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Tukkie

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Reflections on 20 years of democracy | UP awards honorary doctorates

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Founded on a tradition of academic excellence of more than a century and with 18 academic departments and eight research entities, the Faculty of Humanities at the University of Pretoria is one of the most comprehensive humanities faculties in Southern Africa. The breadth and diversity of the Faculty's offerings provide prospective postgraduate students with a wide range of study and research opportunities from which to choose. Opportunities are available for postgraduate study and research in:

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UNIVERSITEIT VAN PRETORIA
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Faculty of Humanities

Voorbladfoto/Cover photo

The University awarded 127 PhD degrees during the 2014 Autumn Graduation Ceremonies.

Die Universiteit het 127 PhD-grade toegeken tydens die 2014 Herfspromosieplegtighede.

Menings in Tukkie is dié van die betrokke persoon en nie noodwendig die standpunt van die Universiteit van Pretoria nie. Tukkie word uitgegee deur die Universiteit van Pretoria se Departement Universiteitsbetrekkinge.

Opinions expressed in Tukkie are that of the individual concerned and not necessarily the view of the University of Pretoria. Tukkie is published by the University of Pretoria's Department of University Relations.

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New brand roll-out for UP

The University of Pretoria has revamped its brand in line with the UP 2025 strategy. Elements of the brand, introduced on the front cover, reflect the University's identity and is aimed at making UP distinct from other institutions and instantly recognisable as a brand.

Nuwe visuele identiteit vir UP

Die Universiteit van Pretoria het sy korporatiewe identiteit aangepas in ooreenstemming met die UP 2025-strategie. Elemente van dié identiteit, soos gebruik op die voorblad, is daarop gemik om UP te onderskei en dadelik herkenbaar te maak as 'n handelsmerk.

Inhoud
Contents

Rektor se boodskap/Principal's message	4
Babas van ons demokrasie nou Tuks-studente	5
UP awards honorary doctorates	7
UP Council Chair receives honorary doctorate	8
Autumn Graduation Ceremonies Herfspromosieplegtighede	9-11
UP erken uitsonderlike presteerders	12
Reflections on 20 years of democracy	16
Thumbs UP from SRC for the Tuks Scholarship Fund	19
Nondumiso Mzizana: Never stop persuing your dream	20
When interest in environmental science escalates	22
Nederige skoonmakers werk vir 'n gesonde omgewing	24
Combating a silent disability	28
SARChI Chair in Sustainable Malaria Control launched at UP	30
Handle with care: Fascinated by bats	32
New divide evident in classrooms	33
Presidential award for outstanding research for Prof Lall	33
Dr Nkosazana Dlamini-Zuma praat by UP	34
Minister launches Centre of Excellence in Food Security	35
UP hosts panel of experts	35
UP kundige medeskrywer van boek oor Forensiese Antropologie	36
Eerste gesamentlike graad toegeken	37
Veterinary open educational resource goes live	38
TuksAthletics - where champions are made	39
Goue jaar vir Assupol TuksKrieket	40
Irish Young Researchers Award for Carel	42
Tuks alumnus shines at SAFTA	43
Corobrick's Architectural Student of the Year award	43
Klas van 1963 hou reünie	44
Medical pioneer to receive international teaching award	44
Africa loses distinguised conservationist	45
Afsterwe van prof Koos Stadler	46
Prof Pieter van der Merwe (1944-2014)	46

Rektor se Boodskap

Beste *Tukkie*-leser

Ek is verheug dat die Universiteit ’n positiewe eerste semester in 2014 beleef het. Verwelkomingsdag was ’n spesiale gebeurtenis omdat ons inname van eerstejaarstudente na 1994 gebore is, dus nadat Suid-Afrika ’n demokrasie geword het. Toe was ons steeds in rou oor die heengaan van ons geliefde voormalige President Nelson Mandela en my verwelkomingsboodskap was gegrond op een van sy besielendste boodskappe, naamlik dat daar geen passie is in berusting by ’n lewe wat minder is as die een wat jy in staat is om te lewe nie. Ek glo dat deur in talentvolle jongmense te belê, hulle aan te moedig om hul volle potensiaal te verwesenlik en aan hulle ’n wêreldklas-opvoeding te bied, een van die beste maniere is om hulde te bring aan die nalatenskap van ons grootse leier. In dié gees versoek ek u om die Tuksbeursfonds te ondersteun. Dié fondsinsamelingsveldtog ondersteun akademies verdienstelike studente wat finansieël sukkel om hul universiteitstudie te dek en is as ’n personeelskenkingsinisiatief geloods. UP-personeel en die Verteenwoordigende Studenteraad ondersteun die fonds mildelik.

Promosieplegtighede is altyd ’n wonderlike viering en die hoogtepunt van die akademiese jaar. Soos u weet, het die Universiteit jaarliks twee promosieplegtighede, in die herfs en in die lente. In hierdie *Tukkie* is daar artikels oor die Herfsplegtighede. Tydens die 28 plegtighede is bykans 12 000 kwalifikasies vanuit nege fakulteite en GIBS, ons sakeskool, toegeken. Ons is trots daarop dat UP jaarliks sowat 16,6% van alle graduandi in Suid-Afrika lewer.

Die Akademiese Presteerderstoekenningseremonie ter viering van personeel se akademiese prestasies het onlangs plaasgevind. Dit is ons akademiese personeel wat die pas aangee in ons strewe om ’n toonaangewende universiteit te wees wat internasionale erkenning geniet vir ons kwaliteit, relevansie en impak.

Ek vertrou dat u dit geniet om oor u alma mater en mede-alumni te lees en dat dit u inspireer om as Tuks-graduandi te skitter waar u ook al mag wees.

Vriendelike Tukkie-groete
Prof Cheryl de la Rey

Principal’s Message

Dear *Tukkie* reader

I am pleased that the University has had a very positive first semester of 2014. Welcome Day was a special event as our intake of first-year students were born in the years after 1994 when South Africa became a full democracy. Bearing in mind that we were still mourning the passing away of our beloved former President Nelson Mandela, my welcome address was based on one of his most inspirational messages that ‘There is no passion to be found in playing small – in settling for a life that is less than the one you are capable of living.’ Investing in young talent, encouraging them to live to their fullest potential and providing them with a world class education is, I believe, one of the best ways that we can honour the legacy of our great leader. In this spirit I wish to call on you to support the Tuks Scholarship Fund. This campaign to raise funds to support academically meritorious students who do not have sufficient funds to cover the costs of university study was launched with a staff payroll giving scheme and I am pleased that the UP staff have responded very generously and so too has the Student Representative Council.

Graduation is always a wonderful celebration marking the culmination of the academic year. As you may know, the University has two graduation series each year; in autumn and spring. In this edition of *Tukkie* there is a feature on our Autumn Graduation Ceremonies. We conferred close to 12 000 qualifications across nine faculties and our business school, GIBS, over the 28 graduation ceremonies. We are very proud that annually UP produces about 16,6% of all South African graduates.

A recent annual event is the Academic Achievers Awards where we celebrate the achievements of our academic staff who are setting the pace in our quest to enhance our position as a leading university recognised internationally for our quality, relevance and impact.

I trust that you enjoy reading about your alma mater and fellow alumni and that you are inspired to shine as Tuks graduates wherever you are.

Warmest Tukkie greetings
Prof Cheryl de la Rey

Babas van ons demokrasie nou Tuks-studente

Deur Nicolize Mulder

Hulle is gebore in die tyd toe Nelson Mandela reeds die verkose president van ’n vry en demokratiese Suid-Afrika was.

Dit was daarom heel gepas dat die universiteitsloopbaan van meer as tienduisend nuwe eerstejaars aan die Universiteit van Pretoria (UP) vanjaar met wyse woorde deur dié voormalige staatshoof afgeskop het: ‘Geen passie is te vinde deur klein te dink nie, [deur] tevrede te wees met ’n lewe wat minder is as die een waartoe jy in staat is.’

Prof Cheryl de la Rey, Visekanselier en Rektor, het in haar verwelkomingsboodskap op Verwelkomingsdag hulde gebring aan oudpresident Mandela – wat aan die einde van 2013 oorlede is – deur die nuwe, spesiale geslag Tukkies daarop attent te maak dat hulle nie net vry gebore is nie, maar dat elkeen van hulle ’n voortreflike lewe kan lei. Die meeste van vanjaar se eerstejaars aan UP is in 1995 en 1996 gebore, binne die tydperk van 20 Jaar van demokrasie wat vanjaar by die Universiteit en regoor die land gevier word.

‘Lei ’n lewe propvol prestasie deur ’n produktiewe, professionele persoon te word, ’n leier en ’n landsburger wat ’n verskil maak,’ het prof De la Rey die nuwe studente aangeraai.

Volgens die Rektor sal dít ’n voortsetting wees van die sukses wat die nuwe eerstejaars reeds op skool bereik het. ‘Ons weet julle kán presteer – die blote feit dat julle vandag hier sit bewys dit,’ het sy gesê. Sy het verwys na die meer as 43 000 aansoeke wat UP ontvang het vir die sowat 10 500 eerstejaarsplekke wat beskikbaar was.

Honderde akademiese presteerders wat tot so veel as tien onderskeidings in die 2013 matriekeksamen behaal het, was ook onder die nuwelinge. Baie van dié akademiese reuse het die 300 plekke vir die graad MBChB in die Fakulteit Gesondheidswetenskappe opgeneem. Ander slimkoppe was onder die heelwat groter groep ingenieurstudente wat vanjaar aan UP se grootste fakulteit, Ingenieurswese, Bou-omgewing en Inligtingtegnologie, gaan studeer.

Prof De la Rey het verwys na navorsingsresultate waarvolgens ’n universiteitskwalifikasie een van die belangrikste faktore is wat toekomstige professionele sukses bepaal. ‘Julle het gekies om universiteit toe te kom. Maar die tweede

belangrike besluit wat julle geneem het, was om na die régte universiteit toe te kom. 'n Kwalifikasie van UP tél: dit word wyd erken as 'n graad van topkwaliteit. Ons is trots op ons alumni wat invloedryke posisies regoor die wêreld beklee,' het sy gesê.

Voorts het sy verwys na die netwerk waarvan die nuwe eerstejaars deel sal word en wat dit in hul latere professionele lewe vir hulle kan beteken. 'UP is 'n uitnemende gemeenskap – ons lok die mees talentvolle jongmense in die land en ons is 'n baie diverse gemeenskap waar studente diepgaande vriendskappe kan smee.' Prof De la Rey het ook met trots verwys na die steeds groeiende getal lande en kulture wat op UP se kampusse verteenwoordig word en tot die diversiteit van die studentebevolking bydra.

Ten slotte het prof De la Rey bygevoeg dat sy daarna uitsien om die groep eerstejaars wat sy by Tukkies verwelkom het oor drie of vier jaar in hul togas op die verhoog te sien.

'Jaaa, Boet,' het ek 'n pa tydens die verdaging vir sy seun hoor sê, 'ons het jou tot by die beste universiteit gebring, nou is dit jou beurt om jou deel te doen.' ■

Prof André Boraine, Dekaan van die Regsfakulteit, stel die Fakulteit bekend aan voornemende studente en hul ouers.

UP awards honorary doctorates

An honorary doctorate, which is the highest distinction awarded by the University of Pretoria, is reserved exclusively for persons who have a exceptional academic background and have made a significant contribution to scholarship, said the Vice-Chancellor and Principal, Prof Cheryl de la Rey.

Ben Okri on stage during the graduation ceremony.

Four honorary doctorates were awarded during the 2014 Autumn Graduation Ceremonies. The recipients were Ben Okri, an acclaimed international author; Prof JW Creswell, a Fulbright Scholar and leading educational research methodology expert; Prof T Plomp, an emeritus professor whose most outstanding and lasting contribution to the University is the Faculty of Education's Centre for Evaluation and Assessment; and Prof RL Baskerville, one of the world's pioneers in the field of information systems design and security.

Ben Okri is one of the world's foremost literary authors. He has written nine novels, the third of which, *The famished road*, was awarded the Booker Prize in 1991. In addition to these novels, Dr Okri has published nine volumes and collections of essays, poetry and short stories.

The Faculty of Humanities nominated Ben Okri for the degree DLitt (honoris causa). The University Council confirmed the nomination on the grounds of his being a widely recognised international writer and scholar whose outstanding contribution to contemporary world literature should not go unnoticed. It is the first time that an African university has honoured one of its greatest sons. Okri, who is widely regarded as one of the best writers of the twentieth and twenty-first centuries, was born in Nigeria and spent his early childhood in London before returning to his native country. His works are heavily influenced by Nigerian mythology and culture, as well as by the devastating effects of the Biafran War. In his lecture Dr Okri said he felt deeply honoured to have received recognition from the University of Pretoria.

Prof JW Creswell is professor of Educational Psychology at the University of Nebraska-Lincoln. His research output includes 22 books and many articles on mixed-method research, qualitative methodology and general research design. The books, which focus mainly on types of research design, compare different qualitative methodologies and the context and use of mixed-method research. As a Senior Fulbright Scholar he spent 2008 in South Africa and 2012 in Thailand. Professor Creswell received the degree DEd (honoris causa) in recognition of the exceptional impact of his work on global research in education, as well as his expertise in research methodology and its wide applications in education.

Continue on p 8

From p 7

Prof Tjeerd Plomp is emeritus professor at the University of Twente, Enschede in the Netherlands. He holds an MSc in Mathematics (1964) and a PhD in Education (1974), both from the Free University of Amsterdam. In addition to his many academic and research achievements, Prof Plomp made a direct and lasting contribution to the University of Pretoria through his involvement with the University's Centre for Evaluation and Assessment since it was founded in 2002. From 2003 to 2005 he was extraordinary professor of Education in the Faculty of Education at UP.

Prof Tjeerd Plomp listens to the introduction by Prof Irma Eloff, Dean of the Faculty of Education.

Richard Lee Baskerville, middle, with Prof Roelf Sandenberg, Dean of the Faculty of Engineering, the Built Environment and Information Technology and Vice-Principal, Prof Themba Mosia.

Prof J W Creswell, Prof Irma Eloff and the Chancellor of the University of Pretoria, Prof Wiseman Nkuhlu.

Richard Lee Baskerville serves on the Board of Advisors for Information Systems in the Department of Computer Information Systems, Robinson College of Business at Georgia State University in Atlanta, USA. He is one of the world's foremost research specialists whose body of work focuses on security of information systems, methods of information systems design and development, and the interaction of information systems and organisations. He has published more than 200 articles in scholarly magazines and journals, and has also acted as editor of several books. In his inspiring and motivational speech, Prof Baskerville explained to the undergraduates that receiving a first degree 'is like opening up a bag of crisps – once you taste one, you want the whole bag'. ■

UP Council Chair receives honorary doctorate

Ms Futhi Mtoba, Chairperson of the Council of the University of Pretoria received an honorary doctorate from the University of Limpopo in May.

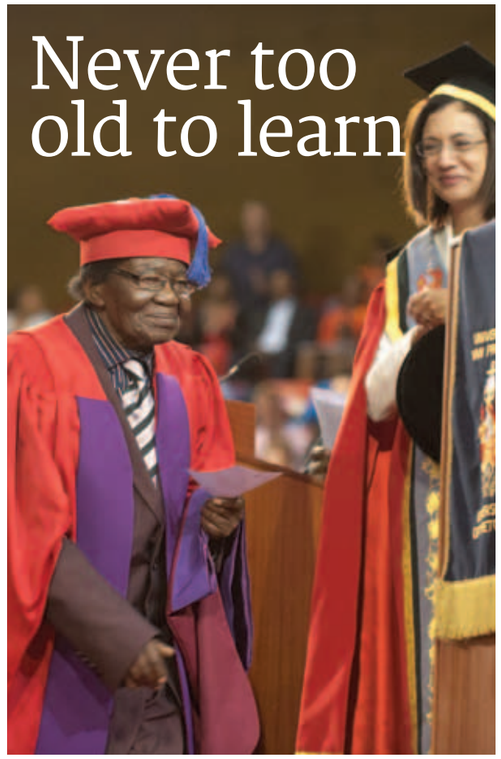
Ms Mtoba is a qualified Chartered Accountant CA (SA) and holds a Higher Diploma in Banking Law from the former Rand Afrikaans University, a B.Com (Hons) and BA (Econ) (Hons), both from the University of South Africa, and a BA (Econ) from the University of Botswana and Swaziland. She has steered several international bodies, including the United Nations Global Compact, the world's largest voluntary corporate citizenship initiative.

She joined Deloitte Southern Africa in 1988, rising up the ranks to become not only the first African woman to be appointed as a partner by one of the top four accounting firms in South Africa, but subsequently, in 2004, also the first woman chairperson of Deloitte Southern Africa.

Ms Mathoba has been the chairperson of the University Council since 2008. ■

AUTUMN GRADUATION CEREMONIES 2014

Never too old to learn



Dr Solomzi Ferguson Sotobe receives his doctorate.

The 85-year-old Dr Solomzi Ferguson Sotobe, who has been the oldest person ever to receive a doctorate from the Faculty of Theology, proved that one is never too old to learn.

Rev Sotobe was born on 17 September 1929 in the Qeqe administrative area of Butterworth (Eastern Cape) and is an ordained pastor of the Assemblies of God. He obtained a Diploma in Biblical Studies from the Union Bible Institute in Pietermaritzburg in 1963.

This was followed by a BA(Hons) degree in Public Administration from the University of Transkei, and later, in 2009, a BA(Hons) degree from the University of Pretoria. In 2010 he was awarded an MA(Theology), specialising in Practical Theology. He earned his doctorate with a thesis that dealt with the trauma faced by ministers in their pastoral duties and the challenges this poses for their lives. ■

Two PhDs for the Craffords

During the 2014 Autumn Graduation Ceremonies, two Tuks alumni who graduated in 1966, Bets and Willem Crafford, witnessed their children, also Tuks alumni, graduate with PhDs on the same day!

Dr Jannie Crafford received his PhD from the Department of Veterinary Tropical Diseases in the Faculty of Veterinary Science for his thesis entitled 'Immune responses to modified-live and recombinant African horse sickness virus vaccines'. The findings of his study are relevant to the design of a more effective African horse sickness virus vaccine and seek to identify protective immunity to this virus in horses.

Dr Crafford's sister, Dr Lizette Weilbach, a lecturer in the Department of Informatics, received her PhD in IT from the Faculty of Engineering, the Built Environment and Information Technology. In her thesis she focused on institutional theory to gain a better understanding of the change management that took place during the implementation of an Open-source Content Management System (ECM) in the public sector. Dr Weilbach also has a strong interest in education and the educational uses of IT. ■

Dr Weilbach (second from left) and Dr Crafford (second from right) with their parents on graduation day.

VIER DMUS-GRADE TOEGEKEN

Die Universiteit het 127 doktorsgrade tydens die Herfspromosieplegtighede toegeken. Getrou aan die Universiteit se strewe om ’n navorsingsintensiewe instelling te wees, het die Departement Musiek vier doktorale kandidate gehad wat elk ’n DMus-graad ontvang het.

Dit was inderdaad ’n groot prestasie vir ’n klein department. Drie doktorale studente het ingeskryf vir navorsingsgrade en die vierde vir die uitvoerende graad. Twee van dié vier was buitelandse studente.

Een van die internasionale studente, dr Pek Lin Ching, ‘n dosent aan ‘n instituut vir die opleiding van onderwysers in Batu Lintang, Maleisië en dr Truida Olivier, ’n klavierdosent van die Universiteit van Noordwes, het hul grade onder leiding van prof Caroline van Niekerk verwerf. Dr Ching het navorsing gedoen oor die musiekkultuur van die Kenyah, ‘n inheemse groep van Borneo. Dr Olivier het ondersoek ingestel na die verband tussen tegniek en interpretasie in Johannes Brahms se Sonata opus 34 en het as deel van die nakoming van die graadvereistes drie openbare konserte gehou.

Prof Meki Nzewi van UP se Departement Musiek het opgetree as die studieleier vir dr Bridget Chinouriri, ‘n dosent in Etnomusikologie aan die Universiteit van Zimbabwe. Dr Chinouriri het ondersoek ingestel na die gebruik van musiek as ’n ideologiese krag tydens die politieke mobilisasie van Zimbabwe se grondhervormingsprogram. Dr Elise Lemmer, deeltydse klavierdosent aan UP, se proefskrif is onder toesig van prof Heinrich van der Mescht voltooi en handel oor die belang van en individuele bydraes deur J N Hummel as ‘n oorgangskomponis tussen die Klassieke en die Romantiese tydperke. ■

LJ van Zyl steek ook dié hekkie oor

Suid-Afrikaanse Olimpiese hekkiesatleet LJ van Zyl het die afgelope jaar uitgevind dat internasionale atletiek vir hom makliker is as om vir ’n graad te werk.

‘Ja, dit was baie moeiliker as

hekkies hardloop,’ het hy erken nadat hy tydens die Uiversiteit se Herfspromosieplegtighede ’n honneursgraad in Onderwysbestuur, -reg en -beleid ontvang het. LJ vertel dat die nagraadse studie net soveel toewyding as sy oefenroetine geverg het. ‘Veral die klasse op Vrydagmiddae was harde werk.’

’n Bykomende hindernis was die feit dat hy drie maande van die jaar oorsee woon. ‘Gelukkig het ek ’n baie goeie verstandhouding met die professore by Tuks gehad. Hulle het altyd geweet waar ek was,’ het hy gesê. ■

HERFSPROMOSIEPLEGTIGHEDE 2014

VIER GESLAGTE KOLBES GRADUEER AAN TUKS

Toe Isobel Kolbe op Dinsdagmiddag 23 April net na drie-uur oor die verhoog van die Rembrandtsaal tydens UP se Herfspromosieplegtighede gestap het, was sy die vierde geslag Tuks-gegradueerde uit die Kolbe-familie.

Haar oupagrootjie, Frederik

Fortunatus Kolbe, was in 1910 ’n ingeskrewe student nadat hy sy skoolloopbaan aan die Paarl Gimnasium voltooi het. Sy kleinseun, Fred Kolbe, sê hy is nie seker waarvoor sy oupa ingeskryf het nie, maar hy het ’n sertifikaat gekry dat “he attended a full intermediate course at the Transvaal University College in 1910” waarmee hy op Krugersdorp gaan skoolhou het.

Sy seun, Frederik Fortunatus Hofmeyr Kolbe, het BSc(Agric) aan Tuks gestudeer

Die sertifikaat wat Frederik Kolbe in November 1910 verwerf het.

Frederik Fortunatus Kolbe (staande, heel links op dié UP rugbyfoto uit 1910) se agterkleindogter, Isobel, was vanjaar die vierde geslag Kolbe om ’n UP-gegradueerde te word.

en is in 1963 Holland toe om sy doktorsgraad daar te doen. Prof Kolbe het by UP klas gegee in Landbou (Agrariese Voorligting) tot ongeveer 1967. Hy het die professoraatskap en pos van departementshoof gekry voordat hy sy doktorsgraad voltooi het. Hy is in 1969 oorlede.

Isobel Kolbe en haar ouers, Fred en Marguerita, is almal Tuks alumni.

Fred Kolbe, uit die derde geslag Kolbes, het BCom LLB gestudeer en sy vrou, Marguerita Coetzee, het BA LLB gestudeer. Hulle het op universiteit gekys geraak en altwee in 1982 graad gekry.

Isobel Kolbe het hierdie trotse tradisie voortgesit toe sy die BSc-graad ontvang het. Sy is nou besig met honneursstudies. ■

UP erken uitsonderlike presteerders

Van links na regs verskyn dr Albert van Jaarsveld, Hoof Uitvoerende Beampte van die Nasionale Navorsing Stigting, prof Brenda Wingfield, A-gegradeerde navorser, dr Phil Mjwara, Direkteur-generaal van die Departement van Wetenskap en Tegnologie, prof Don Cowan, A-gegradeerde navorser en die Rektor, prof Cheryl de la Rey.

As ‘n voorste navorsings-universiteit, slaan die Universiteit van Pretoria uitsonderlike akademiese prestasie hoog aan.

“Die Universiteit se jaarlikse

Toekennings vir Akademiese Presteerders huldig die volgehoue pogings van ons akademiese personeel wat individueel en gesamentlik die dryfkrag is vir die Universiteit se strategie om ‘n toonaangewende navorsingintensiewe universiteit in Afrika te wees,” sê prof Cheryl de la Rey, Visekanselier en Rektor.

Die volgende senior navorsers uit verskillende fakulteite is as volg vir uitnemende prestasies in voor- en nagraadse onderrig en leer, navorsing, gemeenskapsdiens en administrasie vereer.

Die toekennings is tydens 'n glansryke geleentheid aan die akademici oorhandig.

Uitnemende Akademiese Presteerders

Fakulteit vir Landbou- en Natuurwetenskappe

Prof Roumen Anguelov is hoof van die Departement Wiskunde en Toegepaste Wiskunde. Sy belangrikste navorsingsgebied is differensiaalvergelykings en hul numeriese analise, met die hoofklem op betroubare numeriese berekenings.

Prof Marthan Bester van die Departement Dierkunde en Entomologie is by die Soogdiernavorsingsinstituut geaffilieer. Sy navorsing binne die Suid-Afrikaanse Nasionale Antarktiese Program is op die studie van die bevolkingsbiologie en -ekologie van seesoogdiere in die Suidelike Oseaan toegespits en veral op bevolkingsparameters wat veranderings in die omgewing van diskrete robbevolkings sal weerspieël.

Prof Jaco Greeff is professor in die Departement Genetika en sy navorsingsfokus is die evolusie van interaksies tussen lede van dieselfde familie en die evolusie van voortplantingstrategieë.

Van links na regs staan prof Lise Korsten, prof Fanus Venter, prof Wanda Markotter en prof Jolanda Roux, almal van die Fakulteit Natuur- en Landbouwetenskappe.

Prof Lise Korsten van die Departement Mikrobiologie en Plantpatologie in die Fakulteit Natuur- en Landbouwetenskappe is hoof van die sleutelnavorsingstema Voedselveiligheid, Biosekerheid, Openbare Gesondheid en Regulatoriese Beheer in die Instituut vir Voedsel, Voeding en Gesondheid (IFNuW). Sy het Suid-Afrika se eerste biologiese beheeragent vir vrugte ontwikkel en het ‘n navorsingsgroep tot stand gebring wat sanitêre en fitosanitêre aspekte van die internasionale handel ondersoek. Sy het haar navorsingsportefeulje uitgebrei om aspekte verwant aan ná-oespatologie en voedselveiligheid in die varsproduktevoorsieningsketting in te sluit.

Prof Zander Myburg van die Departement Genetika beklee die Leerstoel vir Bosbougenomika en Biotegnologie en is direkteur van die Molekulêre Genetiese Program vir Bosbou, wat deel uitmaak van die navorsingsportefeulje van UP se Instituut vir Bosbou- en Landbou-biotegnologie (FABI) en die Genomika-navorsingsinstituut. Prof Myburg se navorsing is toegespits op die genomika en molekulêre genetika van houtontwikkeling in snelgroeiende woudbome, en veral die genetiese regulering van biopolimeersintese in houtweefselselle.

Prof Jolanda Roux is verbonde aan die Instituut vir Bosbou- en Landboubiotegnologie (FABI) en die Departement Mikrobiologie en Plantpatologie. Haar navorsing is op boomgesondheid toegespits, veral op swampatogene en die insekte wat daarmee geassosieer word. Sleutelnavorsingsgebiede sluit mikologie, plantpatologie en ondersoeke na die ekologie van die interaksies tussen swamme, insekte en bome in.

Fakulteit Ingenieurswese, Bou-omgewing en Inligtingtegnologie

Prof Johan Joubert van die Departement Elektriese, Elektroniese en Rekenaar-Ingenieurswese is hoof van die Elektromagnetisme-navorsingsgroep. Hy doen navorsing oor mikrogolfantennes, onder meer oor die vermindering in die grootte van antennes namate kommunikasietoestelle as gevolg van die integrasie van elektronika al kleiner word.

Prof Wimpie Odendaal van die Departement Elektriese, Elektroniese en Rekenaar-Ingenieurswese is direkteur van die Sentrum vir Elektromagnetisme. Sy navorsing is toegespits op die gebied van elektromagnetiese tegnologie, veral ten opsigte van die ontwerp, ontwikkeling en evaluering van mikrogolfantennes, radarverstrooiing en antenne-afmetings.

Fakulteit Regsgeleerdheid

Prof André Boraine is die Dekaan van die Fakulteit en medeouteur van die toonaangewende Suid-Afrikaanse handboek oor insolvensie, getitel *Insolvency law*. Hy is ‘n erelid van die Suid-Afrikaanse Vereniging vir Reddings- en Insolvensiepraktisyns (South African Rescue and Insolvency Practitioners Association). Hy is lid van die forum vir akademici van die International Association of Restructuring, Insolvency & Bankruptcy Professionals (INSOL) en dien ook op dié liggaam se Global Fellowship Programme Committee.

Prof Erika de Wet is ‘n mededirekteur van die Instituut vir Internasionale en Vergelykende Reg in Afrika en professor in Internasionale Reg. Navorsingsgebiede waarin sy internasionale erkenning geniet is onder andere internasionale

organisasiereg, met 'n spesifieke fokus op die magte van die Veiligheidsraad van die Verenigde Nasies, die verhouding tussen internasionale en binnelandse reg, en aangeleenthede rondom die normatiewe hiërargie in internasionale reg (internasionale konstitusionalisme).

Prof Riana Bornman

Fakulteit Gesondheidswetenskappe

Prof Riana Bornman is die hoof-mediese beampte en buitengewone professor in die Departement Urologie. Sy is hoof van die Afdeling Andrologie (manlike voortplantings-gesondheid) by die Steve Biko Akademiese Hospitaal. Haar navorsing fokus op die blootstelling van mense en wildlewe aan endokrieneversteuringschemikalieë (EDC's) wat in die omgewing voorkom en die uitwerking daarvan op voorplantingsgesondheid.

Fakulteit Opvoedkunde

Prof Kobus Maree van die Departement Opvoedkundige Sielkunde se navorsing is veral toegespits op loopbaankonstruksievoorligting en lewensontwerp en konstruksie. Hy verbind navorsingsresultate met gepaste loopbaankeuses en -konstruksie, asook met lewensontwerp en konstruksie.

Uitnemende Jong Navorsers

Hierdie toekennings word gemaak vir uitnemende prestasie op die gebied van navorsing teen die agtergrond van die Universiteit se strategiese doelwitte van akademiese uitnemendheid, internasionale mededingendheid en plaaslike relevansie.

Fakulteit Natuur- en Landbouwetenskappe

Prof Wanda Markotter staan aan die hoof van navorsing oor soönotiese virusse wat deur vlermuise oorgedra word. Dié navorsing word deur die Navorsingsgroep oor Virale Soönoses in die Departement Mikrobiologie en Plantpatologie onderneem. Haar navorsingsfokus is die siekte-ekologie, patogenisiteit en diagnostiek van hondsdolheid, asook ander soönotiese patogene wat met Afrika-vlermuise geassosieer word.

Prof Ferdie Meyer is die direkteur van die Buro vir Voedsel- en Landboubeleid (BFAP) en medeprofessor in die Departement Landbou-ekonomie, Voorligting en Landelike Ontwikkeling. Hy het 'n sterk belangstelling in strategiese besluitneming en scenariobeplanning ontwikkel terwyl hy besig was met sy PhD aan die Universiteit van Missouri.

Dr Chris Weldon is 'n lektor in die Departement Dierkunde en Entomologie en hy beskik oor uiteenlopende vaardighede en ervaring in entomologie. Sy navorsingsagtergrond sluit insekgedrag, -ekologie en -fisiologie in, veral met betrekking tot weerstand teen omgewingstres

Theresa van Oordt, heel links, het een van twee laureaattoekennings vir Uitnemendheid in Onderrig en Innovasie ontvang. Die groep bestaande uit Kgadi Mathabathi, links voor, dr Lynne Pilcher, regs voor en dr Darren Riley, regs agter, het die ander laureaattoekenning gekry. In die middel staan prof Tyrone Pretorius, Vise-rektor.

en die gevolge van dieet op fiksheid. Sy navorsingsresultate kan in 'n groot mate op die beheer van ernstige insekpeste, insluitend vrugtevlieë van die familie *Tephritidae*, toegepas word.

Fakulteit Ekonomiese en Bestuurswetenskappe

Dr Roula Inglesi-Lotz is 'n senior lektor in die Departement Ekonomie en haar navorsingsbelangstellings is toegespits op energie, ekonomiese groei en ontwikkeling, asook die toepassings van tydreekse en paneeldata-ekonometrie. Die Departement Ekonomie het haar in 2011 en 2013 as Junior Navorser van die Jaar aangewys.

Prof Elmar Venter van die Departement Belasting is 'n gekwalifiseerde geoktrooieerde rekenmeester. Sy huidige navorsing fokus op die regulatoriese en kapitaalmarkeffekte van die inkomstesyfers van firmas wat nie aan die Algemeen Aanvaarde Rekeningkundige Praktyk (AARP) voldoen nie.

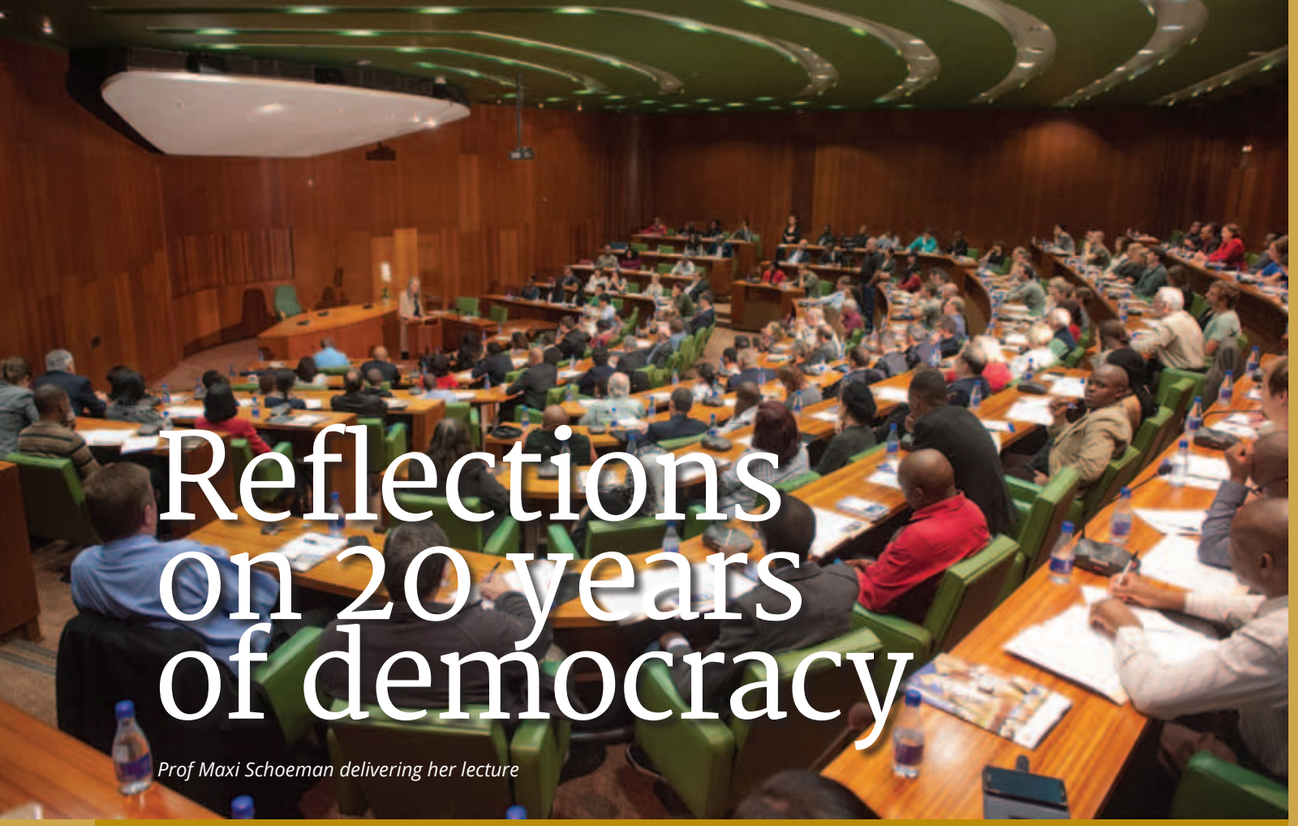
Die Dekaan van die Fakulteit Natuur- en Landbouwetenskappe, prof Anton Stroh (links), prof Roumen Anguelov, uitnemende akademiese presteerder en prof Daya Reddy, president van die Suid-Afrikaanse Akademie vir Wetenskap (ASSAf), die gasspreker by die geleentheid.

Prof Nithaya Chetty ontvang die NNS C2-gradering van dr Albert van Jaarsveld. Prof Chetty is tans gedeeltelik gesekondeer na die NNS as groepshoof vir astronomie waar hy omsien na die land se nasionale belange in astronomie.

Fakulteit Veeartsenykunde

Prof Celia Abolnik beklee die Suider-Afrikaanse Pluimveevereniging se Leerstoel vir Pluimveenavorsing in die Fakulteit en is medeprofessor in die Departement Produksiedierstudies. Sy word as die vooraanstaande Suider-Afrikaanse kundige op die gebied van voëlgriep beskou.

• Profs Brenda Wingfield en Don Cowan is finaliste in die NSTF-BHP Billiton-toekennings. Met die ter perse gaan van *Tukkie* was die wenners nog nie bekend nie. ■



Reflections on 20 years of democracy

Prof Maxi Schoeman delivering her lecture

Delivering a lecture on "A crisis of leadership? *Reflections on 20 years of democracy*" as part of the UP Expert Lecture Series, Prof Maxi Schoeman, head of the Department of Political Sciences at the University of Pretoria, acknowledged South Africa's great achievements over the past 20 years.

"Though I am going to present a rather critical reading, I do so in full recognition of these achievements, the most relevant of which, for this event, is surely the mere fact that we have the freedom of expression that allows us to analyse and critique our current political situation and to do so in an environment that allows everyone access – regardless of race or creed," said Prof Schoeman. Here follows an edited version of her address, the 14th in the Expert Lecture Series.

South Africa is currently confronted with a social order that will increasingly be characterised by violent struggles over the distribution of power and wealth. While there have been many significant achievements over the past two decades of democracy in South Africa, there is an underlying level of anger, frustration, violence and resistance in the country that went well beyond the elections and that is poorly understood and difficult to address.

We – government, the elites, the middle class – are finding ourselves in the midst of our Arab Spring, or our 'winter of discontent'," said Prof Schoeman. She attributed the protest and resistance that manifested in service delivery protests and wide-spread labour unrest to an unresolved class struggle and to a failure of leadership in the country.

"In combination, these two aspects have serious implications for the South African political landscape as we enter the third decade of democracy," said Prof Schoeman. "The struggle that we see now is for the heart of the state – for the ideas that will determine how the state will intervene in the economy and not whether it intervenes in the economy."

According to Prof Schoeman, the choice of broad economic policy followed since the late 1990s has resulted in a highly skewed distribution of resources.

"The 'who' that gets the 'what' of politics is a small elite – with the large majority having to settle for much less."

Prof Schoeman said that a second aspect of the unresolved class struggle was the ever-growing numbers of unemployed youth in South Africa.

"The levels of frustration and hopelessness in this sector of society are dangerously high, and these expectations and demands will grow. It is not only about the provision of basic needs such as housing, electricity, sanitation and water. Hopes of a better life, respect and dignity are also basic needs and are fulfilled, in part, through gainful employment and the ability to participate in the economy.

> The 'who' that gets the 'what' of politics is a small elite – with the large majority having to settle for much less.

"The youth wage bill aims at addressing this situation through tax breaks to encourage youth job growth in the private sector. The question is whether more direct state intervention is required – and this is a debate that we as academics should perhaps re-open," said Prof Schoeman.

Referring to the issue of political leadership, she quoted Professor Adam Habib's view that the ruling party had degenerated into "a grubby instrument of enrichment that speaks the language of empowerment and democracy, while its leadership and cadres plunder the nation's resources".

While cautioning against overgeneralising the extent of corruption within the state, and recognising that there were many dedicated, honest and highly competent civil servants, Prof Schoeman said the perception that the ANC had degenerated into an "instrument of enrichment" was the direct result of the choice to create a black capitalist class through government procurement practices and regulatory interventions.

"The state itself has become a vehicle for personal accumulation and wealth creation. The response by the masses is increasingly strident and even, at times, violent, with a loss of faith in the ideas and policies of the elites," said Prof Schoeman.

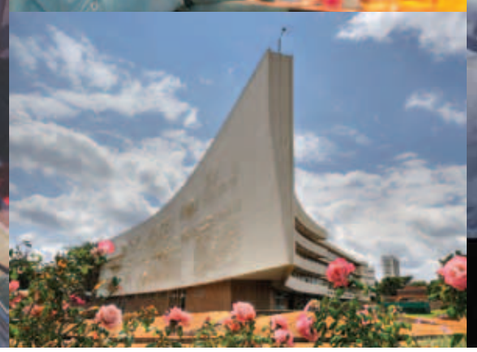
"Cadre deployment within the ruling party has turned into factional deployment that is largely self-serving and at most loyal to a faction battling for control over the state because of its accumulation value, and not because of its value as the core transformative agent within society. What we see in our country is a failure to create an environment that speaks to the needs of the majority of our citizens," she said.

"Lest we also think that the current hegemony of what I call hypercapitalism is too big and too entrenched to be challenged, that there is no room for new and alternative ideas and that a few academics at a university cannot make much of a difference, it is possible to think differently and to think 'for' change and transformation," said Prof Schoeman.

"At a deeper level [as universities] we need to generate and debate ideas about the nature and direction of our transformation: how can we build a more inclusive society? What exactly is necessary to 'de-racialise' our economy? What exactly would a transformed university be, beyond 'only' demographics?

Questioning the role of universities at a time in which inequality, still largely racially defined, was increasing, Prof Schoeman suggested one possible response was to extend the so-called "Zuma year" to all graduates on the basis of internships. In Nigeria, for example, all graduates are required to spend one year upon completion of their studies in the service of the state, usually as teachers. ■

Leading the way to research excellence



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Thumbs UP from SRC for the Tuks Scholarship Fund

The SRC members in this photo are (from left to right): Front row: Kia Kasure, Enwee Human, Arno Burger, Gabriel Nel. Second row: Nthabiseng Nooe, Amy Ashworth, Taymoon Altamash, Monique du Randt, Johanna Nashitati, Matshepo Tladi. Third row: Kim Ngobeni, Marna de Jager, Belinda Kelly, Landri Cloete. Back row: James Lotter, Marco Koch, Wilbri Vorster, Khutso Ntuli, Xabiso Sicwebu

In a bold move of solidarity, the Student Representative Council (SRC) donated R50 000 to the Tuks Scholarship Fund.This gesture of support is a response to an appeal from the Vice-Chancellor and Principal, Professor Cheryl de la Rey – urging alumni and staff to pledge their support to the Fund.

"As a society, we cannot afford to lose talented students because they are unable to pay fees, buy essential textbooks or afford basic accommodation, food and other essentials," said SRC President, Enwee Luyt Human.

The financial stress experienced by a significant percentage of Tuks students affects their ability to focus on their studies. The SRC is committed to creating vehicles of student aid, such as the proposed *Work for Study Programme*. The purpose of this programme is to find part-time university jobs for students who are academically strong, but struggling to pay their fees

Professor Cheryl de la Rey was the first to donate to the Tuks Scholarship Fund. A payroll giving campaign, launched earlier this year, enables UP staff to make regular contributions as well. Alumni of the University – especially those who have themselves received financial support – are requested to commit to becoming regular donors of the Fund.

"We have an individual and a collective responsibility to ensure that we invest in a positive future," says Professor De La Rey. "Contributions towards the Tuks Scholarship Fund help ensure that the University continues to be a driving force in redefining what is possible in a country that requires skilled, flexible and creative young minds."

Your regular contribution will make a significant impact

When you give to the Tuks Scholarship Fund, you will have a direct and immediate impact on the life of a deserving student and contribute to supporting a level of excellence that cannot be sustained through government assistance alone.

Whatever the level of your giving – from a few hundred rand per year to a hundred thousand or more – your support is valued by the University and the deserving beneficiaries of your generosity.

If you would like more information about how you can help students thrive at your alma mater, please contact: Cheryl Benadie, Senior Development Officer, e-mail: cheryl.benadie@up.ac.za, tel: +27 (0) 12 420 5026 ■

Nondumiso Mzizana

Never stop pursuing your dream

By Manie Bosman

First black woman to graduate with an MSc degree in orthodontics from the University of Pretoria, founder of a very successful medical supplies company, wife, mother of three sons, author, self-confessed fitness fanatic, winner of the Businesswoman of the Year Award in the Entrepreneur category, passionate philanthropist ...

Dr Nondumiso Mzizana, an attractive and well-groomed woman exuding contagious energy, laughs.

"Well, it all started for me in the townships of Umtata [now Mthatha] where I grew up with parents who, in spite of not having much in terms of worldly wealth, inspired us to work hard and to never stop pursuing our dreams. My father, who lectured in economics at the University of Fort Hare but passed away when I was still very young, encouraged his three daughters and his son to educate ourselves in order to become whatever we wanted to.

"However, it was my mother, who then had to raise the four of us while pursuing her own career as a teacher, who was my greatest role model. She was forever buying and selling things in the townships for an extra income. At the age of ten I was selling oranges and by the time I got to high school I was making good money by employing other kids to sell sweets on my behalf. With my mother's guidance I had turned into a serial entrepreneur at a very young age and I loved every moment."

In spite of her love of and knack for business, Nondumiso decided to equip herself with a "proper education" and in 1997 became one of the first black women to graduate with an MBChD degree in dentistry from Medunsa. "Dentistry appealed to me because it was a challenge and it combines medical science with practical skill – I like to work with my hands," she explains.

Her entrepreneurial spirit, however, was never dampened and while doing her internship she identified an opportunity that would later see her become one of South Africa's most successful female entrepreneurs.

"I was working in the rural areas of the Eastern Cape and noticed that the clinics there hardly had any medical equipment. Some didn't even have the most basic equipment and I started dreaming of starting a company to provide them with [equipment]."

In 2002 Nondumiso founded Sikelela Medical and Dental Suppliers with two family members as sales reps, a R30 000 bank overdraft and a R100 000 package she received when leaving Medunsa where she was lecturing at the time. Today Sikelela – which means "blessing" – employs 30 people and is South Africa's largest supplier of equipment to the medical profession with clients all over the continent.

"At times we couldn't even draw salaries and we had to work really hard for a couple of years just to break even. I could never have done it without my team. I was blessed to have people I could trust and who were just as dedicated as I was; that makes all the difference," she explains.

While managing all the challenges of running a new business, Nondumiso also found the time to enrol for her master's degree in dentistry at UP and became the first black woman to receive this degree. She laughs when asked why she chose UP. "I needed a new challenge and wondered if I would be able to thrive in that environment which was very white dominated at the time. It turned out to be an excellent choice and I'm proud to be associated with UP."

Being a pioneer for black women and a successful entrepreneur – for which she received the Businesswomen's Association Businesswoman of the Year Award for 2011 – must certainly be her greatest achievements and the things she wants people to remember her for?

She considers this for a moment. "I am very grateful for what I could achieve so far and for the recognition I've received. However, what I would like people to remember me for is that I never forgot where I came from and that I've given back to the people of South Africa. Some entrepreneurs don't share – they keep their experience and knowledge to themselves instead of sharing it to also benefit others. I don't like that."

To "give back" Nondumiso launched a Success Summit in 2012 to provide an opportunity for entrepreneurs to meet some of the country's best business thinkers and to network with their peers. The summit, partially funded by Sikelela and a government grant, has since grown in stature and has become a yearly event held in all nine provinces.

Her philantropic passion is evident when she explains that the summits empower entrepreneurs at all levels to grow and learn. "The whole country will benefit when entrepreneurs accept that to be really successful you also need to be an educator. By selflessly sharing our skills and knowledge we give back to the society that helped us get where we are."

> The whole country will benefit when entrepreneurs accept that to be really successful you also need to be an educator. By selflessly sharing our skills and knowledge we give back to the society that helped us get where we are

With the same aim in mind she has recently finished a book – provisionally titled "An autobiography of a successful entrepreneur" – in which she shares her success story. The book is due to be published later this year.

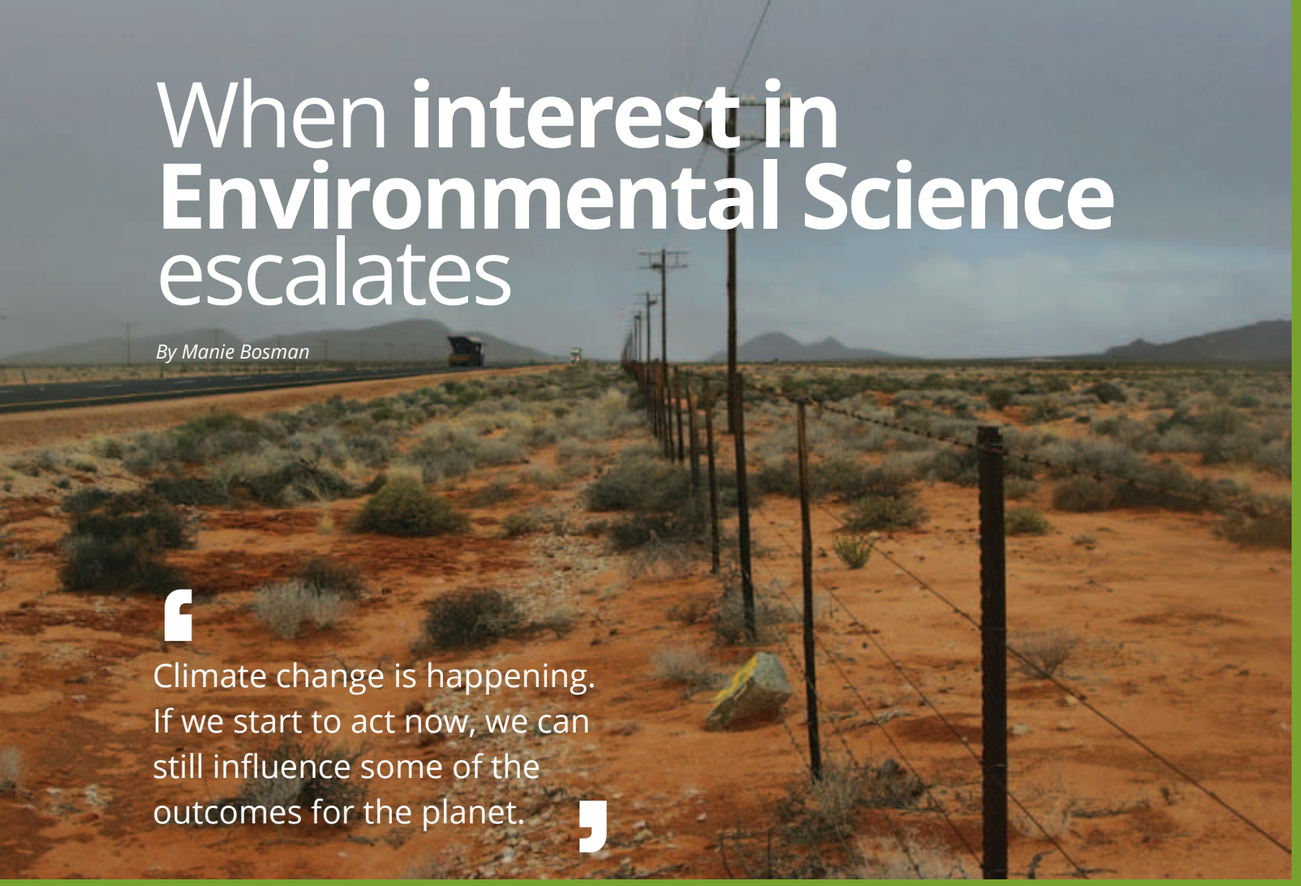
Nondumiso's husband – a former corporate executive - is also a successful businessman and the couple have three "beautiful sons" aged 16, 14 and five.

If there is one thing that she still dreams of achieving, what would it be? She hesitates for a moment and then gives an answer I never saw coming. "My greatest dream was to meet Nelson Mandela but unfortunately that never happened. I am a fitness fanatic and now I dream to climb Mount Everest. I have already hired a personal coach to take me through the preparation process, mentally and physically. My target is to be ready in three years from now."

The world's highest mountain had better be ready, because if this amazing woman sets her mind on something, it seems there is no obstacle too high ... ■

When **interest in Environmental Science** escalates

By Manie Bosman



> Climate change is happening. If we start to act now, we can still influence some of the outcomes for the planet.

Prof Coleen Vogel, who joined the University of Pretoria's Department of Geography, Geoinformatics and Meteorology in March 2013, sounds surprisingly calm and clear headed when she makes this statement. Not the doom-and-gloom "the world about to end" approach some climate change campaigners take when trying to encourage and convince governments, corporates and citizens to take action. This probably explains why she is a world-renowned expert in her field and known to take a pragmatic and realistic approach to curbing the effects of climate change.

A former holder of the BMW Chair of Sustainability at the University of the Witwatersrand and former chair of the International Scientific Committee of the International Human Dimensions Programme (IHDP), she believes the time has come to build adaptive capacity instead of – forgive the pun – merely trying to stop the tide.

"We now need to learn how to live with climate change and how to adapt to what is happening. The key to doing this is to take a trans-disciplinary approach where we pool knowledge and resources from different fields in order to come up with workable solutions together with more science in key and relevant disciplines," she explains.

This approach lies beyond the focus of some scientists. However, Coleen has first-hand experience of what can be achieved when scientists from different disciplines and backgrounds collaborate towards a common goal. She was one of several hundred scientists from across the world who participated in the Inter-Governmental Panel for Climate Change (IPCC).

The IPCC's role is to assess the available scientific, technical and socio-economic information relevant to the understanding of climate change, its impacts and future risks, and options for adaptation and mitigation. In 2007 the IPCC published its *Fourth Assessment Report*, a comprehensive document that provided a framework for governments and organisations to discuss and address climate change issues. Subsequently they, as part of IPCC, were awarded the Nobel Peace Prize for their work on climate change, together with former US Vice-President Al Gore.

When asked about this, Coleen chuckles: "Yes, I guess I contributed a very small part towards that Nobel Peace Prize. I was honoured but there were many of us working on that project, so it really is a very small part."

The IPCC's *Fifth Assessment Report*, to which Coleen also contributed, was published the day before our interview. "The purpose of this report is not to be prescriptive or alarmist. Rather, we aim to help governments understand the possible impact of climate control and suggest measures that can be taken to deal with the impact on different sectors such as agriculture and health. We also try to help governments adapt to [climate change] by developing policies and to take the necessary measures to cope with what is coming," she explains.

"The biggest challenge is to help create and share the science and make it practicable. In order to do this we need to help people understand that although science – and our understanding of how we will be impacted by climate change – is not perfect, [climate change] is happening and we have to do something to cope with it."

Prof Coleen Vogel

For instance, and close to home, indications are that inland areas in Africa are warming up at twice the rate of the global average. "This could see an increase in heat waves and higher evaporation which would place an even larger burden on areas where water resources are already under stress. How should governments, city councils, banks and insurance companies prepare for this?"

Even closer to home, some areas, such as eastern South Africa, could expect higher rainfall while the south-western parts could get drier. So while the general patterns may remain the same the frequency and intensity of rainfall could change. "What we don't know with certainty is if it will rain more for longer periods or if we'll see even more intense rains and heavier storms over shorter periods. Whatever the case, knowing that change is coming can help us prepare proactively.

So how does a woman who grew up in Boksburg and attended a Catholic school become an international authority on climate change? After all, not only does she own a "very small part" of a Nobel Peace Prize, but she has published numerous articles in her field and was awarded the prestigious international Burtoni Award for contributions to climate change adaptation and science in 2010. Another chuckle before she explains: "I had a Geography teacher who really got me interested in environmental sciences and I guess it just escalated from there. After completing matric in the mid-1970s I spent a year as an exchange student in the US and that was quite a life-changing experience, teaching me to think critically and opening my mind to consider more possibilities than I had before. When I came back I went to university and eventually obtained a PhD in Climate Sciences and Geography at Wits, joined as a junior lecturer and stayed there for more than 30 years!"

Over the years her interest in the interplay between social sciences and natural sciences grew steadily, hence her passion for a trans-disciplinary approach to climate change.

"My greatest passion right now is to help the younger generation – my postgraduate students in particular – to develop more flexibility and more holistic thinking when practising science and looking for solutions to what has been called 'wicked challenges' – the challenges of our time. At a very practical level I've been thinking of setting up some sort of academy … at UP … to equip students with the skills and abilities to do just that. [This will require, first and foremost, hard thinking about curricula offerings.] For instance, it is great to be a good scientist, but even great scientists need to be able to promote their ideas, negotiate with stakeholders and lead or manage people. Those skills could be taught in addition to what is taught in the current curriculum."

• Coleen is married to a former nuclear physicist who now runs his own company. They have two children – a son who has just completed a degree in business administration in the USA but dreams of becoming a pro golfer and a daughter training to be a chef. ■

Nederige skoonmakers werk vir ’n gesonde omgewing

Deur Marissa Greeff

“Ek is bekommerd oor insekte,” sê prof Clarke Scholtz, wat sy akademiese loopbaan tot dusver aan die bestudering van insekte en spesifiek miskruiers gewy het.

Hoekom miskruiers? “Hulle is biologies interessant, taksonomies is hulle ’n ou groep en hulle is volop in Afrika.”

Prof Clarke Scholtz

Daar is sowat 700 miskruier-

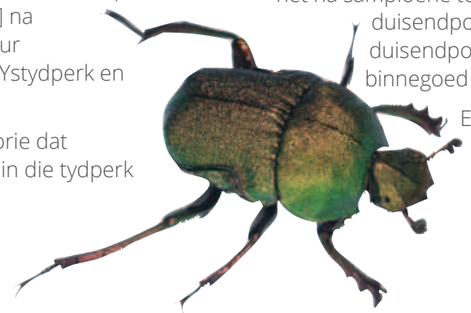
spesies in Suid-Afrika en 2 000 in Afrika. Prof Scholtz is professor in die Departement Dierkunde en Entomologie in die Fakulteit Natuur- en Landbouwetenskappe. Die meeste van Suid-Afrika se miskruiersoorte kom in die oostelike, meer tropiese gedeelte van die land voor en die spesieverskeidenheid verminder dan stelselmatig na die weste toe.

Suid-Afrika se natuurreservate het van die rykste fauna ter wêreld en as daar baie wildsoorte is, is daar baie soorte miskruiers. “Van ons navorsing het bewys dat miskruiers op die vasteland van Afrika ontstaan het en toe na ander kontinente versprei het. Met die molekulêre tegnieke wat ons deesdae tot ons beskikking het, kan ons die evolusie van ’n spesie naspoor – waar en wanneer dit ontstaan het en waarheen dit versprei het. Miskruiers het [van Afrika] na Suid-Amerika versprei, deur Europa na afloop van die Ystydperk en toe na Noord-Amerika.”

Dr Scholtz sê daar is ’n teorie dat miskruiers al bestaan het in die tydperk van die dinosourusse. Wat kon anders van hul mis geword het? Miskruiers, soos die Afrikaanse naam aandui, gebruik en verbruik mis. Daar is onteenseglike bewys dat miskruierbevolkings saam met dié van soogdiere opgevlam het en soogdiere is sowat 65 miljoen jaar oud.

Blomplante het in die tydperk na dinosourusse ontstaan. Saam met blomplante het insekte as bestuiwers ontstaan en sekondêr ook miskruiers. Herbivore eet plante en skei dit uit as mis vir die volgende voedingsvlak.

“Miskruiers is biologies interessant,” hervat prof Scholtz ’n gedagte wat hy vroeër geopper het. “Elke soort het ’n ander storie. Sommige spesies het afgewyk van mis as primêre voedselbron omdat kompetisie by vars mis, wat ’n kortstondige bron van kos is, so hewig is. Van die miskruiers het na sampioene toe afgewyk en ander na duisendpote. Hulle maak nie die duisendpote dood nie, maar aas op die binnegoed van dooie duisendpote.”



Een van die primitiewe soorte miskruiers is dié wat saam

met dassies voorkom. Molekulêre studies het gewys dat hulle nog baie soos hulle voorouers is, wat beteken dat hulle oor millennia nie veel verander het nie.

"'n Interessante vraag is hoekom daar so baie soorte miskruiers in Afrika (en Suid-Afrika) is. As almal dieselfde ding doen, hoekom het sommige soorte nie al uitgesterf nie?" Prof Scholtz sê die antwoord is dat miskruiers self verskillende groepe vorm. Daar is vier dominante groepe. Een groep spesialiseer in die mis van enkelmaagdiere, byvoorbeeld olifante, renosters en sebras, waarvan die mis grof is. 'n Tweede groep spesialiseer in herkouers - diere met vier mae - wat fyn mis produseer. 'n Derde groep spesialiseer in omnivore soos primate, die mens en varke, en die vierde groep spesialiseer in die mis van aasdiere of karnivore.

Daarby het verskillende soorte miskruiers verskillende voorkeurtye bedags of snags wanneer hulle aktief is. Prof Scholtz vertel dat hulle al 7 000 individuele miskruiers van 120 verskillende soorte bymekaar aangetref het, wat 'n idee gee van hoe intens die onderlinge mededinging is. By 'n mishoop word drie verskillende groepe miskruiers aangetref. Daar is die kleiner soorte miskruiers wat binne-in die mis bly, tweedens is daar soorte wat 'n misbal vorm en dit wegrol en laastens dié wat mis direk onder die miskoek begrawe. Die laaste groep maak sowat 80% van alle miskruiers uit.

Prof Scholtz lag. "Ek was lid van 'n groep van vyf internasionale navorsers wat in 2013 die Ig Nobel-prys vir Onwaarskynlike Navorsing in Biologie en Astronomie gewen het. Die Ig Nobelprys gaan oor ernstige navorsing wat van min belang vir die breë samelewing is. Ons het navorsing gedoen oor hoe miskruiers wat bolle rol, rigting bepaal. As hulle nie kan rigting hou nie, sal hulle een of ander tyd weer by die mishoop uitkom, terug by die kompetisie wat moontlik hul bolle sal steel.

"Daglewende miskruiers se oë is in twee verdeel en die boonste deel van die oog is sensitief vir gepolariseerde lig. Al is daar net 'n kolletjie son, neem hulle die sonstrale waar wat gedeflekteer word op partikels in die lig en omdat hulle weet waar die son is, kan hulle rigting bepaal. Dit stel hulle in staat om 'n misbal te vorm en so vinnig as moontlik van die miskoek – en die kompetisie – af weg te kom.

"Dis 'n rowwe besigheid by so 'n miskoek en ons het al vasgestel dat miskruiers in die laatmiddag en vroegaand, wanneer daar nie direkte sonlig is nie, steeds die rigting van die son kan bepaal en koers hou.

"Maar dit is nog nie die einde van dié storie nie. Miskruiers kan ook met maanlig rigting bepaal. As dit volmaan is, is hulle natuurlik baie akkurater. Ons het hierdie navorsing nog verder gevat. Ons is met miskruiers na die planetarium by Wits waar die sterredak aan- en afgeskakel kan word. So het ons vasgestel dat miskruiers ook die Melkweg kan gebruik om rigting te bepaal. Dit is waarvoor ons die Ig Nobelprys gekry het."

Die lede van hierdie navorsingsgroep was Marie Dakke (Swede, Australië), Emily Baird (Swede, Australië en Duitsland), Marcus Bome (Suid-Afrika en die VK), prof Scholtz en Eric J Markant (Swede, Australië, Duitsland). Die titel van hul artikel was "Dung beetles use the Milky Way for orientation," en dis in Januarie 2013 gepubliseer.

Prof Scholtz vertel dat 'n ander deel van die werk wat hy doen, 'n groot program gemik op miskruierbewaring is. Miskruiers word ernstig bedreig as gevolg van die baie landbouprodukte wat gebruik word om veeparasiete te beheer en wat chemies onveranderd uitgeskei word. Dit is toksies vir miskruiers en ander insekte. Daar is 'n groep van tien mense in die Departement, insluitend nagraadse studente en tegnici, wat hulle vir die gradering van sulke landbouprodukte beywer. Produkte met drie sterre is miskruiervriendelik en kan gereeld gebruik word. Twee sterre beteken dit moet nie so gereeld gebruik word nie en verkieslik in die winter wanneer miskruiers nie baie aktief is nie. Produkte met een ster behoort eintlik net in versteurde toestande soos voerkrale en melkerye gebruik te word.

Die werk van miskruiers is om mis te verwerk. Dit klink dalk onbelangrik, maar Suid-Afrika het sowat 15 miljoen beeste en een bees produseer omtrent 12 miskoeke per dag. Elke miskoek weeg sowat 3 kg wat beteken sowat 5 000 ton mis word daagliks deur net beeste geproduseer. Voeg daarby wilde diere soos olifante wat elke dag 150 kg mis agterlaat en die mis van 30 miljoen skape en bokke.

Australië het geen plasentale soogdiere gehad nie omdat die kontinent van Gondwana weggebreek het voordat dié groep ontwikkel het. Omdat Australië se miskruiers by die kontinent se marsupiale soogdiere aangepas is, is daar van die laat-1960s af aktief begin om miskruiers in te voer. Die kontinent se sowat 30 miljoen beeste se mis het die land op 'n ekologiese ramp laat afstuur.

Gras groei nie waar miskoeke lê nie wat 'n impak het op weiding. Daarby is daar twee soorte vlieë, een 'n steekvlieg, wat in die mis broei en die vee teister. Daar is nou sowat 26 soorte uitheemse miskruiers in Australië gevestig en die probleem is opgelos.

Prof Scholtz is sedert 1977 verbonde aan die Universiteit van Pretoria toe hy 'n tydelike aanstelling gekry het. Hy het in 1989 hoof van die Departement Entomologie geword (toe nog 'n afsonderlike departement). In 1994 het hy hoof van die Departement Dierkunde en Entomologie geword en die pos agt jaar lank beklee.

Hy vertel dat sy eie navorsing nou meer op die miskruierspesies in die weste van die land gefokus is en dat hy meer navorsing wil doen oor die evolusionêre biologie en bewaring van insekte, iets waarmee hy wil voortgaan wanneer hy oor twee jaar aftree. ■

Foto's word van voorbeelde geneem tydens veldwerk. *Foto: Hennie de Klerk*

Combating a silent disability

By Shakira Hoosain

Professor De Wet Swanepoel's history with Tuks goes back to his mother, who was an alumna and a speech and language therapist working at the University.

Prof Swanepoel is a highly regarded audiologist who works in the Department of Speech-Language Pathology and Audiology. His interest in communication studies was piqued when he finished high school in the United States and returned to Tuks to embark on his tertiary education. The National Research Foundation (NRF) has rated him as one of the country's best researchers and the University has named him as one of its Exceptional Academic Achievers of 2014.

In accordance with the University's culture of collaboration and cross-disciplinary excellence, Prof Swanepoel works with Dr Herman Myburgh of the Department of Electrical, Electronic and Computer Engineering. Together, they patented a unique mobile phone app for testing the hearing of children. This development provided a solution for the requirement of the National Integrated School Health Policy of 2012 that all Grade 1 learners, totalling more than one million, had to be screened for hearing loss. Since conventional audio screening equipment is bulky, expensive and does not monitor interference caused by background or surrounding noise, it was impractical to use for testing all Grade 1 learners in the country. Prof Swanepoel's app consists of a specific mobile phone equipped with the software needed for accurate acoustic calibration. The teacher or school nurse can then use the phone to test the hearing of each learner while the phone's microphone monitors the surrounding noise to ensure it does not exceed the acceptable level. The data is uploaded to the cloud where it can be analysed for surveillance and follow-up purposes. An estimated 3,2 million persons in SA suffer from hearing loss and about 150 000 of them are children.

This patent is a coup for the University and makes an important contribution to the overall wellbeing of South Africans in that it puts easy, affordable and early intervention in hearing loss well within the reach of many parents via the national network of schools. This is especially significant in rural and underprivileged areas where access to adequate healthcare and screening remains one of the biggest challenges. The phone with the software and the training required in its use are remarkably affordable, which means that it can also be used in the vast under-resourced areas of South Africa.

Prof Swanepoel, together with Dr Herman Myburgh of the Department of Electrical, Electronic and Computer Engineering. patented a unique mobile phone app for testing the hearing of children.

Professor Swanepoel's academic achievements are outstanding. He is a senior research fellow of the Ear Science Institute of Australia and holds adjunct positions at the Callier Center for Communication Disorders of the University of Texas at Dallas and the University of Western Australia's School of Surgery. He has published more than 75 peer-reviewed articles, books and chapters in books. He has received numerous awards, including a President's rating from the National Research Foundation, and research grants in recognition of his work. His research and clinical interests span the field of early identification and diagnosis of hearing loss, objective measurement of auditory functioning, and ear and hearing telehealth. He serves as co-chair of the American Academy of Audiology's Taskforce on Tele-Audiology.

However, despite the numerous accolades and distinguished achievements, Prof Swanepoel's message is simple: all parents should have their child's hearing tested at birth because hearing loss is a silent disability with devastating long-term effects if it is not identified early. The test is inexpensive and only takes about a minute. If a newborn's lack of or poor hearing goes undetected, the child will be unresponsive to sound and speech development will be delayed. One of the tell-tale signs that the hearing of a child of school-going age may well be impaired, is "acting out" because of frustration at not being able to hear what goes on in class. Present-day hearing aids and cochlear implants can improve hearing quite significantly.

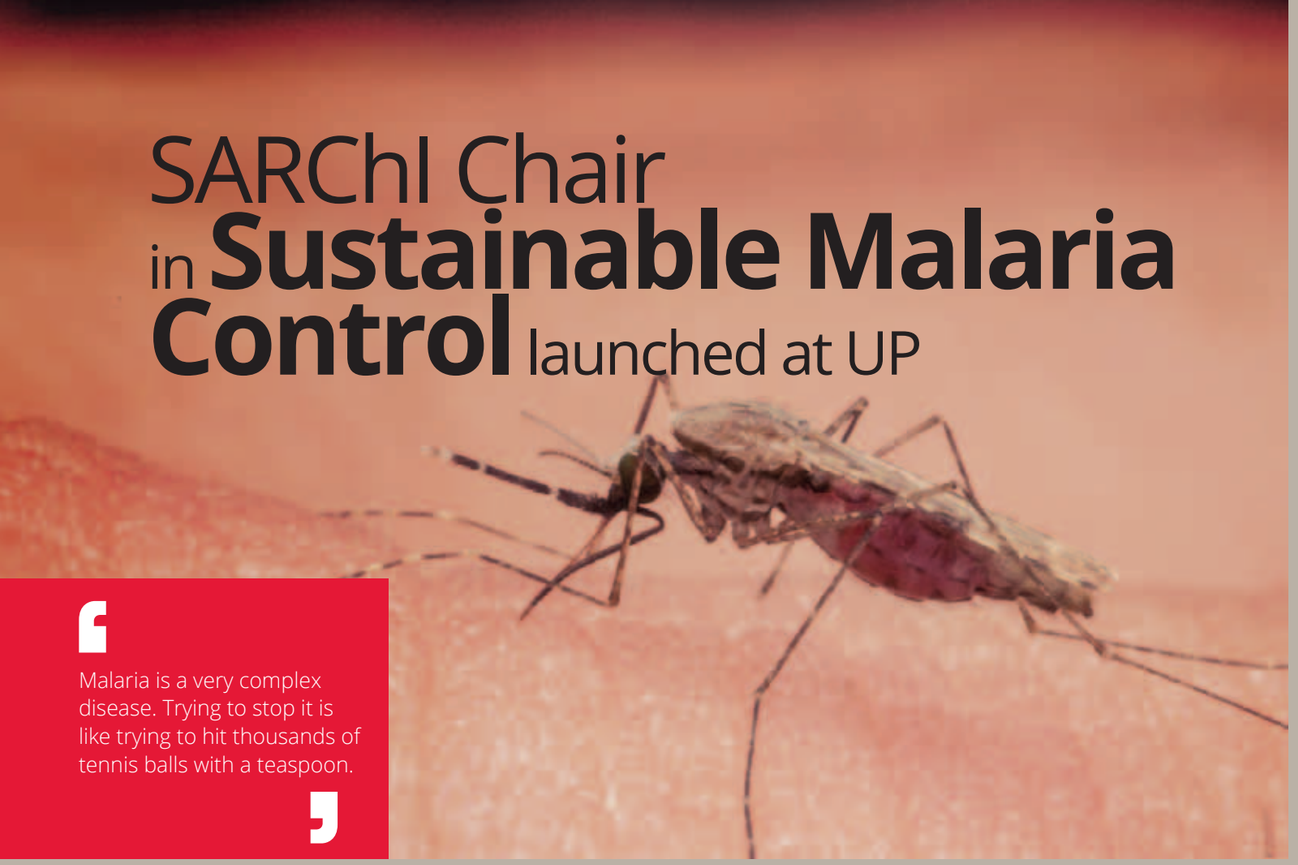
Adults' (especially males') hearing should also be tested since people experience age-related hearing loss progressively from the age of 45. They often do not realise that their hearing is deteriorating and only have it tested after considerable loss of hearing. When getting a hearing aid, they are often overwhelmed by the sounds that they have become accustomed to not hearing. Although it takes a while to get used to a hearing aid, this should not prevent intervention.

Delays in diagnosing hearing problems can result in significant developmental hurdles. On the other hand, early detection and subsequent audiological intervention mean that the person can have quality of life and academic and vocational outcomes that are on a par with those with normal hearing.

The University's Department of Speech-Language Pathology and Audiology runs a Speech, Hearing and Voice Clinic that is open to the public and serviced by students under strict supervision of qualified, expert personnel. The clinic is situated in the Speech-Language Pathology and Audiology Building on the University's Hatfield Campus. For more information or to make an appointment, please call 012 420 2816.

• Prof Swanepoel is one of UP's finalists in the annual NSTF-BHP Billiton Awards. At the time of going to press the announcement of the winners was awaited. ■

SARChI Chair in **Sustainable Malaria Control** launched at UP



> Malaria is a very complex disease. Trying to stop it is like trying to hit thousands of tennis balls with a teaspoon.

By Nicolize Mulder

Using this analogy, Prof Lyn-

Marie Birkholtz, an associate professor in the Department of Biochemistry and a member of the Centre for Sustainable Malaria Control at the University of Pretoria (UPCSMC) reiterates the importance of on-going, trans-disciplinary research in an effort to eliminate the disease that remains one of Africa's greatest killers.

Prof Birkholtz, a leader in the discipline of antimalarial target discovery, heads the South African Research Chair (SARChI Chair) in Sustainable Malaria Control with a budget of R1.5 million per year, funded by the Department of Science and Technology (DST) through the NRF.

The Chair was launched on 24 April, on the eve of World Malaria Day, and enhances UP's recognised and unique integrated focus on malaria parasite biology, functional genomics, drug discovery efforts, innovative mosquito control strategies as well as public health and community engagement. As holder of the Chair, Prof Birkholtz uses her expertise on the parasite to investigate sustainable mechanisms to control not only the parasite itself, but also its mosquito vector.

A deadly taxi

"When it comes to the Big Five of most dangerous organisms on our planet, three are mosquitoes. What's more, these three species – *Anopheles gambiae, Anopheles arabiensis*, and *Anopheles funestus* – are the most efficient carriers of the fourth of the Big Five killers: the malaria parasite itself," explains Prof Leo Braack, a specialist in mosquito ecology of the Research Initiative in Integrated Vector Management (IVM), also launched on 24 April at UP.

"The parasite is a microscopically small blood borne parasite that annually kills more than 500 000 people in Africa," he explains. According to Prof Braack, the battle to control malaria is largely based on two strategies: control the mosquitoes and control the parasite.

"There is another strategy quietly being pursued that holds great hope, the development of an effective vaccine, but that remains an elusive trophy – tantalizingly close but never quite reached," he adds.

The greatest effort in malaria control goes towards the control of mosquitoes, mostly through insecticide-treated bed nets (ITN's) or long lasting insecticide-treated nets (LLINs) as well as spraying the inside walls of homes with insecticides (indoor residual spraying or IRS).

"Major successes have been achieved over the past decade in reducing the number of malaria cases in Africa by way of mainly mosquito control. However, challenges are emerging in the form of new genetic strains of mosquitoes that are resistant to traditional insecticides being used, and even adaptive shifts in the feeding behaviour of at least one of the main malaria mosquitoes," Prof Braack says.

"So, if globally the two main strategies for malaria control depend on mosquito control and parasite control (and the first is the most effective), then we better start thinking about new tools to supplement existing strategies. This is exactly what the UPCSMC is working towards."

UP's Centre for Sustainable Malaria Control

The vision of the UPCSMC is to make a substantial contribution towards the creation of a malaria-free Africa.

The Centre is the only one of its kind due to its unique approach by addressing all aspects of malaria. Collaborative teams in different departments, faculties and even institutions form clusters to bring together skills and resources to address all aspects of the disease, including:

- **Health Aspects**
  Malaria case management is an important focus within this cluster. Sustainable but safe methods to control malaria must be developed while at the same time focusing on the health of the public and the environment. Research projects on safe alternatives for dichlorodiphenyltrichloroethane (DDT) and the publication of an educational book aimed a children in rural areas, *Sibo fights malaria*, was part of the project.

- **Parasite Control**
  This research group focuses on anything related to the malaria parasite from the parasite biology and surveillance (epidemiology) to transmission blocking strategies and anti-malarial discovery and development as well as other methods to prevent the transfer of the disease-causing parasite. Another important focus within this group is the study of related malaria-like infections where the differences and similarities between the malaria parasite and similar disease-causing parasites (eg babesiosis in dogs) can be used to better understand this devastating disease in humans. The SARChI Chair falls under this cluster.

- **Vector Control**
  This research group focuses on anything related to the mosquito (vector) and the variety of current and new methods to prevent them from transmitting the parasite and therefore the disease. Here physical methods of control are looked at along with monitoring and evaluation. Important factors such as biting behaviour, the behaviour of mosquitoes in their natural habitat as well as research on what attracts or repels them is done. Bionomics and semiochemistry of the vectors are studied in order to better understand the vector's preferences and methods when searching for targets to feed on. This aids to improve control of the vector. ■

The launch event of the SARChI Chair in Sustainable Malaria Control at UP.

Handle with care: Fascinated by bats

While sampling bats in the Mahune cave in Limpopo, researchers wear protective clothing. Prof Wanda Markotter carefully holds an Egyptian fruit bat (Rousettus aegyptiacus)*, a species that occurs naturally in South Africa.*

The classic rabies virus (one of 14 lyssaviruses) has not yet been found in any bat species in South Africa or Africa, says Prof Wanda Markotter, associate professor in the Department of Microbiology and Plant Pathology at UP, who admits to being "mesmerised" by bats.

"Bats are fascinating and often misunderstood," says Prof Markotter. "Bats play a key role in healthy ecosystems and deserve to be protected," she explains, "but we also need to understand what role they play in the transmission of diseases, in order to protect people and animals."

"I'm investigating where and how lyssaviruses – a type of virus that are carried by bats – occur and how they spread disease," she explains. "To do this, I need to study how and where bats live; how they come into contact with people, and how the viruses they carry are able to adapt and evolve."

Lyssaviruses can cause rabies, a potentially fatal zoonotic (transferred from animals to humans) disease. Bats carry the viruses in their saliva and that is why someone can be infected when a bat should bite or scratch them. "But, our studies show that less than 1% of bats are capable of transmitting rabies," Prof Markotter points out.

The classic rabies virus is mostly found in insect-eating and vampire bats in the Americas although two rare rabies-related lyssaviruses from bats have been reported locally, namely the Duvenhage and Lagos virus.

"We know of only three people – two in South Africa and one in Kenya – that have died as a result of these infections over the past 44 years! It is still extremely rare for bats to be a cause of rabies in South Africa."

"Local rabies cases are almost always caused by dog bites," says Prof Markotter who serves on South Africa's National Rabies Advisory Group.

Her research has revealed, however, that the Lagos virus is possibly more widely spread than previously reported, mostly in fruit-eating bats in KwaZulu-Natal. And that is why it is important to get a better picture of the role of bats in spreading these viruses.

"There are 64 documented bat species across South Africa, but we need to do much more work to understand if and how they carry and transmit diseases in people and animals."

"Bats are natural hosts – or reservoirs – for many viruses," she explains. "They can carry pathogens – organisms that can cause illness – without showing any signs of infection themselves. And, because bats occur in large colonies and can fly long distances, they could spread viruses over big areas."

• Prof Markotter is a finalist in the National Science and Technology Forum 2014 Awards category for emerging researchers. The winners will be announced on 3 July. ■

Prof Saloshna Vandeyar

New divide evident in classrooms

A new kind of divide is emerging in our school system – the divide between those with South African passports and those without them.

This social and political divide between indigenous and immigrant students is a growing challenge for teachers, who increasingly need to skilfully deal with the diversity in their classrooms, says leading education specialist, Prof Saloshna Vandeyar, from Department of Humanities Education.

Prof Vandeyar studies the issue of "belonging" in the education system. Her research in especially Gauteng schools has uncovered how challenging integration is for youths whose peers label them as "the other" or "Makwerekwere".

The social tension in classrooms created by immigration is a topic that must be tackled, given how many immigrants are choosing South Africa to live and work in. "Many contradictions exist in schools and the manner in which the school system is implicated in constructing different kinds of citizens and reproducing hierarchies of belonging, even in its efforts at inclusivity," says Prof Vandeyar.

Prof Vandeyar is a leading scholar in education, locally and abroad. Her contributions to research and postgraduate training have been recognised through a nomination as a finalist in the 2014 National Science and Technology Forum Awards, to be announced on 3 July. ■

Presidential award for outstanding research for Prof Lall

Prof Namrita Lall, an UP expert in medicinal plant science received one of the highest South African honours, the Order of Mapungubwe (Bronze), for her outstanding contribution in the field of medical sciences.

The Order of Mapungubwe recognises South Africans who have accomplished excellence and exceptional achievement to the benefit of South Africa and beyond.

Prof Lall said she was highly inspired and motivated by the award. "I would like to pursue my research activities with more enthusiasm. I am utilising the potential of this country's plant diversity for the betterment of human kind."

Prof Lall has developed novel assays for application in drug-screening and analysis from botanical sources. She is internationally recognised for her contributions to bio-prospecting from traditional knowledge on medicinal plants. Her research focus has been on scientifically validating the usages of plants for diseases such as TB, cancer, hyperpigmentation disorders and periodontal diseases. In this context, she has also demonstrated her commitment to various communities around the country by engaging them towards a better understanding of indigenous knowledge and by advancing phytomedicines towards conventional pharmaceutical products.

"I am fascinated by South Africa's plant diversity and its largely untapped potential in the use thereof in medicinal and cosmeceutical fields. With about 25 000 known species, this country is third only to Brazil and Indonesia as far as biodiversity is concerned. This constitutes about one tenth of all plant species in the world." ■

Dr Nkosazana Dlamini-Zuma praat by UP

Deur Sanku Tsunke

Die voorsitter van die Afrika-unie, dr Nkosazana Dlamini-Zuma (regs) in gesprek met die Visekanselier en Rektor, prof Cheryl de la Rey.

Die voorsitter van die Afrika-unie, dr Nkosazana Dlamini-Zuma, het 'n openbare lesing gelewer by die Universiteit van Pretoria.

Dr Dlamini-Zuma het gepraat oor die rol van navorsing aan Afrika-universiteite en hoe dit ontwikkeling op die Afrika-vasteland teweeg kan bring. Die lesing het 'n weg gebaan vir die beplanning en instelling van die Afrika-ontwikkelingsfokus aan die Universiteit van Pretoria wat 'n fokuspunt op die weg van institusionele transformasie sal wees.

Dr Dlamini-Zuma het gesê navorsingsuniversiteite is uiters belangrik vir ontwikkeling en om kennisekonomieë te bou. Universiteite as die oorsprong en verspreiders van kennis, speel 'n belangrike rol in sosiale en ekonomiese ontwikkeling op die vasteland. Sy het gesê as Afrika sy oogmerke wil bereik, moet daar 'n vaardigheidsomwenteling kom om duisende meer professionele persone op 'n wye verskeidenheid van terreine op te lei. "Daar is 'n behoefte aan sulke omwentelings in stadsbeplanning, gesondheid, onderwys, infrastruktuurprojekte en ook in landbou en agroprosessering. Dit vereis sekerlik meer dinamiese skakelings en kruisbestuiwing tussen die nywerheid, sakeondernemings, nywerheidsbeleid en universiteite".

Dr Dlamini-Zuma het ook 'n oproep gedoen vir die bou van navorsingsuniversiteite in 'n Afrika-konteks, met 'n gepaardgaande veldtog om die aantal PhD's op die vasteland te vergroot. Sy het haar ook uitgelaat oor die behoefte om navorsingsentrums van uitnemendheid dwarsoor die vasteland te skep. "Ons kan dalk nie in elke land 'n wêreldklas universiteit bou nie, maar ons moet netwerke bou en hulpbronne poel om spesifieke institusionele sentrums van uitnemendheid te bou, asook sentrums van uitnemendheid volgens vakgebied," sê sy.

Sy het die Universiteit van Pretoria se pogings om as navorsingsuniversiteit as 'n integrale deel van die Afrika-vasteland te konsolideer, geloof.

Prof Cheryl de la Rey, die Rektor en Visekanselier van die Universiteit van Pretoria, het gesê as 'n navorsingsintensiewe instelling in Afrika strewe die Universiteit daarna om die impak op sosiale en ekonomiese ontwikkeling te vergroot. Sy het gesê met byna 50 000 studente en 'n groeiende vraag na plek van voornemende studente van dwarsoor die vasteland is die Universiteit in 'n goeie posisie om die bydrae tot die ontwikkelingsbehoeftes van die Afrika-vasteland te vergroot. ■

Minister launches Centre of Excellence in Food Security

South Africa's drive to create a competitive and food secure state was boosted with the launch of the Centre of Excellence (CoE) in Food Security at the University of the Western Cape (UWC) in collaboration with the University of Pretoria (UP).

Food security has been defined as the access by all people, at all times, to enough food for an active and healthy life. For South Africa to be food secure, food needs to be available both nationally and locally, and people have to have the means to access it (producing it themselves, buying it or bartering for it).

Studies show that in South Africa, where over 60% of the population is urbanised, food insecurity is widespread, with Statistics South Africa reporting that approximately 45% of South Africans live below the poverty line. Chronic malnutrition affects one in five young children in both rural and urban areas, and about one in ten households in South Africa experience hunger every month.

Minister of Science and Technology, Mr Derek Hanekom, in launching the Centre of Excellence (CoE), said the Food Security CoE is the first to be hosted or co-hosted by a historically black university since the Centres of Excellence Programme began ten years ago.

Research activities will be carried out in four thematic areas, namely Food Creation (production, processing and preservation); Food Distribution (markets, livelihoods and value chains); Food Consumption (health, nutrition, choice and behaviour); and Food Governance (safety, standards, policy and rights).

The Department of Science and Technology-National Research Foundation CoE in Food Security brings together a cohort of experts and researchers from 19 South African and international institutions to study the systemic and structural factors that shape food access and dietary choice; as well as food security strategies, choices and decisions for poor and vulnerable people. ■

UP hosts panel of experts

The University of Pretoria hosted a function for the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (CFS) at the University.

Attending the function at the University of Pretoria were, among others, Maryam Rahmanian from Iran, Prof Anton Stroh, Dean of the Faculty of Natural and Agricultural Sciences, the UP Vice-Chancellor and Principal, Prof Cheryl de la Rey, Prof Per Pinstrup-Andersen, Chair and Prof Sheryl Hendriks, member of the Panel.

Prof de la Rey, Vice-Chancellor and Principal of the University of Pretoria, said that hosting the Panel was of extreme importance to the University, especially as it had identified food security as one of a set of strategic transdisciplinary research themes in 2010. The Institute for Food, Nutrition and Wellbeing (IFNuW) was established to coordinate the work in this area. Prof Per Pinstrup-Andersen, from Cornell University (USA) and Chair of the Panel, said the work of the Panel was to provide strategic guidance to the CFS by establishing what research has been conducted on each of the topics commissioned and organising this as strategic policy guidance to the CFS member states to assist them in addressing food security. Prof Sheryl Hendriks, who leads UP's IFNuW, is a member of the Panel. ■

UP kundige medeskrywer van boek oor **Forensiese Antropologie**

Prof Maryna Steyn, **'n fisiese** antropoloog en die Direkteur van die Navorsingsentrum vir Forensiese Antropologie, in die Fakulteit Gesondheidswetenskappe by die Universiteit van Pretoria was medeskrywer van die nuutste uitgawe van *The Human Skeleton in Forensic Medicine* saam met prof Mehmet Yasar Işcan van die Universiteit van Istanbul, Turkye. Die boek bied uitvoerige besprekings van misdaadtoneel-ondersoeke insluitend opgrawingstegnieke en bepaling van tyd van dood sowel as skeletontleding.

Die eerste uitgawe het in 1960 verskyn en is geskryf deur prof Wilton Marion Krogman van die Verenigde State van Amerika. Die boek was gebaseer op notas wat hy in 1939 in die *FBI Law Enforcement Bulletin* gepubliseer het en dien as 'n riglyn vir die identifisering van menslike skeletmateriaal. Die tweede uitgawe van die boek deur prof Krogman en prof Iscan het in 1986 gevolg. In daardie tyd was daar min boeke oor forensiese antropologie en dit het dié toonaangewende publikasie op die gebied van skeletidentifikasie geword.

Die derde uitgawe van die boek deur proff Iscan en Steyn gee ontwikkeling op die gebied van forensiese antropologie in die laaste kwarteeu weer. Al die hoofstukke is deeglik hersien en bring lesers op hoogte van die huidige begrippe van skeletouderdom, vasstelling van geslag, bepaling van afkoms, berekening van liggaamsbou, superponering en herstel van die gelaat. Die boek bevat 'n hoofstuk oor trauma-ontleding wat die gevolg is van nuwe ontwikkelings in wetenskap, asook patologiese toestande wat tydens die skeletidentifikasieproses herken kan word. Die DNS-ontleding van been word ook in die boek beskryf.

Prof Steyn het die boek beskryf as 'n maatstaf op die gebied van forensiese antropologie, met 'n Suid-Afrikaanse geur (as gevolg van plaaslike gevallestudies). "Alhoewel die boek baie Suid-Afrikaanse gevallestudies voortspruitend uit my ondervinding bevat, het ons gepoog om dit 'n omvattende perspektief te gee. Waar dit gaan oor die maatstawwe vir die skatting van liggaamsbou, het ek byvoorbeeld inligting vir elke kontinent ingesluit. Die boek is meer 'n naslaanbron vir nagraadse studies op die gebied van forensiese antropologie en patologie," aldus prof Steyn. ■

EERSTE GESAMENTLIKE GRAAD TOEGEKEN

Die Universiteit van Pretoria en die Vrije Universiteit, Amsterdam (VU) het in April die eerste gesamentlike graad tussen UP en die VU toegeken. Dit was ook die eerste graad wat toegeken is in die program van Tutu-leerstoele wat deur die VU ingestel is.

By die toekenning van die eerste gesamentlike graad deur UP en VU, was van links, prof Julian Muller, dr Jacob Meiring, Emeritus Aartsbiskop Desmond Tutu en prof Eddy van der Borght.

Die PhD-graad in Teologie is aan

dr Jacob Meiring toegeken vir die proefskrif getitel 'Theology in the Flesh. Exploring the corporeal turn from a southern African perspective'. Dr Meiring het die PhD voltooi onder begeleiding van prof Julian Müller, Emeritus Professor in Teologie aan UP en prof Eddy van der Borght van die Fakulteit Teologie, VU. Aangesien dr Meiring se doktorale verdediging en gradeplegtigheid die eerste is wat plaasgevind het sedert die Desmond Tutu-program geloods is, het Emeritus Aartsbiskop Desmond Tutu dit bygewoon.

Die Desmond Tutu-program is 'n program van die Nasionale Navorsingstigting en die VU wat daarop gemik is om samewerking tussen hoër onderwysinstellings in Suid-Afrika en die VU te versterk.

Die program is in 2008 geloods ter ere van Emeritus Aartsbiskop Tutu. In die eerste fase van die program (2008 – 2014) het dit voorsiening gemaak vir 18 PhD-studente wat op die tema van jeug, sport en versoening gefokus het. In die tweede fase van die program (2013-2020) word beurse aan 100 PhD-studente uit 'n wye reeks dissiplines toegeken wat navorsing gaan doen rondom die tema van die oorbrugging van diversiteit vir akademiese vooruitgang.

Dr Meiring het die BD-graad in 1992 aan die Universiteit van Pretoria ontvang en in 2009 'n MTh, ook van UP, met spesialisasie in Praktiese Teologie. ■

Veterinary open educational resource goes live

The University of Pretoria's first open educational resources platform – the African Veterinary Information Portal (AfriVIP) - was launched earlier this year at UP's Onderstepoort Campus.

The portal has been developed under an open licensing framework as an information, educational and research resource and offers continuing professional development opportunities about uniquely African veterinary and allied science matters.

Prof Koos Coetzer, Deputy Dean for Research, Postgraduate Training and Internationalisation, said at the launch that the objective is to draw together the substantial intellectual capital, information and research and educational materials through a network of faculties of veterinary science working in Africa and further afield.

Current partners are the University's Faculty of Veterinary Science, Afrivet, the World Health Organisation for Animal Health (OIE) Centre for Training in Integrated Livestock and Wildlife Health and Management, OER Africa, the Institute of Tropical Medicine, Antwerp, Belgium, and Neil Butcher and Associates.

The Vice-Chancellor and Principal of the University of Pretoria, Prof Cheryl de la Rey, said at the launch that one of the five priorities of the University's strategic plan, UP 2025, is to enhance UP's profile regionally and make a difference locally and internationally. This initiative speaks directly to this objective.

Prof Coetzer pointed out that the internet and digital technologies are transforming how people access educational and research materials.

The AfriVIP is open and free to students and professionals in animal health and related professions. ■

Prof Koos Coetzer, Deputy Dean for Research, Postgraduate Training and Internationalisation of the UP Faculty of Veterinary Science speaking at the launch of the AfriVIP open education resource.

Prof Herintsoa Rafatro, Head of Veterinary Education at the University of Antananarivo, Madagascar in conversation with Prof Linda van Ryneveld, Director: Teaching and Learning at UP's Veterinary Science Faculty.

TuksAthletics – where champions are made

TuksAthletics was not only undefeated in seven Varsity Athletics meetings in the past two years, but also won the USSA 2013 and 2014 championships.

Since the start of the Varsity Athletics competition two years ago, TuksAthletics has been undefeated in seven Varsity meetings, including the four meetings of the 2014 season. TuksAthletics made a clean sweep by defeating the teams of Nelson Mandela Metropolitan University (NMMU), the University of Stellenbosch (SU) and the University of Johannesburg (UJ) in no uncertain terms.

Since winning the Varsity Athletics 2013 season, Tuks athletes have been working very hard, so much so that the 2014 season has turned out to be TuksAthletics' best season since the introduction of Varsity Athletics.

Although many Tuks athletes have improved their personal best (PB) performances, thereby raising the standard of athletics in South Africa, the following athletes deserve a special mention:

- Orazio Cremona: shot-put, PB 20,63 – second best distance in South Africa ever
- Akani Simbine: 100 m, PB 10,02 – second fastest time in South Africa ever
- 4 x 100 m relay for men: first ever club team to run faster than 40,00 s; subsequently they improved their time to 39,50 at a UJ meeting
- 4 x 100 m relay teams for men and women: undefeated in the 2014 season. ■

Goue Jaar vir Assupol TuksKrieket

Die 2013/2014-krieketseisoen was ’n skitterseisoen vir TuksKrieket. Die Assupol Tuks 1-span het elke kompetisie of toernooi waaraan hulle deelgeneem het gewen. Die volgende is die prestasies van Tuks 1 vir die afgelope seisoen:

- Wenners van die Krieket Suid-Afrika (KSA) Nasionale Klubkampioenskap vir die derde opeenvolgende jaar en onoorwonne in 18 wedstryde oor die afgelope drie seisoene. Dit beteken TuksKrieket is die voorste krieketklub in die land.
- Tuks 1 het die eindrondte van die eerste Red Bull-kampuskrieket Suid-Afrika-toernooi teen Maties gewen en neem in Julie in Londen deel aan die wêreldeindrondte van Red Bull-kampuskrieket. Dit is ’n wêreldbeker vir universiteite en Tukkies sal Suid-Afrika op hierdie toernooi verteenwoordig.
- Wenners van die Noordelikes Krieketunie (NKU) se Premierliga vir die vierde opeenvolgende jaar.
- Wenners van die NKU-uitklopkompetisie vir die vyfde opeenvolgende jaar en is die afgelope vier seisoene onoorwonne in hierdie kompetisie.
- Wenners van die NKU T20-klubkompetisie vir die tweede opeenvolgende jaar en is onoorwonne in hierdie kompetisie.
- Wenners van Universiteitsport Suid-Afrika (USSA) in die 2013/2014-seisoen. Dit beteken TuksKrieket is die voorste universiteitskrieketklub in die land.
- Tuks 1 het die afgelope vier jaar 17 trofeë verower.
- TuksKrieket het ook die NKU se Reserweliga en Derde Liga gewen.
- Die TuksKrieket-damespan het die NKU-Premiervroueliga en die NKU-T20-vroueliga gewen.
- TuksKrieket het aan die einde van 2013 TuksSport se Klub van die jaar-toekenning gewen.
- TuksKrieket se hoofafrigter, Pierre de Bruyn, het aan die einde van 2013 TuksSport se Afrigter van die Jaar-toekenning gewen.
- TuksKrieket is op die Gauteng-sporttoekennings benoem vir die Span van die Jaar-toekenning.
- Vier van die huidige vier nasionale kapteins was TuksKrieket-spelers: AB de Villiers – Suid-Afrika se Eendagkaptein, Faf du Plessis – Suid-Afrika se T20-kaptein, Mignon du Preez – Suid-Afrika se Dameskaptein, en Aiden Markram – Suid-Afrika se o19-kaptein.
- Twee TuksKrieket-spelers, Aiden Markram en Corbin Bosch, was deel van die SA o19-span wat die IKR se o19-Wêreldbeker vanjaar gewen het. Dit was die heel eerste keer dat ’n SA o19-span die Wêreldbeker verower het. Corbin Bosch was Speler van die Wedstryd in die eindwedstryd en Aiden Markram was gedurende die hele toernooi kaptein van die span en is as Speler van die Toernooi aangewys.
- TuksKrieket was die afgelope vier jaar ’n uitstekende platform vanwaar spelers hul krieket tot die volgende vlak kon verbeter. Die afgelope seisoen was uitsonderlik vir TuksKrieket, en ons het die volgende verteenwoordigers opgelewer:
  - Vier Protea-manspelers
  - Een Protea-damespeler
  - Vyf TuksKrieket-spelers het hulle franchise-debuut gemaak
  - Ses TuksKrieket-spelers het hulle senior provinsiale (amateur) debuut gemaak
  - Twee TuksKrieket-spelers het vir die SA o19-span gespeel
  - Een TuksKrieket-speler het vir die SA Coltsspan gespeel
  - Drie TuksKrieket-spelers het vir die SA Universiteitespan gespeel

TuksKrieket se rol in plaaslike krieket is om ’n norm vir amateurkrieket te stel, om spelers te ontwikkel en hul vordering tot op franchisevlak te versnel en om op transformasie en ontwikkeling te fokus. ■

Irish Young Researcher Award for Carel

Pictured at the award ceremony in Dublin are, from left: Prof Carel le Roux, PIYRA award recipient, UCD; Prof Valeria Nicolosi, PIYRA award recipient, Trinity College Dublin (TCD); President MD Higgins; Dr Matthew Campbell, PIYRA award recipient, TCD; and Professor Mark Ferguson, Director-General, Science Foundation Ireland.

Picture: Jason Clarke Photography

UP alumnus and Chair of Pathology at the University College Dublin (UCD) School of Medicine and Medical Science and a Fellow of the UCD Conway Institute for Biomolecular and Biomedical Research, Prof Carel le Roux, was one of three researchers presented with a President of Ireland Young Researcher Award (PIYRA) at Áras an Uachtaráin, the official residence of the President of Ireland in Dublin.

'This award recognises the ongoing contribution of Irish scientists to internationally respected research activity in areas of fundamental relevance to society and the economy,' said the President, Mr Michael D Higgins. PIYRA is Science Foundation Ireland's most esteemed award for researchers who have shown exceptional promise as possible future leaders in international research and are known for excellence in their respective fields. Recipients of the award are selected on the basis of exceptional accomplishments in science and engineering as well as in creative research projects that have attracted international acclaim.

Prof Le Roux's research focuses on achieving a better mechanistic understanding of appetite control in an effort to address the increasing mortality and morbidity associated with obesity and its related diseases. He graduated from UP's Faculty of Health Sciences in 1996, completed his Senior House Officer training at St Bartholomew's Hospital and London Hospital, did his Specialist Registrar training in metabolic medicine at Hammersmith Hospital and his PhD at Imperial College London. In 2006 he was appointed Senior Lecturer at Imperial College London and in 2009 he was promoted to Reader at the same institution. He accepted a Chair as Head of Pathology at the University College Dublin in 2011. Two of the many awards that have been bestowed on him are a Clinician Scientist Award from the National Institute of Health Research in the UK and a Wellcome Trust Clinical Research Fellowship. ■

UP alumnus wins at SAFTA

Alexander Melck

Alexander Melck recently won two prestigious SAFTAs (SA Film and TV awards): for Best Editor of a Documentary Short and, together with fellow alumnus Ingmar Büchnar, for Best Cinematography for a Documentary Short. The awards were won for *Waterborne*, in categories where the runners- up included seasoned documentary and film producers 50/50 and Reuters.

Alexander's longstanding passion for film and the film industry was given a kick-start with his degree in Information Design at UP's Department of Visual Arts. As a trained designer, Alexander taught himself many film techniques and applied his artistic and graphic know-how to these skills. He says "studying Information Design was one of the best decisions of my life. The course [gave] me a skills set that I can apply to many fields and [that] allows me to move around in [respect of] creative career paths. The University of Pretoria has such a strong focus on imparting creative thinking to students that career jumps are possible by being able to apply one's skills in a variety of disciplines."

Alexander got his foot in the door in the film industry, which is a notoriously difficult industry to get into, by doing numerous free internships. He said he applied serious work ethics and would be at work on time even though he only made photocopies and tea. Slowly, as people began to notice he was a hard and diligent worker, he would offer to do graphics and to design posters. In that way he gained work experience and exposure.

Through building up contacts by volunteering to do work for free, Alexander now has his own digital, branding and strategy company called Phlogiston Creative Industries. He has worked with many non-governmental organisations and has taught filmmaking to children from underprivileged areas. He lectures part-time in film studies at UP. He co-founded an inner city film club, Molo Mollo that hosts bi-weekly rooftop cinema events. His award-winning documentary, *Waterborne*, has gained significant critical acclaim in New York, Barcelona and South Africa and can be viewed at www.pcip.co.za. *Waterborne* was the practical output for the M (Drama) Performance degree that he is currently doing at UP. ■

Corobrik's Architectural Student of the Year award

UP alumna, Heidi van Eeden, was announced as the overall winner of Corobrik's 27th Architectural Student of the Year award. The award was created to promote quality design and to acknowledge talent among architectural students.

Heidi was the top master's graduate of the 2013 architecture studio. Her thesis, titled "Machinarium: Architecture as a living machine, a 21st century textile mill", investigates new ways of architectural placemaking in a fast-changing world and explores the potential of industry as urban catalyst that can revive urban environments and reintegrate fragmented socio-ecological systems.

In an attempt to redefine modern concepts of waste and combat the flood of pollution stemming from 20th-century industrialisation, her investigation focuses on restructuring the textile industry, and it is contextually based in an "urban wasteland", namely the Daspoort Wastewater and Sewage Treatment Works. ■

Klas van 1963 hou reünie

UP se Bedryfsingenieurswese-departement is die oudste en die grootste sodanige department in die land en die eerste groep bedryfsingenieurs wat UP opgelei het, het in 1963 klaargemaak. Nege van hierdie groep van 14 finalejaars het vroeër vanjaar 'n reünie gehou.

Alumnus en bedryfsingenieur, Willie Coetzer, 'n jongerige 70-plusser, vertel dat drie lede van die klas van 1963 oorlede is. Twee kon nie die reünie bywoon nie en Willem Kohl, wat al jare in Duitsland woon, het sy vakansie in Suid-Afrika so gereël dat hy die reünie bygewoon het. Prof Kris Adendorff wat in 1963 een van die stigters van die Departement Bedryfsingenieurswese was, was ook 'n gas by die geleentheid.

Volgens Willie is die kursus in Bedryfsingenieurswese destyds eintlik op aandrang van Yskor ingestel en tien studente van die 1963-groep het Yskorbeurse gehad. UP se Skool vir Ingenieurswese het steeds noue bande met die industrie soos die Mynwese Studiesentrum en die beplande Kumba-virtuele sentrum vir mynontwerp getuig. ■

Lede van die klas van 1963 wat by die 50-jaar reünie was, is van links na regs in die voorste ry, Willem F Kohl, Willie Coetzer, prof Kris Adendorff, Thys Boshoff, Laurens Cloete en Hans Weidemann. Agter staan Dirk Potgieter, Jan Duvenage, Karel Hartman en Eric Brett.

Medical pioneer to receive international teaching award

Dr Johan Naude from the MBChB class of 1963 has been named as the recipient of the prestigious, Albert Schweitzer International Teaching Award 2014 from the Société Internationale d'Urologie (SIU).

The Albert Schweitzer International Teaching Award was created in 2004 to recognize important contributions to the teaching of urology, particularly in the developing world. Dr Naude, the seventh recipient of this award, was invited to deliver the Albert Schweitzer lecture at the SIU congress in October.

Dr Naude did pioneering work in the field of transplant surgery, where he closely worked with Dr Chris Barnard. At Groote Schuur he ran the kidney transplant unit and established renal transplantation. He is a former president of the South African Urological Association and served on the executive committee of the South African Medical and Dental Council. He served as urology representative on the senate of the Colleges of Medicine of South Africa.

He was head of the Department of Urology at the universities of Natal, Witwatersrand, and Cape Town. As a strong advocate of racial equality, he established and became the head of the urology department at the University of KwaZulu Natal, which became the first medical school to open to all races during the apartheid era. ■

Africa loses distinguished conservationist

Dr Anthony Hall-Martin (68), acclaimed conservationist, passed away on 21 May 2014. Dr Hall-Martin was an UP alumnus who completed all his postgraduate degrees at the University of Pretoria.

He had a distinguished career of nearly 50 years as a champion of wildlife conservation and managed, among other achievements, to raise millions of dollars for conservation. He authored more than ten books and 80 published scientific papers and was particularly renowned as a world authority on the African elephant and black rhinoceros.

Dr Hall-Martin received an honours degree in Nature Management in 1968, an MSc in General Botany in 1973 and a doctorate in Zoology in 1975, all from the University of Pretoria.

During the 25 years that Dr Hall-Martin served as a director of South African National Parks, he was responsible for establishing six new national parks, including Table Mountain National Park, Agulhas National Park, Namaqua National Park and Mapungubwe National Park, and for expanding several other national parks. He was a pioneer in the establishment of transfrontier conservation areas and concluded the agreement between Botswana and South Africa that gave rise to the Kgalagadi Transfrontier Park. In 2000 Dr Hall-Martin became co-founder of African Parks, a non-profit organisation responsible for the rehabilitation and long-term management of national parks in partnership with governments and local communities.

Dr Hall-Martin was a founder of the International Union for the Conservation of Nature (IUCN) African Rhino Specialist Group and co-founder of the Rhino and Elephant Foundation. He acted as advisor to many conservation organisations, including the IUCN, the World Wildlife Fund, the Endangered Wildlife Trust and the Peace Parks Foundation. He received a number of awards for his contribution to conservation, including the British Council for Zoology Award, the Bruno H Schubert Prize from Germany, the Senior Captain Scott Medal from the South African Academy of Science and the National Geographic Society Award.

Dr Hall-Martin is survived by his wife Catherina and two daughters. ■

AFSTERWE VAN PROF KOOS STADLER

Professor JJ (Koos) Stadler, voormalige Dekaan van die Fakulteit Ekonomiese en Bestuurswetenskappe en Viserektor van die Universiteit, is op 19 April 2014 oorlede.

Prof Stadler het aan die

Universiteit van Stellenbosch studeer waar hy die grade BCom en MCom behaal het. Hy is in 1959 as lektor by die Universiteit van Pretoria aangestel en het die DCom graad in 1962 by UP voltooi. Hy is mettertyd by UP bevorder na professor en is gedurende 1971 deur die IMF as Direkteur: Navorsing en Statistiek na die Reserwebank van Malawi gesekondeer. In 1972 keer hy na sy akademiese posisie by UP terug en word die Direkteur van die Universiteit se Buro vir Ekonomiese Politiek en Analise. Hy word vroeg in 1986 aangestel as Hoof van die Departement Ekonomie en later in dieselfde jaar as Dekaan van die fakulteit wat in 1988 die Fakulteit Ekonomiese en Bestuurswetenskappe sou word. In Julie 1991 word Prof Stadler as Viserektor: Akademies (Geesteswetenskappe) aangestel, welke posisie hy beklee tot met sy aftrede uit die diens van die Universiteit in Januarie 1995 om saam met sy seun op sy plaas in Heilbron te gaan boer.

Prof Stadler is uit die NG Kerk Heilbron Suid begrawe op 25 April. Die Visekanselier en Rektor van die Universiteit, prof Cheryl de la Rey, het die Universiteit se medelye met prof Stadkler se eggenote, seun en dogter en hul gesinne betuig. ■

Prof Pieter Johannes van der Merwe (1944 - 2014)

Prof Pieter van der Merwe, wat onlangs oorlede is, het in 2009 afgetree as Hoof van die Departement Godsdiens- en Sendingwetenskap in die Fakulteit Teologie aan die Universiteit van Pretoria.

Hy het in 1962 aan Afrikaanse

Hoër Seunskool, Pretoria, gematrikuleer en sy studies aan die Universiteit van Pretoria voltooi. Hy het die grade BA (1965), BD (1968) BA(Hons: Klassieke Tale) (1969) behaal en 'n DD graad in 1978 met 'n proefskrif getiteld "Die Godsdienste by Vaticanum II".

Hy is georden as predikant van die Nederduitsch Hervormde Kerk in 1970 en dien in die gemeentes Premiermyn en Witfontein. Vanaf 1971 tot 1978 werk hy as senior lektor in Godsdienswetenskap by die Universiteit van Suid-Afrika (UNISA).

Prof van der Merwe het 'n leidende rol in die bestuur van die eenwording van die twee fakulteite Teologie (Afd A en B) by UP gespeel. Hy was ook verantwoordelik vir die proses van herkurrikulering en herstrukturering van kursusse by die Fakulteit Teologie. Hy was bekend as kenner van wêreldgodsdienste en veral van nuwe godsdienstige bewegings.

Hy is in 2010 met Riekie van der Walt getroud en laat sy vrou, sy ma en twee susters agter. ■

Formal academic programme in Integrated Reporting

Enrollment for 2015 now open. We welcome students from all over Africa. The Diploma will be presented in block weeks.

The Postgraduate Diploma in Integrated Reporting (PGDIR), sponsored by PwC, is the first formal qualification in integrated reporting internationally.

The Albert Luthuli Centre for Responsible Leadership at the University of Pretoria launched the **Postgraduate Diploma in Integrated Reporting** (sponsored by PwC) on 30 August 2012. The Diploma is the first formal academic qualification on integrated reporting, internationally.

The programme provides students with the necessary skills to implement integrated reporting in their respective organisations and will also focus on the assurance aspect, with the aim of building capacity within the assurance sector in South Africa.

This one-year, part-time programme commences in February 2015. **Applications close on 15 October 2014.** Admission to the course will be based on a relevant bachelor's degree as well as personal interviews.

Testimonials from the class of 2013:

'PGDIR exposed me to strategy, communication and knowledge management, which enabled me to see the significance of integrated thinking.'
- Fikile Zwane CA (SA), SizweNtsalubaGobodo

'Effective integrated reporting requires business leaders to focus on the development and application of specific skills and knowledge. The PGDIR provides comprehensive insight into the key activities organisations need to focus on.'
- Shaun Vorster CA (SA), Mazars

For more information, please contact:

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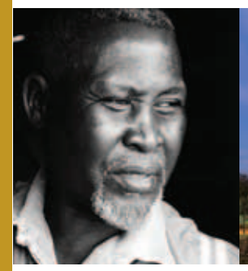

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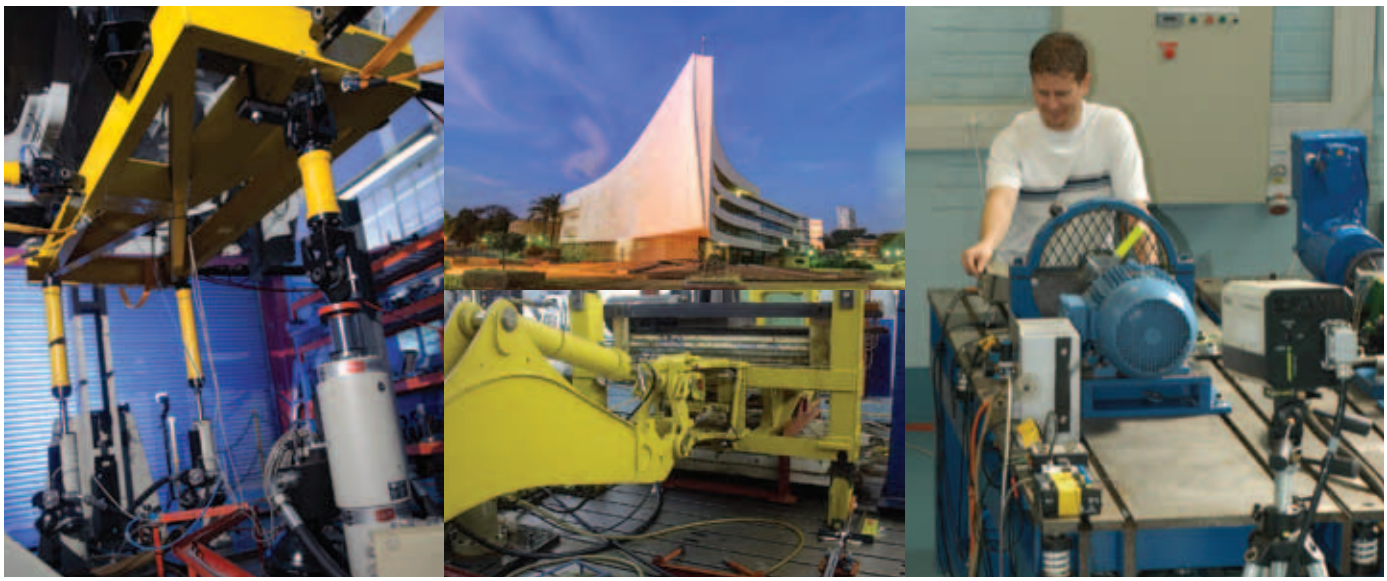

The **Centre for Asset Integrity Management (C-AIM)** at the University of Pretoria is unique in that it integrates its analysis and testing capability in assessing the structural integrity and performance of physical assets, with sound scientific research to inform asset management decisions within the context of asset life cycles.

Key strengths include:

- Quality academic education: more than 80 final year and 50 postgraduate students.
- Twenty high-calibre academic, research and technical staff members.
- A unique multi-disciplinary postgraduate programme in physical asset management.
- Long term industry partnerships, e.g. Eskom, Exxaro, WEIR Minerals and Rand Water.

The **C-AIM Laboratories** host the structural integrity, structural dynamics, condition monitoring, diagnostics and prognostics research activities in the Centre. Students, staff, industry partners and international collaborators benefit from these world-class facilities.

Key activities include:

- Development of durability (fatigue) testing techniques for large structures such as trucks, steam turbines and mining equipment.
- Simulation of gear, bearing and turbo machinery dynamics using sophisticated numerical analysis and experimental testing set-ups.
- Advanced research in optical measurement techniques for vibration and dynamic analysis using scanning laser vibrometry and stereo videography.

C-AIM – Scientific excellence and industry relevance in asset integrity management.

Contact the Director of C-AIM, Prof Stephan Heyns at +27 (0) 12 420 2432 or stephan.heyns@up.ac.za

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