



SPIRIT

April 2014 | Volume 3



NEW CHANCELLOR A FEMALE FORCE TO BE RECKONED WITH P6

ALUMNI CADETS TRAIN IN MECHATRONICS IN THE NETHERLANDS P10

MULTIMILLION RAND MAKEOVER FOR MUT P18

CONTENTS

| | |
|---|----|
| From the Editor-in-Chief | 3 |
| Making a mindshift for the 21st Century | 4 |
| MUT appoints its first female Chancellor | 6 |
| Accreditations a credit to MUT faculties | 8 |
| In conference | 9 |
| Taking the MUT message to Polokwane | 9 |
| Alumni graduates train in mechatronics in the Netherlands | 10 |
| Parents hit the campus | 12 |
| Three PhDs for engineering | 13 |
| Launchpad engineered for greening of MUT | 15 |
| Blazing award-winning trails | 16 |
| Multimillion rand makeover for MUT | 18 |
| MUT appoints top guns for support services units | 19 |
| From the Office of the Dean of students | 20 |
| Putting Valentine's Day to the test | 21 |
| Reason to smile | 22 |
| Londiwe Zondi goes to Japan | 22 |

From the Editor-in-Chief

DEFINING MOMENTS FOR MUT

As MUT approaches its 35th anniversary in May, it has good reason to celebrate. Much has changed over the years, but the road we have travelled has been paved with incredible successes of which we can be justly proud. Some of these achievements are showcased in this publication. I am reminded of a poem by Maya Angelou:

***“You may write me down in history
With your bitter twisted lies
You may trod me in the very dirt
But still, like dust, I rise.”***

The unprecedented rise of MUT has not been without controversies, and distortions and degradation of the MUT brand; but all these have been futile as ‘like dust’ brand MUT has risen. Having started as a technical college in 1979 with 15 male students and become a technikon the following year, MUT has produced more than 20 000 graduates.

It is a diverse campus with approximately 10,000 students from three faculties of Engineering, Management Sciences and Natural Sciences. It has an almost 50/50 gender representation and is disability friendly. In 2007, the Minister of Education promulgated the Technikon as a University of Technology. It became known as Mangosuthu University of Technology (MUT) to become one of the five universities of technology in South Africa. MUT is a new era university just like in the UK in 1992 when 31 Polytechnics were promulgated to become universities.

But how does a higher education institution thrive in a township and remain standing 35 years later? Simply, it was the foresight of Prince Mangosuthu Buthelezi, who was Chief Minister of the KwaZulu government from 1974 to 1994. Prince Buthelezi approached the Chairman of Anglo-American and De Beers, Harry Oppenheimer, for funding. “I was concerned that black people in Natal and KwaZulu did not have their own institution for technology studies under the apartheid government,” he said. A feasibility study was conducted by the South African Labour and Development Research Unit at the University of Cape Town.

After approval by the then Department of Education in KwaZulu, a R5 million grant from Mr Oppenheimer helped



Editor-in-chief, Mbaleni Mkhize

establish the institution at Umlazi Township. The institution was named Mangosuthu Technikon after Dr Buthelezi, who is also a prince of the Buthelezi tribe. The rest is, as they say, history. Suffice to say, from 15 students and nine lecturers in 1979, today we have more than 10 000 students and 500 staff. Whereas in 1979, the institution could not house even one of those 15 students, today it houses over 54% of the student body both on- and off-campus. Later in this publication we will read about the funds injected into the university, some of which are earmarked for students' residences and wellbeing.

Brand MUT is a new era university to be reckoned with. Its constituencies understand the precariousness of a brand rooted in a township, how it needs to rise above all brands and show it can compete on equal footing. Among MUT's milestones are increased research, absorption of MUT graduates by top corporations, fast-paced growth in PhDs by academic staff members and finally, but not least, a student body that has embraced an alcohol-free policy. Carpe diem MUT!


MAKING A MINDSHIFT FOR THE 21st CENTURY

**Vice-Chancellor, Prof
Mashupye Ratale
Kgaphola**



VC, Prof Kgaphola

This is the first edition of MUT Spirit in 2014, and so it is appropriate that I extend a warm welcome to all our friends, staff members and students. As the year unfolds, and as we continue to enter new terrains, we also take a moment to reflect on how the first class of 1979 started at our university with almost nothing, sometimes studying under trees. These students even had to walk five kilometres to get their lunch at Umlazi Vocational, which was their residence then, and return to campus for afternoon lectures. Yet they made it. Gordon Msimang, one of those very first students and now a proud member of the MUT Council says: "We passed in record time, and were out of campus within two years."



As I pen this article, I am reminded of many gratifying moments that I have had with our general student body, parents and guardians, staff and final year students on separate occasions since the beginning of this year. The walkabouts, mass meetings and informal meetings have enabled my colleagues and I to share with our valued stakeholders our vision for MUT, as well as our accomplishments and challenges to date.

Our story seems like a fairy tale sometimes. In retrospect, it is less than four years since we took on the apparently insurmountable challenge of turning the university around. Our first task was to stabilise a fractured institution and restore to it a modicum of operational integrity. In this sense, we needed to find a way to make ordinary things happen ordinarily. We then embarked on a strategy development process, itself a daunting task given the multiple obstacles that were facing us. Subsequently, we grappled with the development of an operational plan that was purposely driven by the strategy. The latter leg of our journey started in earnest in 2012, and is still work in progress as I write this commentary.

Overall, it has been hard work for the senior management team and other stakeholders in the university. I am deeply humbled by the manner in which everyone has taken up their share of the burden. Together, we are getting a better sense of what it means to work as a team.

As we now take stock of our gains, among many of our accomplishments has been an increased pass rate of students across all our faculties. Compared to the examination results of 2012, the following increases were recorded in 2013 in the overall faculty percentage pass rate of those who enrolled: Engineering up by 9.8%, Management Sciences by 4.43% and Natural Sciences by 3.75%. These exam results clearly tell us that our students are turning the corner. We are much encouraged by what we see. I am struck also by the observation that our students are doing well not only academically, but also as representatives for South Africa in different sporting codes. Clearly there is a lot going on around our campus other than in the lecture room.

I am tempted to use the language of young minds who talk about 'being cool'. Our 21st Century challenge can be captured as being, in part, to deliver on what is cool for a first generation graduate within a broader socioeconomic context. This context is characterised by, inter alia, a national resolve to fight the pandemic of HIV and Aids, and a heightened awareness that we must develop techno-savvy graduates with a new orientation towards work and society in general. As

leaders, we are challenged to explore with our youth a new meaning of 'being cool'.

When, in 2010, we implemented an alcohol-free policy at MUT, to some it didn't seem like a sustainable project. But fast forward three years, and we have hosted all sorts of students' social gatherings free of unsavoury incidents. These events include freshers' balls, beauty pageants and music festivals that students elsewhere would normally have. And our students are happy with things as they are, because they have been the witnesses and beneficiaries of the new story. It is indeed 'cool' at MUT to have a jol without the dope.

Our minds are focused on the future, and the promises it holds for our University our students. When my office convened a meeting of all final-year students on campus on 20 March 2014, an overwhelming 3 500 students attended. The students were at the hall by 9:30 am and sat patiently through the meeting until 12:30 pm. Enthralled by speaker after speaker, our students took in new insights about what industry and the world of work expect of them. Clearly this was a new, but evidently welcome, conversation for our students. It took them beyond just aspiring to do well in the next exams. During the Q&A session, one student said, "We need this, we are desperate to do well." Unlike the graduates of the '80s who would easily find a job, our graduates today are entering a job market in which unemployment is estimated to be anything up to 38%. We at MUT would pat ourselves on the back if our graduates were absorbed in relevant careers as soon as they graduate or, even better, before they graduate. This is one of our destination statements as a University - to see our graduates employed and making a contribution in the development of our economy and society.

To reach our vision of being a pre-eminent university, we must engage our stakeholders. Thus far, we have sought partnerships with parents, given them an overview of what we are doing at MUT and answered their questions on their children's wellbeing while in our care. We reminded parents that they need to walk with us and be on the same page with us if their children are to succeed. It is for this reason that when we celebrated the success of 292 students who had attained an aggregate of more than 75% in the previous examinations, we delivered the State of the University address to the entire student body. We wanted to showcase what success looks like by being inclusive and to let the students see that it is ordinary individuals such as them who succeed against the odds.

In the month preceding our official 35-year celebrations, which will start in earnest in May 2014, we celebrate the past, fine-tune the present and chart a deliberate pathway ahead for the success of MUT, our students, academics and the people of Umlazi who should thrive through our success.

As I said during my recent public address to the MUT staff, we are not finished dreaming yet....

NEW CHANCELLOR A FEMALE FORCE TO BE RECKONED WITH



MUT is proud to be among only three of the 23 public universities in the country to have a woman at the helm. Lindiwe Nonceba Sisulu took her seat in the Chancellor's chair on 10 April 2014 and declared her support for the institution's management. "I am happy to be associated with MUT, which has the only alcohol-free campus in the country," she said. "MUT is intelligently dedicated to the ideals and inspiration of an African university, and is a university poised to solve African problems."

Sisulu committed herself to working with the university's management to further the programmes already underway. "I pledge my dedication and invite you to partner with my institutions, the State Information Technology Agency (SITA) and the Centre for Public Service Innovation (CPSL)." She observed that, while other institutions were hotbeds of student-management conflict, MUT was writing a different script, which reflects the sterling leadership of the executives.

"We represent the most disadvantaged individuals in tertiary education, but we have, under the inspired leadership of our current administration, adopted the noble core values that I hold dear. This is an institution that inspires the youth, supporting them to be leading lights in creating a society that lives and believes in acting with dignity, and spurring them to strive for excellence, to respect others and to remain at the forefront of technology."

Sisulu was pleased that MUT had recently held a parents meeting, and that executive management had leadership development at the top of its agenda.

She may bring a feminine touch to the campus, but her strength is well documented. Dr Sibongiseni Dhlomo, KwaZulu-Natal's MEC for Health, describes Sisulu as a pillar of strength for her

mother, Albertina, when her father, Walter, was serving a life sentence in jail.

Education has a special place in the Sisulu's heart. As one of the class of 1976, she is aware of the importance of education to South Africa's future. "Education should provide solutions for the current problems in the country, including unemployment, crime, poverty and lack of resources," she says. "Going beyond classroom teaching, universities must conduct research that is solution-oriented and cost-saving. They must be innovative, and use science and technology to improve living standards, feed the growing population, keep people healthy and generate new job opportunities.

"The government spends billions of money on consultants. If that money was invested in universities and you were consultants, how much more could we have benefited?" Sisulu's appointment was no surprise. She was the choice candidate for various stakeholders. She was warmly welcomed by staff, MUT's Nehawu branch and the student leaders, who pointed out that MUT has shown maturity and growth in appointing her. Dr Mangosuthu Buthelezi, the founding father of the university, said Sisulu's remarkable skills are a huge gain for MUT. The Vice-Chancellor of MUT, Prof Mashupye Kgaphola, said management was confident the appointment would further enhance MUT's commitment to making a mark on the higher education landscape in KwaZulu-Natal and beyond.

The welcome function was attended by Dr Dlomo, Deputy Mayor of eThekweni Logie Naidoo, MUT's Council and distinguished guests from the provincial legislature, eThekweni municipality, universities, embassies and corporations, as well as MUT's staff and students and high-ranking alumni. The venue was Seme Hall, which had been completely transformed in keeping with the occasion. It was, by all accounts, a world-class event in keeping with the developing image of MUT as an institution comparable to its global counterparts on all levels.



MUT Council with distinguished guests at the installation of Ms LN Sisulu, seated, third from left

Born on 10 May 1954, Lindiwe Sisulu completed much of her education in Swaziland, earning a BA Honours in History from the University of Swaziland. In 1981, she received an MA in History and in 1989, an MPhil from the Centre for Southern African Studies at the University of York. Sisulu has published a number of papers with a special focus on women at work and women's working conditions in South Africa.

She has been a Member of Parliament since 1994, and sits on the ANC's National Executive Committee. She has held several government positions and is currently Minister of Public Services and Administration.



Prince Mangosuthu Buthelezi, one of the founding fathers of MUT, with the new Chancellor Sisulu



Chancellor Sisulu being robed by Chair of Council, Judge Jerome Ngwenya



MUT Vice-Chancellor, Prof Mashupye Kgaphola, congratulating the new Chancellor



Dr Brigalia Bam, Chancellor of WSU; LN Sisulu, MUT new Chancellor; Prof Fikile Mazibuko, Vice-Chancellor, UNIZULU

ACCREDITATIONS A CREDIT TO MUT FACULTIES

35 year celebrations have not yet begun but MUT is in a celebratory mode already. A new degree and an advanced diploma have been accredited by the statutory bodies in higher education. "In our quest to produce 21st century graduates, we have had to come to grips with developing and designing new academic programmes. These programmes aim to produce well-grounded graduates whose qualifications speak to the needs of industry and the development of our country and beyond. Three departments have been granted permission to run senior courses. At its meeting on 5 February 2014, the HEQC approved the accreditation of the Advanced Diploma in Marketing. Before the end of March MUT received the news that the Department of Environmental Health has been granted permission to run a BSc four-year professional degree," said Prof Ramogale.

The MUT Council and Executive Management have paid tribute to the foot soldiers that have worked hard to make this a success. An overjoyed Dean of the Faculty of Natural Sciences, Prof Nokwethemba Ndlazi, said "now MUT students will have an option of registering with other institutions, or continuing at MUT. In fact our students were showing keen interest in furthering their studies at MUT. Now they have a chance. We're now confident that in 2015 we will definitely have more than one new programme offered in the Faculty of Natural Sciences, which is a huge sign of growth. The BSc articulates to a master's degree." Prof Ndlazi added that this development was providing an opportunity for MUT to venture into post-graduate qualifications, and will now be able to reach the higher market. The Faculty of Natural Sciences is leading in programme accreditation. It now has three new programmes in the last six months.

The Dean commended Tobius Poswa, the Head of the Department of Environmental Health "for his sterling leadership

in ensuring that even the slight concerns that were raised by the HEQC got addressed to their satisfaction."

Poswa said: "Receiving the news that the BSc in Environmental Health has been approved by the Council of Higher Education (CHE) was the best news ever. We have been waiting patiently for the outcome of our application. Everyone is excited. This has been a collective exercise and a product of hard work and strong leadership. We recommit ourselves to the rollout process in preparation for offering the programme in 2015."

Academic staff members in the Department could not hide their joy. Senior lecturer Moeti Kgware said developing this new curriculum has instilled in him the faith in the profession. "I'm pleased that we will now produce learners with strong research abilities", he said, while Anna Doherty-Bigara, a lecturer in the Department, also pointed out the fact that the new qualification requires the application of the scientific research is big plus.

The DVC Academic, Prof Marcus Ramogale described these achievements as "a feather in the MUT cap!"

Shifting focus on accreditation, great things are happening in the academic space. The 2013 pass rate increased tremendously. The Engineering Faculty's pass rate went up to 85%, Management Sciences to 92% and Natural Sciences to 90%. The institutional average was 89%. With this kind of academic achievement, it is certain that our vision to be a pre-eminent university of technology is realisable.

As the 35 year celebrations get underway, MUT looks back with gratitude and the wisdom of experience and forward with pride and confidence as the institution marches on from one victory to another.



Left: Prof Nokwethemba Ndlazi, Dean of the Faculty of Natural Sciences; Prof Marcus Ramogale, Deputy Vice-Chancellor Academic; and Tobius Poswa, Head of the Department of Environmental Health

IN CONFERENCE

Several conferences are on the agenda for the months to come.

From 11 to 12 September, MUT Marketing and Communications will host its third annual home-grown Empowered Administrators Conference. This award-winning conference in the marketing, advancement and communications in education sector, taking place at the Southern Sun Elangeni and Maharani Hotel, will explore the theme "Creating thought leaders in office administration".



Visit www.mut.ac.za/eac for more details.

The following month, from 14 to 16 October, the University will host the 7th Annual South African Technology Network (SATN) Conference at Fairmont Zimbali Lodge and Resort. The theme is Enhancing teaching, learning and assessment initiatives in universities of technology: Looking back and looking forward. Prof Kgaphola, Vice-Chancellor of MUT, is Chairperson of SATN.



Read more at www.satn.co.za

MUT, in conjunction with the Municipal Institute of Learning (MILE), will host the University Research Symposium 2014, November, www.mile.org.za

TAKING THE MUT MESSAGE TO POLOKWANE

MUT stakeholder relations officers, Nompilo Dlamini and Sifiso Khuboni, travel the country promoting the institution to potential students. From 10 to 14 March, they attended an exhibition organised by the University of Limpopo, in partnership with Capricorn district. More than 223 Polokwane high schools attended and, having been made aware of what MUT can offer, the learners are now in a position to make informed decisions about their future.

Pearl Ngobeni and Tshogofatso Malete from Fedile High School, to name but two, showed great interest in the subjects of engineering, environmental health, biomedical sciences, agriculture, chemistry, nature conversation, marketing and accounting. Educator, ML Rangoanasha from Seripa High School, believes MUT is the gateway for Limpopo learners to experience education out of their home province. Also welcome was the presence of Umalusi, the matriculation body, which attended to clarify higher education-related matters.



ALUMNI CADETS TRAIN IN MECHATRONICS IN THE NETHERLANDS

Nompumelelo Ngwenya sat anxiously inside the aeroplane waiting to disembark on the soil of Amsterdam, the capital City of Netherlands. Next to her was Xolisile Ngubane, who was bursting with enthusiasm as she listened to the fierce reverberation of the aeroplane's engine. Both Nompumelelo and Xolisile relate well to the sound of electronically propelled steel because they are MUT alumni students who graduated with a Diploma in Mechanical Engineering. They work daily inside gigantic ships, toiling with engines as large as the average minibus. Both of these ambitious female cadets are currently under the wing of the Transnet National Ports Authority Dredging Service division, and are preparing for their examination to obtain their STCW Marine Engineering Officer of the Watch certificates.

Nompumelelo and Xolisile were nominated to attend a prestigious 19-day training course in pneumatics, hydraulics and electrical engineering at ROVC in the Netherlands. ROVC is renowned for its leadership in competency development and training for the technical sector.

The training was facilitated by IHC Merwede, a maritime design engineering group that equipped the cadets with expert knowledge in managing and maintaining the titanic display of state-of-the-art controls based on contemporary electronic systems that characterises the grab hopper dredger ship currently being built in Bulgaria and scheduled the launch in South Africa in mid-2014. Nompumelelo stated that she was very proud of the "astronomical calibre of education provided by MUT" because the foundation skills she received from her

lecturers helped her to comprehend what turned out to be a multifaceted and complex mechatronics training session.

Xolisile last visited MUT in 2010 for her graduation. "I was ecstatic just to see the MUT logo after such a long time," she stated as she began to talk passionately about her memorable journey as a student. Initially, she was informed that the mechanical engineering programme was extremely challenging and was advised to take civil engineering instead. However, Xolisile refused to give up on the career aspirations she had since matric at Impolwane High School in Ladysmith. Nompumelelo joined the mechanical engineering group a week later and was overwhelmed to find the class – and lecture team - dominated by males.

She was one of a group of four female students who decided



MUT Alumni: LEFT, Xolisile Ngubane and Nompumelelo Ngwenya



LEFT, Transnet HR Manager, Adri du Plooy, Nompumelelo Ngwenya and Xolisile Ngubane.

that no gender boundaries should exist in mechanical engineering, and that females can survive and excel in the industry. In this belief, she set about carving her place in the sector. Nompumelelo smiled affectionately as she spoke about her lecturer Prof Ewa Zawilska, Head of the Engineering Department, whom she described as an approachable and nurturing 'mother'. Both former students said that they remain forever indebted to senior lecturer Philip Kotze, who taught them with the utmost patience and dedication.

After their graduation at MUT, Nompumelelo and Xolisile completed a six-month maritime course at the Durban University of Technology. They both completed their internship at Transnet and have since been nurtured and groomed by human resource manager Adri du Plooy. During their cadetship, they travelled the (Belgian) Congo, Gabon, Angola and Cameroon in western Africa. They spent more than six months at sea with an all-male, often foreign language-speaking crew. Xolisile explains proudly: "The ship did not move without us". Both alumni students concur that their job is rewarding. According to Adri, "coupling the ladies in all their seafaring trips provides a companionship-coping mechanism and eliminates language barriers."

There is no special treatment for the women. "My colleagues treat me like a male and don't offer any assistance when I am faced with burdensome and strenuous tasks such as dismantling a massive engine pump with rusty bolts and heavy parts. I struggle at times," says Xolisile. "However I always manage to complete my tasks on my own because I am determined to succeed."

She laughs nervously as she tells of the ordeal that turned out to be an unforgettable lesson. She was tasked with switching off one of the malfunctioning pumps in the engine room. The senior engineer did not specify which pump, so after careful thought, Xolisile chose one. Moments later, the alarm bells sounded and the captain's switchboard flashed with more than 20 calls. Xolisile had switched off the pump that supplies the air-

conditioning and refrigeration. Nompumelelo has also had her fair share of hard lessons, which she has embraced as learning curves. She remembers distinctly the day she started the ship engine without closing the cover. This could have caused a fire, but, fortunately, there were merely sparks and heavy fumes.

Clearly, certain lessons cannot be taught in class and, for that reason, the pair value Transnet's experiential learning and both look forward, hopefully, to fulltime job with the company once they have their STCW certificates.

Nompumelelo has to balance her work challenges with her feelings of homesickness. Married with one child, she realises that the career path she has chosen is not entirely healthy for family relationships. Nonetheless, she is determined to pursue her career without neglecting her family. She is blessed with a supportive husband who keeps the household together while she is away.

We salute our Nompumelelo and Xolisile and their caring families.

MUT is on a mission to provide advanced technology-based engineering programmes and services that are career- and business-oriented. Part of our 2020 strategy, explains Prof Khehla Ndlovu, DVC: Resources and Planning, is to establish a campus close to Durban Harbour, which will offer maritime programmes. Prof Zawilska is concerned about the lack of female representation in the mechanical engineering department, and is determined to put strategies in place that will show the department's commitment to gender redress and to contributing to an equitable and prosperous southern Africa in which individuals have the opportunity to achieve their full potential, irrespective of gender. "Nompumelelo's and Xolisile's accomplishment is a true manifestation of the University's mission and vision," says Prof Zawilska. "We are proud of our alumni."



Prof Zawilska



Nompumelelo Ngwenya with a colleague

PARENTS HIT THE CAMPUS

Florence Mtolo arrived first on the sunny Saturday morning of 8 March – a full two hours’ before the day’s proceedings began. Florence (61), grandmother of first year engineering student Thabiso Jama, was keen to make herself comfortable in the university hall. “Gogo, you are very early, don’t you want to go somewhere and come back in two hours?” asked one of the security guards. The answer was no and soon Florence was joined by Sizakele Ngobese. Jennifer Moodley from Verulam, mother of aspiring quantity surveyor Dershan arrived, and soon after, parents were streaming through the doors. The event was an imbizo organised by the Office of the Vice-Chancellor to share with parents and guardians news on upcoming infrastructure developments, and students’ life, wellbeing and performance.



MUT Vice-Chancellor,
Prof Mashupye
Kgaphola

“We are very happy to have your children on our campus,” said Prof Kgaphola. “Just last month we heard that five female mechanical engineering graduates were among the 20 Transnet new graduates sent for training in the Netherlands at the beginning of this year.”

Prof Kgaphola went on to commend the students for their behaviour. “We were impressed by the political maturity of our students during elections. Most universities’ elections were fraught with tension, intolerance and vote rigging, but ours ran smoothly. We attribute this to our annual seminar entitled, Future leaders’ seminar for first-year students in leadership, at which we shared the broader strategic goals of the University.”



Jennifer Moodley, LEFT, from Verulam, with her children

“When the year starts at MUT, it is with purpose, despite the glitches that besiege almost every public institution.”

Speaker after speaker took parents on a journey through their children’s life at MUT, how the University financially supports the needy and plans for improved infrastructure.

Umlazi’s Chris Ntuli, a Member of Parliament whose child is in first year agriculture, expressed his appreciation

to executive management for the University’s approach. “My older children have studied elsewhere, and not one other university has ever called a meeting like this, which tells me where it is going and how my children are looked after by their other ‘mother’,” he said “I am very touched and will talk to my son from an informed standpoint from now on.” The view was echoed by many parents.

At the heart of MUT’s decision to tell its story is the belief that parents play a pivotal role in shaping the mindset of their children, who are, after all, the University’s most important stakeholders.



Early comers! Sizakele Mgobese and Florence Mtolo



MP Chris Ntuli, a parent with the VC



Andrew Kubone, responding to parents questions

THREE PhDs FOR *ENGINEERING*

The Faculty of Engineering is breaking new ground. In an unprecedented academic victory, the faculty produced three PhDs in 2014, two from the Department of Electrical Engineering, bringing the total in that department to four.

The triumphant trio are Prof Senzo Malinga, Dr Chrispin Mulangu, both from Department of Electrical Engineering and Babatunde Bakare from the Department of Chemical Engineering.

Three years of hard work, intensive research and publication preparation have culminated in a PhDs in Electronic Engineering from the University of KwaZulu-Natal for Prof Malinga, Dean: Faculty of Engineering. The title of his thesis was *Determination of millimetric signal attenuation due to rain using rain rate and raindrop size distribution models for southern Africa*; and his field was electronic engineering.

The Prof had this to say about the support he received: "MUT paid my tuition fees, and for my attendance at conferences in Kuala Lumpur, Malaysia, and Taipei, Taiwan. Twice I was able to take special research leave at crucial points of my study."

Back home was wife Sihlophe, a teacher. Away but present in spirit were daughters Lungile, an accountant in George, and Zanethemba, a business science student at UCT, and son Zakhelamandla, an aspirant visual artist.

Says Prof Malinga: "I experienced the usual challenges of studying whilst working and being the head of the household who has to attend to the needs of his immediate family and extended family. I am grateful to my wife and kids for their understanding and support throughout this gruelling period. For the past three years, I practically lived in my study at home – it became second nature for me to be up at 3am every day and also to spend my evenings in the study. Now, I hope, everything will go back to normal at home."

The active support of his supervisor, Prof Thomas Afullo, also played a big part in the achievement. "He was very patient with me and gave me all the time and attention I needed throughout the project," says Prof Malinga. "Also key was the collaboration with my colleague, Dr Pius Owolawi. We spent countless hours discussing, agreeing and disagreeing. I must say I grew up professionally due to these robust engagements."

Prof Malinga's thesis on the advantages offered by super high frequency (SHF) and extremely high frequency (EHF) bands such as large bandwidth, small antenna size, and easy installation or deployment, has motivated researchers to study the factors that prevent optimum utilisation of these bands.

Also earning a PhD in Electronic Engineering was Dr Chrispin (Chris) Mulangu. "MUT, through the research office, helped me financially during my PhD work, especially in the last year, when the research capacity development grant was introduced," says Dr Mulangu. "I also received a lot of support from my head of department and my colleagues. My family encouraged me, especially when I was down, stressed or under pressure from the supervisor. They were always there for me." His wife is doing maritime studies at Durban University of Technology (DUT), and they have a daughter Christelle (6) and a son Elie (4).

Dr Mulangu's PhD title was *Channel characterisation for broadband powerline communications* in the field of telecommunications under electronic engineering. He argued that the main limiting factor in broadband powerline communications is the presence of impedance discontinuities in the wired channel. This phenomenon is present in both outdoor and indoor powerline communication channels.

"The first challenge I faced," he says, "was changing the field from radio propagation to wired communication while remaining in telecommunications. I had to read more to have sufficient background to be on top of my game. The second was balancing academic activities and PhD work. This required sacrifices such as coming to the office early and leaving late, and sometimes sleeping in the office to meet some deadlines."

Looking to the future, Dr Mulangu sees electrical engineering gaining strength and stature, “I will support my colleagues who are furthering their studies so that we have more masters and doctoral degrees in the department. Research capacity will improve.”

Babatunde Bakare found the support he needed to complete his environment engineering PhD in his affectionate wife, Mercy, and boys, David and Daniel. The limited love and attention he could give them kept him going. Says Babatunde: “At MUT, my heartfelt gratitude goes to Dr Mienie of the research directorate for the support in establishing the MUT waste management niche area and procuring the necessary equipment, and my head of department, Julia Baah, for her understanding and putting up with my lapses in concentration during my research work. I also acknowledge the Dean of Engineering, Prof Malinga, for his words of encouragement and for believing in me when I first came to MUT seeking employment but having little experience. I am sure he is happy to see how I have grown over the years. Thanks Prof.”

Once a young man without any experience in higher education, Babatunde now not only boasts a PhD, but has been offered the opportunity to be the main supervisor for two staff members studying for a Master of Technology (MTech) degree at DUT. Interestingly, all the research activities are to be conducted at MUT.

His doctoral research thesis was *Scientific and management support for ventilated improved pit latrine sludge content*, in the field of water and sanitation. He worked under the Pollution Research Group, School of Chemical Engineering, University of KwaZulu-Natal Durban.

“My PhD research focused on providing scientific support for decision-making in management of accumulated sludge in pit latrines during their lifespan and when they reach their capacity under South African conditions. The first thrust was to provide an understanding of the processes occurring in these latrines and the mechanism of sludge stabilisation. The second was to provide management and disposal options for pit latrine sludge before and once it has been exhumed through the eThekweni pit latrine emptying programme. Language was a main barrier, coupled with balancing my work and research loads.”



Dr Chrispin Mulangu, Prof SJ Malinga, Dr Babatunde Bakare



Mrs Malinga LEFT, Prof Malinga's mother, Sihlophe, Prof Malinga wife and Prof Malinga sister



Also graduating was Dr Sarah White, third from left, with her parents and her research supervisor Prof Akash Anandraj, head of the Algale Research project at MUT

LAUNCHPAD ENGINEERED FOR GREENING OF MUT

When the Faculty of Engineering launched the MUT Greening initiative in 2011, it established a launchpad for a university-wide greening discourse. Led by the Dean of Engineering, Prof Senzo Malinga (CEM), the MUT greening initiative generated several projects from various engineering departments.

These projects were used by the faculty to respond to the inaugural call by the Technology Innovation Agency (TIA) for seed funding applications for research projects close to commercialisation. This is in line with TIA's strategy for 'an enabling environment for technology innovation and commercialisation in South Africa'. "MUT submitted nine applications from the Faculty of Engineering, eight of which have been funded to the tune of almost R3 million," says Prof Malinga. "TIA called these groundbreaking projects and commended us on the quality of the applications and the processes followed in considering these applications."

Prof Malinga is proud that an interdisciplinary approach has added to the success of the greening initiative, whose project leaders include Lagouge Tartibu Kwanda (mechanical engineering), Mwamba Lushiku (civil engineering), Boniso Ngwenya (IEETR Centre), Ndumiso Ncube (mechanical engineering) and John Zvidzayi (mechanical engineering).



BLAZING AWARD-WINNING TRAILS

Prof Theophilus Davies and Project 606 are taking the Faculty of Natural Sciences to exciting places. Prof Davies is research professor and vice-chairman of the organising committee for projects 594 and 606. which are funded by the United Nations Educational, Scientific and Cultural Organisation (Unesco), the International Geological Correlation Programme (IGCP) and the Swedish International Development Cooperation (SIDA).

Last year, Prof Davies led a delegation of ten MUT researchers to Cameroon for Project 606. This year in May, the group will visit Prague, Czech Republic, for the closing workshop of IGCP/ SIDA projects 594 and 606. The workshop theme is Addressing environmental and health impacts of active and abandoned mines in sub-Saharan Africa.

Prof Davies, who is softly spoken and amicable; tries to shift the limelight away from him. "Everyone is working hard," he says. "I am just grateful that I am part of a faculty that wants to excel, as this fits in so well with my strategic intent as the faculty's research professor."

It's been an award-winning performance – last month, Prof

Davies received a Nigerian Mining and Geosciences Society (NMGS) award. Prof Aniekan Edet, chairman of the NMGS Awards Committee said: "This is an award to the earth scientist who has made significant contributions in the field of earth sciences by persistent and consistent excellent research in either or both aspects of earth sciences and the continent. It is the highest award sponsored by the Shell Petroleum Development Cooperation of Nigeria Limited."

Faculty Dean Prof Nokwethemba Ndlazi, who will also present a paper in Prague, says: "Our faculty is trailblazing in research and development of new programmes. As dean, I am overwhelmed by all these stories of success and will ardently support all endeavours by my team to reach greater heights."



Conference delegates from across Africa, attending the workshop led by MUT's Prof Davies



Prof Davies with the NMGS award



Prof Theophilus Davies



Prof Nokwethemba Ndlazi, Dean of Faculty of Natural Sciences



Team MUT and other delegates at the Project 606 workshop

MULTIMILLION RAND MAKEOVER FOR MUT

If Prof Khehla Ndlovu, DVC: Resources and Planning, had his way, everyone would be talking about “the newly refurbished lecture theatres” or “the piling just installed”. In fact, infrastructure development would completely dominate every conversation.

“Tremendous developments are in the pipeline for MUT,” he says. “In fewer than four years, the University has created a master campus plan with the buy-in of the Department of Higher Education and Training. Since 2011, we have completed huge infrastructure projects, the Natural Sciences laboratory, which is the greenest building in the southern hemisphere, and the engineering laboratory and its offices. Lecture theatres have been refurbished and the information technology network beefed up.”

Asked where MUT is going, Prof Ndlovu will open any mobile device or computer within reach and show off reams and files of sketches depicting the future MUT.

And it’s happening already. The MUT Council turned the sod at the end of March for the R156 million 640-bed residence. Phase 2 is a R230 million 1 000-bed residence. “The residence will comprise double rooms and self-catering facilities,” says Prof Ndlovu. “In addition, we will construct electrical engineering laboratories at the cost of more than R75 million, as part of the R155 million engineering offices and laboratories complex.

“But my flagship project, due to start by the end of the year, is the R84 million student centre.”

This is a far cry from the R5 million of 35 years ago that started MUT.



Prof Ndlovu

What is coming for MUT!



MUT APPOINTS TOP GUNS FOR SUPPORT SERVICES UNITS

MUT is privileged to welcome aboard three high-flying support staff whose experience and knowledge will enrich the campus immeasurably.

Dr Aria Merkestein

The new director for MUT's Quality Management Directorate (QMD), Dr Aria Merkestein, is a globetrotting academic with a PhD from the University of Nottingham. She hails from Holland and came to South Africa in 1992 via Zambia and Botswana. She brings with her a wealth of knowledge of the higher education sector, having previously been a consultant at the CHE for the Quality Enhancement Project.

Dr Merkestein has taught at the universities of Limpopo and Pretoria. She was also associate professor and deputy dean at the Institut Teknologi Brunei in the Far East. She has also been involved in conflict resolution in a number of African countries.

Sello Legodi

Sello Legodi brings an MBA to his new role as Deputy Registrar: Academic, and considerable experience from the universities of Zululand, Johannesburg and Nelson Mandela Metropolitan.

Charles Andrew Persence

Charles Andrew Persence, an educational psychologist since 1989, has worked at schools in the Western Cape as well as the University of the Western Cape and the University of Pretoria. Charles is a Director of the Student Counselling unit.





LEARNING OPPORTUNITIES AROUND EVERY CORNER

From the Office of the Dean of Students

The institution has to dispel the notion that students learn only in a classroom or lecture hall. Of course, these are a component of the whole learning environment, but they are just that – a component. The meteoric rise of social media and wireless technology makes this very clear. The main MUT campus and student residences have infrastructure that enables students to access wireless internet. That implies that knowledge and information are accessible anywhere, anytime and this brings about exciting teaching and learning opportunities.

In addition to academic activities, students have to begin to ask themselves what lessons they learn from being members of a sports club, a social club or any other student structure. Students spend much of their time outside the classroom - what programmes do they engage in and what skills do they acquire that they can convert to a competitive advantage? Enactus members, for example, have expressed appreciation for opportunities to apply their academic skills in practical situations when they engage community-based organisations in various programmes that benefit both parties. Such engagement contributes to their preparedness for the world of work and life in general.

It is common knowledge that employers seek graduates who can write and speak well, are good team members, work hard, understand the diversity of our society and conduct themselves ethically. In short, employers are looking for well-rounded employees. The activities in which students are involved outside the classroom, have a direct bearing on their post-study success. It is, therefore, important for the institution to factor this in when the broader curriculum of a student is structured. If teaching and learning are confined to the prescribed textbook, a whole range of critical skills might be overlooked at the expense of the student.

It is worth mentioning that when students give it all in the classroom, they are likely to gain knowledge and expertise for success in their chosen field. But if they engage in a wide array of opportunities that might not be outlined in the prescribed book, they will gain much of the experience, skills and understanding that they will need for success in life. Most MUT students come from a disadvantaged background and need to develop the lifeskills required by the world of work. We, therefore, have to provide opportunities for students to acquire competences that will develop them into people who get things done and who are prepared for life in general.

PUTTING VALENTINE'S DAY TO THE TEST

Valentine's Day is a time to show love and care. There is no better way to show loved ones that you care about your health status than being tested for sexually transmitted illnesses (STIs). MUT's clinic services dedicated the week 10 to 14 February to testing for HIV/Aids. Hundreds of students turned up.

Cebi Nkosi, the HIV/Aids counsellor at the clinic, says: "This initiative used the Valentine's period to remind students of the importance of knowing their status. "This fits in with MUT's goal to be an HIV/Aids-free university and allowed us to help affected students."

The primary target, says Cebi, was first-year students, who are the most vulnerable. But, she adds, it was heartening to see staff members also testing. A total of 936 people tested.

Our thanks go to our partners in the initiative, Ithembalabantu Clinic, and the HPP, an HIV Pathogenesis Programme Research Unit. The Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) alliance Spectrum programme targeted lesbians and gays.

Mbali Gwala, a first year accounting student, said she tested because she believes it helps to know one's status. "I'll also tell my friends to test," she said, adding that the programme gave her a chance to obtain relevant information.



REASON TO SMILE

Until mid-March, if you had managed to raise a smile from third year human resources and management student, Mandisa Mkhungo, you would have been privileged.

Mandisa is serious about her sport and serious about her training. So serious, in fact, that she has earned national colours.

But, from 17 to 22 March 2014, the smiles came freely and broadly, for Mandisa and two of her fellow MUT students were part of the team that won the SuperSport sponsored Wheelchair Basketball SA (WBSA) tournament. Mandisa and her mates play for KwaZulu-Natal Wings. The team is a third position in a league that started after the knockout tournament.



Mandisa, LEFT, with a friend

LONDIWE ZONDI GOES TO JAPAN

Her mother used to be uneasy because Londiwe came home late from her karate practice. Now Philisive Zondi is very happy. Her daughter on 16 April jetted off to Japan for an International Karate Tournament in Tokyo, which happened from 18 to 26 April. "I had never thought my little girl would fly out of the country just because of karate. Thanks to her senseis, Siyabonga Ngubane and Thulani Mbatha," said her mother after a long pause, trying to catch her breath.

Londiwe's discipline is the reason she was chosen. She went through a rigorous training – provincial, national and champion of champion tournaments last year, getting the first position in all of them.

You could define Londiwe as South Africa's female Herschelle Gibbs – she did long jump and high jump, short put, athletics, netball and karate, a woman of many parts indeed! She had to settle for one code. Karate was a natural choice for her. She loves it. "Karate gives me discipline. Since I started it in 2007, I've never been involved in conflict. When people provoke me, I just walk away. Londiwe, who has a brown belt, could be getting her black belt after doing the grading in December. She's holding breath. Her new belt could be on its way. "Grading is much tougher than the tournaments. Preparations were quite hard," said the 20 year old.



CREDENTIALS:

Graphic design: Black Moon
Printers: Impress
Editor-in-Chief: Ms Mbali Mkhize
Writer: Mbali Mkhize
Editors: Zama Sishi and Bheki Hlophe

CONTRIBUTORS:

Bheki Hlophe
Zama Sishi
Sfiso Khuboni and Nompilo Dlamini
Jade Kunene

IMAGES:

Bheki Hlophe

MUT'S FOUNDING FATHERS, A BRIEF HISTORY

MG BUTHELEZI AND HF OPPENHEIMER

The Chief Minister of KwaZulu, Chief Mangosuthu G Buthelezi, first put forward the idea of establishing a tertiary educational institution specialising in technical subjects in 1974 at a meeting with the Chairman of the Anglo American Corporation and De Beers Consolidated Mines, Mr Harry F Oppenheimer. The proposal was taken up by The Anglo American and De Beers Chairman's Fund, and (although funds were not immediately available to construct such an institution), research was commissioned to investigate the potential in South Africa for the training and employment of black technicians.

This work was undertaken by the Southern Africa Labour and Development Research unit (SALDRU) of the University of Cape Town, which analysed the enrolment of the then existing advanced technical education centres and calculated that the output of engineering technicians in 1976 was 1035, whereas there was a demand for 3000 additional technicians per annum. Thus if black youths were to become available for training, an annual output of 2000 engineering technicians could be considered. SALDRU then ascertained the willingness of employers to employ black technicians if they were to become available. The response was impressive and it indicated that the categories most in immediate demand were mechanical, civil and construction, electrical and chemical engineering.

As the SALDRU study by the Nigel Bloch showed that there was an immediate need and demand for black technicians, Mr Oppenheimer undertook that The Anglo American and De Beers group Chairman's Fund would provide R5 million to build the necessary facilities. At a later stage, Mobil Oil, AECI and the SA Sugar Millers' Association agreed to sponsor the Department of Chemical Engineering and the Rembrandt and Distillers Corporation groups provided the establishment of a Commercial and Secretarial Department. LTA Limited added funds for the expansion of the Civil Engineering Department so that Construction Engineering could be included in the curriculum.

In mid-1977 the go-ahead was given for the project to begin and it was decided by the KwaZulu Cabinet that the institution would be named 'Mangosuthu', the first name of KwaZulu's Chief Minister, Prince Buthelezi, the man who conceived the idea of a technikon in KwaZulu.

An eminently suitable site for the technikon was found in Umlazi which, while part of KwaZulu, is also part of the Durban metropolitan area. Umlazi Township is a township developed in 1967 for Black people during the apartheid era. It is located



Prince Buthelezi



Mr Oppenheimer

south-west of Durban and is the second largest township in the country after Soweto. At the time, it was a large and rapidly growing area of some 370 000 people which is close to and easily accessible from the major industrial area as well as the city centre of Durban and the then Louis Botha Airport, later to become Durban International Airport and has now been relocated to the North Coast and renamed King Shaka International Airport.