OP News

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Phytomedicine's Prof Kobus Eloff receives

NSTF-BHP Billiton Award

Prof Kobus Eloff (centre) receives the NSTF-BHP Billiton Award from Ms Naledi Pandor, Minister of Science and Technology (right). In attendance is Mr Bhabhalazi Bulunga, Group Executive: Human Resources of Eskom.

Prof Kobus Eloff, Head of the Phytomedicine Programme in the Faculty of Veterinary Science was awarded the National Science and Technology Forum (NSTF)-BHP Billiton Award, sponsored by Eskom. This award is presented annually to a researcher for outstanding contributions to science, engineering, technology and innovation through research capacity development over the last five to ten years.

The award was presented to Prof Eloff at the 14th gala dinner held in Gauteng on 21 June.

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OVAH acquires two brand new mobile veterinary clinics

Much excitement heralded the arrival of two specially modified and custom-fitted kombis acquired by the Production Animal Clinic (PAC) of the Onderstepoort Veterinary Academic Hospital (OVAH).

The vehicles contain structural modifications, which include sliding doors on both sides of the vehicle and fold-out canopies to provide shade when working in the hot sun for extended periods. The kombis are fitted with fridges, water tanks and specially designed spacious drawers inside to house veterinary instruments, drugs and equipment.

The vehicles will be used to transport clinicians and students on visits to smallholdings, plots and farms that lie within the surrounding rural district serviced by the PAC.

Read more about the mobile clinics on page 4.

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From the Desk of the Dean

The year 2012 is progressing at an astounding pace. The same can be said of new and ongoing developments in the Faculty and the University community. As I have mentioned before, the Faculty aspires to be widely recognised for the quality of its staff and graduates, unique postgraduate opportunities, and groundbreaking research that makes an impact. Furthermore, it wants to strengthen its partnerships and collaboration.

To enable us to accomplish this, the new Faculty Plan for 2012–2017 is unambiguous in specifying objectives and clear directives to prepare the road for the next five years and beyond. This plan is fully aligned to the overall Strategic Plan and objectives of the University of Pretoria.

It is imperative that this Faculty – as the only one of its kind in the country – with its local and global responsibilities in mind, is clear about its future priorities and long-term vision within the broad perspective of the veterinary profession. This also pertains to the quality and scope of its training.

The Faculty has a particular responsibility to serve all the communities and geographic regions of the country. South Africa is currently experiencing a shortage of veterinary professionals, especially in rural areas.

The Faculty is thus hoping to increase its intake for the BVSc degree programme by more than a third as early as 2013. This increase will require further infrastructure development, since the capacity of teaching laboratories, for example, will have to be expanded. Discussions between the University and the Department of Higher Education and Training have already taken place. It has been widely publicised that there is an urgent need to increase the number of veterinarians trained in South Africa. The Faculty has also experienced an unprecedented increase in the number of applications for veterinary studies over the past two years. Most encouraging is the concurrent marked increase in the number of applications from African students, which is very important to the Faculty.

The revision of the Veterinary Nursing diploma programme, with a view to converting it into a three-year degree programme, was identified as a priority. The meso- and micro-curriculums are currently under review according to the same model that was used for the BVSc degree programme. Previous comments and suggestions by the Council for Higher Education (CHE) will be taken into account in formulating a new proposal.

Another promising development is the endeavour to acquire access to or use of Kaalplaas to the northwest of Onderstepoort Campus as a farming facility that can be used for student training. This will also mean improved collaboration with other faculties at the University of Pretoria, such as Natural and Agricultural Sciences. Negotiations with the Agricultural Research Council (ARC) are underway and you will be kept abreast of any developments.

Recently, the support capacity in the Faculty was further increased with the official opening of the University's mini Client Service Centre (CSC). This facility will go a long way to strengthen the Faculty's logistical and administrative support to students and staff.

In my previous message, I referred broadly to the One Health approach, which necessitates multifaceted and interdisciplinary networking and collaboration between experts in the veterinary, human health, environmental, ecological, agricultural and conservation sciences. It requires professionals and experts to work together in multidisciplinary teams and institutions across continents and over boundaries. The Faculty can play a pioneering role in this regard

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and is already engaged in various initiatives and discussions to find new collaborators and partners to enhance high-quality research and relevant postgraduate training.

The One Health approach becomes even more relevant against the background of the newly formed institutional research themes (IRTs) that were identified in the University's Academic Plan for 2012–2025, which will involve multidisciplinary teams. The Faculty will play a leading role in the development and implementation of the Biotechnology and the Management of Animal and Zoonotic Diseases IRT, and is actively involved in both the Food, Nutrition and Wellbeing IRT and the Genomics IRT.

The University's newly established Institute for Food, Nutrition and Wellbeing seeks to address the emerging societal challenges related to food insecurity, nutrition deficiencies and hunger, especially in Africa, and to bring together all the University's postgraduate teaching and transdisciplinary research expertise and activities in this field in order to strategically position UP as an internationally recognised centre of excellence. This IRT establishes a unique programme that has so far not been addressed internationally, and brings together over 120 academics employed in the related areas, thus providing the largest pool of expertise globally. It also creates opportunities for expanded and strengthened networks, partnerships and community engagement. This will increase capacity in this area. Two key research themes to be investigated as part of this IRT are sustainable animal food production in a resource-constrained environment, and food safety, biosecurity, public health and regulatory control.

The development of the Genomics IRT, with a strong core capacity for genomics, bioinformatics and computational biology research, will also be recognised as a centre of excellence, and will make an important contribution to veterinary science, health sciences, and other life sciences in South Africa, Africa and the rest of the world. Both these IRTs will interact with the Biotechnology and the Management of Animal and Zoonotic Diseases IRTs, in which the Faculty will play a pivotal role together with Health Sciences and Natural and Agricultural Sciences. Specifically relevant will be the Faculty's contribution in terms of molecular studies utilising biotechnology for the development of improved diagnostic techniques and vaccines for animal diseases and the study of their pathogenesis, including vaccine development.

Against this background, the Faculty is thus faced with new challenges, opportunities and new mindsets that will have to be integrated in its thought processes in order to be a leading and renowned veterinary institution. It is of crucial importance that the Faculty continues to increase its research outputs and ensure that these are locally relevant and keep pace with research worldwide. In order to create an empowering environment for research activities, the Faculty has to continuously focus on attracting more postgraduate students locally and abroad. In this regard, postgraduate research shows a positive increase from 235 postgraduate students in 2009 to 303 students in 2012 for all postgraduate programmes, with 76 PhD candidates enrolled in 2012.

The Faculty believes that a healthy and safe living environment is conducive to an excellent study environment, and promotes the academic experience of students. Therefore, the newly built Postgraduate Centre, which was part of the development of the new and extended OP residence, will provide impetus to postgraduate training in the Faculty by offering access to facilities such as the internet, and serving as the pivot for presenting seminars and short courses. In the process, social interaction and activities will also be stimulated.

The anticipated role of the Postgraduate Student Association (PGSA) in the Faculty is also worth mentioning. The student body was officially formalised and recognised by the faculty in 2008. In 2012, the Constitution of the PGSA was amended under the leadership of the outgoing chairperson, Ms Elizabeth Debeila, while the new chairperson, Ms Mokete Moetela, was elected earlier in the year. The PGSA is now the voice of all postgraduate students and represents all postgraduate students in Faculty Board meetings. It is believed that the PGSA could play a valuable role in the postgraduate environment to the benefit of all postgraduate students in the Faculty.

An important aspect that will continually deserve our attention for the next five years and beyond is transformation. Transformation in all its facets constitutes certain needed changes. The culture survey that was completed in 2011 has indeed brought forward certain important issues that will require further debate. In July, I presented the framework of an implementation plan for change in the Faculty and the appointment of a steering committee, while Ms Patience Mushungwa, the University's Executive Director: Human Capital and Transformation, provided insights on the UP Journey of Change and the alignment of the outcomes and recommendations of the culture survey performed in the Faculty with a similar survey conducted in the rest of UP.

Having said all this, it is clear that the Faculty faces an exciting five years full of challenging opportunities and prospects. It has a very crucial role to play: a role that can by no means be underestimated or ignored. In giving effect to this role, we choose the pursuit of excellence and distinction as our main driving force, while progress, precision, innovation and creativity will have to be the underlying key words in moving forward.

Prof Gerry Swan
Dean

Phytomedicine's Prof Kobus Eloff receives NSTF-BHP Billiton Award

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The achievement of Prof Eloff in research capacity development can be ascribed to the successful supervision of 27 MSc and 22 PhD students over the past 10 years. A remarkable distinction is that most (84%) of the students were black and most (82%) of the MSc students passed with a distinction.

The Phytomedicine Programme is a multidisciplinary and collaborative research programme investigating therapeutically useful compounds present in plants growing in South Africa. Prof Eloff initiated the programme in the Department of Pharmacology (Faculty of Medicine) in 1995, after which it was transferred to the Department of Paraclinical Sciences in the Faculty of Veterinary Science in 2003.

An analysis of the first 100 scientific papers published

by the Phytomedicine Programme since moving to Onderstepoort

The Phytomedicine Programme joined the Faculty of Veterinary Science at Onderstepoort in 2003. During 2011, it completed its first 100 publications. An analysis of this data identifies some interesting trends.

There has been a steady increase in the number of publications on phytomedicine per year. The 105 published manuscripts include three invited chapters in books and editing of two books.

The scientific journals used for five or more papers, with the number of papers and five-year impact factor in brackets, were as follows: *South African Journal of Botany* (18, 1.144), *Journal of Ethnopharmacology* (15, 3.216), *Veterinary Parasitology* (10, 2.458), *African Journal of Biotechnology* (9, 0.794), *African Journal of Traditional Complementary and Alternative Medicine* (8, 0.457), and *Natural Products Research* (5, 0.890). These impact factors compare well with those of the Onderstepoort (0.302) and South African Veterinary Society (0.337) journals.

The average number of authors for the papers was 3.53 and on average 82% of the authors were from UP. The publications of the Phytomedicine Programme are widely read, as indicated by the average 145 times that the top ten papers produced by the Phytomedicine Programme have been cited in international literature. Since 2003, there have been 126 international presentations (of which 34 were invited and plenary lectures), and 63 conference abstracts has been published in ISI-rated journals. This does not include lectures given to colleagues in Europe, Africa, Asia and Australia.

One publication that should have a wide-reaching and long-term effect is *African Herbal Pharmacopoeia*. This is the result of a project funded by European Union agencies and managed by the Phytomedicine Programme involving 30 scientists from 17 different countries. All the quality control work on the herbal medicines was also done in the Phytomedicine Programme. This work received very positive evaluation among the leading international journals in this field.

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OVAH acquires two brand new mobile veterinary clinics

Both vehicles will be utilised for more specialised visits, such as artificial inseminations and breeding soundness examinations. Vehicle suspensions have been modified to accommodate the very poor road conditions that are often found on such visits, which will make travelling more comfortable and less tiring. The kombis display the corporate identity of the Faculty with pictures of production animals, as well as the contact details of the PAC on the windows. This lends a cheerful and interesting look to the vehicles and is a useful form of advertising.

An event to celebrate the acquisition of the kombis will take place in the near future. The vehicles will be on display at this event and guests will be given insight into the valuable work done by the mobile and outreach PAC.

Productivity of the Phytomedicine Programme

in delivering MSc and PhD graduates

Four PhD students working in the Phytomedicine Programme graduated at the promotion ceremony that took place on 13 April 2012.

Four PhD students also graduated in 2010, but one was registered at the University of Limpopo (Turfloop Campus). Over the last ten years, 22 PhD students and 27 MSc students who worked in the Phytomedicine Programme and who were supervised or co-supervised by Prof Kobus Eloff, Dr Lyndy McGaw, Prof Vinny Naidoo or Dr Francien Botha completed their studies.

Of these, one PhD and five MSc students were registered at the University of Limpopo, one MSc student was registered at the North-West University and one MSc student was registered at a university in Nigeria. Of the MSc students, 84% passed with distinction. Mainly leading international examiners in this field evaluated the students. Some of the graduates of the Phytomedicine Programme have been appointed as staff members and have started active research programmes at the University of Limpopo, the University of South Africa and the Tshwane University of Technology. Current students include staff members from the University of Venda and the Vaal University of Technology.

Dr Candice van Wyk is a lecturer in the Faculty of Health Sciences at UP, Dr Aroke Ahmed is a researcher who returned home to the Federal Institute of Industrial Research in Nigeria, Dr Thiambi Netshiluvhi is Director of Innovation Policy Analysis for the National Advisory Council on Innovation (NACI) and Dr Victor Bagla, originally from Sierra Leone, has a postdoctoral fellowship at the University of Limpopo together with other graduates from the Phytomedicine Programme. Since 2005, the Phytomedicine Programme has delivered 34% of the PhDs in the Faculty, despite not having any permanently appointed staff members, with the exception of Dr Francien Botha, who has been seconded from the Faculty of Health Sciences.

From left: Dr Candice van Wyk, Dr Francien Botha, Dr Aroke Ahmed, Dr Lyndy Mcgaw, Dr Thiambi Netshiluvhi with his daughter, Prof Kobus Eloff and Dr Victor Bagla. Prof Vinny Naidoo, who co-supervised Dr Ahmed was not present.

(Photograph: Jimmy Lubinga, PGSA member)

Introducing the new PGSA executive members for 2012

The Postgraduate Student Association (PGSA) of the Faculty of Veterinary Science has been elected. Mokete Moetela (MSc student) will take on the duties of chairperson, supported by Leruo Keokilwe (MSc student) as secretary, Elizabeth Matshidiso Debeila (MSc student) as community engagement officer, Dewald Eygelaar (MSc student) as treasurer, and Calvin Gomo (PhD student) as public relations officer. This is an exciting time for the PGSA, as it promises to continue to grow and adapt, remaining always motivated, responsive and open to new ideas. Calvin Gomo relates: "Our association is confronting a time of many changes and we're meeting these changes during a time of larger nationwide and global change. My personal respect and thanks goes out to all of you."

Back from left: Leruo Keokilwe and Calvin Gomo. In front from left: Mokete Moetela and Elizabeth Matshidiso Debeila. Dewald Eygelaar was absent when the photograph was taken.

NUFU-sponsored

north-south veterinary collaborative partnership

The Faculty of Veterinary Science was represented by Prof Gerry Swan, Dean, and Prof Christo Botha, Dr Jan Myburgh and Ms Annette Venter of the Department of Paraclinical Sciences at the Final NUFU-ZOOTOX Annual General Meeting hosted by the Makerere University in Kampala, Uganda.

Dr Jan Myburgh in conversation with a veterinary technologist in their environmental toxicology laboratory.

The Department of Paraclinical Sciences was an equal partner in a research project on environmental toxicology and zoonotic diseases funded by the Norwegian Council for Higher Education's Programme for Development, Research and Education (NUFU) for two five-year periods. The project commenced in 2002, with the main objectives being research collaboration and competence building within these two areas. The NUFU Veterinary Network comprises six partner institutions in eastern Africa (Uganda and Tanzania) and southern Africa (Mozambique, South Africa, Zambia and Zimbabwe). The northern partners are the Norwegian School of Veterinary Science and the National Veterinary Institute in Oslo. This partnership dealt with two research themes: zoonotic diseases (diseases transmitted from animals to humans) and environmental toxicology (or probably, more correctly, ecotoxicology). The acronym "ZooTox" was coined to refer to this NUFU partnership.

One of the major successes of the programme was capacity-building at the collaborating veterinary faculties in Africa through the postgraduate training of staff members and the in-service training of other researchers. Thus, the primary objective of capacity-building was achieved and seven students have obtained their PhDs so far.

The annual or biannual meetings rotated between the different participating countries. This allowed all participants to visit the member countries, which exposed them to specific difficulties, problems and achievements in their respective host countries.

The meetings afforded academics the opportunity to interact and led to collaboration on other research projects. Flowing from this, research consortia were formed and grant applications submitted to different funding bodies. Friendships were formed across national borders.

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Department of Paraclinical Sciences collaborates with **Kansas State University**

During November last year, Dr Lérica le Roux-Pullen, lecturer in Pharmacology at the Department of Paraclinical Sciences, visited the Department of Clinical Sciences at the Veterinary Medical Teaching Hospital of Kansas State University (KSU) in Manhattan, USA.

From left: Dr Pradeep Malreddy, Dr Lérica le Roux-Pullen, Dr Bruce Schultze and Dr Ronette Gehring.

It was there that Dr Le Roux-Pullen met with various veterinary physiologists and pharmacologists and spent time in the cell culture laboratory of a Faculty alumnus, Ronette Gehring. She received training in specialised cell culture techniques, including isolation, enrichment and the culturing of epithelial cells, reverse transcriptase PCR, Western blotting and static and flow-through diffusion studies.

Dr Gehring is an assistant professor in Pharmacology and Production Animal Medicine and has been contributing significantly to the industry over the past few years with pharmacokinetic studies of xenobiotic movement across cultured bovine mammary epithelial cells.

Dr Le Roux-Pullen is collaborating with her co-supervisor, Dr. Gehring, in establishing similar cell culture models at the University's Faculty of Veterinary Science at Onderstepoort this year. Dr Le Roux-Pullen presented a seminar on cattle health trends in South Africa, during which she promoted the Faculty's role in animal health in sub-Saharan Africa.

The seminar was well received, with many of the attendees showing interest in future collaboration.

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The ten years of collaborative research have resulted in a strong network in the veterinary faculties, culminating in the establishment of a Regional Deans Group, which paved the way for a united voice from southern and eastern Africa at international veterinary meetings such as at the World Organisation for Animal Health (OIE), where issues like the harmonisation of veterinary education and training are discussed.

In addition, other academic collaborative agreements and memoranda of understanding have been signed between African veterinary faculties and schools. Now, after the second five-year term, the challenge is to keep the NUFU network together and procure grants from other sources. We would like to extend our gratitude to NUFU for providing funds and affording us the opportunity to be part of this network.

Prof Gerry Swan and Dr Francis Ejobi from Uganda (second from left), who organised the annual meeting during a visit to the College of Veterinary Medicine, Animal Resources and Biosecurity, Makerere University, Kampala, Uganda.

Production Animal Studies

on the move with postgraduate training

The Department of Production Animal Studies is growing its postgraduate outputs both in student numbers and programmes. As proof of this, four MSc and two MMedVet students graduated in April and more are expected to graduate in September. The Department's first PhD students are also expected to graduate in September.

Prof Pete Irons (Head of Department), Dr Fiona Stansfield (PhD) and Prof Johan Nöthling (supervisor).

Dr Kristen Hughes (MSc), Dr Dawie Blignaut (MMedVet), Dr Takula Tshuma (MMedVet), Dr David Lazarus (MSc) and Dr Tonny Kabuuka (MSc).

The Department is also developing new coursework MSc programmes in Epidemiology, Reproduction and Ruminant Health, offering the opportunity for master's-level training without the experiential training component of the MMedVet programmes. These programmes, offered as options under the MSc in Veterinary Science, will include focused coursework, suitable for distance learning. Modules will cater for the needs of a diversity of interests in the given subject matter, giving students the opportunity to gain wider perspectives by interacting with other students with different perspectives. Students will also be expected to master the scientific research process by completing a research project leading to a mini-dissertation and manuscript for publication, in line with the research-intensive strategy of the University.

In recent years, there has been a particular demand for postgraduate training in veterinary epidemiology from the veterinary profession, matched by the reports of recent visitation teams, which pinpointed this as a deficiency in the Faculty's training portfolio. With increasing awareness of the importance of animal diseases and their effects on human health and international trade, there is a growing need for veterinarians to be trained in disease survey methodology, risk analysis, disease modelling and spatial epidemiology, to name but a few of the areas to be covered in this programme.

By offering an alternative to the MMedVet degrees, these new programmes will better satisfy the needs of a more diverse market. They will be appropriate for veterinary practitioners wishing to improve their practice standards, while practising on a full-time or part-time basis. It is envisaged that these programmes will attract an international audience of veterinarians involved in the relevant disciplines, as well as non-veterinarians with similar interests, while maintaining a focus on animal health. They may also offer opportunities for articulation between these programmes and the corresponding MMedVet programmes in future. The envisaged outcome is a more flexible training environment with a broader appeal.

With the planned launch of new MSc programmes in 2013, the postgraduate landscape in the Department is likely to change significantly over the next few years, hopefully to the benefit of the relevant sectors of the profession and economy, and ultimately to the country.

Production Animal Studies

and the Southern African Poultry Association:

something to crow about!

The poultry industry is a major contributor to the South African economy, as well as to national food security. Poultry production accounted for 22.2% of all agricultural production and 45.5% of animal products in 2011.

Poultry production is by far the largest single segment of South African agriculture, approximately twice the size of the cattle industry, which contributes 11.7% and 24% respectively. The combined gross poultry farm income for 2011 was R32.7 billion, up from 2010 by 5.3%. It is therefore self-evident that the poultry industry is critical to achieving the objective of "zero hunger".

The University's Faculty of Veterinary Science has partnered with the poultry industry in a two-pronged approach to support continued development in the poultry industry.

The first objective, namely to boost the research and postgraduate training capabilities of the University, was achieved with the establishment of the Chair in Poultry Health and Production, funded by the Southern African Poultry Association (SAPA). We are privileged to have attracted the skills of Dr Celia Abolnik as the first incumbent of the Chair. Dr Abolnik holds a PhD and is an NRF-rated researcher with impressive research credentials in poultry diseases.

SAPA has also channelled funds towards increasing the Faculty's research and diagnostic infrastructure. To this end, equipment to the value of R960 000 has been donated and is mainly housed in the laboratories of the Department of Veterinary Tropical Diseases.

The second main objective is to boost the protection of the national flock through disease surveillance. This led to the establishment of the Poultry Disease Management Agency (PDMA), headed by Dr Charlotte Nkuna, a veterinarian with extensive experience in the poultry industry. The Agency's strategic location in the Faculty will provide it with the ideal environment to engage with government and industry, and enable it to draw on the expertise available in various departments and faculties at the University. Specific activities include supporting disease control at national level, developing disease monitoring programmes based on industry priorities (such as avian influenza and salmonella at the moment), developing a residue monitoring programme, designating veterinarians in the provinces to assist the state in the event of poultry disease outbreaks, the implementation of training programmes for state veterinary staff as agreed upon with the state, and the delivery of technical support to small-scale poultry farmers.

"Poultry production is by far the largest single segment of South African agriculture, approximately twice the size of the cattle industry..."

All these developments are funded by the industry levy paid by producers, demonstrating excellent "bang for their buck", given that these structures will benefit the industry in perpetuity by means of the impact on the knowledge base and on veterinary graduates. Activities of the Chair and the PDMA are overseen by a Poultry Management and Advisory Committee, with representation from both the Faculty and SAPA.

The Chair and the PDMA will work alongside the Poultry Section of the Department of Production Animal Studies, which is headed by Dr Peter Smith. The recruitment process for a senior lecturer to complete the academic and research staff complement is also at an advanced stage, as is the reorganisation of teaching in the Department to better utilise the high level of expertise at its disposal.

Mr David Hughes of SAPA said that the industry has the responsibility to ensure that universities and other related institutions are supported in order to guarantee the sustainability of the poultry industry, especially in terms of its survival and growth.

These new developments place the University in a strong position to increase its national and international profile. The vets of the future will have a better perspective on the importance of the poultry industry. It is envisaged that the Poultry Section will be a major contributor to the research performed by the Institute for Food, Nutrition and Wellbeing, as well as other institutional research themes at the University, thereby contributing to national economic growth and food security.

Prof Pete Irons, Head of the Department of Production Animal Studies, summarised as follows: "Given these developments, not only will we have something to crow about, but also a good vantage point to do it from!"

Meet Mashilo Phosa,

OTAU's newly appointed manager

By Lesego Teffu

To Mashilo Phosa, the newly appointed manager of the Onderstepoort Teaching Animal Unit (OTAU), working with production animals is no tough story. As a young boy whose favourite past time was looking after cattle and sheep, it is no wonder this hard-working young man has excellence written all over his daily duties. *OP News* spent some time with him to find out how the past seven months have been for him and what his future plans are.

Where were you born and raised?

I was born in a small town called Ga-Mmalebogo in Limpopo. All my schooling took place in this area at primary and high school level.

What qualifications do you have and from which institution?

My undergraduate degree in Animal Science was obtained from the University of Pretoria in the Department of Animal and Wildlife Sciences. This is where I did my master's degree, which involved research on the nutritive value of macadamia oil cake meal and wood ash as alternative feed ingredients for chickens in rural areas.

What positive input can you bring to your current work environment to make this a suitable place to work?

The Onderstepoort Teaching Animal Unit still needs improvement on pasture management and rotation. I would like to focus on increasing the number of animals in the Unit in order to coordinate students' daily practical requirements. Apart from this, my aim is to increase the motivation of all the animal caretakers in all the duties they perform on a daily basis and to emphasise Onderstepoort's increased involvement in community engagement as a whole.

What priorities do you have for the next three years?

The first point on my priority list is enrolling for my PhD at the University of Pretoria. Other important plans include acquiring more land and production animals for better management, as well as in the Faculty of Veterinary Science.

What inspires you?

Distributing information to future veterinarians and also the fact that this field incorporates one of the most important of human needs: food production. This inspires me greatly. People who make the best out of the little they have, as well as those who work hard at achieving any desired goal in their lives give me courage.

How do your duties now differ from those in your previous job?

My previous duties were more in the marketing and sales representative field, where I used to deal with customer care and farmers' complaints for companies such as Bedson Africa and Hipra Southern Africa. My responsibilities now have shifted to managing and coordinating animals for students' practical sessions. Management of the Unit also entails human resources, animal management and providing students with information on animal behaviour and handling.

Where does your interest in this field originate?

As a small boy growing up in such an agriculturally rich province, I would look after sheep, goat and cattle in my spare time. So, I can easily say that I was influenced by growing up in that kind of environment, which provided me with the appropriate background.

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Dr Darryn Knobel:
emerging researcher

A special feature on Dr Darryn Knobel of the Department of Veterinary Tropical Diseases was recently published on the National Research Foundation's new site for emerging researchers.

Dr Knobel's research focuses on the epidemiology and impacts of infectious diseases at the human-livestock-wildlife interface, and makes use of large-scale longitudinal population-based data collection systems as platforms for generating accurate and reliable data on disease incidence and the effectiveness of interventions. He received his veterinary degree from the University of Pretoria, and a PhD in Tropical Animal Health from the University of Edinburgh. His PhD work received the University of Edinburgh's Centre for Infectious Diseases Ker Memorial Prize for outstanding research in infectious diseases by a PhD candidate in 2008.

Much of his postgraduate and postdoctoral research work has been conducted on infectious diseases affecting humans and animals in East Africa, and he has been fortunate enough to spend several years in Ethiopia, Tanzania and Kenya working with colleagues from the medical field, and on a variety of domestic and wild animal species. A career highlight was the role he played in a vaccination study to prevent a rabies outbreak in a population of endangered Ethiopian wolves. This study demonstrated the effect of vaccination on the spread of the virus and the post-outbreak recovery of the population. It was published in the journal *Nature* in October 2006.

He has collaborated extensively with the US Centres for Disease Prevention and Control (CDC) and the Kenya Medical Research Institute (KEMRI) on research projects at the animal-human interface. The CDC/KEMRI Health and Demographic Surveillance System in western Kenya, where he was based for two and a half years as a visiting scientist, showed him the value of long-term, community-based longitudinal studies as a platform for the effective, evidence-based evaluation of health

care interventions in human populations. It also served as the inspiration for the idea of the Health and Demographic Surveillance System in Livestock.

To view the feature, please go to: http://ern.nrf.ac.za/control/ViewFeatureArticle?contentId=13200&featureContentId=13200&partyId=10990&articleType=researcherFeature

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What advice would you give to young professionals studying in this field or who have just started working?

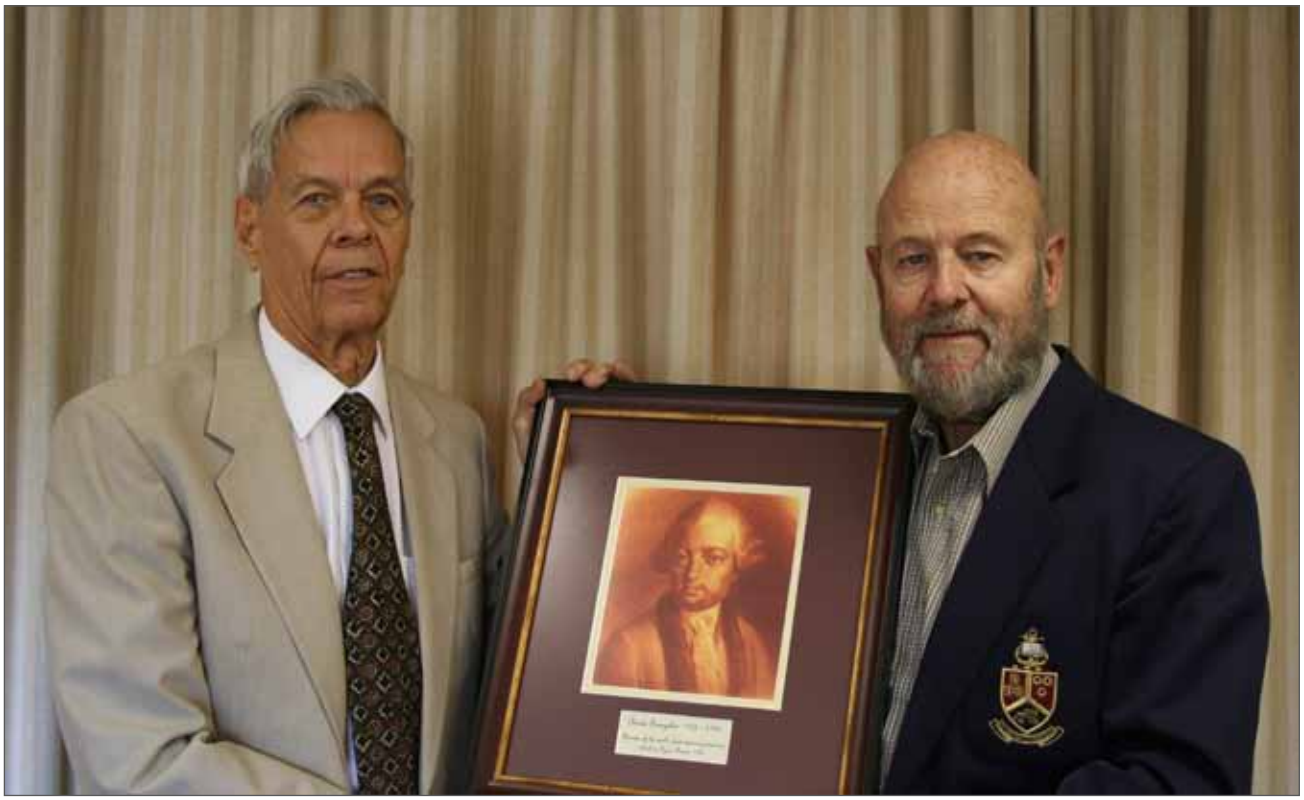
Truthfully, without the love of and passion for animals, one cannot easily survive in this field. Being patient will also come in handy, since you are dealing with both animals and the human species. In the end, it is really not about how much money you take home, but the effectiveness that results from hard work and perseverance, and your involvement in animal health and welfare.

How did you experience the past seven months in the Faculty?

It has been a challenging seven months, although I am indeed coping. Working in an environment that consists of people from different cultural backgrounds, religious beliefs and different age groups provides its own challenges. One has to take each day as it comes, acknowledge the different mentalities in the working environment and ensure that, in the process, one contributes positively to the vision and mission of the institution.

Claude Bourgelat (1712–1779)

Founder of the first veterinary school in Lyon, France, in 1761



Prof Morkel Terblance (right), Deputy Dean: Teaching and Learning of the Faculty of Veterinary Science, receives a portrait of Claude Bourgelat from Dr Daan Verwoerd (left), Chairperson of the History Committee of the South African Veterinary Association (SAVA). The History Committee of SAVA donated the portrait to the Faculty to commemorate Bourgelat's role as founder of the first veterinary school in Lyon, France, in 1761.

Bourgelat was a qualified lawyer who loved horses and became the Director of the Lyon Academy of Equitation in 1740.

Assisted by two medical colleagues, he studied equine anatomy, physiology and pathology. In 1750, he published a three-volume treatise, *Elemans d'Hippiatrique*, which earned him wide recognition as an expert in horsemanship, as well as the friendship of leading personalities, including Henri Bertin, who later became Comptroller General of Finance for King Louis XV. He was also instrumental in Bourgelat's appointment to supervise the royal studs.

They probably discussed the difficulty there was in acquiring veterinary skills, as well as the deficiency of knowledge required to combat animal diseases, which seriously threatened agricultural production. These problems arose from a complete lack of dedicated veterinary training facilities anywhere in Europe.

Bertin convinced the king of the need for such a school and, in 1761, facilitated a decree authorising Bourgelat to establish a private institution for this purpose, supported by a Council of State grant of 50 000 livres. In 1762, the school opened in a disused tavern with minimal facilities and six students. Although lacking a scientific background, he was an outstanding organiser and succeeded in establishing a well-structured course attracting 36 students within a year, leading to royal patronage in 1764, which ensured its status and finances. By 1765, Bourgelat lobbied Bertin for permission to move the school to Paris, but the latter convinced him to rather start a new school in the capital city. He therefore relocated to Paris, where he was responsible for the establishment of a second college at Alfort until his death in 1779. This was destined to become the leading veterinary school in Europe for many years.

Bourgelat was, however, more than just an innovative founder of veterinary education. He was also a visionary, expounding the economic importance of animal disease control and, through his close association with medical scientists, appreciated the similarities and relationship between human and animal diseases. He was thus an early advocate of the modern concept of "One Medicine".

Internship at Purdue Libraries:

a valuable learning experience

Article by Tertia Coetsee

The University of Pretoria's Department of Library Services joined the Research Library Consortium on 1 August 2009. The Research Library Consortium comprises the following academic libraries: Rhodes University, Stellenbosch University, the University of Cape Town, the University of KwaZulu-Natal, the University of the Witwatersrand (Wits) and the University of Pretoria (UP).

Members of the Research Library Consortium are beneficiaries of a Carnegie Corporation of New York (CCNY) grant for a project of which one of the key objectives is the development of the library skills of information specialists to provide top-class services to researchers efficiently and effectively.

Between 2010 and 2011, 14 carefully selected information specialists from the Department of Library Services took part in three intensive 12-day residential library academies held in South Africa. Five information specialists selected from the 14 alumni of the academies spent 10 weeks in major US research libraries during 2011 and 2012. Marguerite Nel and Tertia Coetsee were among those selected to participate in this study programme in the USA.

Tertia's visit started with a study programme at the Mortenson Center for International Library Programs, University of Illinois, Urbana-Champaign, from 21 February to 10 March 2012. She visited several libraries and institutions, as well as the Online Computer Library Centre in Dublin, Ohio (the world's largest library cooperative and developer of the World Catalogue).

From 10 to 30 March, the group split up and spent time at various host institutions throughout the USA. Tertia had the privilege of spending her time at the Veterinary Medicine, Health and Life Sciences Library of the Purdue University. During this time, she had the opportunity to attend various meetings and library events and meet many of the staff members. She gained a lot of insight into the librarian's role in supporting researchers at the University.

Continuum statue at the School of Veterinary Medicine at Purdue University, sculpted by Larry Anderson.

A mid-term meeting was held from 30 March to 4 April for all the participants in San Francisco, and they had the opportunity to report on and share their experiences with the rest of the group.

From 4 to 27 April, they returned to their host institutions to continue their programme, after which they returned home.

Tertia Coetsee presenting a talk on South African higher education.

Faculty's rhino DNA profiling method

features in *Rhinos under threat* film at Rio+20 Conference

The Veterinary Genetics Laboratory (VGL) of the Faculty of Veterinary Science at the University of Pretoria highlighted the importance of DNA profiling in the fight against rhino poaching in a short film, *Rhinos under threat,* which was screened at the Rio+20 Conference on 18 June 2012.

The film was produced by United Nations TV (UNTV), in collaboration with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to raise public awareness of the crisis due to the poaching of rhinos and illegal international trade in rhino horn.

The VGL, headed by Dr Cindy Harper, created a rhino DNA database, with the aim of collecting DNA profiles of all the rhinos in Africa. The most important purpose of these profiles is to assist with the investigation of rhino poaching cases and the prosecution of poachers.

In the film, it is shown how blood is taken from a rhino, identifying markers are cut into the animal's ears and microchips are inserted to track the horn. This allows any rhino horn, whether seized by the police at border crossings or at airports, to be identified and connected to a poaching incident, linking all perpetrators along the crime chain and helping to bring about prosecution.

"Investigators provide us with samples from all the rhino poaching cases," explains Dr Harper in the film. "We could also look at the equipment they use, like knives and axes. In terms of recovered horns, we can do the DNA profiling on the recovered horn and link that back to the actual poaching case through DNA."

According to Prosecutor Marilé van Heerden of the National Prosecuting Authority of South Africa, the DNA database is invaluable to its prosecutions. In 2012, three rhino poachers were sentenced to 25 years in prison, the toughest sentences ever handed down for rhino poaching in South Africa.

The film further depicts the brutality of rhino poaching, as well as the impact on local communities, from the national parks in South Africa and Swaziland to the black markets of Hanoi in Vietnam. It explores the factors driving the demand for rhino horn products in Asia and the role of organised syndicates. It further investigates the measures taken by authorities to fight these crimes.

According to a statement released by CITES, 13 rhino were poached in 2007. This figure increased to 448 in 2011, with 245 being poached so far this year, while 161 arrests have been made.

"If the current trends in illegal killing continue, we will drive this iconic species to extinction in the wild," said Mr John Scanlon, CITES Secretary-General. "We need to work together at national and international levels to stop the poaching, smuggling and consumption. It will be tough, but if we manage to work together, we will win this fight."

Watch the film *Rhinos under threat*:
http://www.youtube.com/watch?v=t3m7FOXOLbY

Veterinary Genetics Laboratory

receives R250 000 from Unite Against Poaching in support of its RHoDIS™ project

At a function held at the Village Ridge Boutique Hotel in Waterkloof on 17 July 2012, Unite Against Poaching presented a cheque of R250 000 to the Veterinary Genetics Laboratory (VGL) of the Faculty of Veterinary Science.

This donation, the second to be made to the VGL by Unite Against Poaching, is in support of the RHoDIS™ project, a Rhino DNA Index System managed by the VGL that utilises the latest DNA profiling techniques to combat poaching and strengthen rhino conservation by promoting the scientific management of the rhino population. The VGL is collecting DNA samples of rhinos across the country to create a database using the unique DNA profile of individual rhinos.

Dr Cindy Harper, Head of the VGL accepted the cheque on behalf of the Faculty and emphasised that the donation would enable the VGL to increase its capacity to investigate poaching incidents and assist in building the genetic database of living rhino, which is now also incorporating animals in Zimbabwe, Kenya, Botswana and Namibia.

Unitrans's Volkswagen and Audi division is the main sponsor of Unite Against Poaching, donating R500 of its own profits for each vehicle sold at one of its branches. The Chief Executive of Unitrans's Volkswagen and Audi division, Mr Kevin Gillmer, said the donation was supporting work being done at the coal face of counter-poaching activities.

This latest donation is the second one to be made to the VGL since 2011, bringing the total contribution by Unite Against Poaching to R500 000.

Apart from Unite Against Poaching, the vital work of the VGL has been supported through donations by, among others, South African National Parks (SANParks), the World Wildlife Fund (WWF), the South African Hunters' Association and Right for Rhinos, over the last two years.

Dr Cindy Harper, Head of the Veterinary Genetics Laboratory, receives a cheque to the value of R250 000 from Mr Kevin Gillmer (right), Chief Executive Officer of Unitrans's Volkswagen and Audi division, the main sponsor of Unite Against Poaching.

Monkey business at Johannesburg Zoo: community engagement

By Rosaly Steyn

Many of us have exciting childhood memories of a visit to the zoo. Unfortunately, a large percentage of kids will never have the opportunity to visit a zoo during their childhood years. Animals enrich our lives, bring joy, calm us, comfort us and provide unconditional love. On the other hand, animals need enrichment, love, attention and basic care, especially when they are taken out of their natural environment and have limited space and decreased activity.

Some of the children busy with their activities.

Recently, a group of four veterinary students (Rosaly Steyn, Monica Burger, Lizelle van Staden and Anne-Marth Mullins) decided on a project to give disadvantaged kids the opportunity to visit the zoo, educate them on the ecological role of animals, why we need to conserve them, and the importance of environmental enrichment by involving them in several fun activities! The Solidarity Helping Hand initiative referred them to Ms Celia Smit, a teacher at Laerskool Generaal de la Rey in Johannesburg. The school selected a group of children that is less fortunate, some of whom have cognitive disabilities.

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Visualising sound emission in African elephants

African elephants are well known for their very low-frequency (infrasonic) sounds, with pitches below the range of human hearing. These low frequency sounds, termed “rumbles”, are the most frequently used vocalisations. Female African elephants use these rumbling vocalisations mainly for group cohesion and coordination.

Experimental setup at Adventures with Elephants. (Photo: Angela Stoeger)

Very little is known about male African elephant rumbles, although the so-called musth rumble is constantly produced by male elephants in musth (a condition in bull elephants characterised by increased aggressive behaviour and elevated androgen levels). Although these sounds have been generally studied for many years, the sound production mechanism is still unclear and the functional relevance of particular vocal characteristics needs to be investigated.

The aim of the collaborative research that started in November 2011 between Dr Angela Stoeger of the Department of Cognitive Biology at the University of Vienna, Austria, and Dr Andre Ganswindt of the Section of Reproduction in the Department of Production Animal Studies at the University of Pretoria is to investigate the sound production of elephant infrasonic vocalisations and its function in the complex natural elephant social system.

Animals might use quite different mechanisms to produce their sounds in comparison to humans. Species-specific mechanisms of sound production therefore determine the vocal characteristics that are accessible to the recipients, and therefore to natural selection. This evolutionary feedback loop, which links voice production, acoustic output and function, reveals the necessity of understanding how animals produce sounds when studying animal communication. As a first step, the researchers applied a novel sound visualisation method, an acoustic camera array (kindly provided by Gfai tech GmbH, Berlin, Germany), to investigate whether these rumbling vocalisations are emitted orally through the mouth, or nasally through the trunk. Since an elephant’s trunk is up to two metres in length, this vocal path difference is expected to strongly

Continued on next page

Saving Vienna,
the sausage dog

Article by Maygan Jennings

Vienna, an adorable four-year old Dachshund, presented at Onderstepoort on 23 January 2012 with hind limb paresis and loss of proprioception. She was diagnosed with a severe disc prolapse between T12 and T13 and thus the prognosis was grave unless she could have spinal surgery.

Unfortunately the owners, who are old age pensioners, were unable to afford such a surgery and – with great sadness, but in the best interest of their pet – opted for euthanasia. Prof Louis Coetzee and the final-year students on their surgery rotation felt immensely sorry for the couple as Vienna was only four years old. With the surgery, she would probably make a full recovery. The couple had also recently lost their other dog and were still shaken from the ordeal. A group of benevolent students immediately took to the classrooms in an effort to raise money for Vienna.

Thanks to the very generous donations of their fellow students, especially the new first-year BVSc students, an amount of R2 852.45 was raised. Added to the amount that the couple was able to come up with, it was enough to cover the surgery and after care.

That afternoon, Vienna underwent a pediculectomy and fenestration of the two adjacent disc spaces on either side of T12 and T13. Vienna made a full recovery after the operation and went back to being her happy normal self. Many thanks are due to all the students who so kindly contributed to saving the life of this little sausage dog. Vienna and her family are exceedingly grateful.

Prof Coetzee would also like to express his sincere appreciation for the veterinary students who raised the funds for Vienna. It was really encouraging to see how quickly the money was donated by willing future colleagues. He would also like to thank the final-year student group who looked after their cases so well and for each one's meticulous patient care in the Onderstepoort Veterinary Academic Hospital.

Continued from previous page

influence the particular acoustic parameters of the calls, which might be used in varying behavioural contexts.

The necessary recordings will be carried out at Adventures with Elephants in collaboration with Sean and Rory Hensman. To visualise sound emission, an acoustic camera array with a span width of 3.4 metres and 48 microphone channels will be used, and the sound with the respective sound pressure level will be displayed by colour coding (similar to a thermographic picture). The elephants then need to vocalise directly in front of this array. Making sound (in this case, African elephant rumbles that are mostly inaudible to humans) visible will offer exciting new avenues for future research on elephant vocal communication. More to come!

Monkey business at Johannesburg Zoo

Continued from page 15

The "zoo trip" was an incentive for good behaviour during the previous school term, so on Friday, 29 June 2012, 26 learners, accompanied by two teachers, drove by bus to the Johannesburg Zoo. At the Education Centre, each learner received a printed T-shirt and cap, as well as a goodie bag filled with treats and a mug of steaming hot chocolate.

The morning started off with a puppet show on water conservation, sponsored by Rand Water. Then the learners were divided into two groups to make enriching treats for some of the animals, pine cone seed dispensers with peanut butter and Marmite and fruit kebabs for the monkeys. This was great fun for the learners, but even greater fun for the monkeys!

All this monkey business and hard work called for lunch. "Boerewors" rolls were just the thing to replenish the energy sources. After lunch the learners were given a guided tour through the zoo, where they learned some interesting facts about the animals. The day was almost over, but thanks to the great sponsors, each learner received a backpack filled with amazing gifts to make their lives a little easier. A private sponsor donated amazing storybooks on animals to each learner, as well as four beautiful colour atlases of the animal kingdom to the school's library. The day was enriching and heartwarming for all parties involved: the children, teachers, zoo staff, animals and the vet students.

Early on Saturday morning, the students arrived with sore feet for another day of community service to build an environmental enrichment structure for the new Samango monkeys. After a few hours of serious physical labour (to the amusement of the public calling them "big monkeys" on the other side of the fence), their hard work paid off. The two Samango monkeys were released into their new, enriched environment. Although initially unsure of all the human smells in their home, they soon began to swing and jump carefree in their brand new enriched home. Their happy little faces were priceless! The two days spent at the Johannesburg Zoo doing their community engagement project was truly a great experience, leaving each of the students with tired feet, but a warm feeling of fulfilment.

OP News snippets

CACS and Education Innovation project enhances practical learning

The Department of Companion Animal Clinical Studies (CACS), in collaboration with the University's Department for Education Innovation, has produced a DVD on horse handling to assist students. The script and original idea was driven by Dr Elize van Vollenhoven of CACS, but the end result was a real team effort.

The purpose of the DVD was to illustrate the general handling of a horse. Inexperienced handlers have the opportunity to study the procedures in the comfort of their own homes. The process of learning is thus enhanced by being able to watch and learn the correct procedures, and then to apply them to live animals in a practical situation. Experienced handlers can use this DVD to improve their own techniques or to pick up a few tips. Various methods are shown on the DVD to ensure that the handler has a "back-up" plan if one method proves to be ineffective or not tolerated well by a specific animal.

Prof Johan Schoeman, Head of the Department of Companion Animal Clinical Studies commented that this was just one of the projects initiated to assist students in an innovative way. The positive comments received from lecturers and students alike on the quality and content of the DVD are encouraging.

Final-year career dedication 2011

An annual event held to honour final-year students before they "step out" as professionals was held in September 2011. This gathering is purposed for believers to dedicate their future careers and lives to glorifying God.

At first excitement mixed with anxiety was felt. Then a warm atmosphere bloomed between worship songs, sharing a meal and listening to inspiring words from recently qualified students. This is truly a valued event.

The Onderstepoort Christian Fellowship would like to thank Vets in Christ South Africa (VICSA), who sponsored the meals for all of the final-year students. This fantastic organisation lends support on a regular basis. A big thank you is also due to Dr Nicolle Gray, as well as and the entire staff of the Cafeteria at Onderstepoort.

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RUN4RHINOS

Students help save the species with a fun rhino run

Run4Rhinos is a student initiative to raise funds for the RhODIS project of the Veterinary Genetics Laboratory of the Faculty of Veterinary Science at the University of Pretoria

The Dean of the Faculty of Veterinary Science, Prof Gerry Swan "welcomes" the fibreglass rhino to the Onderstepoort Campus with his own donation to the Run4Rhinos campaign.

Students in the Faculty showed their support by organising an official Run4Rhinos fun run of 5 km and 10 km respectively. This race took place on 28 July 2012 at the University's Sports Campus (LC de Villiers Sports Grounds). The students obtained various sponsorships to assist them in planning the fun run. All proceeds will go towards adding rhinos onto the database. RhODIS is a non-government funded organisation and is the only one of its kind in the country. It costs R600 for each rhino to be added to the database (excluding darting and sample collection costs). The goal is for all rhinos to be on the system. So far, the database has grown to include almost 5 000 black and white rhinos from South Africa in just over a year. This will deter poachers and assist in forensic prosecutions.

In support of the Run4Rhinos campaign that was launched on 28 July, a life-sized fibreglass rhino was on display on the lawn between the Arnold Theiler Building and the Anatomy Building on 23 July 2012.

The fibreglass rhino, sponsored by Wildlife Pharmaceuticals, served as a life-sized "piggy-bank" with a coin slot for donations on the day of the race. Students, staff and the public had the opportunity to pledge their support by depositing their contributions in the wild piggy bank to help kick-start the campaign.

IVSA also unites against rhino poaching

International Veterinary Students Association (IVSA) South Africa sold a number of "Vets united against Rhino poaching" t-shirts at the 61st IVSA Congress in Norway (July 2012). This is a photo of a majority of the vet students from around the world wearing the t-shirts! Included in the photo are students from the UK and Ireland, the USA, Norway, Greece, Croatia, Germany, Belgium and Turkey.