

News

Closing off a year with a spark filled graduation

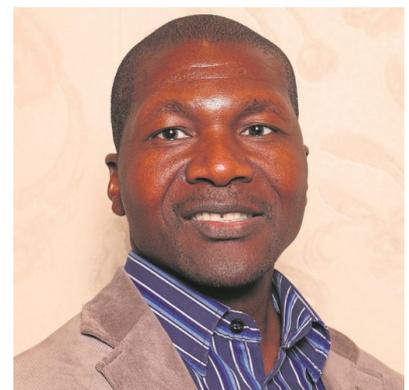
Message from the Executive Dean of Science

Prof Azwinndini Muronga

As we are nearing the end of the year, I must say I am very proud of the graduated students in the Faculty of Science and all that the students and the staff have achieved so far. Hats off to all our academics and support staff, who have worked tirelessly to make it possible for the faculty of science to provide unwavering support to students. We have progressed and thrived in adapting to the current circumstances. We've heard a lot of excellent progress stories this year as academics, students, and the rest of the staff adapted to working and studying from home, sometimes using a hybrid method to get tasks completed. Despite the year's difficulties, online lectures went well, and research and engagement efforts were undertaken. Unprecedented times did not stop us from progressing, as seen by the outstanding achievements of our many departments. Congratulations to each member of our faculty who has made significant progress and overcome obstacles; you have made the faculty proud.

It is our pleasure as the Faculty of Science to walk this academic journey with our graduates and particularly the Ph.D. graduates who have reached the apex of their studies. I am confident that if you look back, you will see that you have traveled a long meandering, and slippery road to arrive at this point as a graduate. You have surmounted adversity that prepared you on your pathway. You were tough and handled all the difficulty well and you will benefit from the character of resilience you have shown in your journey for the rest of your life.

"I wish each and everyone of you a happy and safe festive season with your families"



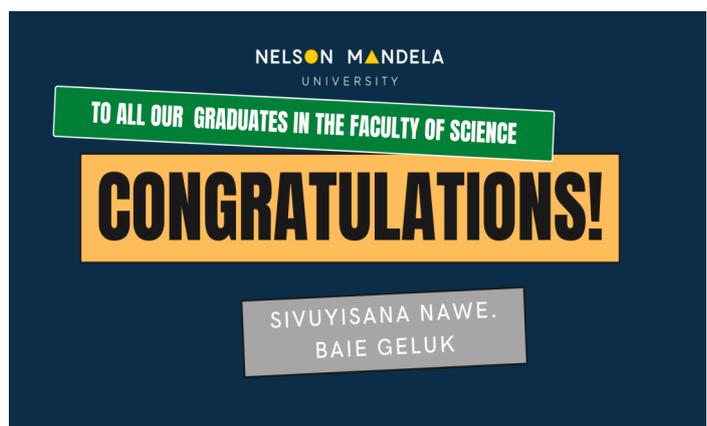
Looking back at the beginning of the year till to date, the Faculty of Science has done its best to support and equip students with the necessary knowledge, skills and even provide opportunities. We have done a lot of activities and hosted webinars as part of our Engagement

Well done to all staff and students who achieved greatness amidst the current challenges of COVID-19. Several staff and students won internal institutional awards as well as external awards and recognition. These accolades include, amongst many, NRF ratings, Ad Personam Promotions, Academic Achievements awards in research, students' graduation, teaching and engagement.

We have made strides and thrived to adapt to the current times of challenges. There are great stories of progress that we have come across during this year as lecturers, students, and staff at large adapted to working and studying at home, and sometimes adopting a hybrid approach to effectively deal with tasks.

We have hosted a webinar on Debunking mental health illnesses in science during times of crisis with Psychologist, Amina Mkwaimbo where we explored mental health challenges that can be detrimental to students' progress and how to overcome challenges through effective coping mechanisms. The Faculty of Science prioritizes the health and wellbeing of its staff and students and is committed to creating an environment where students and staff flourish without hindrances and we have taken upon ourselves to raise awareness of mental health challenges that our students face. We cannot deny that there have been circumstances that you have encountered. I am genuinely heartened by your bouncing back abilities. We need to cultivate the power of resilience within ourselves. The mind of the human being surmounts even the most difficult challenges. I want to salute all our final year students who have completed their first qualification despite circumstances. This is one of the major milestones in life and I am proud of that accomplishment. Those of you who are close to the finishing line, keep going. Your time is yet to come.

An exciting time of the year has come. Graduation is one of the exciting ceremonies in our university where we celebrate the triumph of all students who rose above their circumstances. Today, some of the Master's and PhD students will be conferred their qualifications. Congratulations to all Graduands in the Faculty of Science!!! It is time to celebrate all your hard work.



A graduation is an exciting event in a year. I would like to take this opportunity to greatly thank our Faculty retirees. It is not easy to picture us without you and very hard to believe that time has come for us to depart. We are grateful for the difference you have made, and your commitment to the Faculty in your respective fields. We will dearly miss you and we are hopeful that you will still maintain close ties.

This festive time is a time for you to rest, to be together with your families and friends, reflect, and just give gratitude for what you have achieved thus far, and the support you have received. I believe that you will take great care of yourself during this festive, get vaccinated, wear the mask, keep social distancing, and save lives. As the holiday draws closer, I wish you a lot of fun and excitement, and a super fantastic year to come.

I wish each and everyone a happy and safe festive season with your families.

TILL WE MEET NEXT YEAR, TAKE CARE!

Addressing the matter of the forest industry and its role in climate change

By Richard Muller

Wood Mizer, the international leader in narrow bandsaw technology, recently donated a bandsaw to the Wood Technology Programme. The bandsaw, together with an existing circular mobile sawmill, will expose Diploma in Wood Technology student on a practical way, to the basic sawmill technologies.



The mill must be kept under roof, and the third Year Wood Technology students designed and erected a roof cover as part one of the modules, Timber Structures. The erection was scheduled for April 2020, though it had to be finished earlier due to the sudden announcement of Covid 19 Lockdown Level 5. The building was erected in March 2020, just two days before start of the lockdown. A gravel floor was laid in August 2021, and the mill was commissioned in September 2021 .



The combination will also give students practical experience to optimise different cutting patters with different saws, subjected to fluctuating demand for various timber dimensions.

Entrepreneurs in Science Formulation Showcased their Products

A Cohort of student entrepreneurs doing BSc Honours in Formulation Science showcased their products in front of panelists in a Science Formulation Product Showcase event that was held at the InnoVenton



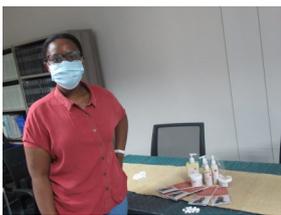
Boniswa Ntetha showcased her product called Red Ochre Sunscreen. It is the first of its kind where she turned ibomvu/imbola to be used as a sunscreen. She explored through research that ibomvu/imbola has sun protecting factors hence she formulated a product that has UV factors. She said what is interesting is that her product can be used by every person irrespective of gender and colour and kids from the age of 3 years since it has been tested and no side effects . The benefit in her product is that it is affordable. Vuyiswa Ntsundwana presented her Body lotion and Body scrub made from nutri cosmetic which contains avocado seeds to give sooth feel after wash.



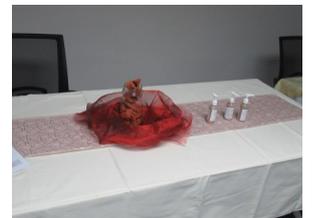


Among others who presented is **Deborah Balogun** Herbal Toothpaste products incorporating trafraditional chewing stick. Chewing stick is used for oral care. **Nandipha Tyali** presented eye cosmetic product that contains a bright blue pigment and antioxidant properties which prevents anti-aging and helps to reduce fines and rejuvenates damaged cells. **Lerato Nyelele** presented an All in one moisturizer designed to promote maximum moisturization and hydration for healthy looking skin.

Anneke Van Rooy presented a unique flavours of ice cream which she used physco-cyanin-natural colourant. **Cecilia Ramabulana** presented a maxicreme dip for dairy industries which is used before and after milking and used to protect and disinfect cows against infections. **Onkgopotse Moalusi** presented an Anti-itch Leave in Lotion with garlic extract which is a water-based scalp re-livers. **Lukhanyo Dasi** presented a Rain Dew Ice Cream which is phycocynin infused ice cream and boost immune system. The benefit about it is that it has high protein. **Non-dumiso Jangase** presented a Two in One Shampoo which helps to reduce hair loss/alopecia caused by testestosterone induced DHT hormone.



Yusra Carloo presented a water conservation measure that prevents access flushing of the toilet and releases fragrance. **Nopasika Sobayeni** presented a Herbal toothpaste which prevents tooth decay and helps keep and protect oral health. It is most suitable for kids as it is formulated using flavours



Addressing the matter of the forest industry and its role in climate change.

Climate-Smart Forestry Entrepreneurs

By Prof Josua Louw

The Natural Resource Science & Management Cluster of the Science Faculty at George Campus is participating in an international partnership addressing the matter of the forest industry and its role in climate change. The 3-year project is sponsored by the European Union, and involves five South African universities, two from Finland and one from Norway and the objectives of the project are focussed on:

- Redesigning existing curricula for the inclusion of climate-smart forest management practices, with specific reference to entrepreneurship.
- To encourage student-centred teaching and learning methods through problem-based learning.
- Formation of network-based Community of Work between academia and societal/industry partners.
- Strengthened HEI capacity for pedagogical methodology and learning ecosystems through (inter-) national partnerships

This project comes at a very opportune time, and will strengthen the George Campus' efforts to be a centre of excellence in sustainable natural resource management. It also supports the NMU value of Sustainable Stewardship. This project therefore has considerable potential to be of value to the Faculty and Campus. The project is serviced by an Advisory Board to provide strategic direction throughout its lifespan. Dr. Kaluke Mawile has been elected as the chairperson of the Advisory Board for 2021-2022. This will not only bring our campus Principal close to the project, but will also improve the implementation of the outputs and benefits in the relevant academic programmes.

Promoting climate-smart forestry and entrepreneurial ingenuity in forestry education will result in employment development and climate change mitigation. FOREST21 is implemented through revamping forestry entrepreneurship education curriculum in order to provide graduates with problem-solving abilities, an entrepreneurial attitude, and climate-smart thinking.

Master's research on innovative treatment for colon cancer

The research of Nelson Mandela University student Itumeleng Zosela introduces an innovative treatment, namely nanoparticles, which are only toxic to cancer cells and not normal cells. The treatments currently available have severe side effects, damaging normal cells and not only the colon cancer cells.

Itumeleng will be graduating at the University's Graduation on 14 December with her MSc in Nanoscience Cum Laude on the topic In vitro evaluation of bridelia ferruginea extract gold nanoparticles for the treatment of colon cancer. Human Physiology's Prof Saartjie Roux was her supervisor and Prof Hajierah Davids the co-supervisor

She is already registered for her PhD in Physiology focusing on Nanoscience, testing the same nanoparticles on human tumour cells as well as on an animal model to see if they will have the same effects.

It was a very stressful time in my life and I even experienced a panic attack, something I've never suffered from before. But despite all these challenges I still managed a Cum Laude and I am super proud of myself because I managed to pull through the difficult times and I didn't give up," she says.

"I am looking forward to the graduation ceremony because I feel that we all deserve to celebrate these achievements, 2020 was a very stressful year," Itumeleng says.

She grew up in Alice in the Eastern Cape and obtained her BSc Microbiology at the University of Pretoria and her BSc (Hons) Medical Biosciences at the University of the Western Cape.

<https://news.mandela.ac.za/.../Master%E2%80%99s-research...>



Congratulations to VC award recipients



The Faculty of Science would like to congratulate its top staff who excelled in various disciplines and have won the Vice-Chancellor's Excellence Award . Prof Tim Gibbon , Prof Janine Adams, Prof Graham Kerley, Mr William Goosen, Prof Jean Greyling and Mr Travis Smit . Keep it up, We are proud of you. [Vice-Chancellor's Excellence Award recipients - News \(mandela.ac.za\)](https://news.mandela.ac.za/.../Vice-Chancellor's-Excellence-Award-recipients)

FACULTY OF SCIENCE
WISHES YOU HAPPY
HOLIDAYS.

Special Edition

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DIVE INTO THE HISTORY OF MEDICAL SCIENCES

By Hlengiwe Phiri

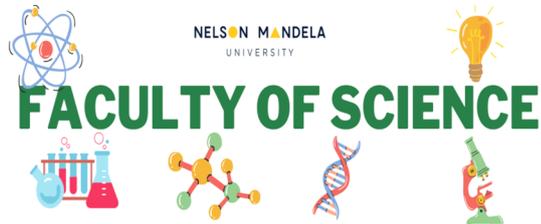
Prior to modern medication, how did people survive? This is a complex question to precisely answer when all you have are bony remains, drawings, ancient tools, and codes with no written evidence. The 'birth of surgery' being the 19th century placed surgery on the map with many surgeons performing various surgeries that were brutally painful and extremely unhygienic. Surgery was performed before the 18th century with evidence of trepanation dating back to 6500 BCE.



In the medieval era where life expectancy was low, childbirth was a potential deathbed, and diseases were dominating the barber-surgeons were the heroes in the medical world. They did all things from helping with a toothache to performing trepanation, there was no limit to what they could do although the cons were plenty, unsanitary area, same tools used for multiple purposes, and they were not schooled they performed surgery with mere experience and some bit of luck. Their tools were effective and look similar to modern tools. A combination of existing ideas and spiritual influences was used to cure diseases. They believed that to prevent illness one must keep their body in balance by making sure the four humours namely yellow bile, black bile, phlegm, and blood, which are controlled by four elements water, air, fire, and earth, are balanced as emphasized by Hippocrates. To maintain body balance people practiced bloodletting by cutting themselves to drain out blood or letting leeches suck them. Herbs were used as medicine and exercise was recommended. Hippocrates, Plato, Aristotle, Galen, and others laid a solid foundation for modern doctors, it was through Galen's animal experiments that we know about veins, arteries, nerves, and internal organ infections, with these discoveries tools meant for specific body parts were made and with help from the chemist, medicine was concocted. One thing is certain, ancient medical practices shaped modern medical practices for the good. And, it is exciting to see where it goes next

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