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OP News

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Ensuring better health and proper care for cheetahs in captivity



By Louise de Bruin

Cheetahs are marvelous creatures that have fascinated scientists for decades. In the wild, cheetahs are the fastest mammal sprinters on earth. However, in captivity, these animals are quite unusual in that they frequently suffer from chronic diseases, primarily of the gastrointestinal tract and kidneys, which are rarely seen in their wild counterparts or in any of the other big cat species.

An inflammatory stomach condition known as lymphoplasmacytic gastritis affects the majority of captive cheetahs. While other big cats also suffer from kidney disease, captive cheetahs have presented a form of kidney damage known as glomerulosclerosis, which resembles damage caused by diabetes in humans. This is mysterious, because these cheetahs do not have diabetes.

Dr Adrian Tordiffe from the Department of Paraclinical Sciences is intrigued by these diseases in captive cheetahs. Although potential reasons for these diseases (including



Many captive cheetahs suffer from kidney damage known as glomerulosclerosis, potentially influenced by changes in their diets.

low genetic diversity, vulnerability to stress, lack of exercise and possible nutritional deficiencies) have been postulated, clear causal mechanisms are very unclear.

To better understand the intricacies of the problem, Tordiffe adopted a holistic approach to his study using methods developed in the field of metabolomics – the scientific study of hundreds of metabolites that are present within body fluid, a cell, or tissue. These are either intermediate or end-stage products of various metabolic pathways and provide a mass of information on how an organism functions. Tordiffe explains the process of metabolomics as being similar to searching through and analysing the contents of a person's rubbish bin – the waste

items found are a good reflection of what is going on inside the home.

In his study, Tordiffe predominantly analysed the fatty acids, amino acids and acylcarnitines in the blood of both captive and wild cheetahs in Namibia. Urine samples from wild cheetahs were harder to come by and he therefore focused on the interactions between over 300 organic acid compounds in the urine of captive cheetahs.

Captive cheetahs had much higher concentrations of polyunsaturated and monounsaturated fatty acids in their blood, and high concentrations of several phenolic compounds in their urine. He attributes this to the diet cheetahs are fed in captivity. In the wild, they typically hunt small



Dr Tordiffe analysed the fatty acids, amino acids and acylcarnitines in the blood of both captive and wild cheetahs in an attempt to establish causal mechanisms for the kidney diseases in captive cheetahs.

antelope and consume most of the carcass, including bones, organs and hair, within a few hours, while it is still fresh. They do so in order to prevent their food from being stolen by larger, stronger predators such as lions, hyenas or leopards. "After they have gorged themselves they will often fast for a few days before they hunt again," Tordiffe explains.

Captive cheetahs, on the other hand, are primarily fed the muscle meat of domestically farmed species that is particularly high in the aromatic amino acids tyrosine, phenylalanine and tryptophan. While further studies are underway, Tordiffe suspects a proportion of these amino acids

arrive undigested in the captive cheetah's colon. Colonic bacteria then ferment and convert them into phenolic compounds that are absorbed into the bloodstream. Some of these phenolic compounds have been shown to suppress the enzymes that are important in the production of dopamine, an important neurotransmitter in the gastrointestinal tract and kidneys.

In the gastrointestinal tract, dopamine increases motility and blood supply, and regulates the immune system. In the kidneys, it helps regulate blood pressure and salt excretion. The suppression of dopamine production could therefore

potentially be a primary factor in the chronic gastrointestinal and kidney diseases suffered by captive cheetahs.

Tordiffe also suggests that cheetahs may not have sufficiently potent anti-oxidative pathways to deal with a diet high in polyunsaturated fats. The carcasses of farmed, monogastric animals like chickens, horses and pigs have a relatively high polyunsaturated fat content when compared to that of the fresh ruminant prey that cheetahs typically eat in the wild. Polyunsaturated fats are sensitive to oxidation, particularly if the meat is stored for a period of time before being fed to the cheetahs. These oxidised fats may cause further damage to the health of captive cheetahs.

Based on his findings, Tordiffe is able to offer guidelines and advice to facilities that house cheetahs. While the obvious notion would be to feed captive cheetahs' food that is more closely aligned to their natural diets, fresh sources of small ruminants are not necessarily a viable option. The challenge now is to find ways to modify their diets without causing detrimental health effects.



Photo by Jaco Wiid

New AHS test developed in the Faculty: a boost for South Africa's international horse exports

The World Organisation for Animal Health (OIE) has approved a diagnostic test for African horse sickness (AHS) developed by Prof Alan Guthrie and his colleagues at the Equine Research Centre (ERC).

The Guthrie RT-PCR test reduces the time it takes to test for the disease from two weeks to four hours. Prof Guthrie explains: "Diagnostic testing for animal diseases is one of the cornerstones of international trade. Because we can now determine the AHS status of a horse in hours, it can reduce the time our horses spend in pre-export quarantine."

The test is now officially validated by the OIE for certification of individual animals prior to movement and has greatly improved the laboratory diagnosis of AHS by increasing the sensitivity of detection and shortening the time required for the diagnosis.

Prof Ian Sanne of the Wits Health Consortium Equine Health Fund comments: "This is an incredible achievement from a local research facility with minimal financial support. AHS has affected South African horse exports since the 1960s and key stakeholders in the industry have been working to find long-term solutions to these challenges. This test will support the safe, direct exports of horses from South Africa."



Message from the Dean

Prof Darrell Abernethy

We live in challenging and interesting times! President Trump and BREXIT dominate the American and British news media respectively while, closer to home, presidential succession, economic recession and drought often occupy our news-screens and conversations. Student fees, funding issues and transformation (in its widest sense) challenge the status quo in the university sector, as does the apparent dwindling supply of top-quality school-leavers. Challenging and thought-provoking!

At Onderstepoort, we are not immune to these challenges and strive to ensure we remain sensitive and responsive to them while continuing to produce quality graduates. We have much to be proud of, including recent recognition of the international stature of the Faculty and endorsement of our Faculty and programmes. Allow me to provide two examples:

- Universities worldwide compete for ranking in order to attract funders, researchers and potential students; two such lists have been produced in the last two years for veterinary faculties and in the latest, the Shanghai rankings, our Faculty was placed 30th in a list of the top 200 such institutions worldwide. This is an outstanding result, a strong recognition of the quality and stature of the Faculty and testimony to the hard work of many Faculty personnel. See the following website for details: <http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/veterinary-sciences.html>
- I have recently hosted the deans or senior academics from several top overseas veterinary schools. At the most recent visit, the visiting dean – head of a school in the top three globally and highly experienced in faculty accreditation – advised

that the Faculty is of a standard comparable with the best in the world and, in some respects (Skills Laboratory, Community Engagement and clinical exposure to name a few), we are world leaders. High praise indeed – but then, you already knew that!

But we cannot – and do not – rest on our laurels. We live in challenging times! This year we have experienced a record number of applications from those in the previously disadvantaged groups for places in the BVSc programme – a gratifying and positive trend as we seek to grow diversity among our undergraduate students. We need to also show the same trend in academic personnel and ensure that all staff and students feel comfortable and proud of the Faculty. We have introduced a stronger emphasis on smallholder farming in our BVSc programme to prepare graduates better for their community service and have received funding to develop our smallholder farming and wildlife facilities. We are modernising many of our facilities and buildings to continue to provide a world-class environment and will be reviewing our structures and curriculum to ensure we remain relevant and sustainable.

Our research programmes are growing, with new research themes and record number of postgraduate students, many of whom are from outside South

Africa. We continue to seek funding to grow our research agenda and ensure we contribute positively to the vision of the university, the aspirations of the country and the needs of the profession.

I am confident that we will rise to the challenges that no doubt lie ahead and will meet them as a vibrant teaching and research community.



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New Veterinary Nursing degree approved for the Faculty

The Faculty is excited and proud to announce the approval of a three-year Bachelors degree in Veterinary Nursing (BVN) by the Council for Higher Education (CHE). The new degree will eventually replace the current two-year Diploma in Veterinary Nursing (DVN)

Following a long and intricate process, the new degree was approved at the end of June by the CHE, the highest relevant body in South Africa for the accreditation of proposals relating to new

courses within the framework of Higher Education, as well as the institutionalisation of quality assurance.

The process to upgrade the diploma to a degree was already initiated some years ago. Among the reasons for the decision was the fact that the two-year diploma does not allow for any postgraduate study, and therefore results in an academic dead-end for diplomates.

The new degree offers more opportunities at postgraduate level and will open the door for future veterinary nursing specialist fields to develop. This will also add impetus to the global reputation of the Faculty.

The degree will be phased in through a thorough planning and curriculum-development process with a view to the intake of new students within the next two to three years.

According to Prof Dietmar Holm, Deputy Dean: Teaching and Learning in the Faculty, the approval is a positive development – for the Faculty, for the veterinary nursing profession and indeed for the entire veterinary team. "The approval of the BVN programme is the result of hard work and collaboration by the Faculty, the University and the veterinary professions", Prof Holm said.



Faculty supports Anti-discrimination Week

To encourage dialogue relating to the process of combatting discrimination on its campuses, the University has proposed the Anti-discrimination Week from 28 August to 1 September 2017. The Faculty proudly supports this initiative.

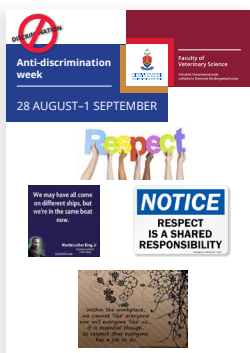
Racism: The belief that all members of each race possess characteristics, abilities, or qualities specific to that race, especially so as to distinguish it as inferior or superior to another race or races.

Prejudice: an unreasonable dislike of or preference for a person, group, custom, etc., especially when it is based on their race, religion, sex, etc.

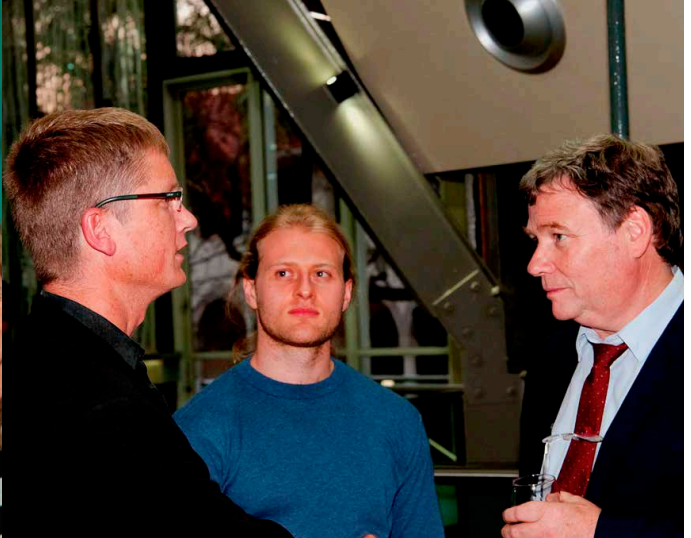
Discrimination: The unjust or prejudicial treatment of different categories of people, especially on the grounds of race, age, or sex

Antagonism: Active hostility or opposition towards a person

Oxford English Dictionary



Dean's Cultural evening



9th International Sheep Veterinary Congress (ISVC): Harrogate, United Kingdom – 22 to 26 May 2017

Gareth Bath, Ken Pettey and Rhoda Leask from the Department of Production Animal Studies attended the 9th ISVC, where Gareth presented two papers, Rhoda presented three papers and Ken delivered four presentations, including a key-note address. The theme of the congress was “Sustainable global food security through efficient small ruminant production”. More than 700 veterinarians from all over the world attended.

Gareth and Ken participated in the pre-congress study tour of England and Wales, where they visited sheep farms, sheep fairs and places of interest each day. The tour extended from Kent in the south east to Cornwall in the south west, and from the Welsh Marches to the Northumbrian borders. Each day, the tour was joined by a member of the Sheep Veterinary Society, who used

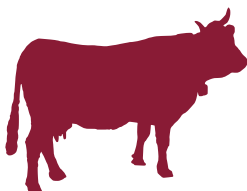
his or her local knowledge and contacts to showcase the United Kingdom sheep industry and introduce participants to the rich and varied agriculture, history and archaeology of the country.

During the congress, the European College of Small Ruminant Health Management and the International Sheep Veterinary Association (ISVA)

held their annual general meetings. Ken was elected to the ISVA executive, and Gareth was presented with a lifetime service award at the gala dinner. This award is in recognition of the exceptional contribution that Gareth has made through his promotion of veterinary science in the sheep industry, both nationally and internationally.



The pre-congress tour group, photographed at Hadrian's Wall. The original wall ran from the banks of the River Tyne near the North Sea to the Solway Firth on the Irish Sea.



Dairy School 2017 – a great success

In July 2017, the Faculty, in collaboration with the Milk Producers' Organisation (MPO), hosted the very successful Dairy School.

During this year's Dairy School, Dr Chris van Dijk delivered an overview of the South African dairy industry and discussed critical success factors in a rural practice, as well as an epidemiological approach to, and the

economics of herd-related problems. The students also visited the farms of MPO members in Eastern Cape, KwaZulu-Natal and Western Cape. They experienced the event as a significant contribution to their education relating to the dairy industry.

Electric fences and small animals – a deadly combination

By Louise de Bruin



In the last 15 years, electric fences have become a popular choice for the control of animal movement on game reserves, private game farms and commercial farms – ensuring livestock and wildlife stay in the confines of the farm and unwanted predators and people stay out. However, electric fencing, although economical and effective, results in the electrocution of non-target species. Among them are tortoises, and they are rapidly moving up on the Cites list of endangered animals. The highly endangered pangolin, the African Bull Frog, porcupines, rock pythons, rock monitors and other small animals are also victims.

South Africa is home to a third of the world's tortoise species. Eleven of the 14 species found locally are endemic only to southern Africa, which means that they occur nowhere else in the world. South Africa is home to one of the world's rarest tortoises, as well as the smallest. The elusive geometric tent tortoise (*Psammobates geometricus*) is found only in the low-lying renosterveld shrublands of the Swartland, Upper Breede River Valley and Ceres Valley of the Cape. The world's smallest tortoise, the speckled padloper (*Homopus signatus*), reaches no more than eight centimetres.

The reproduction rate of tortoises mimics the speed at which they walk – slow. The smaller species take about eight to ten years to reach sexual maturity, while the large leopard tortoise takes about 15 years before it is ready to reproduce. Most tortoises lay no more than two eggs per year. Unfortunately, the odds are often against their survival.

Despite the slow reproductive rate, tortoises have managed to maintain a healthy population for millions of years. However, today, their future existence is precarious. The Faculty's Dr Luke Arnot has looked into the various threats tortoises face, finding electrocutions

from electric fencing to be one of the main causes of their deaths.

"Many electric fences are fitted with a low-live tripwire, placed on one or both sides of the fence, three to fifteen centimetres above the ground, depending on the topography. This can assist in preventing game and wildlife from burrowing under the fence and escaping from a protected area. It can also be placed on the outside of the fence to prevent predators such as caracals or jackals from digging under the fence and gaining access to livestock", Arnot says. An animal touching the fence is shocked and then runs away. Unfortunately animals moving under the fence are not always able to get away.

The high instances of death among tortoises is attributed to their instinctive defensive reaction – withdrawing into their shells when they are hurt or frightened." Therefore, when a tortoise receives a painful electric shock, instead of pulling away from the cause, it withdraws its head and limbs into its shell. In so doing, the shell remains in contact with the live wire, which results in the animal receiving continued shocks", Arnot explains. This leads to death from organ failure, direct damage to tissue due to heat or

electrolysis, or sun exposure once the animal has been disabled.

Dr Arnot has engaged with farmers in the Karoo, where tortoises used to be plentiful, to analyse this pressing problem. One farmer reflected on how there had been an abundance of tortoises when he started farming in the area ten years ago. Today, he is lucky if he sees one. Another farmer counted 128 dead tortoises along a 200 metre stretch of electric fence. Should the use of such fencing continue, tortoises in the wild will definitely become extinct in the country soon.

While there is no legislation in South Africa regarding the erection of electric fences and the impact this has on wildlife, there are some simple and effective solutions to prevent the appalling deaths of tortoises and other small animals. "Farmers and electric fence contractors can take steps to minimise electric fence mortalities among non-target species, while still ensuring that fences serve their intended purpose", Dr Arnot maintains.

Dr Arnot has worked with Steven Molteno of the global network, Local Governments for Sustainability, to raise awareness of the issue.

They have provided landowners with some simple solutions:

1. Height of tripwire

Raise the tripwire (or lowest live strand of the main fence) as high as possible, ideally to at least 250 millimetres. This means that most tortoises will not even brush against it. Only the largest specimens will come into contact with a tripwire 250 millimetres above the ground.

2. Distance of tripwire from fence

Set the tripwire 400 to 500 millimetres away from the main fence. This will only help if the tripwire is raised.

3. Rocky barrier

Place a physical barrier made from large rocks along the base of the fence. This rocky apron should be high enough to divert tortoises and other small animals away from the fence and prevent them from coming into contact with live electric wires. It will also go a long way towards preventing predators and other species from digging under the fence. It could even obviate the need for a

tripwire. This is an inexpensive option, especially for farm with rocky terrain.

4. Switch off during the day

If the purpose of the fence is to deter predators and keep them away from other wildlife or livestock, remember that many predators are nocturnal or hunt at night. Tortoises, by contrast, are strictly diurnal. This means that farmers can install duty cycle or timer switches on fences, which turn off the electric current during daylight hours when tortoises are active, and turn it on again at night when predators hunt. Using such a timer could also help to reduce electricity costs by up to 50%.

5. Use mesh lower down

Another option is to use a mesh wire barrier such as diamond mesh on the lower section of the fence, instead of installing electrified wires close to the ground. Such mesh fences inhibit the movement of small predators and prevent them from getting in under the fence, especially if combined with a rock-packed apron. Live wires can still be used higher up on the fence.

Other threats jeopardising the tortoise population in South Africa are fires, road kill, the pet trade and the muti trade. While natural fires have always occurred, the increase in fires today is largely attributed to humans. Poor land management, starting fires and not being able to control them and other irresponsible practices are having devastating effects on wildlife that is unable to escape in time. Tortoises often get killed on roads, particularly after rain when they venture onto roads for water. Both the muti and pet trades are illegal practices resulting in a decrease in the tortoise population. People sometimes ignorantly remove tortoises from the wild and take them to areas that differ in vegetation and climate, and where they are unable to adapt and cannot survive.

There is a dearth of research on this animal in South Africa, and funding for research is limited because tortoises are not regarded as a popular research species choice. Dr Arnot hopes to raise awareness about the dwindling tortoise numbers in South Africa.

"I WANNA BE A VET" WEEKEND 2017

Thandekile Maseko (OPVSC Chairperson 2016/17)

Earlier this year, during the weekend of 31 March to 2 April 2017, the Onderstepoort Paraveterinary and Veterinary Student Committee (OPVSC), in collaboration with the Faculty and JuniorTukkie, hosted over 100 bright young school learners with a keen interest in studying veterinary science.

The "I Wanna Be A Vet" initiative was started by the OPVSC in 2014 with the aim of affording previously disadvantaged, yet academically strong learners from across the country the opportunity of coming to the Faculty to expose them to the field. This contributes to them making an informed decision to apply for and study veterinary science. With the assistance of JuniorTukkie and Hills Pet Nutrition, guided by the Faculty and the OPVSC, the project was expanded to over 100 learners in Grade 11 and Grade 12 this year; and what a glorious event it was!

The learners arrived on Friday afternoon, and were welcomed by members of the OPVSC and thus began the highly informative and action-packed weekend. The afternoon kicked off with an information session



The "I Wanna Be A Vet" weekend has, once again, inspired many learners to pursue a career in veterinary science.

concerning the application and admission process involved in selecting the next generation of veterinarians and veterinary nurses. This was followed by a guided tour of the Onderstepoort campus, including the Onderstepoort Veterinary Academic Hospital. It was a truly unique opportunity that enabled the learners to hear about first-hand experiences from students that have walked this challenging, yet immensely fulfilling road, which they too aspire to embark on in the near future. Learners were also shown the anatomy lab, the toxic garden, the residence, Huis Onderstepoort, and the skills labs, to name but a few of the iconic and unique features of the Onderstepoort campus.

Saturday kicked off as an exciting day filled with practical interactions with the animals at the Faculty. These interactive sessions ranged from hands-on practicals, taught in the second year of veterinary science as part of the introductory veterinary ethology module (VET 200), and presented by fourth-year veterinary

science students. These included cattle, sheep, pigs and horses and even a special pathology dissection presented by Prof Neil Duncan from the Pathology Section.

Learners thoroughly enjoyed the rare opportunity to be veterinary science students for the day, and the day was concluded with a wonderful braai, organised and proudly sponsored by Hills Pet Nutrition. The OPVSC received many positive reviews of the weekend and many learners wished the weekend could have been longer; but alas, all good things must come to an end. We can rest assured that many have been inspired and were encouraged to apply to study veterinary science. We believe that the future of veterinary science is bright and filled with many committed, inspiring and intelligent young future veterinarians.

The OPVSC would like to thank their members, who worked tirelessly to ensure that the learners were well taken care of and looked after. A special word of thanks to the

Faculty, and specifically Prof Dietmar Holm, Deputy Dean: Teaching and Learning, and Senior Student Advisor, Rirhandzu Golele, for their continued support of this initiative. We also want to thank JuniorTukkie's Petrus Lombard and their partners, ROARR Leadership Training, for their support, as well as Hills Pet Nutrition for their sponsorship and continued support of the veterinary profession and their commitment to ensuring that the future veterinarians were well fed, much like the many healthy and satisfied cats and dogs across the world.



The learners had the opportunity for hands-on interaction with the animals on campus.

Minimally invasive methods make surgery safer for Africa's big cats

By Louise de Bruin

In most medical success stories, one would expect to hear about procedures first being successfully tested on animals before they are applied in the human realm of medicine.

However, Prof Marthinus Hartman's breakthrough in the field of veterinary surgery was inspired by specific procedures carried out on humans when, about a decade ago, he became the first veterinary surgeon in South Africa to perform laparoscopic sterilisation on lions. This form of surgery has been so successful that he has since developed the technique and can now also perform single-incision laparoscopic surgery on cheetahs and leopards.

The idea of performing laparoscopic surgery on animals developed from Prof Hartman's love for wildlife and his

interest in minimally invasive surgery. Since traditional forms of permanent sterilisation of wildlife often result in post-operative complications, he sought methods that would require smaller surgical incisions, would be less painful for the animal and also offer a quicker recovery time.

While he was developing this form of surgery, the outcry against canned lion hunting in South Africa intensified. Canned lion hunting refers to a practice where lions are bred in captivity for the specific purpose of being hunted, which is highly unethical. The public objection

to this practice resulted in a reduced market and Hartman, who wanted to ensure that captive lion population numbers were controlled in the best way possible, saw permanent sterilisation as the best solution.

Considering the negative aspects of traditional sterilisation, he was inspired by permanent sterilisation techniques used in women and developed two techniques for use on lions: laparoscopic ovariectomy and salpingectomy.

Laparoscopy is a surgical procedure during which a thin, lighted scope



Considering salpingectomy in women, Prof Hartman developed a similar technique for lions by simply cutting the Fallopian tubes and leaving the ovaries in order to retain the hormonal balance necessary for maintaining the hierarchical structure in prides.

is inserted through a tiny incision in the abdomen to perform surgery. Ovariectomy is the surgical removal of the ovaries, and salpingectomy is the surgical cutting of the Fallopian tubes. These techniques made it possible to perform sterilisation by making only a very small incision of between five and ten millimetres, which mitigates post-operative complications.

Hartman strayed from conventional techniques yet again with his laparoscopic technique when he started to conduct procedures that removed only the ovaries. For decades, it was advocated that the uterus (of dogs in particular) must be removed together with the ovaries because of the perception that, if the uterus was left behind, it would be predisposed to a condition known as pyometra. Hartman's techniques proved successful and safe without showing any increased negative effects on the uterus compared to other contraceptive techniques. These techniques offered many advantages and the lionesses recovered very quickly. Existing research proved that the levels of glucose and cortisol in the blood are much lower during this form of surgery, which confirmed that this technique places less stress on the lioness' body. Surgery time is also significantly shorter than when traditional procedures are performed, with an ovariectomy taking about 67 minutes in adult lionesses and 24 minutes in cheetahs.

Always trying to improve his surgical technique and reduce the effects on the animal, Hartman began to

wonder whether surgeons should be removing the ovaries of wild animals at all. Ovaries produce the hormones oestrogen and progesterone in females and therefore inevitably play a fundamental role in social dynamics and the behaviour of animals. Lions are pride animals that live in groups with a hierarchical structure. If this structure is altered in any way, it could alter the dynamics in the pride, with possible negative effects.

Considering salpingectomy in women, Hartman developed a similar technique for lions by simply cutting the Fallopian tubes and leaving the ovaries in order to retain the hormonal balance. This proved an even quicker procedure, taking about 47 minutes in adult lionesses, 19 minutes in cheetahs and 30 minutes in leopards. Trans-abdominal ultrasound was used during both procedures to examine the reproductive tract and to compare findings with laparoscopic data.

Hartman explains that the problem of containing wild animals in enclosed areas is that they have to be managed properly, and population control is key.

Recent amendments to Namibian legislation require the permanent sterilisation of all captive female predators. Upon hearing about Hartman's sterilisation technique for lions, Namibian organisations invited him to conduct a first-ever procedure – laparoscopic surgery performed on cheetahs. He followed the same procedures in these slightly

more solitary females and published the findings. Despite the noticeable difference in size (where a mature lioness weighs approximately 140 kilograms and a cheetah only about 33 kilograms) and the fact that cheetahs have more slender abdominal walls, there is a strong similarity between the reproductive organs of the two species.

"The decision regarding the most appropriate type of laparoscopic technique to use is largely dependent on the form of captivity and the animal's social structure", Hartman explained. The method of population control or contraception needs to be tailored to each individual animal's unique situation, which may vary from being a solitary leopard or cheetah somewhere in a zoo to being a member of a pride of lions in a larger conservation area.

Prof Hartman's research continues and he is now looking at the effects of different types of sterilisation on the uterine health of cheetahs. His findings will reveal whether not removing the ovaries in cheetahs poses any risk for the uterus. He suspects that there will be no increased risk.



Prof Marthinus Hartman is a specialist veterinary surgeon in the Small Animal Surgery Unit of the Department of Companion Animal Clinical Studies.

Autumn graduation

The Faculty has reason to be proud with another 12 successful new PhD graduates who were awarded their doctoral degrees at this year's autumn graduation ceremony.



Here, the new graduates celebrate after the annual doctoral celebration ceremony a day before graduation with supervisors and heads of departments, as well as the Dean, Prof Darrell Abernethy, Deputy Dean: Research and Postgraduate Studies, Prof Vinny Naidoo and Deputy Dean: Teaching and Learning, Prof Dietmar Holm. Dr Carolynne Joonè was absent.



This year, two Faculty staff members received postgraduate degrees during the autumn graduation ceremony of the Faculty of Education.

Eugene Machimana, Coordinator: Community Engagement in the Faculty received his PhD in learning support, guidance and counseling. His thesis was titled: Retrospective experiences of a rural school partnership: informing global citizenship as a higher education agenda.

Cornelia Hanekom, clinical lecturer in diagnostic imaging in the Department of Companion Animal Clinical Studies, received her BEd Honors in assessment and quality assurance in education and training with distinction, SRC academic honorary colours and a certificate of merit. Congratulations to both of them!

Student international **'One Health'** day competition: national winners and international special recognition prize

The first annual global One Health day took place on 3 November 2016. One Health-themed events took place internationally, which included more than 150 events in 37 countries with 17 events organized in five African countries, namely South Africa, Kenya, Ethiopia, Rwanda and Uganda. Students could enter the international student One Health day competition with strict criteria regarding multidisciplinary involvement of students.



Postgraduate students under the leadership of Krpasha Govindasamy at the faculties of Veterinary Science, Health Sciences and Natural and Agricultural Sciences of University of Pretoria hosted the Zoonotic Disease Awareness Day on 11 November 2016 in Gauteng, together with the University of South Africa and Tswana University of Technology.

A total of 150 stakeholders of zoonotic disease control from different disciplines gathered at Suikerbosrand Nature Reserve for a day of capacity-building to detect and respond to eight selected zoonotic diseases of public health importance (brucellosis, leptospirosis, rabies, cysticercosis, Rift Valley Fever, anthrax and West Nile virus). Stakeholders were informed on One Health and awareness material was distributed.

The idea for awareness material was initiated from the anthrax and brucellosis research group of Henriette van Heerden in the Department of Tropical Diseases, where the researchers found that very limited awareness material of zoonotic diseases was available.



User-friendly visual material help put the Faculty's One Health project on the map. View them from www.up.ac.za/audiovisual-products.

The zoonotic awareness material development was the obvious next step with the announcement of the international student One Health day competition, which could be used by the different research groups or projects.

Researchers involved in different zoonotic disease projects at different faculties at the University of Pretoria provided information on eight zoonotic diseases. The Faculty's graphic designer, Estelle Mayhew, designed user-friendly posters, brochures and coffee mugs for the One Health day and as awareness material for other projects.

The multidiscipline and multi-university student group that was responsible for the Zoonotic Disease Awareness Day in Gauteng won the South Africa (national) student-led One Health-initiative competition and was awarded a special recognition prize for the international student One Health day. The project included K Govindasamy, A Coetzer, T Scott, L Snyman, L de Vries, J Steyn, B Ledwaba, C van Loggerenberg, A Hassim, F Kolo, B Dogonyaro, P Sichewo, H Geyer, L Maki, A Jeenah, N Mthetwa, Z Ntuli, C Greene, F Shikwanbana and K Kgothatso.

Faculty obtains brand new feed mixer with bale handler from Keenan- Alltech

This year, the Faculty has managed to replace its old vertical mixer with a brand new feed mixer, the Alltech Keenan MF320 with bale handler.

During the decision-making process, it became clear that a mobile mixer that would allow for the feeding of animals in the camps and a feedlot facility was required. The mixer needed to be able to handle large round bales and adequately mix different load sizes. A Total Mixed Ration (TMR), with the feed reduced to a small particle size, would also reduce wastage.

We thank Alltech Keenan for accommodating the Faculty and negotiating an attractive price and Facilities Manager, Dr Paul van Dam, who supported the project and motivated for funding.



The Alltech Keenan MF320 with bale handler

Faculty says **goodbye** to one of the library's most loved and respected stalwarts

On Friday 28 April, the Faculty bid farewell to Antoinette Lourens, senior information specialist of the Jotello F Soga Library.

Antoinette started her library career as an hourly-appointed staff member responsible for interlibrary loans in November 1991. In 1997 she was appointed on a permanent, full-time basis and completed her degree in Information Science at Unisa in 2003.

Antoinette needs no introduction to the staff and students of Onderstepoort campus, as she was truly an exceptional person with extraordinary skills and abilities whom the library and its clients will miss dearly.

At her farewell function, colleagues and clients described her as a warm-hearted, enthusiastic and authentic person who never avoided any challenges that came her way.

Her final message to her colleagues and clients was that she had an extremely enriching work experience at the Faculty and that she will always keep her fond memories alive.

We wish Antoinette a rewarding retirement.



Veterinarian, writer, lecturer, poet: Elrien Scheepers



Elrien's bookshelf

Dr Elrien Scheepers has published numerous poems for toddlers, pre-teens and teenagers in eight anthologies from 2012 to 2014, in addition to the titles listed below. She specialises in writing for the educational market.

Poems:

- "Ek droom oor jou" in *Toulopers* (2010)
- "Ysland" in *Sterkykers* (2016)
- "'n Flouerige Maan" in *Sterkykers* (2016)
- "Biologieklas" in *Sterkykers* (2016)

Stories:

- "Die Wit Leeu van Skukuza" – translated into all official languages except English (2012)
- "Die Draakprinse" – accepted onto the National Catalogue of Textbooks for Grade 7 (2012)
- Three thriller stories in the short story collection "Skool is 'n Riller" (2017)

Elrien has also been commissioned to write short stories for Grade 1, dramas for Grade 1, poems for Grade 1 and Grade 6 and longer stories for Grade 6 by the educational publisher Shuter & Shooter. These will be published in 2017 and 2018. This year, she is writing a detective novel and science fiction short stories, for a mainstream publisher.

How did your interest in writing begin, and why for children?

I have loved reading since childhood. I listed "reading" as my hobby in my friends' autograph books, even though I thought it was really a boring little hobby. My parents read to us and later on took us to the library once a week; I was allowed to read whatever I wanted to – I read thick and daring novels for adults by Konsalik by the time I was eleven. I still read a lot. The writer was born in a dusty garage when I found my grandfather's "Die Swart Luiperd" books, and was fascinated by a world of pale skulls dangling from the wrists of a wicked princess and flying jackal with poisonous teeth. I need to weave worlds and work magic with words, otherwise I am not totally happy. The only Afrikaans online writing course I could find was on writing for children, and now it is what I do. It is actually more challenging to write for children, as they are not as forgiving as adult readers. If your story is boring, they will simply stop reading.

When do you get time to write?

Apart from the fact that there is very little time, I am also blatantly lazy. "All

writers are reluctant to write", they say. A deadline works. I do not "wait for inspiration", because then I will never write. If I am seriously writing, I write three evenings a week and Sundays, at a certain word count per week. When I am writing poems, I get up earlier, light a candle, sit down and bleed on demand. What people do not know, is that half the writing process involves intense thinking about plots and characters, and that I can do anywhere; while washing dishes or during boring meetings.

Can anybody write?

You can only write if you really want to and if it is a passion. It is you alone, fighting the empty page in front of you. It is much easier not to write than it is to write, even if you really want to. You need to do a writing course to learn technique. You need to read voraciously so that you can learn from others. You cannot write if you are impatient, as you have to be very accepting of your insecurities and writing failures, and patient with both the long process of creating a story and the even longer publishing

process. I waited a year to hear that my first poem was accepted. You have to believe that you are actually able to write. Without that, you simply cannot get a word down on paper.

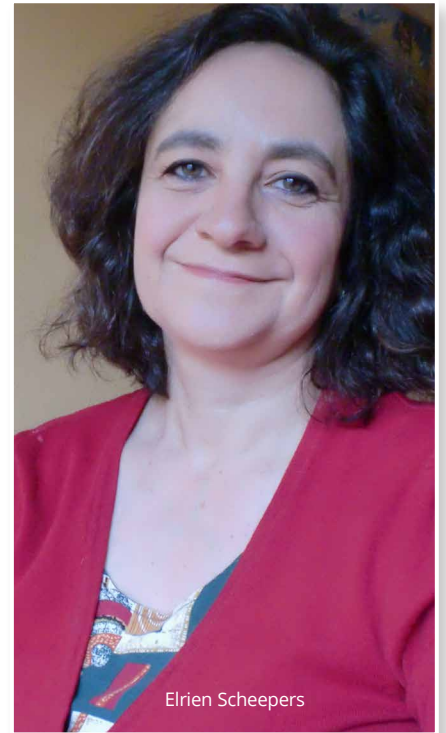
Where do you get ideas?

"Ideas are everywhere". I could not understand why writers say that; it sounded really clichéd and untrue. Now I know it is the truth. In exactly the same way that a vet looks at a dog and sees a heart and muscles and red blood cells with Babesia parasites, a writer looks at the world and sees new ideas. If a young girl stands next to me with red swollen eyes and a fresh bruise on her arm, I actually notice her and the writer then wonders about her. *Did her boyfriend do this to her? Why? Will she leave him, and if not, why not?* And that is the start of a story. So

writers never run out of story ideas. Finding time to turn ideas into stories is the actual problem.

Would you rather be a writer than a veterinarian?

To quote Anton Chekhov: "Medicine is my lawful wife and literature my mistress; when I get tired of one, I spend the night with the other." So I am very lucky indeed, to have both these worlds. I write because I have no choice in the matter. I probably hate writing, as it is less than five percent of the time nice or easy. But where the addictive part comes in, where it is the mistress I will never get tired of, is when you have finished writing, and it works so well, after all the struggling and frustration – when I know that it will bring joy and wonder to my young readers.



Elrien Scheepers

VETSCO and Royal Canin reach out to Itereleng rural community

By Megan Gibbs

(Third-year BVSc student and Veterinary Public Health Officer for International Veterinary Student Association, South Africa)

The Veterinary Student Community Outreach Organisation (VETSCO) launched their outreach programme for 2017 on 4 March in the rural community of Itereleng, Laudium, Gauteng. This was VETSCO's first visit to the area; bringing pet healthcare to the community.

VETSCO is a programme organised by veterinary students at Onderstepoort with the purpose of exposing students to different aspects of the profession, namely rural practice and primary animal health care in impoverished areas in South Africa.

The organisation also aims to inspire confidence in our future veterinary professionals and para-professionals, and abolish fears associated with working with animals and people in areas where funds are limited. The overall vision for the organisation is to create awareness about animal health issues in township communities by educating the youth at local schools, as

well as providing free primary health care to all animals within the area. This includes vaccinations, deworming, tick and flea control and sterilisations.

It took careful planning by the committee and lengthy communication with community leaders to prepare for the day. The initiative involved 26 veterinary and veterinary nursing students in various academic years at Onderstepoort.

The project team was managed by the passionate Dr Hermien Viljoen, community veterinarian at the Gauteng Department of Agriculture and Rural Development.

Arriving at a large informal housing community, VETSCO set up an education point, pharmacy and examination stations in the local park and the students were separated into task teams. The first mission was to announce the arrival of VETSCO. The team walked through the community advertising their services to all dog and cat owners, handing out pamphlets to encourage their participation. Considering it was the first outreach to this area the response by the community was relatively limited, with interest growing as the day went on.

Children who arrived at the park were engaged with colouring-in

activities, focussing on how to take care of a pet. Face painting was also popular and kept the students busy. The education portfolio delivered an interactive talk in their home language on Rabies.

By the end of the talk, the children were able to answer questions on the transmission and prevention of Rabies, to the delight of the organisers, who realised their efforts were being well received. This is a leap forward in creating awareness and responsible pet ownership in these communities.

Pet owners who brought their pets to the park were seen to in an orderly manner. They filled out their details on a vaccination card and proceeded to a full clinical examination of the animals. VETSCO assisted 21 dogs, of which many were puppies, and three cats. Rabies and 5-in-1 vaccinations, deworming (Drontal) and dipping (Bayticol) were administered.

VETSCO would like to thank the IVSA's World Rabies Day Campaign 2016 and Royal Canin® for the generous sponsorship of transport to and from the location on the day and for the

pet food, which we were able to hand out to pet owners in the community for this outreach. More than 100 bags of puppy food were supplied by Royal Canin® for this initiative along with some treats.

Dr Michelle Harman, Scientific Communications Manager at Royal Canin® South Africa says that, "Critical to the success of outreach programmes is support from the veterinary industry. This is where we, as a key role-player in the maintenance of animal health and well-being, can play an important part in uplifting the lives of the animals in these areas. We are delighted that

VETSCO approached us to be involved in this initiative and there is no doubt that the community as a whole benefited hugely. We were thrilled to witness the success of it."

As a member of the Pet Food Industry of South Africa (PFI), Royal Canin® provides precise scientific nutrition for cats and dogs, including veterinary prescribed diets. Royal Canin® is represented globally as a key player in helping to improve the quality of life of pets worldwide.

For more information contact Royal Canin® on 0860 630 063 or emailinfo@royalcanin.com.



All the role-players involved in the Itereleng outreach programme succeeded in making a difference in the lives of pets and their owners.

OP Skills Laboratory donates conference bags

During the planning stages of the International Veterinary Simulation in Teaching Conference (InVeST) 2017, Dr Annett Annandale and Dr Elrien Scheepers from the Onderstepoort Skills Laboratory, decided to put their used conference bags from previous conference to good use. All prospective conference delegates were therefore asked to bring used conference bags along as a donation to Onderstepoort Primary School, just down the road from our campus.

The response from InVeST delegates was excellent. One delegate even paid excess luggage fees so that she could fly over with bags, crayons and stickers that her 12-year-old daughter collected among her school friends.

After making arrangements with the principal of Onderstepoort Primary



Loads of donations have been collected for this worthy cause.



The organisers, Annett, Elrien and San with some of the children from Onderstepoort Primary School.

School, Annett, Elrien and San Fick went to the school on 14 June. They were met by 370 enthusiastic school children and a few very friendly teachers. Each class was visited, from Grade R to Grade 7.

The children were very excited to each receive a few sweets, which were kept by the teachers for them until after lunch. They greeted their visitors with rhymes and there was lots of hand-clapping, happy smiles and waves.

Fifty used conference bags, 400 A4 exercise books, 800 pens and pencils, coloring books, puzzles, small toys and blankets were handed over to the teachers. The blankets will specifically be used by the small crèche, so that children can be kept warm when they sit still during reading time or take naps during the day. The principal said that the conference bags will be used to reward any child that may achieve a set goal, whether academic or in sports.

In the words of the principal:

“Dear Dr, I, Mr M.J. Nyathi, as the principal of Onderstepoort Primary School, would like to thank you for the donation received by the school from you by my second in charge, Mrs Magoai.

May the Almighty Bless each and every person who was involved in the project and those that contributed to ensure that you support our learners with warm blankets, stationery and bags to carry their books to school.

Thank you so much.”

The children were very excited by their gifts



The Faculty's extended Madiba Day project for this year was a continuation of the conference bag project. Collections took place from 17 to 31 July and the compilation of packs happened during the week of 1 to 4 August. A total of 130 items were donated to Onderstepoort Primary School.

OP 4 MADIBA



Meet Meisie Malatse, an animal caretaker in the bird and exotic animal hospital of the Onderstepoort Veterinary Academic Hospital (OVAH), who describes her continuous tenure at the Faculty as fourteen wonderful years. *OP News* conducted a short interview with Meisie to find out more about her and her job.

Did you always have an interest in working with animals?

Yes, I spent most of my childhood on a farm. I would feed them from early stages, for example from a baby chicken stage up to a full grown chicken. I also worked at a private practice in the Kolonnade Centre as a dog groomer from September 1995 for three months and was later promoted to an animal caretaker until I joined OVAH's bird and exotic animal clinic in 2003, where I am still working.

How does a typical, normal day at the bird and exotic animal hospital begin and end for you?

In the morning, I usually perform certain treatment procedures on the

animals. In most cases, when one of our vets have not arrived at the clinic yet, I am responsible for the wellbeing of our patients and for dealing with clients. Our work is both challenging and interesting; you experience something new every day.

What advice could you give young people who want to do what you do?

I would advise them to study hard towards their desired qualification. I never got the opportunity to get a formal education, but I've managed to earn experience and make a success out of my career. Animals are interesting and are an important part of nature. I would advise more people to choose a career in this field.



What do you enjoy the most about your work at OVAH?

I enjoy every moment of my job, from the time a sick animal comes into the clinic. I strive towards seeing it healthy and strong again.

What do you personally take from your job as positive experiences?

I get to help owners and their animals on a regular basis and it obviously presents different challenges, therefore, I learn a lot every day.



Department of Production Animal Studies hosts a pig farmers day

The Department of Production Animal Studies recently organised and hosted a pig farmer's day for developing pig farmers and other stakeholders. The event took place on 16 August 2017 and was dedicated to the theme "How to make money in pig farming".

Welcoming the attendees to the workshop, the Head of Department of Production Animal Studies, Dr Rebone Moerane, emphasised the importance of public-private partnerships for improving livestock production and the effective training of veterinary science students at the Faculty of Veterinary Science. He also acknowledged the contributions of pig in addressing the food security situation of the country.

Dr Japhta M Mokoale, one of the organisers of the event, described its aim as the sharing of information and knowledge with developing pig farmers (50–250 sow units) in and around Gauteng specifically, with a view to make their farming enterprises productive, sustainable and profitable. The developing pig farmers are plagued by a number of challenges, which include land, infrastructure, markets, finance,

production limiting diseases, farm nutrition and basic knowledge of pig farming.

The successful event was attended by about 40 developing pig farmers in and around Gauteng.

Dr Chris Carrington of the Department of Production Animal Studies emphasised the fact that the pig farming is a numbers game; farmers need to feed their animals a balanced ration. His colleague, Dr Tom Spencer (pig veterinary specialist), further discussed the importance of budgeting for capital and variable costs, and reiterated that farmers need to pay themselves decent salaries from their returns on investment. Dr Maygan Jennings from Zoetis discussed the importance of vaccinating pigs against most production-limiting diseases, for example porcine parvovirus, Leptospirosis and Erysipelas. She also discussed other important reproductive diseases that affect the pig industry and how they can be controlled.

Ms Kgadi Senyatsi from the South African Pork Producers Organisation (SAPPO) shared some information about the history and the role of the organisation in terms of assisting developing pig farmers to become



The Pig Farmer's Day proved a valuable learning experience for pig farmers in and around Gauteng.

more sustainable and viable in their farming businesses. This is done by ensuring that business plans, market access and veterinary mentorship programmes continue without failure.

Other important role-players that attended the event included representatives from the Pig Vet Society (PVS), Gauteng Department of Agriculture and Rural Development (GDARD), Community State Veterinarians (CSV), Pharmaceutical Companies (Zoetis, Elanco, Boehringer Ingelheim and F10 Health and Hygiene), Tshwane

University of Technology (TUT) and, most importantly, the Department of Production Animal Studies of the Faculty. The Department, through the office of the Head of Department, Dr Rebone Moerane, sponsored the event. Dr Mokoelé was assisted by Ms Lana Botha and Ms Sandra Wilkinson in organising the event.

The Department trusts that this public-private partnership can continue and yield more fruit in terms of ensuring that developing pig farmers become commercial pig farmers.



Attendees of the Pig Farmer's Day.