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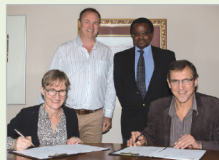


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Thank you to all
our participating
teams, as well as to
the companies that
pledged their support





UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

AGRI SCIENCES WETENSKAPPE

Drie Agri-dosente kry hul PhD-grade

Drie dosente tel onder die meer as 220 nuwe graduandi van die Fakulteit AgriWetenskappe. Hulle is dr Pierre Ackerman, voorsitter van die Departement Bos- en Houtkunde, dr Erna Blancaquert van die Departement Wingerden Wynkunde en dr Estelle Kempen van die Departement Agronomie. Dié drie het PhD-grade in onderskeidelik Bosbou en Natuurlike Hulpbronwetenskap, Wingerdkunde en Agromonie ontvang.



Elf van AgriWetenskappe se nuwe doktore saam met prof Danie Brink, Wnd Dekaan (links agter). Langs hom (vlnr) is: dr Jarred Knapp, Luther van der Mescht, Mathys Strydom, Venancio Imbayarwo-Chikosi en Pierre Ackerman. Voor (vlnr) is dr Adina Bosch, Liesel Laubscher, Erna Blancaquert, Estelle Kempen, Sumaya Israel en Justin Lashbrooke.

Ackerman het die voorsieningsketting in die SA-bosboubedryf ondersoek; Blancaquert het die invloed van lig en temperatuur op Cabernet Sauvignon-produksie vergelyk en Kempen het studies gedoen oor die opname van water en voedingstowwe deur tamaties wat in kweekhuise danksy grondlose sisteme, soos hidroponiese sisteme, geproduseer word.

Die ander ontvangers van PhD-grade in die Fakulteit is: Adine Bosch (Voedselwetenskap), Venancio Imbayarwo-Chikosi (Veekundige Wetenskappe), Sumaya Israel (Grondkunde), Justin Lashbrooke (Wynbiotegnologie), Liesel Laubscher (Veekundige Wetenskappe), Jarred Lee Knapp (Akwakultuur), Ntanganedzeni Mapholi (Veekundige Wetenskappe), Nokwazi Mbili (Plantpatologie), Asanda Mditshwa (Hortologie), Mathys Strydom (Bewaringsekologie) en Luther van der Mescht (Bewaringsekologie).

Altesaam 168 voorgaande studente en 62 nagraadse studente wat landbouverwante rigtings gevolg het, het nou pas in Desember gradueer.

Diegene wat hulle meestersgrade in landbouverwante studierigtings cum laude verwerf het, is: Lara Alexander, Aleksandra Angala, Johann Boonzaai, Anri Botha, Muhammed Gardee, Pilile Hlomendlini, Johannes le Roux, Deidre Odendaal, Jessica Rochefort, Ruben Schoombie, Vernon Steyn, Jacobus Theron, Mathew van den Honert en Swys Viviers.



Die Fakulteit se medaljewenners van 2015 saam met prof Danie Brink, Wnd Dekaan (links) – hulle is (vlnr) Elreza Marcus, Illana Mostert, Noelle Steyn en Traven Flynn.

Hortoloog, prof Karen Theron (foto), het 'n Kanseliertoekening van die US ontvang ter erkenning vir haar bydrae as leier en navorser die afgelope 30 jaar aan die nasionale hortologiebedryf. Dit is tydens die pasafgelope gradeplegtigheid aan haar oorhandig. As dosent het sy grondliggende kursusse in sagtevrugteverbouing ontwikkel en reeds 78 nagraadse studente opgelei. Haar navorsingsuitsette word gekenmerk deur 'n gebalanseerde vermenging van fundamentele wetenskap- en praktiese toepaslikheid. Sy beklee sedert 2014 die HORTGRO Science/US-navorsingsleerstoel in Toegepaste Vooroes Sagtevrugte-navorsing.



December graduates purchase unique 'Class of 2015 wines'

Stellenbosch University's own wine cellar sold specially labelled celebratory Graduandi 2015 wines during the recent December graduation week. This was the very first time that a memento of this nature had being made available to graduates. Wine can still be ordered from the cellar.

The historic Stellenbosch University (SU) emblem, as well as the 2015 graduation year, is featured on each bottle of Die Laan and Rooiplein Maties wines from the University's Welgevallen Cellar. And incidentally, its 2012 Die Laan Pinotage bagged a silver Veritas award last year. SU is the only university in South Africa to have its own wine cellar.

To place orders, contact Riaan Wassung (winesales@sun.ac.za), at the Welgevallen Cellar for more information, or visit the Facebook page, "Die Laan Wines" at <https://www.facebook.com/DieLaanWines/>.

Purchases can be made directly from the cellar on weekdays from 08:30 to 18:00. It is situated in Suidwal Street between Paul Roos Gymnasium and the Coetzenburg Stadium. It is, however, advisable to place orders beforehand. Payment can be made electronically (by EFT) – card and cash facilities are also available at the cellar.

Procedure for purchases and orders: • Complete the order form electronically and supply your name, surname and student number; • Indicate which wines and what amounts thereof you wish to order; • Fill in the total amount; • Do the payment per EFT and use R1 542 (the cost centre number) and your surname as reference; • Send the order form and proof of payment electronically to winesales@sun.ac.za; • Indicate on which day the wine will be collected at the cellar.



Dekaan deur Agri SA vereer



Prof Mohammad Karaan, Dekaan van die Fakulteit AgriWetenskappe (regs) en van die ander ontvangers van eerbewyse van Agri SA

Foto: Alani Janeke

Prof Mohammad Karaan, dekaan van die Fakulteit AgriWetenskappe, het 'n eretoekening van die Hoofraad van Agri SA ontvang.

Die oorkonde wat by die geleentheid uitgelees is, lui onder meer: "Die waardigheid waarmee hy sy verpligtinge as professionele persoon in die landbousektor verrig, en die wyse waarop hy sy waardes uiteleef, is 'n inspirasie en dra tot 'n positiewe beeld van die landbousektor by."

Karaan se buitengewone bydrae tot die landbousektor as onder meer lid van die Nasionale Beplanningskommissie word met hierdie verering erken. Hy is ook lof toegeswaai vir sy bydrae tot grondhervorming en beleid rondom landelike ontwikkeling, as adviseur vir talle openbare sektorinstellings en vir sy insig en geesdrif as dekaan en lid van verskeie forums en professionele liggame.

Die toekennings word jaarliks deur Agri SA se Hoofraad gedoen om mense te bedank vir hulle uitsonderlike bydrae aan dié organisasie en die landbousektor. 'n Goue lapelwep is onder meer ook aan Karaan oorhandig.

High profile visit for Agronomy

During a week in which student protests erupted nationally over proposed fee hikes at various universities (including Stellenbosch) the Department of Agronomy welcomed Mr Senzeni Zokwana, the minister of Agriculture, Forestry and Fisheries in their midst. The minister has been serving in this portfolio since May 2014.

Prof Nick Kotzé, the departmental chairperson, had some time ago extended an open invitation but the visit still came as quite a surprise

as very few in the Department had any inkling that it would materialise so suddenly.

The Minister highlighted the persistent knowledge gaps amongst local farmers in rural areas that seemingly impede a successful crop production. The Department of Agronomy is committed to closer collaboration on proposed projects in the rural regions of especially the Eastern Cape, for uplifting the communities in certain affected regions to facilitate their advancement from small scale subsis-

tence farmers to profitable farmers that endeavour to sell some of their produce to local markets as a means of creating a further income stream for their households. It is widely recognised that such farmers have to deal with various issues pertaining to production and that they often do not have enough purchasing power to buy the resources that they require for optimal production.

Some of the discussions with the Minister evolved around the compilation of a practical manual for small



From left to right: Prof Andre Agenbag, Dr Pieter Swanepoel, Mr Sibongiseni Silwana, Minister Senzeni Zokwana, Prof Nick Kotzé (Departmental Head, Agronomy) and Dr PJ Pieterse.

scale farmers – in their home language – that will place appropriate and invaluable information at their fingertips when dealing with complex matters of crop production.

Help eeufes-boek saamstel

Vieringe rondom die honderdjarige bestaan van landbou-onderrig op Stellenbosch vind in 2017 plaas. Die Universiteit Stellenbosch het amptelik op 2 April 1918 tot stand gekom.

Om dié besondere mylpaal te gedenk, beplan die Fakulteit AgriWetenskappe 'n spesiale publikasie. "Ons wil graag 'n grootse poging hiervan maak en 'n behoorlike historiese oorsig oor ons bedrywigheede die afgelope 100 jaar vir die nageslag te kan saamstel," sê prof Danie Brink, AgriWetenskappe se waarnemende dekaan.

Om 'n sukses daarvan te maak, het ons die hulp van ons getroue oudstudente nodig. Dalk het jy besonderse klasfoto's beskikbaar, of 'n foto van 'n dosent of twee besig met 'n proef? Laat weet vir ons oor hoogtepunte wat vir jou uitgestaan het, of oor nuwigheede gedurende jou tyd in die fakulteit. Watter eerstes onthou jy, en watter mense het verder gegaan om 'n impak op die bedryf en wye te hê?

Blaai dus hierdie vakansie weer 'n slag deur jou ou studente-albums, en stuur vir ons 'n foto of twee uit jou studentedae – agric@sun.ac.za is die e-posadres waarheen dit gestuur moet word.

• Dis verkieslik dat: foto's elektronies ontvang word; die resoluusie daarvan goed is; oorspronklike foto's eers geskandeer en dan per e-pos aangestuur word; vergesel wees van 'n kort onderskrif ter verduideliking en die name (voornamen en vanne – nie voorletters nie) van die mense wat daarop verskyn in volgorde.

• Stuur alle foto's en bydraes nie later nie as Februarie 2016 na agric@sun.ac.za

Stellenbosch and IITA sign MoU

A long-standing working relationship between Stellenbosch University (SU) and the International Institute of Tropical Agriculture (IITA) has been formalised with the signing of a Memorandum of Understanding (MoU). The agreement cements efforts focusing on student training and research collaboration in Africa.

SU staff members will be visiting IITA centres in 2016 to further establish and strengthen collaboration. In addition, an office will be made available to IITA staff who visit SU for research purposes. Three PhD students will do research in SU's Department of Plant Pathology, and will work under supervision of Prof Altus Viljoen, Dr George Mahuku (IITA) and Dr Brigitte Uwimana (IITA).

Two of the students will be working on banana Fusarium wilt, while the third will focus on Sigatoka diseases that also affect bananas. Their training will form part of a project focusing on banana farming by smallholder farmers in the Great Lakes region of Africa.

The IITA's Deputy Director General: Research for Development, Dr Ylva Hillbur, and the Director for the Southern Africa Regional Hub, Dr David Chikoye, visited SU recently where they met with staff and students of various departments in the Faculty of AgriSciences.

Through the MoU the two institutions have agreed to:

- Exchange scientific information and develop co-operative programmes and projects, especially in the areas of crop production, crop protection and crop improvement;
- Link IITA and SU scientists in the training of students and execution of joint projects;
- Have consultative meetings and staff visits between both institutions;
- Place and/or exchange students and staff;
- Exchange research materials, publications and other materials of common interest; and
- Share results of collaborative research in SU and IITA reports.



Pictured here during the signing of the MoU are (front from the left) Dr Ylva Hillbur of IITA and Prof Danie Brink. Standing (from the left) Prof Altus Viljoen and Dr David Chikoye of IITA.

One more agreement

The company Matanuska Mozambique has signed an agreement with plant disease experts from Stellenbosch University and the African Consortium for Foc TR4 (AC4TR4). Matanuska Mozambique owns one of two farms on which the fungi Foc TR4 that causes Fusarium wilt disease have been found in northern Mozambique. The disease has a devastating effect on export Cavendish banana plantations, and Foc TR4 could possibly also infect local varieties. The agreement formalises ongoing collaborative efforts to contain and manage the disease and to prevent its spread to other parts of Africa.

Cawthorn bags two prestigious international awards

Dr Donna-Mareé Cawthorn's name is in the news again.

In 2013 she made a huge splash with her influential exposé on meat product mislabelling (remember the donkey meat scandal?) and her on-going use of DNA barcoding to track seafood fraud in the country – both have led to changes in existing legislation and labelling requirements. This postdoctoral fellow of the SARCHI Chair in Meat Sciences in the Department of Animal Sciences (SU), has indeed pioneered a unique research trail over recent years.

In recognition of her contributions, Donna recently became the recipient of the prestigious Travel Award for Excellence in Socio-Economic Applications of DNA Barcoding followed shortly afterwards by the Genome Prize for Excellence in Socio-Economic Applications (\$1000) for her oral presentation entitled: 'Harnessing the Power of DNA barcoding to Detect and Deter Fish Mislabelling in South Africa'.



Samways patron for international journal

Prof Michael Samways of the Department of Conservation Ecology and Entomology has been appointed Patron for the *Journal of Insect Conservation*.

Insects play a major role in our lives, chewing, rasping and pollinating, and helping make the soils we depend on and pollinating wild and cultivated plants. Insect conservation was very much a fledgling science when the abovementioned international Springer publication, *Journal of Insect Conservation* first appeared in March 1997. Samways was a founding board member and then associate editor until 2015.

The journal is now a significant vehicle communicating insect conservation globally and he has now been appointed Patron for this journal. He continues to see it grow, and the field of insect conservation developing further both for the sake of insects themselves and for their continued maintenance so as to provide ecosystem services for the future of humankind.



KALENDER 2015/2016

- 2015
24 Des Universiteitskantoor sluit
2016
04 Jan Universiteitskantoor open
21 Jan Eerstejaars ontmoet die dekaan
25 Jan Registrasie van eerstejaars

Reflections on 2013 SASA programme

A reflections workshop was held recently concerning the Sustainable Agriculture South Africa (SASA) project which was launched in 2013 and presently has an academic programme running in its third year. It was attended by the Stellenbosch SASA staff, Conservation South Africa staff and students as well as the industrial stakeholders and programme partners from Wageningen University in the Netherlands.

AgriSciences' Acting Dean, Prof Danie Brink, also attended the workshop in a show of full support of the academic programme at faculty level. Said Prof Kennedy Dzama, SU's academic lead for the programme: "The two day workshop helped us to look back and reflect on the work

we had done over the past two years. Overall we are happy with where we are. The biggest milestone achieved so far is the graduation of the first intake of MSc students this December."

The workshop involved a presentation by Dr David Olivier, a postdoctoral fellow under the SASA programme, who gave an overview of Sustainable Agriculture in South Africa. Current MSc and PhD students also presented their research work with each presentation followed by critical inputs from the floor.

Prof Ken Giller of Wageningen University commended the multi-disciplinary approach taken by most studies in addressing a wide range of issues regarding sustainable agricultural



Delegates at the reflections workshop concerning the Sustainable Agriculture South Africa (SASA) project which was launched in 2013.

production. He did, however, suggest that commercial farmers need to become involved in sustainable transformation of farming systems as they represent the players in the agricultural industry. Issues raised were current smallholder demographics, particularly gender, and the implications these demographics have for the future of agriculture.



Attending the AASA conference is from left to right: Mathew Ayoola, Dr Khalid Salie, Richard Bwala, Raphael Talamuk, and Kolawole Akinshun.

SU helps 'Shaping the Aquaculture Future'

Ashley Patience, a postgraduate diploma Aquaculture student in the Faculty, bagged an award for second best presentation at the biennial conference of the Aquaculture Association of Southern Africa (AASA) held recently in Polokwane, Limpopo. Mathew Ayoola, a PhD student, walked off with the award for top AASA tweeter.

It was, indeed, all happening at AASA's 2015 conference as Stellenbosch staff and students presented eleven oral presentations and ten posters, covering subject areas on nutrition, genetics, socio-economic development and knowledge transfer. The SU Aquaculture group also won the student quiz.

The objective of AASA is to contribute to the development of aquaculture in Southern Africa through effective representation and dissemination of scientific and industry-related information. The six day conference also included short training workshops where role players in aquaculture production, research and development could share their experiences and forge networks.

The conference had 230 registered participants from countries such as South Africa, Botswana, Malawi, Mozambique, Namibia, Nigeria, Uganda and Zambia. It was well attended by academic institutions, government departments, individual fish farmers, producer associations and regional organisations such as SADC, the World Fish Centre, NEPAD Fish Node, and the FAO.

Cape Town will host the next World Aquaculture Society conference from 26 to 30 June 2017, in the CTICC. It is the first time this conference will be held in the RSA and its theme "Sustainable Aquaculture – New Frontiers for Economic Growth" will surely attract many participants from across the world.

Horticulturists attend IPA conference Down Under

Researchers of the Faculty's Department of Horticulture truly stepped up to the plate during the 12th International Protea Research Symposium and the 17th International Protea Association Conference held in conjunction with the 8th International Symposium on New Ornamental Crops in Scarborough in the West Australian city of Perth. Ninety delegates from 14 countries – Australia, Chile, Colombia, Israel, Japan, Mexico, New Caledonia, New Zealand, Oman, the Philippines, Portugal, South Africa, the UK, and the USA – attended the four-day conference.

The abovementioned researchers presented four papers on a wide range of topics which included a characterization of bract browning in Protea (Annaline Smith, MScAgric), growth studies on Leucospermum stem elongation (Eugenie-Lien Louw, PhD), the use of LED lighting to control chilling injury in cold-stored

Leucospermum potted plants (Lynn Hoffman, lecturer) factors influencing the efficacy of glucose pulsing to control leaf blackening in 'Sylvia' (Nicole Windell, MScAgric).

The whole of the last day of the conference was set aside to visit King's Park and Botanic Garden, the largest city park in the world at 400 ha – larger than Central Park in New York. Incidentally, 2015 is also the 50th anniversary of this magnificent park that displays over 3000 of Western Australia's unique species.



"Anniversary Gold" is a new variety of Mangles Kangaroo Paw, Anigozanthos manglesii, bred to celebrate the 50th anniversary of the Western Australian Botanic Garden.



ConsEnt market day – participants sharing in the spirit.

Barter market boosts social cohesion

The Department of Conservation Ecology and Entomology (ConsEnt) recently piloted a social experiment that aims to bring staff, students and friends of the Department closer to a desired ethos of engagement, collegiality, respect and understanding. The experiment took the form of a barter market.

Staff and students were asked to meet for an hour over lunch and to bring with them something home-made or home-grown to trade. The idea was to use these items to trigger conversations by indulging in good, old

fashioned barter.

The concept evolved from a small, informal exchange of garden produce already happening in the Department on a micro scale. When combined with an opportunity to link to the allotment garden initiative there was potential for momentum. It was felt that this form of barter and exchange could even help to enrich networks, build trust and ultimately facilitate knowledge exchange. In the discipline of sustainability science these elements are seen as essential components of a resilient community, and they are topical themes in applied disciplines such as conservation ecology, sustainable agriculture and integrated pest management.

• The next barter market is scheduled for 5 February 2016.

Forestry's tour to Tsitsikamma

Pictured here are a group of 17 third year students and four supervisors on a recent visit to the Tsitsikamma region as part of a third year practical study tour. Highlights included stopping to view the Tsitsikamma's Big Yellow Wood Tree, followed by a guided walk to identify dominant species in this amazing indigenous forest. On the third and fourth day time was spent in the Lottering plantation where students measured tree and branch dimensions. Local foresters introduced the group to interesting silviculture activities such as site preparation, planting, weeding, pruning and marking for thinning. A visit to the Swartland sawmill impressed the students with its latest technology and mechanised processes.



Lyfbande meet hoe gespanne blouwildebeeste in bomas is

Danksy infrarooi video-opnemers en data-opnemers wat soos dié van atlete s'n om die lyf gedra word, weet navorsers nou presies hoe gespanne blouwildebeeste kan raak wat in bomas aangehou word.

Dié stukkies tegnologie is deur dr Liesel Laubscher ingespan as deel van haar doktorsale navorsingstudies. Sy het in Desember haar PhD in Veekundige Wetenskappe verwerf. Haar studieleiers was prof Louw Hoffmann, wat die Suid-Afrikaanse Leerstoel in Vleiswetenskap: Genomika tot Nutriomika aan die US beklee, asook dr Neville Pitts van die Universiteit van die Witwatersrand en dr Cobus Raath van Wildlife Pharmaceuticals SA.

Laubscher se navorsing vorm deel van inisiatiewe deur die US Departement Veekundige Weten-

skappe om wetenskaplike kennis oor die plaaslike wildbedryf uit te brei.

Sy het onder meer die effek van twee soorte langwerkende neuroleptika-middels vergelyk wat gebruik word om wilde diere wat oor ver afstande heen verskuif en vervoer moet word, rustig te hou. Dié kalmeermiddels het nie 'n effek op diere se refleksie of vermoë om te beweeg nie.

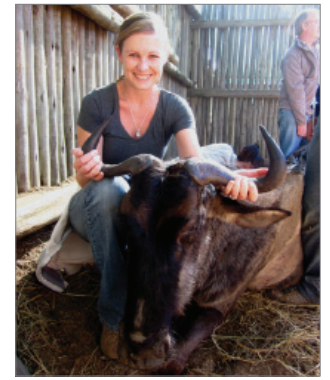
Om te kan toets of die middels ook vir blouwildebeeste (*Connochaetes taurinus*) gebruik kan word, moes Laubscher eers data insamel oor dié diere se spanningsvlakke wanneer hulle vrylopend is of in 'n boma aangehou word. Dit was makliker gesê as gedaan, want data oor hul asemhalingsvlakke, hartklop-spoed en bewegings wat tipiese aanduidings van spanning is, was tydens

die aanvang van haar PhD-studies nog nie aan navorsers bekend nie.

Sy het haar egter nie daardeur laat onderkry nie, en het besluit om biometriese lyfbande te gebruik soortgelyk aan dié wat atlete soms dra om hul liggaamsfunksies mee te monitor. Soortgelykes word ook in die renperdiindustrie gebruik.

Twee infrarooi CCTV-kameras het ook dié diere se gedrag binne die boma fyn afgeneem voor en nadat hulle die kalmeermiddels toegedien is. Sodoende kon Laubscher vir die eerste keer ooit vasstel presies wat die diere tydens aanhouding doen. Sy het ook vasgestel hoe hul hartklop en asemhaling verskil wanneer hulle byvoorbeeld vreet, gaan plat lê of kop skud uit frustrasie.

Haar toetse op die kalmeermiddels het ook goeie resultate opgelewer. loed geensins die diere se hartklop



Dr Liesel Laubscher besig met die eksperimentele fase van haar navorsing.

nie, en albei maak die diere minder waaksaam en meer rustig. Een van die middels het die diere minder ondersoekend en onrustig as die ander gemaak, en het veroorsaak dat die diere langer tyd daaraan spandeer om te vreet.

West Coast rock lobster could shake off impact of climate change

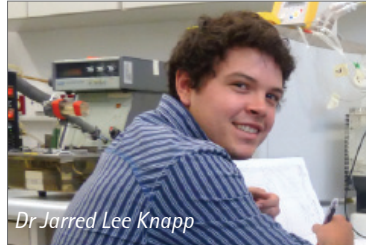
The West Coast rock lobster's natural ability to adapt to varying environmental conditions may be its saving grace when it comes to climate change. This is according to research conducted by aquaculture scientist Dr Jarred Lee Knapp. His research shows that these crustaceans have a natural ability to physiologically adapt to rising sea temperatures and increasingly acidic seawater which are predicted to be part and parcel of ongoing greenhouse gas emissions.

Knapp received the degree PhD (Agric) in Aquaculture in December. Some of his research findings have appeared in the scientific journal *Biochemical and Biophysical Research Communications*, while other results will be published next year in the *Journal of Experimental Marine Biology and Ecology*. His supervisors were Prof Lutz Auerswald from the Fisheries Management Branch of the Department of Agriculture, Forestry and Fisheries (DAFF) and Prof Louw Hoffman of the Department of Animal Sciences. Most of his research was conducted at DAFF's Marine Research Aquarium in Sea Point.

The West Coast rock lobster (*Jasus lalandii*) is a species of spiny lobster that lives in the cold waters of the Benguela Current System, off the

West Coast of South Africa and Namibia.

It's not an easy space to live in, as environmental conditions in this oceanic region often change. An example is upwelling events, during which nutrient-rich water is driven towards the surface. This leads to phytoplankton blooms and even subsequent extreme red tide events. When the phytoplankton dies and decomposes, low oxygen levels can be found in some areas. These events



Dr Jarred Lee Knapp

can cause the surrounding seawater's pH level to reach extremely low values, resulting in normally alkaline seawater (pH of 8.0) to become more acidic (pH as low as 6.0).

"These events have been forecast to become more frequent and severe due to increased ocean acidification that is caused by the trapping of

increased amounts of carbon dioxide in seawater," explains Knapp.

A global pH for seawater of about 7.3 is expected by the year 2300. Knapp says that due to the already low pH levels in the Benguela Current system, extended periods of high acidity could occur here in the not too distant future.

He started his research because lobster is a valuable resource to the South Africa fishing industry. Also, very little was known about how well spiny lobster will cope with the predicted environmental changes.

Knapp found that the West Coast rock lobster is able to quickly respond to changes in its environment. These changes can be maintained for a sustained period. They are also reversible, should circumstances become more favourable again. West Coast rock lobster is able to adjust its respiratory capacity at a molecular level. Also, long term exposure to decreased pH did not have an impact on its immune system's ability to fight an introduced bacterium.

However, Knapp warns: "The availability and quality of their food could influence the ability of the West Coast rock lobster to deal with environmental stressors."

Satellite collaring for Sanbona's elephants

In 2003 elephants were reintroduced to the Little Karoo – on Sanbona Wildlife Reserve – for the first time since the late 1700s. This 54 000 ha semi-arid reserve spans Central Mountain Fynbos, Succulent Karoo, Acacia Thickets, and Riverine and floodplain vegetation types. Since the first elephants were introduced in 2003 and the second batch in 2005 the herd dynamics and available area have changed. The impact the elephants have had on certain tree species has been gauged, but their overall impact on plants and the ecosystem as a whole has not yet been studied.

It was found that the Sanbona elephants utilise various habitats within the reserve and feed on a wide variety of vegetation. It was therefore decided to study their diet and spatial use of the reserve over a two year period. MSc student

Pascale Lawson van Huyssteen of the Department of Conservation Ecology and Entomology heads the study – his supervisor is Dr Alison Leslie.

The study will approach the questions in two ways. Firstly, by monitoring the herds through the use of satellite collars to determine the areas on the reserve that they prefer to utilise over a 24 month period, thus determining home ranges and core areas. On 2 November the matriarch of the northern herd, consisting of eleven elephants near the Brak River, was collared and two days later the same was done with one of the young males in the southern herd, consisting of five elephants in the wilderness area – the matriarch already has a VHF collar.

Secondly, diet will be determined by utilising the direct observation method every fortnight, by recording what plant species they are utilising and



The elephant collaring team at Sanbona.

by two types of dung analysis (Microhistological and Isotopic) to determine what they are feeding on in inaccessible areas or at night.

This is the first such project to be undertaken in an arid environment and will provide baseline data to better manage the possible impacts of elephants in the Little Karoo.



Erna Blancquaert 'n pionier van die wynbedryf

Cabernet Sauvignon is die mees aangeplante roo druifkultivar in die Stellenbosch-omgewing, en was daarom 'n logiese keuse as studie-onderwerp vir haar doktorsgraad. Sy't gekyk hoe spesifieke wingerdboupraktieke ligintensiteit en temperatuur in Cabernet Sauvignon-wingerde beïnvloed.

Haar PhD-navorsing het gegaan oor druifflavonoïde, die komponente wat 'n belangrike rol speel in die uiteindelijke aroma en mondgevoel van wyn. Druifflavonoïde kan onderverdeel word in drie groepe, naamlik tanniene, flavonole en antosianiene. Die hoeveelheid tanniene in druifsaad en -korrels beïnvloed bitterheid en vrugtheid. Flavonole beskerm druifwee teen UV-B bestraling terwyl

die antosianienvlakke weer winkleur raak. Blancquaert het gemeet hoe lig en temperatuur 'n rol speel in die uiteindelijke opbou van hierdie drie fenoliese komponente in onderskeidelik druifsaad en -doppe, en die hoeveelheid wat in die korrels vasgelê word.

Dis die eerste keer dat hierdie navorsing vir Cabernet Sauvignon in Suid-Afrika gedoen word.

"Suid-Afrika het 'n baie jong geskiedenis van wynmaak, en deur hierdie graad kon ek self 'n bydrae lewer tot die terrein van wingerdkunde, 'n dissipline wat dikwels nie na waarde geag word nie," verduidelik Blancquaert.

Heelparty beurse en toekennings het al oor haar pad gekom. Dit sluit

onder meer die Prof CJ Theron-beurs, 'n SAWIT-beurs en 'n Cape Classic Indaba-beurs in. In 2011 het sy die HB en MJ Thom-toekenning vir akademici op sabbatsverlof ontvang, en meer onlangs ook 'n toekenning vir mentorskap van die Andrew Mellon Stigting. In 2009 het sy waardevolle ondervinding as deel van die Internasionale Studentenuitruilprogram (ISEP) na Frankryk opgedoen. Terselfdertyd het sy ook gekwalifiseer om 'n beoordelaar van Suid-Afrikaanse wyne te wees.

Sy dien in Winetech se opleidingskomitee, en is 'n lid van die Nasionale Navorsingstigting se adviespaneel vir die landbousector wat aansoeke vir die NNS-program moet oorweeg.

Tydens die Desember-gradeplegtigheidsgeleentheid het dr Erna Blancquaert vir 'n eerste gesorg: sy't die eerste swart Suid-Afrikaner geword wat die graad PhD (Agric) Wingerdkunde agter haar naam kan skryf.

Blancquaert is tans 'n lektor in Wingerdkunde, en gee klas oor die ekofisiologie van wingerde.

Nompumelelo follows her sisters' lead

Obtaining a postgraduate degree is becoming something of a family tradition for the Shange sisters of Inanda near Durban. When the youngest member of the family, Nompumelelo, received her MSc in Food Science, she became the fifth member of this close-knit family to receive a postgraduate qualification.

She made a study of the hygiene and food safety aspects in the South African game meat industry, as they pertain to harvesting and slaughtering practices. Her study formed part of the endeavours of the South African Research Chair in Meat Science: Genomics to Nutriomics at Stellenbosch University.

Nompumelelo, who wants to become a food auditor, is currently gaining valuable experience as a food microbiologist and employee of Klein Karoo International in Oudtshoorn. She joined the company in 2014 after completing some of her experiments for her MSc there. The company also funded her postgraduate studies.

She holds her supervisor, Prof Louw

Hoffman of the Department of Animal Sciences, in high regard, as he helped to organise her postgraduate bursary and subsequent position at KKI.

Nompumelelo is known for her cheerful disposition and work ethics. At university, she served as a mentor and as a house committee member of Erica residence.

Between them, the Shange sisters now share at least one MBA, three MSc degrees (all in fields related to agriculture), and two honours degrees. Two of her sisters also graduated from the SU Faculty of AgriSciences. Her third sister, Philisiwe, completed her MSc Agric (Viticulture) in 2009 while working for the Agricultural Research Council in Stellenbosch. Sister No 4, Mrs Nikiwe Ndawonde, studied Agricultural Economics. After obtaining an honours degree in 2008 and her MBA (also from SU) in 2014, she is now an operations manager for ABSA's business banking segment.

"They've always stood behind me, urging me



Nompumelelo Shange in the laboratory at Klein Karoo International in Oudtshoorn.

to study hard to obtain bursaries," Nompumelelo says of her family. "Once you have that bursary, you have to study hard to keep it, and not be swayed with other things happening on campus!"

Nompumelelo remembers growing up in Inanda as being tough and money being tight. She also remembers the emphasis that especially her father, a bus driver in Durban, used to place on education as a means of making progress in life.

New study focuses on how black wattle impacts water quality

Conservation ecologists are taking a close look at how the quality of river water is improved once invasive black wattle is removed. Clearing projects around rivers have been ongoing nationwide for many years, in an effort to ensure increased water availability to South Africans.

"The current drought conditions are a stark reminder that water is the most limiting natural resource to development and a sustainable future for South Africa, and that we should take special care of it," says Dr John Simaika of the Department of Conservation Ecology.

He received a grant from the Water Research Commission to study how the removal of black wattle (*Acacia mearnsii*) trees impact the surface water quality of rivers. The project is run in collaboration with colleague Dr Shayne Jacobs. Zaid Railoun, Kenwyn Wiener and Jay-Dee Don will all do MSc research as part of the project.

It is well known that the removal of these fast-growing and water-thirsty invasive plants around rivers helps to increase water flow and availability.

In the process, natural vegetation such as fynbos is afforded a chance to regrow, while local insect species such as dragonflies often return to an area. This has been seen in many cases where tracts of invasive plants have been cleared by, for instance, teams from the national Working for Water Programme, after which specific management efforts were put in place to replace the natural vegetation.



Taking a close look at how the quality of river water is improved once invasive black wattle is removed.

"While we know that clearing efforts improve water volume, little is currently known about the effect that these initiatives have on the actual quality of the surface water that passes through these cleared areas" says Simaika. Good quality water is needed to ensure that the various lifeforms that rely on a river system are able to persist or return once a site has been cleared. "The project will close a major research gap on the quality of water after clearing, and also about the dynamics behind stream ecosystem recovery."

Black wattle takes up nitrogen from the atmosphere and then enriches the soils in which these plants grow. This process of nitrogen fixing may boost the invasive plants' ability to outcompete the natural plants around it. Researchers do not yet know what happens to the nitrogen in the soil once the invasive plants are removed.

The main aim of the project is to focus on the nitrogen input by stands of black wattle and whether clearing efforts have a positive spin-off for the aquatic plants, insects and animals that naturally occur around South African rivers.

Gholfdag • Golf Day • Gholfdag • Golf Day

Dekaansfonds baat by Fakulteit se suksesvolle gholfdag

Die Nexus AG-span het die tweede agtereenvolgende jaar koning gekraai tydens die Fakulteit AgriWetenskappe se gholfdag. Hulle is gevolg deur Nedbank Ltd en die span van Spijkerman en Van Wyk Oogkundiges.

Die gholfdag is op 19 November by De Zalze-gholflandgoed buite Stellenbosch gehou. Freshvest was die hoofborg, met Nexus AG en Suiderland Plase wat as medeborge opgetree het. Skenkings en pryse van sowat 85 donateurs en maat-skappye is ook ontvang.

Dit is reeds die sesde jaar dat hierdie gewilde geleentheid aangebied word om die Fakulteit AgriWetenskappe se Dekaaansfonds te ondersteun.

"Hou vir hou het die deelnemers en borge van die gholfdag gehelp om die drome waar te maak van talre behoefte studente wat landbou-erwante studierigtings aan die Uni-

versiteit Stellenbosch volg," het prof Danie Brink, waarnemende dekaan van die Fakulteit AgriWetenskappe, gesê by wyse van bedanking van elk- een se bydrae. "Die Dekaaansfonds is 'n soort oorbruggingsfonds waar- uit kleiner bedrae bewillig word aan studente wat finansiële druk ervaar."

Dit was reeds die tweede jaar dat Freshvest as hoofborg van die geleentheid opgetree het. Oor hulle betrokkenheid het Freshvest se finansiële direkteur, FC Eloff, gesê: "Die opleiding van ons studente is uiters belangrik vir die sukses en groei van landbou in ons land."

Dr André Neethling, besturende direkteur van Suiderland Plase, sê sy maatskappy glo ook daarin om te help met die opleiding van land- bouers. "Daar is 'n groeiende tekort aan goeie landbouers in Suid-Afrika. Deur ons betrokkenheid wil Suider- land Plase op ons klein en beskeie manier help om hierdie tekort



Die lede van die Nexus AG-wenspan was Jacques Slabber, Dirk Taljard, Handri Burger en Renier Lourens. Hier is hulle saam met golfdagorganiseerder Carin Bruce (links) van die Fakulteit AgriWetenskappe.

aan te spreek."

"Om die landboubedryf volhou- baar te hou, is dit van kardinale be- lang om te belê daar waar die bedryf se toekoms geslyp word," sê Jacques du Preez, Nexus AG se uitvoerende hoofbestuurder. Hy het bygevoeg: "Dit impliseer goed opgeleide land- boukundiges en daarom dra Nexus AG graag deur middel van ons borg-

skap by om landboukunde studente wat finansiële ondersteuning beno- dig by te staan." Hy het ander do- nateurs uitgedaag om die Dekaaans- fonds te ondersteun.

Vennote in die nywerheid en alumni wat nog tot die Dekaaans- fonds wil bydra, kan met Carin Bruce by cbruce@sun.ac.za of tel. 021 808 9047 in verbinding tree.

SU Faculty of AgriSciences Golf Day: 'Thank you!'

Thank you to all our participating teams, as well as to the companies that pledged their support.



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