



Faculty of Health Sciences

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

Official opening of the Tšwelopele Building on the Prinshof Campus

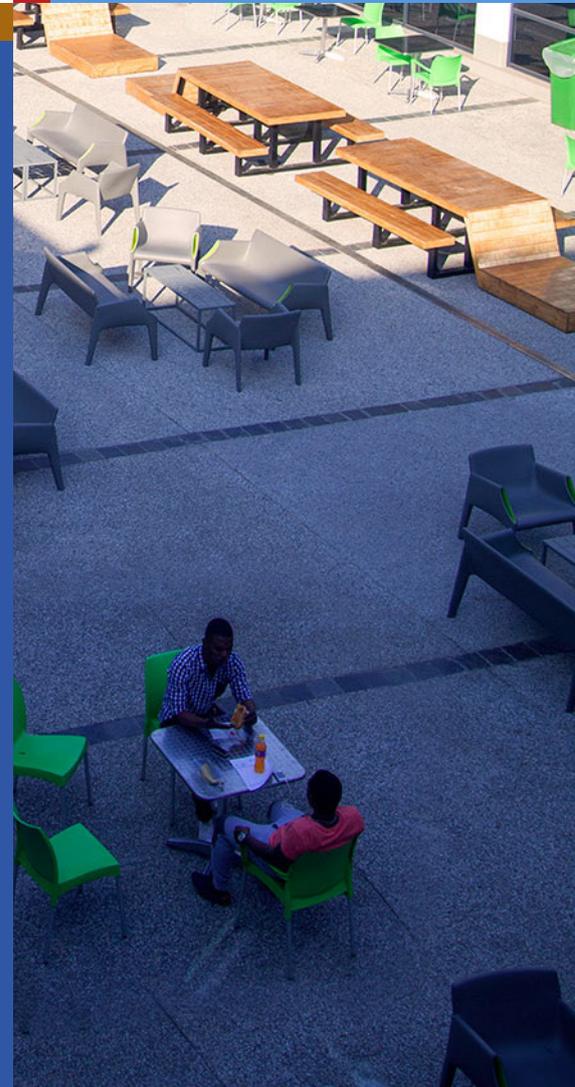
The new Tšwelopele Building on the University of Pretoria's (UP) Prinshof Campus was officially opened by the Honourable Minister of Health, Dr Aaron Motsoaledi, and the Vice-Chancellor and Principal of UP, Prof Cheryl de la Rey on Monday, 15 August 2016.

The new building is part of the University's response to a call by the Ministers of Health and Higher Education and Training to increase the intake of medical students to meet the need for more doctors in South Africa. UP committed to a phased increase from 220 to 400 medical students – almost doubling student numbers over the next few years.

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Health Science Matters

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The new Tšwelopele Building on the University of Pretoria's (UP) Prinshof Campus.



Prof Cheryl de la Rey, Vice Chancellor and Principal of UP and the Honourable Minister of Health, Dr Aaron Motsoaledi

Speaking at the opening, Dr Motsoaledi congratulated UP for completing the building complex to the highest standard, on time and on budget. 'This is exemplary use of public funds. I would like to express my appreciation to all those involved in the design and construction of this facility. What I particularly appreciate is UP's decision not to wait until the new facilities were ready to increase the intake of medical students, but to do so as soon as the funding was secured by increasing the intake to 300 as early as 2013. This shows the University's support for the goal of universal access to health care for all South Africans.'

The increased student intake offers opportunities to African students who would not have had the opportunity to become doctors.



Prof Eric Buch, former Dean of the Faculty of Health Sciences, the Honourable Minister of Health, Dr Aaron Motsoaledi, Mr Gwebinkundla Qonde, Director-General of the Department of Higher Education & Training and Prof Tiaan de Jager, Acting Dean of the Faculty of Health Sciences

Funding for UP medical school upgrades was granted by the National Skills Development Fund and the National Department for Higher Education and Training. Construction started in June 2013 and cost R173 million.

The complex consists of two buildings. The Administration Building has 62 offices and houses student administration and the Anatomy, Physiology and Pharmacology departments. The building boasts a student clinic, two cafeterias, a rehabilitation gymnasium, boardrooms and an 85-bay basement parking garage. The Lecture Hall Building houses four 400-seat lecture halls, student ablution facilities and a large, open study area.

Several green components were incorporated in the building designs. Offices are orientated to harness natural sunlight and rain water is harvested for flushing toilets and irrigating the indigenous gardens that surround the complex. The positioning of the two buildings creates a large public space that links the Administration Building and Lecture Hall Building to the adjacent Basic Medical Sciences Building and can be used for socialising.

Prof Tiaan de Jager, acting Dean of the Faculty of Health Sciences, says the world-class lecture halls and additional facilities provide not only intellectual spaces, but also the opportunity to be creative in a stimulating environment. 'Tšwelopele means progress – these buildings are focussed on the development of the institution, the Faculty of Health Sciences and its students.'

From the desk of the Acting Dean

Dear colleagues

I wish to express my gratitude to all who have supported me in my capacity as Acting Dean of the Faculty of Health Sciences since June 2016. With your input and support we have managed to submit a 2017 Faculty Plan, in which Health Sciences seeks to advance its contribution to the University's revised goals, as we are entering the second phase of implementation of the UP2025 strategic plan. The Faculty's steady upward growth trajectory during the period 2011-2015 has advanced the five goals of the UP2025 strategic plan.

Moving forward, the Faculty needs to implement strategies, building on its strengths and ensuring growth which will contribute to the transformation agenda of UP whilst managing resources to enhance UP's financial sustainability. The Faculty aims to meet increased targets, but more importantly to assure improved outcomes that would benefit our students and society given the resource-constrained environment.

Meeting these goals will require implementing strategies that will 1) harness existing resources in diverse areas of excellence in the Faculty, introduce new and focussed activities and continue with successful initiatives aimed at advancing the institution; 2) stop costly initiatives with no significant impact; and 3) ensure that future initiatives will have valuable outcomes and a high impact on society, whilst being sustainable.

Despite trying times in Higher education, I have to say that we can be proud of the initiatives taking place in the Faculty as highlighted in this edition of our newsletter. I want to briefly note a few of the Faculty's successes over the last few months. In August, we officially opened the Tswelopele Building which is an amazing piece of architecture that provides practical and serviceable infrastructure to students and staff alike. A special word of congratulations to Professors Stephen Hendricks, Bob Millar and Robert Pattinson for their awards obtained, which attests to their concerted efforts and continuous scholarly commitment. We are particularly proud of the accolades given to both the Departments of Dermatology and Pharmacology on work well done. It is a true testament to our education and learning initiatives to read of the Health Sciences qualified physios who travelled to the RIO Olympics 2016 as part of the SA National team.

Faculty Day 2016 showcased breakthrough and innovative research endeavours within the Faculty. I encourage you to continue to tap into existing resources, link up and network with colleagues and strengthen our research focus areas. This newsletter features the Institute for Sport, Exercise, Medicine and Lifestyle Research, the ISEMLR has successfully harnessed research expertise and strengths in a manner that is encouraging and rewarding to individual researchers.

This edition of the newsletter also shares breakthrough research under lead of Professor Resia Pretorius, collaborative malaria research to be conducted in the Limpopo region and highlights of the African School in Humanitarian Forensic Action.

I wish you happy reading and urge you to let our office know how they can support your work going forward.

Tiaan de Jager
September 2016



Prof Tiaan de Jager, Acting Dean; Faculty of Health Sciences

Scientists discover link between bacteria and supposedly non-infectious diseases

A group of scientists have found that a single molecule from a bacterial cell wall component may lead to the anomalous behaviour of 100 million clotting molecules. This may be a major contributor to many diseases including Alzheimer's, Parkinson's and diabetes. This discovery may explain many features of these kinds of diseases, and may lead to new prevention or treatment methods.



Prof Resia Pretorius, from the Department of Physiology,

A team from South Africa, under the leadership of Prof Resia Pretorius with student Sthembile Mbotwe, and researcher Dr Janette Bester, together with colleagues from The University of Manchester, under leadership of Prof Douglas B Kell, tested blood and plasma for its ability to clot when the normal clotting agent thrombin was added. Normal, healthy blood clots have a nice spaghetti-like appearance. However, the results showed that tiny amounts of cell wall molecules such as lipopolysaccharide (LPS), which are shed by dormant bacteria, caused a highly anomalous clot to form dense deposits with very different fibres. These can contribute to the chronic inflammation that is part of many supposedly non-infectious diseases. These include Alzheimer's, Parkinson's, 'auto-immune' conditions such as rheumatoid arthritis, cardiovascular problems such as stroke, and metabolic diseases including type 2 diabetes.

This discovery could have considerable impact on the treatment of these conditions. The prevention of anomalous clotting may reduce chronic inflammation. Existing treatments do not so focus on anomalous clotting.

The work is part of an ongoing collaboration between the University of Pretoria team and The University of Manchester team, funded by the Biotechnology and Biological Sciences Research Council to understand unusual blood clotting, the National Research Foundation (South Africa) and the Medical Research Council (South Africa).

Prof Resia Pretorius, from the Department of Physiology, explained "The importance of LPS in inflammatory diseases has been mostly overlooked, and has been used to induce both Alzheimer's and Parkinson's disease in animal testing for many years. Inflammatory diseases are also closely linked to Leaky Gut Syndrome. Together with our new findings regarding the involvement of a (dormant) blood microbiome, this demonstrates that dormant bacteria can play an important role in all inflammatory diseases.



Research Matters

We, at the University of Pretoria (UP), firmly believe that the means for changing the world can be found in our research. Sharing of scientific knowledge and effective science communication are critical steps towards the attaining this goal. To meet this need, UP has launched an exciting new Research Matters website which showcases and highlights some of its research and innovation output. The website emphasises the impact of the work in South Africa, Africa and globally.

Research Matters showcases interesting research projects by University staff. Infographics and videos provide an overview of high impact projects at a glance and provide information about various institutes, centres and units.

Visit Research Matters at <http://www.researchmatters.up.ac.za/> and find out how researchers at UP are making today matter.

South African-French team explore possible malaria research collaboration in Limpopo

Following the successful conclusion of the 2nd South African Malaria Research Conference hosted by the University of Pretoria Institute for Sustainable Malaria Control (UP ISMC), a team of French and South African malaria researchers conducted a workshop and field visit to explore possible collaborations in the Vhembe region of Limpopo Province.

The workshop and field visit formed part of ongoing discussions following the very successful Remote Sensing for Malaria Control in Africa (ReSMaCA) programme workshop that took place at UP in June 2015.

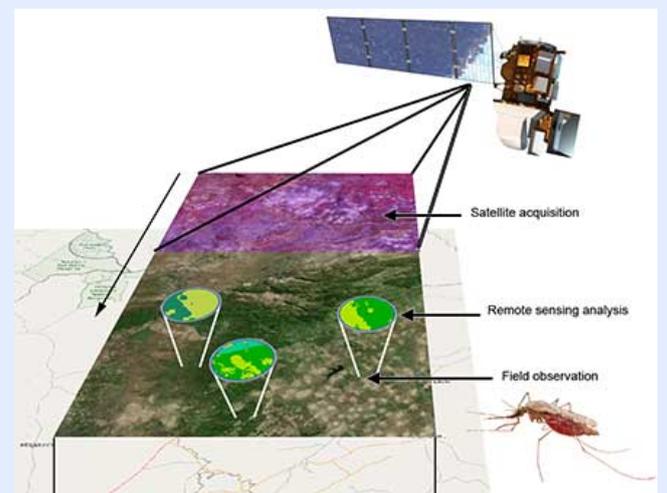
Three South African provinces continue to be challenged by local transmission of malaria despite committed efforts by the National Department of Health to achieve malaria elimination by 2018. KwaZulu-Natal has historically suffered severe setbacks with malaria resurgence caused by insecticide resistance, but in the last decade the province has made great strides in suppressing malaria to near zero levels. Mpumalanga has similarly achieved considerable success, but Limpopo Province continues to be faced with flare-ups and lingering small outbreaks. The worst affected districts are those of Mutale and Musina.



UP ISMC Research team

Members of the team included Prof Riana Bornman, Prof Leo Braack, Dr Adelo Abiodun and master's student Ms Temitope Adebayo, who are all affiliated with the UP ISMC. The French representatives were Prof Jean Gaudart and Dr Kankoe Sallah from the University of Marseilles, both of whom are medical doctors specialising in mathematical modelling and analysis of malaria epidemiology. After a one-day workshop in Pretoria to provide context, the group spent four days travelling through north-eastern Limpopo visiting key sites and sharing perspectives on malaria research approaches and project options.

Since the ReSMaCA workshop, the collaboration has grown from strength to strength and joint funding applications have been developed and submitted. The French link brings with it the wealth of experience that France has in malaria research in large areas of Africa, access to remote sensing products and expertise through the French National Space Agency, and valuable expertise in multiple other fields including mathematical modelling.



Remote sensing



School builds capacity for African forensic science professionals

During times of armed conflict, disasters and forced migration, many people tragically lose their lives and, depending on the circumstances, their fate might never be known to their families and loved ones. Due to a lack of infrastructure, knowledge or resources the immediate care of the deceased is often neglected. Under international humanitarian law, the remains of people who have died in such situations must be handled with dignity and properly managed. In cases of disasters and migration in particular, proper identification of the deceased remains a challenge for local forensic authorities, especially when local infrastructure has collapsed.



One of the delegates uncovering an artificial skeleton from a mock-up grave

There is a growing demand for the necessary forensic expertise among African authorities and local practitioners who are often under huge pressure when disaster strikes.

To address these challenges the African School of Humanitarian Forensic Action, led by the International Committee of the Red Cross (ICRC) and Argentine Forensic Anthropology Team (EAAF), was hosted by the Department of Forensic Medicine.

Twelve delegates from many African countries including Burundi, Nigeria, Ghana, Kenya, Eritrea, South Africa and Zimbabwe studied and practiced strategies and best practice to improve the humanitarian actions when situations lead to mass fatalities.

According to Neil Morris of the Department of Forensic Medicine, dealing with the deceased is a complex process, but proper care is not always dependent on state-of-the-art facilities or unlimited resources. Often the simple act of taking a picture of the deceased before burial can be a huge help in finding answers later. 'It is often a question of doing the right things right at the beginning that helps in piecing the puzzle together at a later stage,' he says.



Front Row: Dr Umaru Pindiga, Mr Nwekeida Iyaji, Dr Dorothy Njeru, Ms Katherine Denton de Villiers, Ms Mercedes Salado Puerto, Ms Claudia Bisso, Ms Eunice Radebe, Ms Robyn Vernall. Back Row: Dr Tsungai Javangwe, Dr Fanuei Girmatsion, Mr Stephen Fonseca, Prof Gert Saayman, Col Emile Manisha, Mr Paul Mupira, Mr Vincent Cassard, Mr Neil Morris, Mr Lawrence Hill, Dr Ahmed Mwinymtwana, Dr Luis Fondebrider, Dr Sudesh Gugadin, Dr Robert Kumoji.

The delegates attended classes and engaged in practical activities. Training included learning skills required to interview family members under difficult circumstances, in order to obtain information that will help with identification at a later stage.

'Improving our understanding of the diverse range of circumstances that African forensics professionals face has enriched the learning experience that our Department can offer,' says Professor Gert Saayman, Head of the Department of Forensic Medicine at UP. 'Partnerships such as these with the ICRC and EAAF will enable the Department to continue delivering Africa's leading research and education opportunities in forensic science, forensic pathology and forensic anthropology.'

It is planned that the African School of Humanitarian Forensic Action will be repeated and future developments may provide opportunities for more delegates to gain these valuable skills.

Health Sciences Research Showcased



Prof Tiaan de Jager and the prize winners

This year's eagerly anticipated University of Pretoria (UP), Faculty of Health Sciences' Research Day was an eclectic mix of research and innovation. Faculty Day is a key component of the Faculty's research development strategy aimed at nurturing young and emerging researchers and giving recognition to established researchers. Participants presented their research in the form of oral, poster presentations and posters. The theme for the research day was Women in Science.

The one and a half day event showcased 90 oral presentations, 46 poster presentations and 160 posters on display.

Distinguished speakers from both in and outside the Faculty were invited to take part in the proceedings. Participants were able to earn Continued Professional Development (CPD) points through their attendance. The opening address was delivered by Dr Romilla Maharaj, Executive Director Human and Infrastructure Capacity Development at the National Research Foundation (NRF).

In her presentation entitled 'Women in Science: Building the future research leaders' Dr Maharaj provided valuable insights on capacity building of women in science, collaborations and funding opportunities.

Other speakers highlighted opportunities for collaboration, expanding research through innovation and building a bridge between basic and clinical research. The academic programme concluded with a session on ethical issues related to gender stereotypes in research.

The two days were wrapped up by a resoundingly cheerful and well-attended awards and social function. Congratulations to all the prize winners! Faculty Research Day 2016 was a resounding success for the UP Faculty of Health Sciences, stimulating interesting debates, learning and innovation for all who attended.

Department of Physiotherapy proud of their alumni

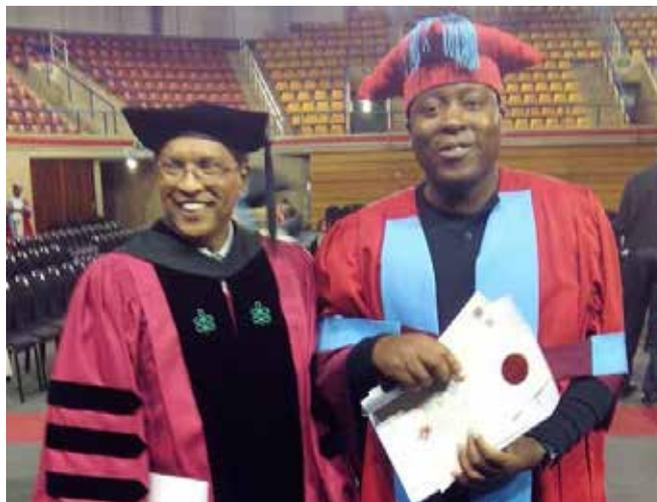


Tarina van der Stockt, Colin Hill, Kobus Maree and Khuliso Netshivhangani

Four alumni of the Department of Physiotherapy formed part of the medical team that accompanied Team South Africa to the Rio Olympics and Paralympics (2016). They are Tarina van der Stockt, Colin Hill, Kobus Maree and Khuliso Netshivhangani. Tarina and Khuliso were part of the Paralympics medical team. Colin and Kobus were part of the Olympics medical team. The Department is delighted to see their students achieving and doing important service for their country.

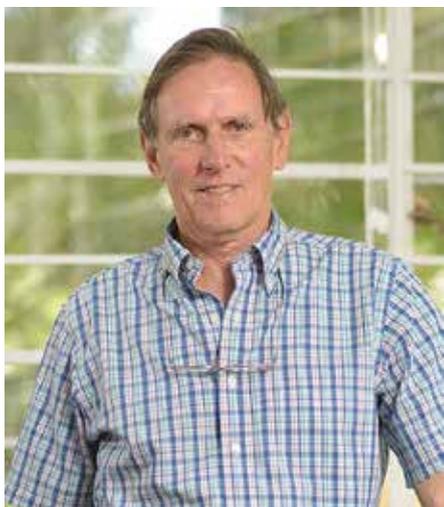
Africa Doctoral Dissertation Research Fellowship Award

Prof Stephen Hendricks was awarded the Africa Doctoral Dissertation Research Fellowship Award for supervisors. His PhD student, Hope Taderera completed his PhD in 3 years and published a paper in a peer reviewed Journal. This award enabled Prof Stephen Hendricks to attend the African Federation of Public Health Associations (AFPHA) meeting in Ibadan, Nigeria, where he delivered a paper titled: "The critical importance and application of executive leadership in the health sector in South Africa towards a national health insurance."



Prof Stephen Hendricks and Hope Taderera at the graduation ceremony on 2 September 2016

Prof Bob Millar receives Platinum Scientific Achievement Award of the MRC



Prof Bob Millar

Prof Bob Millar, director of the Centre for Reproductive Neuroendocrinology, at the Faculty of Health Sciences, has been awarded the Platinum Scientific Achievement Award of the South African Medical Research Council (SA MRC). The MRC strongly supports excellence in health research and annually recognises world class science with a set of medal awards. The Platinum Scientific Achievement Award is a lifetime achievement award for an outstanding scientist who has raised the profile of South African science and has helped build the foundations of health research in the country for future generations. The award is among South Africa's most prestigious and comes with a platinum medal and a R50 000 cash prize, which is given to the primary organisation that the person is affiliated with. Prof Millar will receive the award at a gala dinner in Cape Town where all the 2016 SAMRC Merit Awardees will be celebrated on 13 October 2016.

The University and Faculty recognises and congratulates Prof Millar for this outstanding achievement.



Prof Wessel Pienaar, Chairman of the Suid-Afrikaanse Akademie vir Wetenskap en Kuns, Prof Robert Pattinson

Prof Pattinson receives prestigious award from the Suid-Afrikaanse Akademie vir Wetenskap en Kuns

Prof Robert Pattinson, director of the South African Medical Research Council's Maternal and Infant Health Care Strategies Unit in the Department of Obstetrics and Gynaecology, has been awarded the Havenga Prize for Medicine by the Suid-Afrikaanse Akademie vir Wetenskap en Kuns. The Havenga Prize is awarded annually for original research in the field of natural sciences and/or in a technical field.

Prof Pattinson is a leader in the field of perinatology (the branch of obstetrics that deals with the period around childbirth) in South Africa, and is closely involved with the establishment and management of various research projects in the country.

Prof Pattinson and his team at the Maternal and Infant Health Care Strategies Unit conduct research aimed at identifying the core problems, developing effective solutions and determining successful ways of implementing interventions that reduce deaths among pregnant women and their infants at both primary and secondary levels of care. The team has developed clinical death review tools, namely the Perinatal Problem Identification Programme (PIIP) for babies and the Child Healthcare Problem Identification Programme (Child PIP) tool for infant and child deaths in South African hospitals. This tool provides valuable data, linking child deaths to possible causes.

Accolades for the Department of Pharmacology

The Department of Pharmacology recently received two accolades for high quality work.

The Society for Medicinal Plants and Economic Development hosted its first annual international conference at the Kopanong Hotel and Conference Centre in Johannesburg from the 15 to 16 August 2016. A delegation of students from the Phytopharmacology Division of the Department of Pharmacology participated in this inaugural conference. Anastasios Athanasiadis, a current BSc.Hons Pharmacology student won first prize for his poster titled 'Cytotoxicity of subfractions from a methanol extract of *Tabernaemontana elegans* roots against the MCF-7 breast carcinoma cell line'.



Anastasios Athanasiadis



Dr Werner Cordier

This event provided opportunities for showcasing our high level of research in the field. Excellent networking resulted in exciting potential African collaborations.

Dr Werner Cordier, a lecturer in the Department of Pharmacology, was awarded a travel grant to attend the annual conference of the American College of Toxicology in Baltimore, Maryland (November 2016), where he will be presenting part of his doctoral thesis entitled '*Tabernaemontana elegans* decreases proliferation of HepG2 hepatocarcinoma cells with subsequent necrotic cell death'. He will visit several universities to foster collaborations between American colleagues and the Department of Pharmacology, UP, promoting pharmacological and toxicological research.

The Institute for Sport, Exercise Medicine and Lifestyle



Prof Martin Schwellnus

The Institute aims to be an international leader in scientific, translational research that promotes health and well-being in the population. Health and well-being can be achieved through lifestyle interventions and, reducing exercise-related injuries and medical complications. The institute promotes sporting excellence on a platform characterised by world-class education, service delivery and the use of modern technology.

The research conducted by Institute is reflected in its five overarching themes. The first of these, 'Lifestyle interventions for chronic disease', focusses on the prevention, management and rehabilitation of patients with NCDs. Physical activity and participation in recreational sport can profoundly increase the quality of life of patients with NCDs.

The second theme, 'Exercise-related injuries', centres on the prevention, non-surgical management and rehabilitation of musculoskeletal and other injuries incurred due to participation in sport. The focus of the third theme, 'Sports performance', is on the enhancement of excellence in sports performance, while the fourth theme, 'Medical complications and illness during exercise', focusses on the prevention and management of medical complications and illness that can result from an individual's participation in sport. The fifth theme, 'Sport and physical activity in society', includes research on economics, governance, management, ethics and education.

A key component of each of the Institute's research themes is a focus on the human being as a whole, within the context of society, through research activities that range from studying the human genome to conducting population-based epidemiological studies. There is also an emphasis on utilising existing and developing new technology – such as wearable devices, smart phones, online technology and cloud-based applications – to conduct research, deliver education and provide services in the fields covered by the Institute's research areas.

Department of Dermatology excels at annual congress

For the second year in a row, the Department of Dermatology has excelled at the annual national Dermatology Congress. Dr Kim Ansley, a registrar in the department, was recognised with a research award, a proud moment for all of us! She also scooped the first prize for the registrar presentations, a competition between registrars from all Universities in the country!

KUDOS TO THE DERMATOLOGY TEAM.

Dr Mahlatse Kgokolo



Dr Kim Ansley

A doctor to heal the earth



Nozipho Magagula

With a passion for people, planet and health, it is no surprise that Nozipho Magagula was announced as the 2016 Miss Earth South Africa.

Agala dinner at Montecasino honoured the finalists and ambassadors for the environmental and community work done this past year. A 4th year Medicine student at UP, Nozipho has been working hard to balance her studies and responsibilities as a finalist. She has proven that if you want something done, give it to a busy person. As the 2016 ambassador, she will represent South Africa at the international Miss Earth event next month in the Philippines where the focus will turn to Eco Tourism. The gala evening was attended by the Minister of Tourism, Derek Hanekom who is an avid supporter of the community work done through this leadership programme.

Nozipho has an exciting year of work and community engagement across the country and globe ahead of her. Born in Atteridgeville, West of Pretoria, Nozipho is determined to make an impact in schools and communities as well as the medical sphere. Her long term plan is to go into public health and family healthcare, since these fields have a deep sense of community and enormous social impact. She is resolute on using her love for medicine and her platform as Miss Earth South Africa 2016, to leave a legacy.

Nozipho said that she always wanted to be a heart surgeon, but later realised that there is a greater need for doctors in the community than at hospitals. *"During my time at the University of Pretoria, I have come to realise that the heart of healthcare lies in its foundation at a primary level. This has inspired me to focus on primary health."*

The Faculty is proud of Nozipho and we wish her all of the best at the international Miss Earth competition in the Philippines. We are rooting for you and know that you will do well as an ambassador of South Africa and the University of Pretoria.



We would love to hear more from departments and staff.
Please e-mail your ideas and contributions for the next edition to Ronel Leyds
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