

newsletter

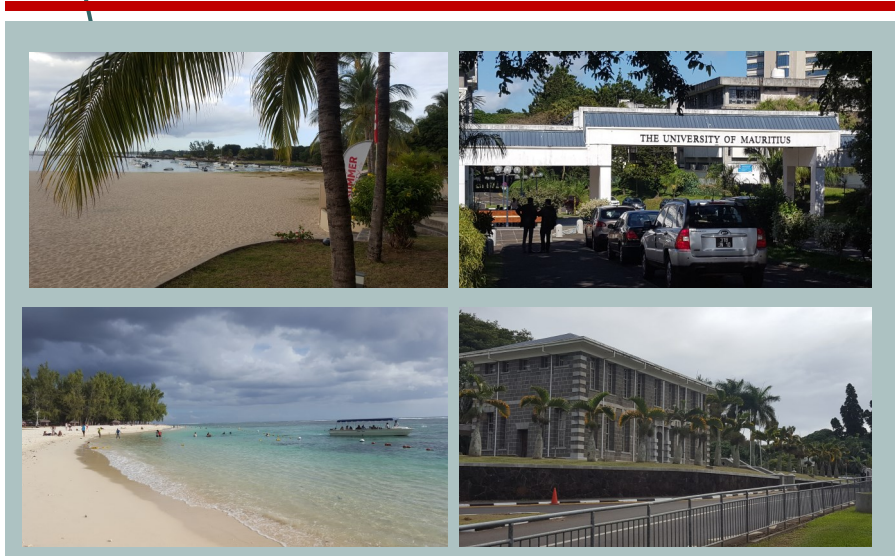


•AUG 2017• aug2017•AUG2017• aug2017•AUG2017•

Working in PARADISE

Prof Pieter Gouws was appointed as external examiner for BSc Food Hygiene with Environmental Health at the University of Mauritius. During the week of 12 – 16 June he visited the University of Mauritius to evaluate the students exams papers and oral presentations. He also gave a lecture entitled: “Emerging food borne pathogens, are we ready?” to staff and students of the Agricultural and Food Science (AFS) department and invited role players from the industry.

This course enabled students to: Identify social and scientific factors which affect environmental and public health. Identify and manage the various existing food hazards present in the environment affecting the community as a whole. Be aware of the legal aspects, organisation and managerial frameworks governing food practices in Mauritius. Understand sustainability issues, interdisciplinary approaches and partnership approach to working in food safety. Gain basic skills in management and communication.



Meet Dr Diane Rip

Food Science's latest appointment is the multi-talented Dr Diane Rip. She obtained a PhD in Biotechnology (Food Microbiology) from University of the Western Cape (UWC) in 2011.

She has lectured at the University of the Western Cape (UWC) to Science students at different levels in their undergraduate degree and worked at Cape Peninsula University of Technology and University of Cape Town (NHLS) subsequently.

From August 2013, she worked as a Medical Scientist for the National Institute for Communicable Diseases (NICD) in Microbiology and subsequently Virology. In Microbiology, research and surveillance centred on carbapenemase producing Enterobacteriaceae and vancomycin resistant enterococci in the Hospital setting in Cape Town. In Virology, her duties included participating in surveillance programs to determine the aetiology of influenza-like illness and severe acute respiratory illnesses.

From January 2017, she took up a position at Stellenbosch University in the department of Food Science as a lecturer, where her keen research focus area is food microbiology. Her research will focus on food borne pathogens and its association with clinical disease; ideally

looking at a One Health approach to mitigate the effects of foodborne pathogenic organisms on public health.

Outside of Science, she also has creative flare and has a love for baking, especially making wedding and party cakes. She loves the outdoors and all musical instruments and will resume learning to play the violin.





Food Science graduate,

Wessel Pieterse completed his degree in Food Science at the University of Stellenbosch, followed by three years of food product development for various retailers and fast food restaurants. He then completed his MBA at the UCT Graduate School of Business, followed by courses in Design Thinking, Strategic Brand Management and Open Innovation at ESADE in Barcelona, Spain.

His love for food innovation, product design and entrepreneurship inspired him to start Secco from his home kitchen in Cape Town's Southern Suburbs. He is motivated to provide consumers with tasty, nutritious and innovative food products.

Contact details:

You will be able to find Wessel Pieterse @ tastelab

www.tastelab.co.za



What is SECCO drink Infusion?

Secco Drink Infusion is a blend of specially selected dried fruit and spices, available in sachet form, which allows consumers to naturally infuse their drink of choice in the comfort of their own home. Secco is the creative brainchild of Cape Town based food scientist and entrepreneur, Wessel Pieterse.

The idea for the product came to Pieterse while travelling. In Paris, he noticed trendy bars mixing and infusing their gins with botanicals. This approach to mixology offered establishments the opportunity to create signature drink experiences that weren't likely to be duplicated elsewhere, and gave their clientele the chance to enjoy something equally satisfying to both the palate and the eye.

Upon his return to Cape Town, Pieterse put his background in product development to good use by setting out to create a product that allowed gin drinkers the chance to spice up their G&Ts at home. "Aesthetics play an undeniable role in any experience – people want to drink something that is not only delicious, but also beautiful to look at," he explains.

South Africa has not been excluded from the global gin resurgence currently underway. The growing trend has seen micro distilleries popping up across the country, from the West Coast to the Free State, while artisanal distilleries like Hope on Hopkins have encouraged a new generation of adventurous and creative gin drinkers.

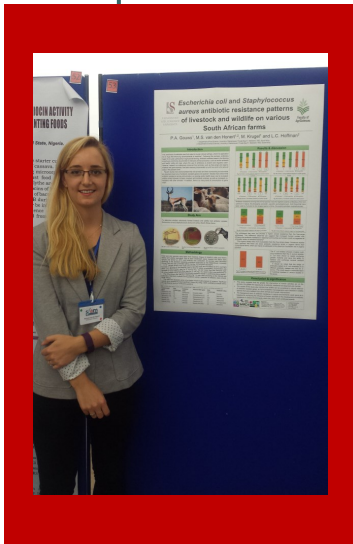
The name, Secco, is derived from the Italian word, meaning dry and refers to the process by which the botanicals are preserved. This process of freeze drying preserves the taste and structure of the fruit, allowing the cells to remain open for maximum flavour and colour infusion. As no additives are used during the drying and preserving phase, Secco is an all-natural food product.

Secco is available in 8-sachet boxes in the following flavours: Citrus Cinnamon, Raspberry Rose Hibiscus, Pepper Berry & Spiced Fig.

Available at various liquor stores, select TOPS at SPAR stores and online at Yuppiechef.com as of August 2017.

Well done & much success Wessel!





3-6 July 2017, Gateshead, Newcastle, UK.

The Annual Applied Microbiology conference 2017 was held in Gateshead, Newcastle, UK at the Baltic Centre for Contemporary Art- which overlooks the river Tyne and Millennium bridge. The conference focused on food safety and had a diverse selection of speakers, from engineers to economists and even an artist. The interesting topics covered a wide range of subjects, which kept everyone intrigued over the four days. Hot topics included antimicrobial resistance in the food chain and the use of ozone, cold plasma technology, electron beam irradiation and bacteriophages for food preservation and shelf-life extension.

Ms Michaela van den Honert presented a scientific poster at the conference. See the photograph (left).





Photo: Kgomotso Dhlangamandhla (left) and Cenette Bezuidenhout (right) representing SAAFoST at IFT17

Cenette's travels for Food Science

C Bezuidenhout

I attended the ICNIRS 2017 conference held in Copenhagen, Denmark from 11-15 June, where I presented my research poster titled "*NIR Hyperspectral Imaging: A Rapid Method to Distinguish Fungal Pathogens on Growth Media.*" The conference was enlightening and I was able to expand my knowledge by attending the scientific sessions and interacting with the fellow attendees.

I also had the privilege of representing SAAFoST, together with Kgomotso Dhlangamandhla, at the IFT (Institute for Food Technologists) 2017 conference held in Las Vegas, Nevada from 25-28 June. I joined 11 other students from USA, China, Hungary, Australia and England as part of the IFT17 Go with Purpose Student Challenge. In groups of four, we were tasked with finding an alternative protein source for a snack bar using all the resources available at the conference. The students gathered. Through attending poster sessions, scientific sessions, scouring the expo floor and interacting with the more than 1500 exhibitors, we gathered valuable information to solve our "prompt". It was an unforgettable experience, meeting and networking with students and industry leaders.

Learn as you go.

Shannon Howell

I had the privilege to travel to Nottingham University, UK from 3—24 April 2017. The aim of my visit was to learn and master a phage-PCR method practiced at Nottingham University under supervision of Dr Catherine Rees and Dr Benjamin Swift. It was important for me to learn the method as a hands-on-experience, as no one else in the world is working on this particular method. By using this method, it is possible that I will be the first person to validate and optimize the method in South Africa. The phage-PCR method will allow us to detect the presence of *Mycobacterium avium* subsp. *paratuberculosis* at an early stage of Johne's disease in infected ruminants (cattle, sheep, goats etc.).

Prof Louw Hoffman from Animal Science, SU was instrumental in making this dream a reality. Shannon is currently a MSc student at SU Food Science with Dr Maricel as her study leader.

Not only was the laboratory work absolutely phenomenal, but enjoying the British culture (Cream tea's, Windsor castle and the London eye) was also a spot-on experience; one I will never forget!



Now who can resist a Karoo lamb chop?

When Sarah Erasmus graduates on 14 March 2017 with a doctorate in Food Science in hand, she did so with the knowledge that her findings provided a scientific basis for widely-held claims that there is something special and quite unique about lamb meat from the Karoo region. Her findings helped to ensure that Karoo lamb received exclusive geographic "naming rights" last year in terms of European Union marketing legislation.

Erasmus started her postgraduate studies at Stellenbosch University in 2013 at a time when no legal protection was yet provided to local South African products such as Karoo lamb, rooibos and honeybush being marketed overseas.

She completed her postgraduate research under supervision of Prof Louw Hoffman, South African Research Chair (SARChI) in Meat Science: Genomics to

Nutriomics in the Department of Animal Sciences at Stellenbosch University (SU), and food sensory expert Ms Nina Muller of the SU Department of Food Science. Here is the full story by Engela Duvnhage.

<http://www.sun.ac.za/english/Lists/news/DispForm.aspx?ID=4738>



What is in your honey, HONEY?

E Duvnhage

Food scientists and researchers from Stellenbosch University (SU) and the Sapienza University of Rome have proactively developed a quick and user friendly method that South African producers and distributors of honey can use to detect whether the products they are selling is the real thing or not.

A recent article in the international journal Food Control explains how near-infrared (NIR) spectroscopy can be used to test South African honey. Laboratory and portable NIR instruments were calibrated specifically with South African honey in mind.

Because portable and mobile NIR instruments are available on the market, it would be possible to perform the tests on site at for instance a honey producer or distribution plant on calibrated equipment.

The specific NIR calibration for South African honey was developed by lead author Dr Anina Guelpa, as part of her postdoctoral research work in the Department of Food Science at SU and the University's Central Analytical Facility (CAF) CT-Scanner Facility. Dr Guelpa was assisted in developing and testing the method for South African conditions by her supervisor, NIR spectroscopy expert Prof Marena Manley of the SU Department of Food Science, SU researchers Dr Anton du Plessis and Dr Ruhan Slabbert, and Dr Federico Marini of the Sapienza University of Rome in Italy.



Snoek, the new **SUPERFOOD?**

E Duvenhage



CPUT, SU researchers combine forces to delve into snoek's nutrient value

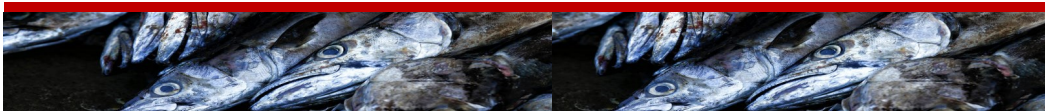
To fish lovers, wintertime in the Cape equals freshly caught snoek. Now is therefore a good time to consider the nutritional value of eating this relatively low-cost medium-sized type of marine fish. According to a new study published in the *South African Journal of Science*, a snoek's meat is quite high in protein and important omega-3 fatty acids, but low in fat.

The findings from the study is part of ongoing research into the quality and value of snoek and other South African marine fish species. It was conducted by Ms Suné Henning, a lecturer in food science and technology at the Cape Peninsula University of Technology (CPUT), and meat scientist Prof Louw Hoffman, holder of the South African Research Chair in Meat Science: Genomics to Nutriomics based at Stellenbosch University.

Only a handful of studies have been done on the nutritional contents of South African marine fish species, while even fewer older ones have specifically looked at raw and cooked Cape snoek.

Ms Henning is currently busy with her PhD studies at Food Science, Stellenbosch under supervision of Prof Marena Manley and Dr Maricel Krügel.

To read the full article, please click on this link, <http://www.sun.ac.za/english/Lists/news/DispForm.aspx?ID=4934>



How Maxine Jones became Dr Biltong.

Stellenbosch University (SU) student, Maxine Jones, received her doctorate in Food Science from Stellenbosch University (SU) on Tuesday, 14 March 2017.

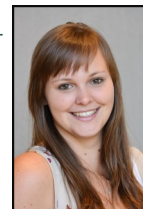
According to SU, Jones achieved a unique first that is distinctly South African: she received a PhD for research focusing exclusively on how to make good quality biltong.

In the process the 27-year old can say she developed a scientifically proven recipe for making consistently delicious biltong.

To find out more about this unique study, please click on this links

<https://businesstech.co.za/news/general/164213/meet-the-first-student-to-get-a-doctorate-in-biltong-making/>

<https://www.ofm.co.za/article/the-delightful-blog/228680/afternoon-delight-today-on-the-issue-biltong-ft-dr-maxine-jones-the-biltong-doctor->



**Prof Marena Manley
obtained NRF B-rating**

Prof Marena Manley has recently received her NRF B-rating. She is nationally and internationally recognised for her expertise in and research on near infrared (NIR) and NIR hyperspectral imaging especially applied to especially cereal grains, but also other food commodities. A recent article by her research group on the detection of adulterated honey received extensive attention by the local honey industry.

Her research nowadays also includes the use of X-ray microcomputed tomography to study microstructure of cereal grains and other food products. She recently received an NRF NEP grant (ca. R8 mil) to purchase NIR hyperspectral imaging equipment. With this and other already existing equipment a Vibrational Spectroscopy Unit will be established within the Department of

Food Science.
This unit will be managed as part of the Central Analytical Facility of Stellenbosch University.



Prof Marena Manley

Stellenbosch University, Food Science Extraordinary appointments

The Department of Food Science is proudly associated with these experts.

Dr D De Beer—Associate Professor Extraordinary

Dr GP Fox—Professor Extraordinary

Prof E Joubert—Professor Extraordinary

Ms R Maguire—Extraordinary Lecture

Prof F Marini—Professor Extraordinary

Prof T Naes—Professor Extraordinary

Graduation...



At the March 2017 ceremony, 5 BSc Food Science degrees, 6 MSc and 4 PhD were awarded.

MSc Food Sc

Julian Atukuri

Wendy Dzviti

Zandr  Germishuys

MSc Food Sc, CUM LAUDE

Gilbert Ampem

Robert Lufu

Kate Sendin

Dr Schoeman in rekord tyd!

Letitia Schoeman het haar BSc Voedselwetenskap graad in 2013 *cum laude* verwerf en daarna besluit om haar belangstelling in graanwetenskap voort te sit deur 'n MSc studie in Voedselwetenskap in 2014 onder leiding van Professor Marena Manley te begin. Haar MSc studie, getiteld 'Characterisation of microstructure of oven and forced convection roasted cereal grains using X-ray micro-computed tomography (μ CT)', het die effek van twee rooster tegnieke op die mikrostruktuur van koring en mielies ondersoek. Die doel van die studie was om die moontlikheid van X-straal mikroberekende tomografie (μ BT) in samewerking met beeldanalise as 'n nie-vernietigende tegniek vir die karakterisering en kwantifisering van mikrostrukturele veranderinge in individuele grane, geïnduseer deur konvensionele oond- en gepatenteerde geforseerde konveksierooster metodes, te ondersoek.

In 2015 is haar MSc opgradeer na 'n PhD en is die effek van die twee rooster tegnieke op die fisiese; chemiese en funksionele eienskappe addisioneel bestudeer. Letitia het haar PhD studie binne een jaar na opgradering voltooi en die titel van haar

projek was; 'Characterisation and quantification of microstructure, physicochemical and functional properties of oven and forced convection continuous tumble roasted cereal grains.

Dr Letitia Schoeman het haar PhD (Voedselwetenskap) graad in Maart 2017 verwerf en is tans 'n na-doktorale genoot by Departement Hortologie (US) waar ek betrokke is by 'n navorsingsprojek wat ondersoek instel na die ontwikkeling van melerigheid in 'Forelle' pere.



Dr Letitia Schoeman & Prof Marena Manley

4 PhD's graduated, March 2017

Sarah Erasmus PhD (Food Sc), The authentication of regionally unique South African lamb

Maxine Jones PhD (Food Sc), Profiling of traditional South African biltong in terms of processing, physicochemical properties and microbial stability during storage.

Letitia Schoeman (Food Sc), Characterisation and quantification of microstructure, physicochemical and functional properties of oven and forced convection continuous tumble-roasted cereal grains.

Luke Mugode PhD (Food Sc), Investigating physiological and quality response of pomegranate fruit to controlled atmosphere storage.

Sensory Science training...

The Department of Food Science, Stellenbosch University (SU) recently purchased a specialized software programme, EyeQuestion® from Logic*, The Netherlands. EyeQuestion® is a recently-developed comprehensive web application for both sensory- and consumer-based research which is used globally by academia and food manufacturing companies. EyeQuestion® is ideally suited for setting up experimental designs, collecting data, creating questionnaires, sourcing data for rapid sensory profiling methods such as sorting, CATA, TCATA, TDS, Napping and PSP, but also for performing complex statistical calculations using R.

Nina Muller and Erika Moelich both travelled to the Netherlands at the end of June 2017 to attend an informative 2-day training session at Logic8, Arnhem to familiarize themselves with this new, robust tool. They also visited one of the sensory science research laboratories at Wageningen University where EyeQuestion® is used for an array of research projects. We wish to thank Pasufons for partly sponsoring this most invaluable training session.



Photo: Nina Muller (Department of Food Science, SU), Erika Muller (PhD student, SU), Sandra Beekhuizen (Logic8) and Mariska Nijenhuis-de Vries (Wageningen University).

