



Faculty of Health Sciences

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

Welcome 2017

Health Science Matters

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From the desk of the Acting Dean

Dear Colleagues

I wish everyone a warm welcome as 2017 kicks off. We have an exciting year ahead, which I look forward to taking on with you. Higher education is experiencing challenging times, calling for reflection on our core purpose and strategies to achieve goals and targets. As a higher education institution (HEI), our students are the core reason for our existence and the Faculty of Health Sciences is responsible for **producing healthcare professionals** who are leading **innovators** and advocates of the next generation healthcare system.

To our advantage, our Faculty is home to academics and researchers who love ideas that make a difference in the world; our Faculty is alive with thinking, research, and innovation. The articles in this newsletter highlight the research endeavours and activities of the Institute for Sport, Exercise Medicine and Lifestyle Research (ISEMLR) and the University of Pretoria Institute for Sustainable Malaria Control (UP ISMC) innovations used to repel mosquitoes.



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

These prime examples of multidisciplinary research in our Faculty show that exciting and ground breaking science happens where disciplines interact.

The awards and accolades section is bursting with achievements by our staff and students. It is truly encouraging to see that hard work is acknowledged and awarded. Take time to read about our newly NRF rated scientists in the Faculty, our students who are acknowledged for their innovative findings and our academic leaders being appointed to leading positions in committees, acknowledging their expertise.

The last five years has seen a focussed investment in the faculty towards building innovative and robust research, education and training platforms. Going forward, we need to build on the achievements and progress whilst re-aligning our priorities and strategies in accordance with the significant changes seen in the HEI external environment. The end of 2016 saw the implementation of increased security and stricter access measures to guarantee staff and student safety. These measures are still operational and everybody is encouraged to be vigilant and aware of safety protocols being implemented. Please keep in mind that all high level events require necessary approvals from the Faculty Manager, Ms Karen du Preez; please contact her timeously.

The aesthetic of our campus has been improved significantly over the last few years with the addition of new lecture halls and refurbishment of some of our older buildings. This year, the Basic Medical Sciences (BMS) building will be upgraded and we will continue to make this campus an inviting space which encourages learning and promotes advancement of technology and innovation.

Thank you to everyone, who contribute to a faculty of which we are proud. Please continue to send us your "feel good" stories. As we embark on this new journey, allow me to remind you to

- laugh often
- cry when you need to
- have fun
- be inspired
- make a positive difference
- have a great year, and enjoy the ride!

All the best,

Tiaan de Jager
February 2017



The Faculty is exceptionally proud of all our Health Sciences researchers who received new National Research Foundation (NRF) ratings and re-ratings for 2016. Congratulations to **Prof Goedele Louwagie**, **Prof Willie van Heerden**, **Prof Paul Rheeder** and **Dr Nazeer Ismail** for attaining C-ratings.

A C-rating is awarded to established researchers with a sustained record of productivity in their respective fields and who are recognised by their peers as having produced a body of quality work, the core of which has coherence and attests to ongoing engagement with the field. These researchers have demonstrated the ability to conceptualise problems and apply research methods. This brings the number of rated researchers in the Faculty to 37! Well done to all our rated researchers.

In addition to the NRF-specific criteria, the Faculty acknowledges that our newly rated and re-rated researchers are making huge strides locally and internationally in their specific domains and thereby contributing to internationalisation which is high on the strategic agenda of the University of Pretoria.



Prof Goedele Louwagie

Prof Goedele Louwagie is an Adjunct Professor in the Department of Public Health Medicine at the School of Health Systems and Public Health. She obtained her medical degree (cum laude) in Leuven, Belgium, followed by a diploma in Tropical Medicine (magnum cum laude). After some years of general practice in Belgium, she gained extensive clinical and managerial experience in the South African public sector and obtained a diploma in Health Care Management (cum laude). She then moved into academia and obtained her MMED degree in Public Health Medicine (cum laude), a Fellowship with the College of Public Health Medicine and a PhD in Epidemiology.

Her research focuses on health systems issues relating to HIV, TB and substance abuse, in particular smoking. The uniqueness of her research lies in the fact that she uses quantitative, analytical methods steeped in the epidemiological paradigm, to study the organisation of health care.

During 2015 she took a lead role in the write-up of a 12 million rand research grant proposal for the Medical Research Council-Newton research foundation with a group of national and international researchers, which has been awarded.



Dr Nazir Ismail

Dr Nazir Ismail started his career as a medical doctor and observed the great challenges of South Africa's dual burden of TB and HIV. He wanted to do more to help eradicate this problem and was not satisfied as a general practitioner; therefore he took up a post to specialize in microbiology as a first stepping stone towards achieving this goal. During his specialist training, he completed an additional diploma in tropical diseases and hygiene and a post graduate diploma in infection prevention and control, which he completed cum laude

He now directs and stimulates new areas of research on tuberculosis surveillance and research. He has expanded his research agenda in South Africa and widened his research collaborations internationally; with partners in the USA, UK, Germany, Italy, India, etc.

He co-led an application to the UK-SA Newton Fund on TB implementation science research and received an award of R13 million to address shortcomings in health services retention among TB patients.



Prof Paul Rheeder

Prof Paul Rheeder's research focusses on diabetes and its complications and on the application of clinical epidemiological methods in general. His expertise in diabetes and clinical epidemiology has positioned him as a key researcher in this domain. In addition to diabetes studies a number of his students have applied clinical epidemiological methods to address problems related to epidemiology, diagnosis and treatment of conditions such as tuberculosis, HIV and ischemic heart disease. Currently his focus is on improving diagnostic and therapeutic interventions in both the hospital and community setting.

It is heartening to realise the commitment of our clinical researchers to conduct research and it is with pride that we can say Prof Rheeder's clinical research track record in the field of diabetes research led to his inclusion in the Society of Endocrinology, Metabolism and Diabetes of South Africa and the diabetes guidelines group. He is regarded as an important contributor to diabetes research and care by this society.

We believe his strong sense of social responsibility which he fosters in his students is evidenced by his commitment to conduct Patient Oriented Research. In his opinion the diversity of our population and the clinical burden provide a great opportunity to evaluate and improve early detection and management of disease in a manner that improves patient satisfaction and quality of life.



Prof Willie van Heerden

Prof Willie van Heerden is a specialist in Oral Pathology and the diagnosis of head and neck pathology forms the core of his daily activities. In South Africa we are exposed to a wide spectrum of disease, many of which are neglected or associated with HIV/AIDS requiring us to be on the forefront with diagnostic skills, both clinical and diagnostic histopathology. His research interest and focus have therefore been directed towards the understanding of head and neck tumours and lesions with the ultimate aim of becoming a better diagnostic histopathologist. Emphasis on improving his diagnostic histopathological skills in head and neck pathology in order to better serve the patients is the driving force of his research focus. His dedication and commitment allows for a society which benefits from continued enhancement of the skill and knowledge in this niche research area.

Spotlight on the Forensic Anthropology Research Centre

In Gauteng, South Africa, at least 1600 unidentified, deceased persons are incinerated each year. This dire situation requires research into human variation with the intention of creating accurate and reliable biological profiles from skeletal remains. Creating biological profiles from skeletal remains may help the SAPS to provide basic information to family members who are seeking missing relatives. Once prospective matches are identified, other identification techniques, namely ante-mortem dental records, fingerprints and DNA matching can be performed to confirm identity. Presumptive matches are based on the presence of biological features and their relationship with socio-cultural identity. The Forensic Anthropology Research Centre's (FARC) research thus centres on establishing these biological profiles. Established in 2009, FARC is involved in forensic anthropology research, education and community service. With research into human variation, researchers at FARC are directly improving the education and application of the discipline of forensic anthropology in South Africa; a country clearly in need of multi-disciplinary forensic services.



Prof Ericka Labbe, Director of

Research at FARC explores human variation within South African populations and compares this variation with other populations from countries that contribute to the genetic composition of modern South Africans. Other areas of research include sexual dimorphism, juvenile age estimation, stature and bone trauma. These studies contribute to more accurate presumptive identification and identifying the circumstance surrounding the death of unknown persons. All collected osteometric data are added to a South African database that will improve our interpretation of biological profiles of unknown persons.

According to Prof Ericka Labbe, Director of FARC "The FARC as part of the Department of Anatomy, University of Pretoria, encourages student exchange between our forensic labs and skeletal collections. The FARC fosters interactions with our South African postgraduates. Exchange amongst peers is beneficial to all postgraduate students, as students exchange ideas and form friendships that provide a solid research network in the early part of their careers. International research collaboration improves the relevance of South African research, maintains international standards, and helps build sustainable expertise in the country. International mentors expose South African anthropologists to new research, workshops, lectures and practical experience that improve their understanding of physical anthropology and enable them to participate in advancing the discipline both nationally and internationally through collaborative research".

Welcome to our new students

We are delighted to welcome our new first year students to the Faculty of Health Sciences. As students in Health Sciences they are an important part of our community and we value their contributions to and participation in all that the Faculty and University have to offer. Best wishes for a wonderful UP experience.



Dietetics Students



Nursing Science Students



OT Students



Radiography Students



BCMP Students



Medicine and Dentistry Students



Physiotherapy Students

Medical student in top ten at Gradstar Awards

Cyan Brown, a medical student in the Faculty of Health Sciences at the University of Pretoria, placed among the top ten students in South Africa at the Gradstar Awards Ceremony, earlier this year.

The Gradstar candidates go through a rigorous four-phase judging process during which the top 100 students in South Africa are chosen. The names of the top ten were announced at a gala dinner held after the final round of assessment. The Gradstar programme matches the country's best future graduates with potential employers and business mentors. It facilitates access between participating employers and the top 100 graduates in a uniquely developed programme that focuses on quality connections and complements existing employer programmes.

When asked to comment on her selection, Ms Brown said: 'I am very grateful and also excited about having been selected as one of the top 10 students in South Africa. I would like to thank Gradstar and the University of Pretoria for this opportunity and for the skills, networking experience and insight into the corporate world gained through this programme.'

The Faculty of Health Sciences wishes to congratulate Ms Brown on her exceptional achievement.



Cyan Brown



Dr Saiendhra Moodley

Dr Saiendhra Moodley appointed as president of the Public Health Association of South Africa

Dr Saiendhra Moodley, a Senior Lecturer in the School of Health Systems and Public Health was appointed as the President of the Public Health Association of South Africa (PHASA) in December 2016. He previously served as PHASA's Vice-President from September 2014. PHASA has over 1600 members, who are mainly public health professionals working in government, the non-profit sector and academia in South Africa, and students pursuing postgraduate public health courses in South Africa. Dr Moodley is the first UP-based President of PHASA.

Two UP postgraduate students have assumed leadership roles within the organisation. Mr Moeketsi Modisenyane, a PHD candidate, is the new PHASA Vice-President and Mr Andre van Zyl, an MPH student, is the President of the Junior Public Health Association of South Africa. These recent changes within PHASA reaffirms the leadership role that the School of Health Systems and Public Health is playing in public health in South Africa and continentally.

High-tech wall linings keep the mozzies away

Researchers at the Institute for Sustainable Malaria Control (UP ISMC) have developed insecticide-impregnated wall linings to protect residents in Vhembe, Limpopo from mosquitoes. The wall linings have been so successful at reducing mosquito bites that residents are keeping them in their homes for long-term use. The wall linings were developed in a collaboration between the UP ISMC and Prof Walter Focke, chemical engineer from the Institute of Applied Materials (IAM) at UP. The polyethylene wall lining is impregnated with insecticidal chemicals. This innovative mesh material was installed and tested in homes in the Vhembe district, and evaluated based on feedback from the community.

These mosquito control wall linings are not associated with the health risks of normal sprayed insecticides. Sprayed insecticides coat dust particles, leading to unavoidable human exposure through contaminated dust on furniture, on floors and in the air. This dust can also contaminate food and water in sprayed homes.

The UP ISMC undertook a six-month pilot study to see if the linings were acceptable to the community. The community responded positively, so the researchers decided to leave the linings in the homes of participants to see how long they remained effective. The linings have now been in the field for the last four years, and the results have far exceeded the researchers' expectations. This pilot project was conducted in an area where insecticides are not sprayed. The linings contain the insecticides deltamethrin and alpha-cypermethrin, which show some toxicity to humans, but to a far lesser extent than the commonly used insecticide, DDT. Human contact was restricted by installing linings out of reach of children, and by instructing families not to touch the material.



Insecticide-impregnated wall linings

Researchers found that linings remain close to 100% effective in killing mosquitoes, even after four years. Specifically, mosquitoes are knocked down within 30 minutes of contact with the linings, and die within 24 hours in laboratory tests. Importantly, the linings remain well above the World Health Organisation (WHO)'s recommended minimum effectiveness for internal wall linings. Reports from communities corroborate these results, as community members reported less biting and less annoyance overall.

The feedback from community members who participated in the study and have now taken possession of their wall linings, has been overwhelmingly positive. "Those who have moved house have asked if we can move the linings from their original position because it is so effective", said Dr Taneshka Kruger, senior project coordinator at the UP ISMC.

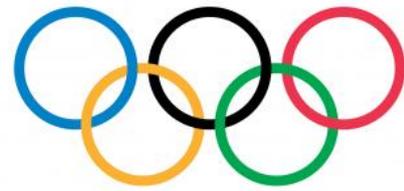
The UP ISMC now has a commercial partner for further development of this innovative malaria control technology. The company has also conducted their own tests on the wall linings to better understand its qualities, including how long the linings will remain effective after washing.

Dr Kruger says the next steps will be 1) to conduct phase two field trials using trial buildings where mosquitoes that die through contact with the lining can be counted accurately, 2) to improve how the linings are fastened to the walls, and 3) to look at alternative insecticide options - especially WHO-approved insecticides.

"The wall linings are going to remain in the huts and the houses for as long as the people want them there and we hope that phase two will start soon." said Dr Kruger.

Institute for Sport, Exercise Medicine and Lifestyle Research takes UP sports excellence to the next level

The University of Pretoria has an impressive track record of sports excellence: over half of South African medallists at the recent Olympics and Commonwealth Games were assisted by UP staff or facilities. Sporting success provides inspiration, motivation, direction and meaning in people's lives. Success in the arena can uplift communities or nations, and society needs its sporting champions as heroes and role models. Sporting champions unify a society and bring people together with a common sense of purpose and values and the Institute for Sport, Exercise Medicine and Lifestyle Research (ISEMLR) hopes to capitalise on this.



INTERNATIONAL
OLYMPIC
COMMITTEE



Prof Martin Schwellnus recently chaired the International Olympic Committee (IOC) Consensus Committee on the link between exercise load and injury/illness risk, which published two papers on the topic recently. Image credit: International Olympic Committee.

The University of Pretoria has a long and proud tradition of supporting sporting excellence through various research programmes and centres, most notably the High Performance Centre (HPC). The HPC has been supporting elite athletes since 2002, with a wide variety of national and international athletes coming to the centre for their training facilities, medical services and nutritional and scientific expertise. The University also boasts a slew of elite athletes throughout its history and a highly competitive and successful sports club infrastructure.

One of the themes of the ISEMLR concerns sports performance, building on UP's rich history of excellence in sports performance research. The ISEMLR will achieve this by bringing researchers together under common themes. The director of the Institute, Professor Martin Schwellnus, recently chaired an expert group assembled by the International Olympic Committee to consider the relationship between high training loads and sports injuries. This committee recently published two consensus papers covering their findings in detail. His experience in this research will contribute to the performance of UP's already highly-rated athletes.

2016 Tuks Young Research Leader Programme



Natalie Keough



Neil Morris

Congratulations to our 2016 Tuks Young Research Leader Programme fellows.

Natalie Keough, Senior Lecturer, Department of Anatomy. Neil Morris, Lecturer, Department of Forensic Medicine

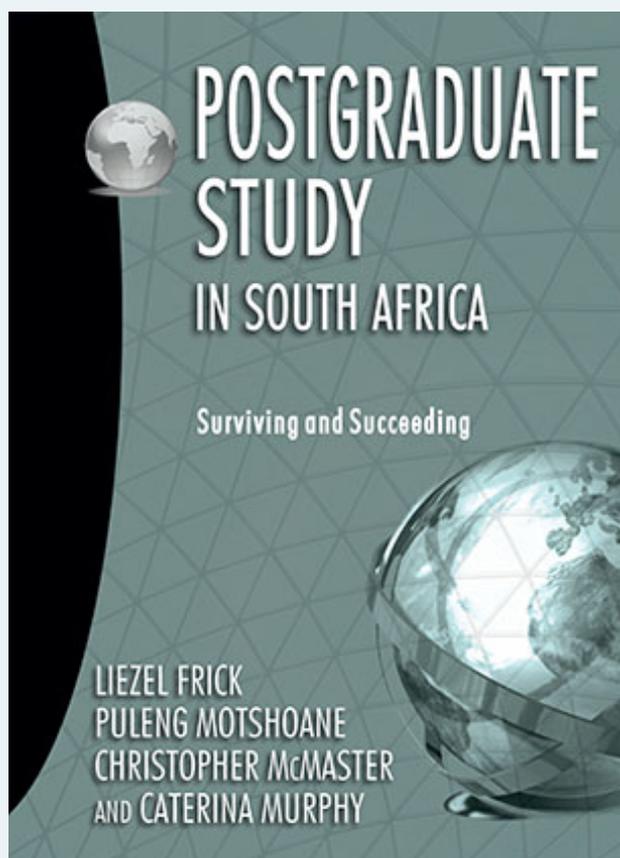
The TYRLP programme aims to develop early career academics at UP in the areas of thought leadership, team development, engagement and collaboration, enabling them to recognise, approach and solve complex societal issues. The programme aims to form a community of like-minded young researchers who possess qualities that will contribute to UP becoming a research intensive University.

The programme was held on 4 and 5 October and aimed at training fellows in advanced leadership skills. It served early career researchers in basic and applied sciences, engineering, social sciences, arts and the humanities.

According to Natalie Keough "The TYRLP was an inspiring event and I walked away with a new sense of determination to develop, grow and succeed in my research field. It was lovely to meet other young researchers on my level experiencing the same hurdles, the same views on research development and sustainability in the University and generally the same need for self-development."

"I am truly honoured to have been selected as one of the University of Pretoria's, Tuk's Young Research Leader Programme Fellows. This program firstly taught me that there is a network of like-minded, driven individuals hiding in our respective silos and that it is our responsibility to form meaningful collaborations to break those silos open and effect meaningful change. Secondly, being part of this programme has shown me that the University invests in its future leaders and listens to the voices of the next generation of researchers and academics" stated Neil Morris.

A New Chapter...



Dr Liz Wolvaardt, Dr Hannelie Untiedt, Dr Karien Mostert

Three faculty members were the authors of a chapter called, "The [un]common benefits of a circle of critical friends" in a new book 'Surviving and Succeeding: Postgraduate Study in South Africa'.

They are Dr Liz Wolvaardt, from the School of Public Health and Health Sciences, Dr Hannelie Untiedt from the Department of Education Innovation and Dr Karien Mostert from the Department of Physiotherapy. The fourth author is Dr Mariana Pietersen from the Department of Sociology, Faculty of Humanities. They supported each other on the PhD journey from conceptualizing the study to final graduation. Lessons and experiences from this journey were summarized in the chapter. The book was launched in Stellenbosch late last year.

Prof Kramer appointed as Tournament Medical Officer for upcoming FIFA World Cup events

Prof Efraim Kramer, an extraordinary professor in Sports Medicine in the Faculty of Health Sciences at the University of Pretoria (UP), has been appointed as the new FIFA Tournament Medical Officer for the FIFA Confederations Cup in Russia, 2017 and the FIFA World Cup, Russia, 2018.

Prof Kramer has been passionately involved in emergency medicine for the last 30 years, including involvement in mass gathering medicine. He was called upon during the 2010 FIFA World Cup that took place in South Africa. Since then he has been actively involved with FIFA Medical in helping to establish international norms and standards for football medical services and football emergency medicine, focussing on the prevention and management of sudden cardiac arrest on the football field. Most recently, he provided emergency medical services for the 2016 FIFA U20 Women's World Cup that took place in Papua New Guinea from Sunday, 13 November, to Saturday, 3 December 2016.



Prof Efraim Kramer

Prof Kramer says that it was with humility and gratitude, yet also a sense of national pride and academic gratification that he accepted the invitation by Baron Dr Michel D'Hooghe, Chairman of the FIFA Medical Committee and known as the 'father of Football Medicine', to replace Prof Jiri Dvorak, the outgoing FIFA Chief Medical Officer and Chairman of FIFA's Medical Assessment and Research Centre, for the abovementioned events.

Prof Kramer's appointment marks the first time in over 20 years that someone new will be presiding over the medical operations of these iconic major football tournaments. 'For this position to be held by a simple South African, out of the Free State, from Sports Medicine at Tukkie's to the stadiums in Moscow and St Petersburg, is sure evidence that if one aims for the moon, perseverance, passion, performance and committed, caring colleagues can actually catapult one there', he says.

Research funding highlights and successes

The Faculty of Health Sciences has a lot to be proud of in the research funding arena. We would like to commend our researchers for their significant efforts in applying and accessing funding during 2016. We are operating in a resource and funding constrained environment and it is imperative that we are innovative and creative in tapping into research investment opportunities.

Hearty congratulations to **Prof Janine Wichmann** who was awarded a Collaborative Postgraduate Training grant by the NRF. This block funding support allows for Masters and Doctoral students with a small budget towards running expenses for investigating PM2.5, soot, source apportionment, geographical origin of air masses and health effects thereof in Cape Town, Pretoria and Thohoyandou. Studies of this kind are rare and obtaining funding support for training students for the period 2016-2018 is quite an achievement.

Warm congratulations to our emerging researchers who received NRF Thuthuka funding for 2017. New awards were made to **Dr Nontuthuko Maningi, Dr Rivak Punchoo, Dr Janette Bester, Mr Abe Kasonga and Ms Precious Setlai**. Renewed funding was given to **Mrs Celmari Dorfling, Ms Thandi Mqoco, and Prof Theresa Rossouw** which confirms that their research is valued by their peers.

As the University moves from a focus on research output to research findings being translated into services/products it is heart-warming to see young researchers in the Faculty already doing exactly that. **Mr Kebalepile**, in the School of Health Systems and Public Health was awarded a significant monetary prize for his invention of a medical diagnostic instrument called the Asthma Grid. >>

The Office of the Deputy Dean Research is committed and available to assist with research funding support and we encourage you to keep this momentum going during 2017, becoming a part of our success stories! There are many exciting support opportunities available to aid both emerging and established researchers, ranging from editing and biostatistical services, funding support, availability of writing rooms and regular information and training sessions/workshops. To stay in the know you are encouraged to visit the research webpages which are updated regularly and are available at the following url: <http://www.up.ac.za/faculty-of-health-sciences-research>.

Faculty of Health Sciences, PhD student scoops up local and international awards with innovative life-saving device

Mr Moses Kebalepile, a PhD student in the School of Health Systems and Public Health at the University of Pretoria (UP), has walked away with top prizes in both the prestigious Gauteng Accelerator Programme (GAP) Innovation Competition for 2016 and the International Pitchfest held in Zurich, Switzerland, early in January 2017. The prizes were awarded for his invention of a medical diagnostic instrument called the Asthma Grid, an electronic medical device that acts as an early warning system for imminent asthma attacks.

Mr Kebalepile's Asthma Grid was motivated by the fact that he has two siblings who suffer from asthma. Approximately 4 million South Africans live with this debilitating disease and the country has one of the highest asthma-related death rates in the world for people between the ages of 5 and 35 years. Mr Kebalepile believes that many of these deaths could have been prevented if it were possible to predict the attacks.

There are currently two designs for the Asthma Grid: one is a hand-held unit, and the other is worn on the wrist, with dermal patches and a mouth-piece. The patient can enter personal details on the device to create a unique profile, which also considers their environment. The patient then blows into the device, which predicts the probability of an attack.

The GAP Innovation Competitions identify top Gauteng-based innovators, researchers and entrepreneurs seeking to develop their prototypes and late-stage research to market. Mr Kebalepile competed in the medical category which focuses on identifying health innovations that will contribute to the improvement of health services and novel medical technologies. The four winners in this category each received seed funding for their products and have the opportunity to join the prestigious Maxum Business Incubator at The Innovation Hub in Pretoria. Mr Kebalepile placed first among the four winners and received seed funding to the value of R500 000, opening up doors for product development by 2018.

The International Pitchfest, takes place under the Swiss-South African Venture Leaders Programme, a framework that provides motivation, entrepreneurial know-how and support to scientists from both South Africa and Switzerland. Candidates take part in a training programme in Switzerland for young, ambitious South African and Swiss entrepreneurs, which is organised by Venturelab, a private initiative that supports start-up talents who have the ambition and potential to grow internationally.



Moses Kebalepile



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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