October to February each year. The parents take turns to forage for food each day, swimming about 50 to 70km, and as far as 30km out to sea, during a single foraging trip.



Sea warrior

Across the world, many marine predator populations are in decline, as they compete with fisheries for food and contend with changing sea conditions due to climate change, writes Nicky Willemse.

Conducting key research to monitor and protect marine predators is Nelson Mandela University's Professor Pierre Pistorius, named the University's Researcher of the Year for the second year running.

"Marine top predators like seals, penguins and other seabirds are often called the sentinels of the sea, as their behaviour provides important insights into the state of our seas.

"If we find there are changes in their diet or the distances they

travel to find food, this alerts us to critical shifts in the sea, like rising sea temperatures, or the depletion of certain species," he explains.

Prof Pistorius heads up the University's Marine Apex Predator Research Unit (MAPRU), which is gaining recognition as a national and international hub for marine predator research.

Through MAPRU, he works with researchers from universities and institutions in New Zealand, Australia,

England and France, and on islands across the world, among them the Falkland Islands, Prince Edward Islands, Seychelles and Reunion, as many of these are important breeding grounds for seabirds and seals.

Critical research

Prof Pistorius has published well over 100 peer-reviewed scientific papers and, during 2018 alone, authored 16 scientific papers, mostly in high

"Marine top predators like seals, penguins and other seabirds are often called the sentinels of the sea."

impact international journals.

His study of the behaviour and population ecology of marine predators is largely fuelled by a strong curiosity to find out the many "unknowns" associated with the marine environment.

In a recent paper published in the British journal *Royal Society Open Science*, Prof Pistorius and post-doctoral candidate Dr Alistair McInnes highlighted some unexpected discoveries while



researching African penguins, a threatened species, at Stony Point, Betty's Bay near Hermanus.

After attaching miniaturised video cameras onto the backs of African penguins, the researchers discovered that through their foraging behaviour, these birds drive their prey up to the surface, enabling other surface-feeding seabird species, some of them also threatened, to acquire food.

"After the penguins herded sardines and anchovies from great depths up to the surface, several flying seabird species, including sooty shearwaters, Cape cormorants and swift terns, took advantage of this behaviour.

"It's the first time we've seen how the foraging behaviour of African penguins benefits other species.

"This discovery provided us with unexpected insights into the bigger role African penguins play in the marine ecosystem."

Local birds under threat

Much of Prof Pistorius's research takes place in the Southern Ocean, where he and his team of postgraduate students gain important insights into how marine ecosystems work in areas relatively undisturbed by human activity, such as the remote sub-Antarctic Prince Edward Islands.

He uses his research as a platform to better understand the influence and impact of climate change on marine ecosystems and make predictions about future expected changes.

"In 2018, we received significant funds from the National Research Foundation's (NRF's) South African National Antarctic Programme (SANAP) for a further three years' research at Marion Island (one of the Prince Edward Islands) and are working very closely with French researchers at the neighbouring Crozet Island, who are conducting similar research and addressing common questions and problems for the Southern Indian Ocean."

On Marion Island, Prof Pistorius is studying the at-sea distribution of 14 different species of seabirds and seals through the deployment of tracking instruments in an attempt to use their distribution and behaviour to identify ecologically-important areas in the Southern Indian Ocean.

"We use this information ... to provide advice on important areas that should be considered for inclusion in a Southern Ocean marine protected area network, but also in relation to expanding the existing marine-protected areas around the Prince Edward Islands."

A key finding is that some Marion Island species largely rely on frontal systems, like the Antarctic Polar Front, as an important foraging zone, as these areas churn up nutrients and attract large amounts of fish.

"With the Antarctic Polar Front moving further south because of climate change and warmer sea temperatures, King penguins, for example, are having to travel much further to find food. We are predicting they will be locally extinct at several of their breeding colonies within the next 100 years.

"Our work with the more charismatic species of the sea is a powerful vehicle to get the message across that climate change and unsustainable resource use are affecting these species and require urgent attention."



Clockwise from top: A Gentoo penguin launches itself into the sea off the Falkland Islands, about to start a foraging expedition. Pistorius and his research team have discovered that flying sea birds share the prey of African penguins. In less than 100 years, Marion Island's King penguin population – observed here by Nelson Mandela University zoology senior lecturer Professor Pierre Pistorius, could disappear from the island. Photo: Otto Whitehead

"It's the first time we've seen how the foraging behaviour of African penguins benefits other species"



The study on African penguins is part of a larger initiative at Betty's Bay to develop a "dynamic resource management model", where data collected from seabirds reflects the abundance of sardine and anchovy

populations in the area.

"We are aiming to use real-time information to inform fisheries about fish populations, in the hopes of improving the management of fishing activities."

GROWING IN POPULARITY



SPAR Madibaz captain Jeanie Steyn (left) has played an influential role for the Nelson Mandela University netball team in the last four years. Photo: Michael Sheehan



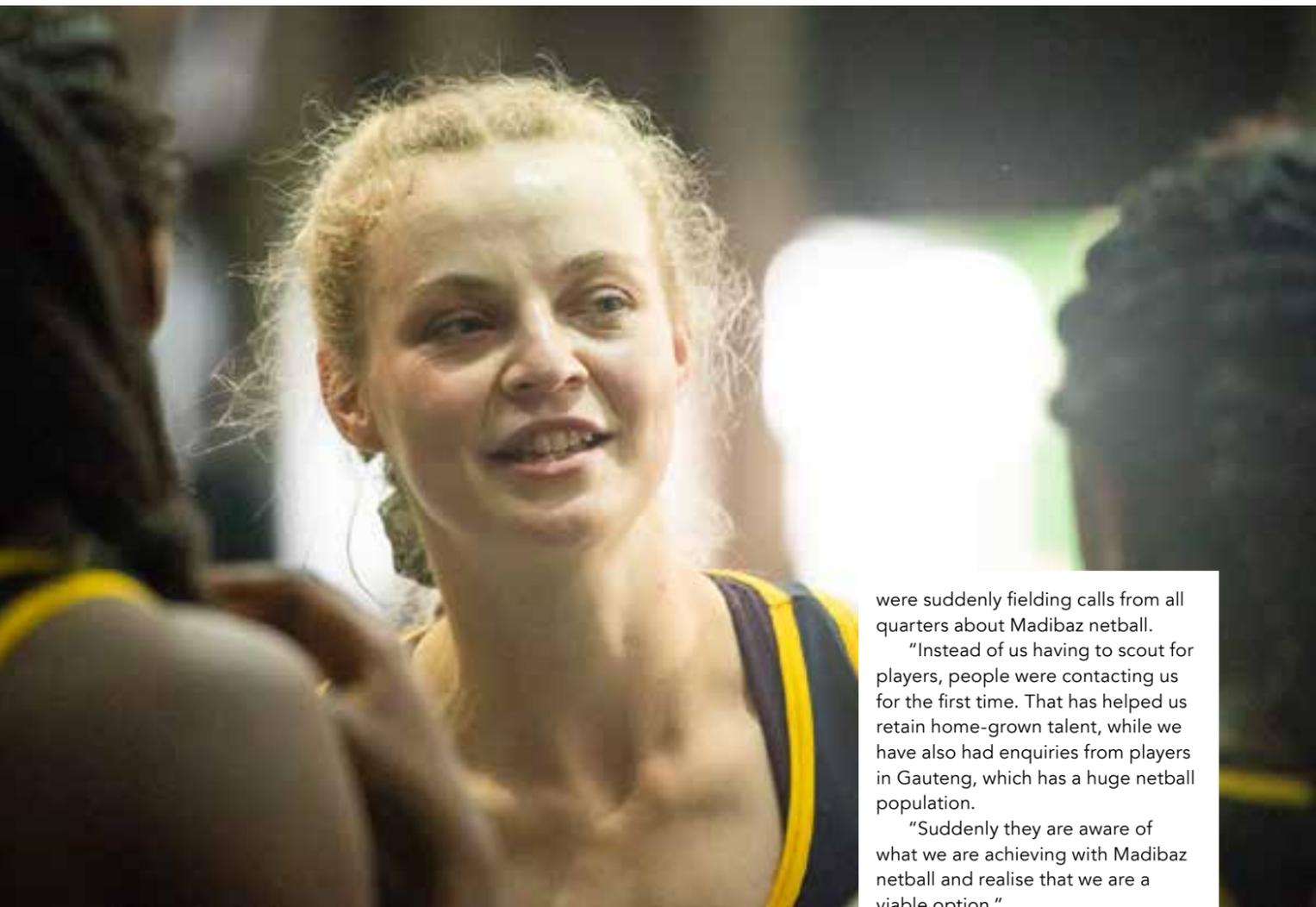
SPAR Madibaz captain Jeanie Steyn (right) led the team to third place in the 2018 Varsity Netball competition. Photo: Christian Kotze/SASPA

The establishment of a high-profile tournament at university level has been the catalyst for netball's emergence as a marquee* sport in South Africa.

Following the impact of Varsity Cup rugby, the Varsity Sports organisation extended its portfolio to include Varsity Netball in 2013 and the sport at Nelson Mandela University – and elsewhere – has been surfing a wave of popularity ever since.

As young players became aware of the opportunities embedded within the game in SA and abroad, the code began luring more and more players.

The strides the sport has made in half a dozen years was confirmed when the Proteas reached the World Cup semifinals in England last year. And, with the World Cup taking place domestically in 2023, interest is



Jeanie Steyn Photo: Carlo Jonkerman

showing no signs of waning.

It has sparked a desire among players to be part of the extravaganza and SPAR Madibaz captain Jeanie Steyn is one of those aiming to stick around.

Punching above their weight

Amid the fanfare, the SPAR Madibaz flexed their muscles against their Varsity Netball peers, reaching the semi-finals four times in seven years.

Last year, under highly-rated coach Lana Krige, they narrowly missed out on the play-offs. Nevertheless, Madibaz Sport netball manager Melinda Goosen is cock-a-hoop about their run of form.

"As one of the smaller universities we have often punched above our

weight. We were third in 2013 and last year and fourth twice."

She believes Varsity Netball has been instrumental in pushing the popularity of the sport to what she terms "unprecedented" levels. It is now acknowledged as the premier feeder platform for the national team.

Coming of age

"The growth of netball is something which has been even more significant in recent years," says Goosen, having witnessed its coming of age first-hand.

"When we reached the semifinals in 2013 it didn't attract that much attention. But the competition grew and after our 2018 effort we

were suddenly fielding calls from all quarters about Madibaz netball.

"Instead of us having to scout for players, people were contacting us for the first time. That has helped us retain home-grown talent, while we have also had enquiries from players in Gauteng, which has a huge netball population.

"Suddenly they are aware of what we are achieving with Madibaz netball and realise that we are a viable option."

Goosen acknowledges that their depth allows them to dominate local leagues, but their impact goes beyond that. Regionally, Madibaz personnel interact with players and officials in various structures.

"For instance, our players are used by schools to assist with coaching and we obviously want them, whether they be past or present, to put something back into the game."

While the wave of popularity that engulfs the sport shows no signs of breaking, it seems apt that the coastal university is making waves of its own.

** A marquee player is an athlete who is considered exceptionally popular, skilled, or otherwise outstanding, especially in professional sports. (source: Wikipedia)*

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Madibaz student-athlete Alaric Basson became the first swimmer from Nelson Mandela University to represent South Africa at the Fina World Championships in South Korea last year.

In a sport where time is their greatest adversary, Nelson Mandela University swimming twins Alaric and Alard Basson are on a constant quest for milliseconds.

"Practically speaking, I'm about a body-length behind the guys who are making the finals," explains Alaric, who specialises in the butterfly, comparing his efforts to the top swimmers at last year's Fina World Championships in South Korea.

"I feel I'm not far off and I think it is possible to get to that level," says the 23-year-old from Uitenhage, who in June 2019 became the first student-athlete from Mandela University to represent South Africa at the highest level.

Chasing the CLOCK

He is under no illusion that the key to the door into the finals – and perhaps beyond – lies in hard work and meticulous analysis under the direction of coach and SA swimming legend Mark Edge.

Managing studies and sport

Not uncommon for identical twins, where similarities often extend beyond the physical, they are

both postgraduate construction management students and, as a unit, have been the mainstay of the Madibaz Sport Swimming Club over the past four years.

Most recently, they excelled at the University Sport South Africa gala where Alaric was named best male swimmer and Alard, who has also earned national colours, filled third spot.

With both having competed internationally, Alaric says their focus is now on improving "the little things that can make you better" in a sport that is as much about technique as brute power.

"You still have to put in the hours, but at this stage you look back at each race and evaluate what you have been doing wrong or what you can tweak," he says.

"It's about fine-tuning your stroke and minimising drag to shave milliseconds off."

The Pacman plan

They received sound advice from their father about the mental challenges associated with being a top-level competitor and today it is paying dividends – in fractions of seconds.

"He likened it to the computer game Pacman," says Alaric, "where you have to concentrate on the first test before progressing to the next level.

"Our dad said it wasn't about who could improve the fastest, but who could keep on improving.

"As you get older you realise the importance of the technical side and we have always gauged ourselves to assess what improvements have been made every year."

Not love at first sight

While swimming is now a way of life, Alard admits it took time to fully commit.

"There was a time in junior school when we didn't want to swim as we were enjoying all the other sports," he recalls, "but my father saw our potential and suggested we continue and make a decision later.

"We did, but we also enjoyed rugby until injuries started affecting our time in the pool. We decided to focus on swimming when we were 16, but it wasn't easy at first.



Alard and Alaric Basson. Photo: Full Stop Communications

Tale of the twins

In more ways than one, making waves has become a way of life for Nelson Mandela University's Basson twins. These are some of the achievements that they have left in their wake:

Alard

- Eastern Province record-holder in 100m and 200m butterfly
- Represented South Africa at the 2016 Fina World Short Course Championships
- Best achievement: silver in the 100m butterfly at 2019 African Games
- Twice a finalist for Eastern Cape Sportsman of the Year
- Bronze in best male swimmer category at 2019 Ussa gala.

Alaric

- Eastern Province record-holder in breaststroke events in all distances
- African Games 200m breaststroke record-holder
- Ussa 100m breaststroke record-holder
- Represented South Africa at 2019 Fina World Championships in South Korea
- Best achievement: double gold at 2019 African Games in Morocco
- Nelson Mandela University Sportsman of the Year in 2016
- Gold in best male swimmer category at 2019 Ussa gala.

*Statistics as at September 30, 2019

"There were a lot of social sacrifices that had to be made, but we knew what needed to be done."

The more they were exposed to the opportunities within top-level swimming, the more it strengthened their resolve.

In the wake of a rivalry

And naturally, as with many siblings, there was rivalry early on.

"It was hectic," recalls Alard, who has since transitioned into a superb breaststroker.

"Everything was a competition. I remember I was nervous to race him and he was nervous to race me.

"In those days we swam all the strokes, so every race was a battle. As we grew older, we developed our speciality events and that was probably a good move to avoid unhealthy competition."

Nowadays, having each other as training partners pushes them along on their respective paths to excellence – one well-earned millisecond at a time.

George is one of the fastest-growing areas in South Africa. Similarly, the University's George Campus on the Garden Route in the southern Cape is experiencing a mini infrastructure boom of its own.

Arguably the most beautiful university campus in South Africa, Nelson Mandela University's George Campus is growing in both stature and size.

Set at the foot of the Outeniqua Mountains and just seven kilometres from the tourist and economic centre of George and an even shorter distance from the coast, the scenic campus has become a magnet for those whose values align with the University's programmes and ethos.

The niche programme offerings from the Faculty of Science – Forestry, Game Ranch Management, Nature Conservation and Agriculture – have become firm favourites with students from throughout the country, and even further afield. Likewise, its Business and Economic Sciences programmes and IT qualifications have seen an increase in student numbers, especially those undertaking postgraduate enrolments.

George Campus presently has close to 1500 students and has grown consistently over the years. While Game Ranch Diploma numbers, for example, have grown from 10 in 2016 to 41 this year, the number of students completing their doctorates in Nature Conservation has leapfrogged from two in 2016 to 13 in 2019.

This is in line with the University's strategy of attracting more postgraduate students whose research interests align with that of the importance of sustainability, since it wishes to become the "go-to" destination for such research.

Acting campus principal David



Nature STUDY

Alexander believes the campus's expertise in business, science and technology goes a long way to preparing students to make a significant contribution towards society.

He says staff are always willing to go the extra mile for all students who enjoy the dedicated care they receive in smaller classes.

"We strongly embrace diversity and inclusion as key elements that enhance excellence in academics, culture and sport at our campus. We place a very high premium on individual attention and support for our students as an important dimension of our approach to widening access for success in life and work."

Given its tranquil setting, its ideal proximity to five different botanical biomes and the burgeoning economic hub on its doorstep, George Campus is set to flourish further.

As a result of the increased numbers and anticipated interest in the campus's sustainability focus, the University is investing R70-million into a number of key infrastructure projects.

Funding for these projects includes allocations received from the Ministry of Higher Education and Training from its three-year Infrastructure and Equipment grant allocations and from external stakeholders.

New residence

A R54-million, triple-storey residence overlooking the forestry pine plantations en route to the heart of the campus is under construction, with completion anticipated in April 2020. The three wings that make up the new residence were at the halfway mark in September 2019.

The additional 198 beds are aimed at alleviating the growing demand for on-campus accommodation and will supplement the present 430 beds.

Furtech building

The old Furtech building, close to the main teaching venues, has been refurbished and recently completed at a cost of R8-million to offer the campus further lecture space options.

The former working spaces have been reworked to offer the University a multi-function venue with its divider doors.

Fresh water reservoir

The construction of an additional R6-million fresh water reservoir to

supplement the current reservoir's capacity for the George Campus community is underway.

The new one megalitre reservoir is underway and expected to be completed by March 2020, offering additional water capacity of 2400 litres an hour.

In addition, renovation and modernisation of the central Protection Services control room has been completed.



OUR LANGUAGE OF INCLUSIVITY



Fittingly for 2019 as the International Year of Indigenous Languages, Nelson Mandela University is not only commemorating a decade of doctoral theses written in isiXhosa, but also giving voice to a new, more inclusive language policy. Gillian McAinsh reports.

The institution named after the late Nelson Mandela was the first in the country, 10 years ago, to have his home language represented in a PhD written in his mother tongue of isiXhosa.

Since then, staff and students have been working on updating the existing language policy, both on the ground and through the Language Policy reference group.

Professor Nokhanyo Mdzanga, Deputy Dean in the Faculty of Education, spearheads this group with the assistance of Dr Jacqui Lück, Head of the Department of Applied Language Studies.

"All institutions of higher learning

are expected to have a functional language policy," Prof Mdzanga explains.

"If you look at the demographic profile of students in 2018, we see that 68% of them are Africans and 58% of support staff are also African.

"This suggests they are bringing with them various linguistic repertoires and language resources, which in most cases are treated as invisible.

"So, as the language working group of academics, we met to discuss how the University could develop a new language policy.

"We needed an 'inclusive' approach where the voices of the

The Faculty of Arts is drawing together language, heritage and scholarship in its *Amalaphu Obulumko* – "cloths of wisdom" – project.

A cross-disciplinary project with a difference, *Amalaphu Obulumko* celebrates a decade of isiXhosa doctorates at Nelson Mandela University by crowning their authors with a headwrap (*doek*) created in their honour.

Ten years ago Dr Nozuko Zukiswa Gxekwa made history at the University when she became the first person to complete her doctorate in isiXhosa.

Since then, six more Xhosa-speaking academics have earned their PhD for

Amalaphu Obulumko

research conducted and written entirely in their home language and there are an additional six now registered for doctorates in isiXhosa.

The first seven have now been crowned with *doeks* printed with a unique design named after them, namely the Gxekwa, Notshe, Jaxa, Mvenyashe, Khumalo, Hempe and Cutatele *doeks*.

Faculty of Arts Media and Communication lecturer Senzo Xulu said the team which worked on the project in May 2019 were surprised and thrilled by its popularity.

"We wanted to do something that would interest the students. How do we get the student voice in without watering down the academic integrity?" says Xulu.

He explains how *Amalaphu Obulumko* uses a visual language to make academia accessible to a generation more familiar with hashtags such as #RespectTheDoek and #DoeksOnFleek.

The scholarship invested in these pioneering PhDs is "incredible", he says.

"To have an institution that for 10 years has been allowing students to write in their own language of isiXhosa is

remarkable. It is a big deal, particularly in terms of the national discourse on mother tongue education.

"Academic Xhosa is quite profound and a PhD of 240 pages is on another level. Most say they had to make up academic terms as they went along because these did not exist in their language before."

Crowning African knowledge

"As all the authors are female, the idea was to crown African knowledge in a regal way through the headwraps," he says of the collaborative process.

BTech Textile Design student Thandozani Nofingxana designed the prints for the *doeks*, which helped to give the range a cohesive feel. The 2018 Design Indaba Emerging Creative drew on content from the seven theses to inspire each piece.

The team included designer Cwayita Swana, who worked with students to design a striking cardboard tube to package the *doeks*.

Public Relations lecturer Anele Mvazana co-ordinated text in isiXhosa and English, telling the story behind each of the seven doctoral theses and the bright prints they inspired.

"We were brainstorming what to do for Africa Day on May 25, thinking it would go on the Faculty's Facebook page, and did not realise the *doeks* would become such a big project," Mvazana says.

Since then, there has been a successful exhibition on campus, where the *doeks* and related photographic and graphic design elements went on show. Due to demand, they are now on sale and may be ordered.

In addition, *Amalaphu Obulumko* has become a travelling tale as Nelson Mandela University Vice-Chancellor Professor Sibongile Muthwa has presented several as gifts to influential recipients on trips abroad.

Every *doek* tells a story and, although their mother tongue may be isiXhosa, they now speak a universal language weaving its pattern on an international stage.



and focus groups to gather insights from staff and students as the University works towards a multilingual environment.

The thrust has been to provide a safe space for “courageous conversations” about language experiences, particularly those which participants felt had marginalised or empowered them on campus.

“It has taken a lot of courageous conversations presented in various forums.

“Much progress has been made and it has been rewarding,” says Dr Lück.

At the end of the process, she explains, “we will have a document that speaks to the humanising pedagogy envisioned by the University.”

University community could direct and influence the design of this.”

Agents of change

Dr Lück says that while previously “English was found to be the sole bearer of knowledge”, this is not in line with the country’s constitution, which gives equal status and value to all 11 national languages.

“The government is addressing and redressing language transformation in terms of previously marginalised language groups and we are aligning our policy with that,” says Dr Lück.

A Government Gazette from February 2018 specifically criticised higher education institutions (HEIs), saying that they had “failed to establish multilingualism in day-to-day institutional life, especially in core academic activities”.

It criticised them for not having made more effort to develop and encourage the use of indigenous languages in three key areas:

- Scholarship;
- Teaching and learning;
- Communication.

Prof Mdzanga said a ministerial advisory committee had rejected the University’s previous language policy as non-committal and exclusionary.

“However, it noted the projects and practices implemented by staff



were more progressive than those stated in the policy.”

In other words, good work was being done on the ground, but this was not reflected in the official policy.

Language has been, and continues to be, a barrier to access and success in higher education, particularly for students who are not English first-language speakers.

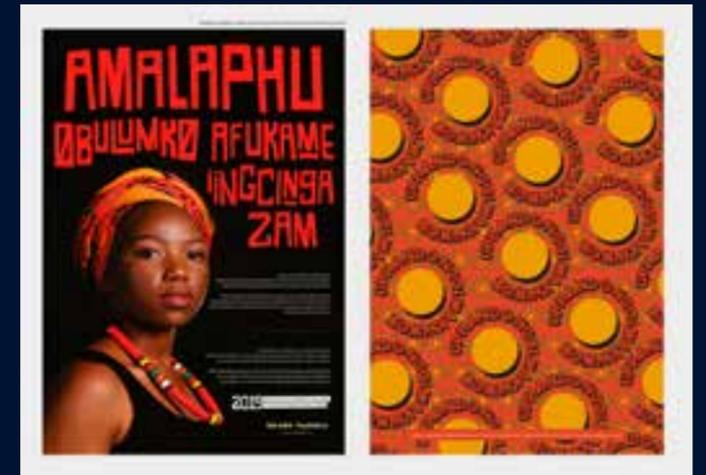
Taking action

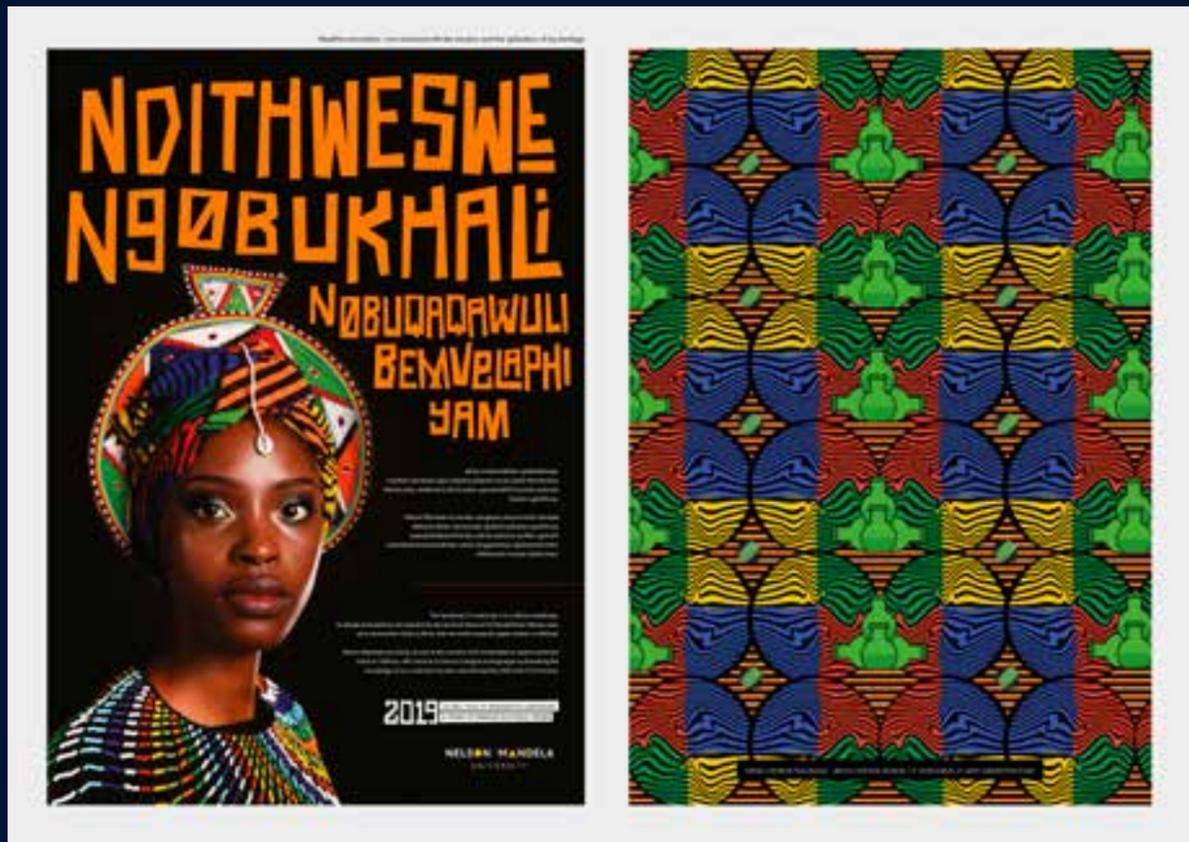
The Language Policy group has thus been conducting presentations

As Prof Mdzanga puts it, “change cannot be imposed - it requires a buy-in from all concerned. When the past is interrogated and understood, the University will be able to move towards an inclusive language policy.”

The end goal is to create an inclusive environment advancing tolerance and respect for diversity, where speakers of both indigenous and non-indigenous languages are truly valued.

The draft Language Policy was shared at Senate in November 2019.





OBSERVING THE STARS

in our cultural economy

SACO's festival calculator assesses the commercial value of events such as the National Arts Festival in Makhanda, where jazz band Bombshelter Beast performed this year. Photo: Jonathon Rees

Just as an observatory is positioned to give a clear view of stars shining in the night sky, the South African Cultural Observatory (SACO) focuses on the human stars blazing a creative trail across South Africa's cultural firmament.

And, as executive director of the organisation, it is Unathi Lutshaba's task to aim the telescope to best explore and measure this richly diverse terrain.

The Observatory is the Department of Sport, Arts and Culture's national research arm, a specialised institute based in Donkin Street, Port Elizabeth.

It maps, measures, values and understands the

country's cultural and creative economy, producing policy-relevant research on the socio-economic impact of the arts, culture and heritage (ACH) sectors, and the cultural and creative industries (CCIs) in South Africa.

As such, although it focuses on a colourful kaleidoscope which includes dancers, designers, crafters, choristers and so much more, its tools are not images and sound but rather statistics and science.

"The South African Cultural Observatory is a cultural and creative research project hosted by Nelson Mandela University in partnership with Rhodes

University, the University of Fort Hare and the University of KwaZulu-Natal,” explains Lutshaba, who took over the hot seat just over a year ago. Lutshaba replaced Professor Richard Haines, who is consulting for the Observatory until his retirement.

It was first launched as a three-year project in 2015 to gather and help shape industry and government strategies. In 2018, the department again awarded the University the project.

Cultural and creative industries

CCIs are often understood and defined differently by various organisations across the world. The Observatory uses the cultural domains as identified by UNESCO:

- Cultural and natural heritage;
- Performance and celebration;
- Visual arts and crafts;
- Books and press;
- Audio-visual and interactive media;
- Design and creative services.

“Our mandate is to map, to value and to understand the socio-economic relevance, importance, and GDP contribution of the creative and cultural industries in South Africa,” Lutshaba says.

“The work contributes to the country’s growth and employment as a nation, but before the establishment of



Unathi Lutshaba at Constitution Hill in Johannesburg Photo: Victor Dlamini

Festival Economic Impact Calculator

As part of the South African Cultural Observatory (SACO) research team, Rhodes University economics professor Jen Snowball developed the South African Festival Economic Impact Calculator, which is already proving an invaluable resource.

“We use this to monitor cultural festivals and events into which the Department of Arts and Culture has put money, such as the National Arts Festival, the SA Music Awards, Macufe, Indoni and others,” says Observatory executive director Unathi Lutshaba.

The calculator provides a framework to help festival organisers see how much revenue their event generates, helping them to judge how effective their spending is.

“The research team learned from interacting with the organisers and practitioners that some of them do not understand the economic impact of what they do,” says Lutshaba.

“Most of the people working in the creative industry do not have a business background. Some live hand to mouth and some do not even have access to business resources, so we developed this to be freely available.

“The calculator is available on our website and can be accessed by anyone who wishes to use it to measure any cultural event. The beauty of the tool is that it generates a report at the end of the process.”

SACO also offers a manual and training on how to use the calculator, which is helpful for users when they develop business plans to access future funding.

SACO, there had been no scientific evidence to back this up.

“We produce quality relevant research, generate insights and influence policy at national level.”

In 2011 the department launched its Mzansi Golden Economy Strategy identifying this sector as the new “gold”, and proposed the formation of a cultural observatory to help “mine” this rich seam.

Mining cultural gold

To do that, however, it is important to know where to look, and one of the Observatory’s major achievements has been to develop a tool, the Festival Economic Impact Calculator, to evaluate publicly funded cultural events.

With the country facing high levels of unemployment, the Observatory also assists government in understanding the importance of the CCI sector as an employer.

“I believe government is now putting its money where its mouth is but it needs to know how to better support it,” says Lutshaba.

“Because of the nature of work in the creative sector, a lot of jobs are seasonal.

“The sector is reasonably healthy and it has a lot of potential for growth. A lot still needs to be done; it just needs the public and private sectors to come together and ensure it continues to grow and create employment.”

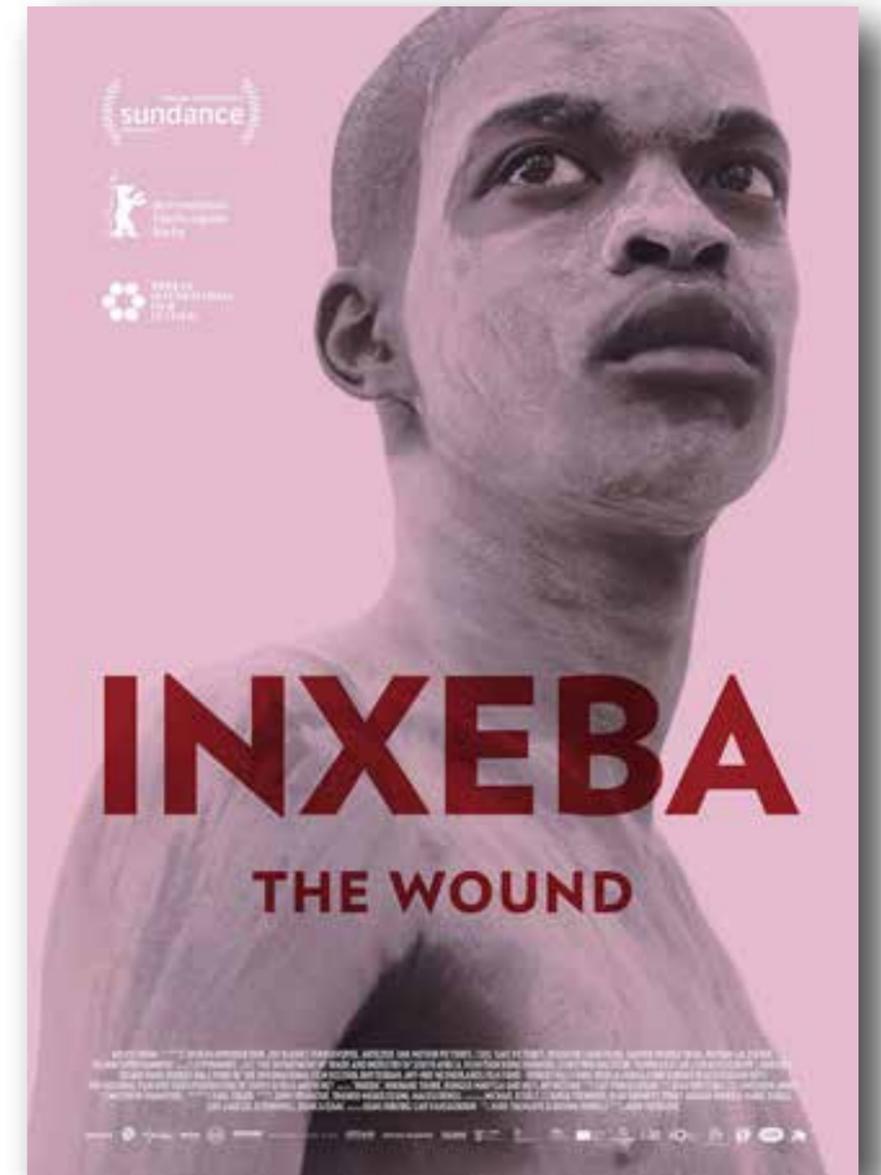
Her role also includes rating the performance of the sector with a view to analysing and sharing trends.

As well as national projects, the team has also held discussions with the Nelson Mandela Bay Business Chamber and the Nelson Mandela Bay municipality.

Lutshaba’s research background, dating back to the start of her academic career, is invaluable. She took a youthful decision to join the CSIR in Pretoria on a university gap year, where she worked in crime prevention.

“I wasn’t sure that I was in the right place doing the right course. That was my first exposure to the world of research and it grew on me.”

Lutshaba went on to get her MA in Development Studies from Nelson Mandela University and is now working on her PhD, also from Nelson Mandela University. In this she will look at traditional values and the sustainability of current economic systems in the rural



The South African film industry – illustrated by award-winning film *Inxeba/The Wound* – is a significant part of the cultural economy.

Eastern Cape village of Dikidikana.

“One just needs to have an understanding of what research is – the what, why, how and - very important – the ‘so what’. Once you understand, you can incorporate that into any field.

“I love what I do here at the Observatory because I get to focus on research and to project manage the entire process.

“Many think it’s about a choir performing a song or a poet reciting a poem at an event, but there is more that makes this sector work.

“Being at the helm helps me to assist government in strategic planning and decision-making on how to make the sector grow.”

Port Elizabeth-bred actor and singer Nakhane Toure, second from right, starred in *Inxeba/The Wound*, one of the award-winning South African films making a contribution to the cultural economy.



How Culture Counts

South Africa's cultural economy makes a significant contribution to the nation's total GDP: the most recent SACO mapping study shows it adds R63-billion per year to the economy, representing 1.7% of total GDP.

This sector has also been growing faster than the rest of the economy, as the creative and cultural industries had an average growth rate of 4.8% per year between 2011 and 2016 compared to only 1.6% per year for the whole economy over this period.

In addition, it drives substantial job creation as the total number employed in the creative economy is estimated to be just over one million (6.94% of total employment in 2016).

More than a third (35%) of cultural jobs are held by those younger than 35, so the cultural economy provides employment for nearly 380 000 young people. The largest number (43.1%) are found in the visual arts and crafts domain, followed by nearly one in five (19.6%) in the design and creative services sector.

These are encouraging statistics as the SACO Mapping Study of 2018 showed that, in terms of financial contribution to GDP, design and creative services contributes the most and is also one of the fastest growing areas.

The new mapping study report is due for release in March 2020.

Her team of more than a dozen – many are also Nelson Mandela University alumni – in the Donkin Street office, plus a few at partner universities, work across the country.

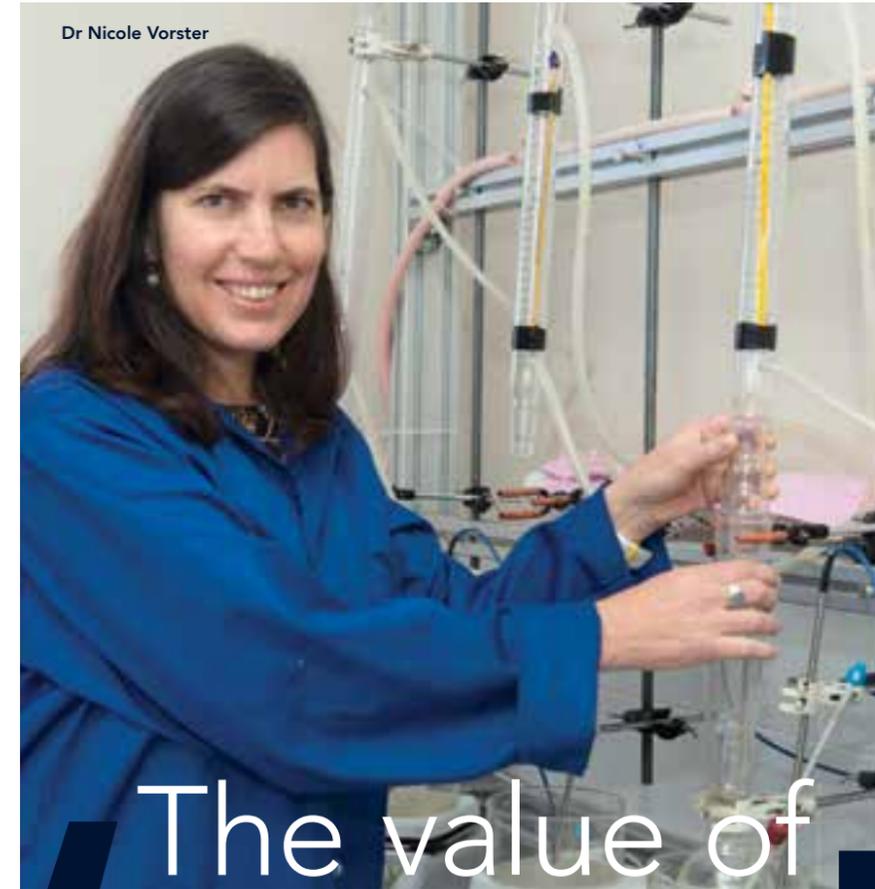
"The Department of Sports, Arts and Culture influences the research agenda for any particular year and for us to look at mapping the cultural sector across a country of 56 million people we need an efficient and knowledgeable big team."

Together they map a sector which is growing the next generation of cultural and creative stars.



Nelson Mandela University graduate Laduma Ngxokolo, seen here at New York Fashion Week in September, is one of many putting South Africa's creative and cultural industries on the international map. Photo: Corina Lecca

Dr Nicole Vorster



Beneficiation of waste

Dr Vorster is a lecturer for the BSc Honours degree programme in Formulation Science - a course that applies knowledge of chemistry to formulation science.

It combines this with product development, entrepreneurship and business fundamentals. Her research field is the beneficiation of agricultural and food waste for commercial application in the cosmetics, health supplements and fish/pet feed industries.

'The value of waste'

"I admire innovators and entrepreneurs for their contribution to society. Applied research and teaching students to be innovative have inspired me to become an entrepreneur."

These are the words of Dr Nicole Vorster, winner of the Emerging Innovation Excellence Award and Formulation Science lecturer in the University's Chemistry Department.

Science meets sustainable skincare

Her groundbreaking project involves the use of olive pomace – the by-product of olive oil processing.

Dr Vorster has developed an optimised antioxidant extract from the substance for use in cosmetic skincare products – a double win for both the war on waste and a more natural, sustainable approach to beauty.

Prototype cosmetic products of her project, *Optimised trial cosmetic formulation from olive waste*, were showcased among the best publicly funded technology offerings in South Africa at the 2017 Innovation Bridge Technology Showcase and

Matchmaking Event in Johannesburg, an initiative of the Department of Science and Technology.

In 2016, with funding from the TIA Seed Fund Programme, managed by the University's Innovation Office, Dr Vorster and her PhD student, Marthie Postma-Botha, developed a unique extraction process to produce the optimised olive pomace extracts for use in cosmetic skincare products.

The extracts contain anti-microbial properties and many antioxidants promoting moisturising, anti-ageing and UV protection.

This year, funding was approved to conduct market feasibility studies for the commercialisation of the extracts.

Fledgling student society set to fly high

“As we live in a complex and dynamic world today, innovation and entrepreneurship are becoming more relevant in economic development. In fact, innovation has become an essential part of entrepreneurship.”

Wise words from Vuyo Tutu, chairperson and co-founder of the recently-established Ecosystem student entrepreneurship development society and a final-year BCom (Economics) student.

The new organisation, launched at the beginning of 2019, walked away with the Best New Society award at the Student Governance Merit Awards in October.

It was lauded for going beyond its vision of promoting a culture of entrepreneurship among students through capacity building, skills development and awareness programmes on campus.

Members have reached out to the business community of established entrepreneurs to build relationships with enterprising students.

Initiatives and leadership

Ecosystem’s flagship event in May this year – a Cash Flow Management workshop attended by 50 students – was a roaring success.



Enjoying an Ecosystem event are (from left) Jonathan De Graaff (member), Vuyo Tutu (Ecosystem chairperson), Shamiso Banda (PR officer), Kazimla Mbongwe (deputy chairperson), Anelisa Bali (events officer) and Viwe Matutu (member).



At one of Ecosystem’s events are (from left) Akhona Matolengwe (student entrepreneur), Dr Tandiswa Ngxukumeshe (academic and entrepreneur), Anelisa Bali (Ecosystem’s events officer) and Nombasa Jakeni (founder of Imbasakazi Foundation).

Other events included awareness programmes, a Fourth Industrial Revolution dialogue, a Women’s Month workshop and a business leaders’ seminar.

The society is managed by an executive committee of six undergraduate students in various fields – three of whom are entrepreneurs themselves.

With a total of 60 members, it

intends growing its reach with more programmes to equip and assist young students in achieving their business dreams.

“Knowing that politicians are not going to fix South Africa’s economy and high unemployment rate, we have realised that students have to become job creators through entrepreneurship – and not only job seekers,” says Tutu.



Trailblazing SPACE RESEARCH Benefiting Emerging Markets

The Space Science and Technology project, under the guidance of lead researcher Professor Farouk Smith, has built cutting-edge research capability – making the development of satellites cheaper and more effective in the harsh space radiation environment.

“This research could enable South African space system development to stay relevant by using the newest devices on the market,” says Prof Smith, associate professor and head of the University’s mechatronic engineering department.

“It could also lessen the dependency on expensive radiation-hardened devices to meet required reliability criteria on future designs.

“By addressing the need for low cost satellite electronics, the research will ultimately benefit emerging markets especially. It will enable South Africa and other emerging countries to enter the space technology fields without too great

a financial investment, as satellite electronics will be more accessible.”

The project focuses on space applications, remote sensing of the environment, mechatronics and radiation effects on electronic technologies in the area of space science technology. It is linked to the national strategic priority area of space science and technology, which provides essential data and services to a wide array of applications ranging from research and development to commercial services.

This breakthrough research will also contribute to sustaining local universities’ research activities by providing the critical high-end skills base demanded by the global labour market.

Research focuses on training space electronics experts among postgraduate students – an essential group for improving research capacity at Nelson Mandela University.

“By addressing the need for low cost satellite electronics, the research will ultimately benefit emerging markets especially.”

Simple device a GAME-CHANGER for patients

What started as a basic call button has transformed into a unique technological tool set to revolutionise the world's health care system.

The Qbell button – designed for patients with no or limited small motor function in hospitals and private homes – is now just a small benefit of the entire Qbell Care Risk Management System, designed to maximise the safety of both patients and nurses.

It was launched in the spinal unit of Bloemfontein's Pelonomi Hospital in October 2019.

Heinrich Williams, product inventor and Nelson Mandela University alumnus, says that Qbell Care aims to minimise common hospital risks through the use of Internet of Things and SMART devices.

Williams, a quadriplegic and owner of QSystems SA, was inspired to develop the system after being paralysed and hospitalised following a bacterial infection.

"According to research, 43% of detrimental incidents in hospital are preventable," explains Williams.

"The cost related to patients falling in hospital is (high) for the health care system, amounting to millions per year in developed countries around the world. This is also the case with hospital-acquired pressure injuries."

The system has myriad benefits, he says:

- Hospital management can make sound

- Families may request detailed print-outs of how often a patient required hospital staff assistance;
- Recorded data helps to improve hospital efficiency, such as a nurse's response time to a patient's call;
- Automatic scheduled alarms help patients requiring regular assistance;

- The bell alleviates nursing workloads;
 - Overall positive impact on care, monitoring and evaluation of patients.
- This portable, user-friendly and proudly South African product is a welcome addition to local innovations, as South Africa imports up to 90% of its medical devices.



Heinrich Williams holding his Qbell Care device.

WHAT IF MY TECH IDEA ~~ISN'T~~ *is* GOOD ENOUGH?

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