

Newsletter

December 2019 Desember

Headlines

- Prof Marena Manley co-author of NIR book
- Rooibos news
- 2019 NPD products, prizes and sponsors
- MATIES won Brew intervarsity
- Conferences
- Exchange programs
- Graduation

Dis al weer tyd om iets te sê oor nog 'n jaar wat verby is. Daar was weer so baie hoogtepunte en prestasies deur personeel, sowel as studente. Voorgraads en nagraadse prestasies word gereeld gevier in hierdie nuusbriewe en vanjaar se tweede nuusbriewe stel nie teleur nie. Lees gerus oor boek hoofstukke, die Rooibos Sensoriese Leksikon, Intervarsity Bierbrou- pryse en die altyd uitstekende Produktontwikkelingsdag. Daar is ook weer 'n goeie oes grade wat toegeken is op 12 Desember 2019.

One of the biggest highlights of 2019 is the Department's ranking in the Shanghai University Rankings per Subject – the Department of Food Science maintained its position in the 51-75 category and remains the only South African food science department to feature in the top 300 and the only one in Africa to feature in the top 200. For a department with a staff of only 14, this is a truly amazing achievement. I salute the entire staff and student cohort that contributed to this achievement.

One of the biggest challenges we as food scientists and food professionals still face, is the plethora of misinformation and pseudoscience about food and food processing. I believe that as food scientists and food professionals, we all have a collective responsibility to advance sound science and the advantages of our profession in ensuring food and nutrition security, and doing so in a sustainable way. We need to make our voices heard and promote the benefits of food processing, the endeavours to find better, more efficient ways of preserving food, reducing food waste and prevention of foodborne diseases. I urge you all to make your voices heard in 2020.

I look forward to another exciting, successful and busy 2020. Thanks for everyone that supported and contributed to the success of the Department in 2019; your efforts and inputs are highly appreciated.

Merry Christmas and may 2020 be an awesome year!

Gunnar Sigge



New book on NIR technology

“Imagine an analytical technique that uses no chemicals, gives accurate and precise results in minutes or even continuously, and is simple to install and safe to use. Near-infrared (NIR) spectroscopy supplies this dream.”

Prof Marena Manley had the privilege to co-author the book *Near-infrared Technology: Getting the Best Out of Light* with Dr Phil Williams from Nanaimo, Canada. The book, which was launched at the 19th International NIR Spectroscopy Conference, Gold Coast, Australia in September, covers all of the essential features for successful NIR spectroscopy application in a practical and easily understandable format. The driving force behind compiling this book is to provide knowledge on all aspects of NIR spectroscopy to potential users, and to users who would like to delve a little deeper into the technology. We have assembled the book, mainly to help in the application of NIR instruments and technology in industry. Dr Williams has nearly 50 years of experience in the application of NIR spectroscopy, and its implementation in the industry. In 1975 Dr Williams changed the testing of the multibillion-dollar Canada Western Red Spring (CWRS) wheat programme protein segregation operation from Kjeldahl to NIR spectroscopy. This was the first actual application of NIR spectroscopy in industry in the world. The legacy of Dr Williams’ life-long contribution to the application of NIR spectroscopy is documented and shared in this book.



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Introducing the newly-developed Rooibos Sensory Lexicon



Industry delegates from Rooibos Limited (Clanwilliam) and workshop presenters Nina Muller, Dr Erika Moelich and Prof Lizette Joubert

Based on the recently published rooibos sensory lexicon, a workshop was held on 5 November 2019 at the Department of Food Science, Stellenbosch University to train industry in using the newly-developed rooibos sensory lexicon.

The rooibos sensory lexicon provides the tools necessary to train industry role players in the basics of the rooibos language. The rooibos lexicon consists of 17 attributes, a description for each attribute, as well as one or two chemical reference standards illustrating the respective attributes. The main aim of the recently developed rooibos lexicon is thus to make the rooibos language universal, to further quality control during production of plant material and to assist marketers and global buyers of rooibos to interpret the rooibos sensory lexicon.



Sensory research facility at Food Science, SU: Workshop delegates discussing the sensory attributes associated with rooibos

This workshop is the outcome of many years of research focusing on refining the rooibos sensory wheel and lexicon with Prof Lizette Joubert as primary research leader (ARC Infruitec-Nietvoorbij, Stellenbosch). The rest of the team consisted of the two MSc-students, Ilona Koch and Bianca Jolley, researchers Brigitte du Preez, Lené Erasmus, Nina Muller and Dr Erika Moelich, all from the Department of Food Science, SU, and Prof Dalene de Beer of ARC Infruitec-Nietvoorbij.

Academic visit to Europe

Dr Jeannine Marais visited Wageningen University and Research (WUR) in the Netherlands from 28 July to 4 August 2019. During her visit, she met up with a fellow Food Scientist from Stellenbosch University, Dr Sara Erasmus, who is currently a Postdoctoral researcher on food fraud in the Food Quality and Design group at WUR.

Dr Marais is not unacquainted to life on a bicycle in the streets of Wageningen as she lived in Wageningen for three months, completing an *Advanced Food Quality Management* Masters course. However, this time around Dr Marais returned to a familiar campus as a lecturer and researcher from Stellenbosch University, with the aim of establishing potential research collaborations.

Dr Marais also attended the 65th *International Congress of Meat Science and Technology* (ICoMST) from 4-9 August 2019, hosted in Potsdam, Germany. The theme of ICoMST 2019 was 'Meat for Diversifying Markets' with meat science-related topics ranging from food safety to consumer behaviour and ethics.



2019 GRADUATION ceremony

On Thursday, 12 December on a sunny, summer morning 51 BSc Food Science degrees were awarded of which 6 *cum laude*. The *cum laude* candidates were: Carla Dippenaar, Cara Ehlers, Chanté Nortjé, Marbi Schwartz, Anika van der Mescht and Anri van Wyk.

Three MSc degrees were awarded, all 3 *cum laude*!

Congratulations to Carla Collins, Alexia Naudé and Shannon Riva.

Two PhD students graduated

Matia Mukama (Food Science)

Optimising ventilated package design for handling of pomegranate fruit in the cold chain

Supervisor: Prof UL Opara

Co-supervisor: Dr AA Tsige

Nico Walters (Food Science)

Comprehensive characterisation of the phenolic composition of *Cyclopia pubescens* (Honeybush)

Supervisor: Prof D De Beer

Co-supervisors: Prof E Joubert & Dr PJ Williams



Congratulations on reaching your ultimate goal & all the best for your future!



2019 GRADUATION



SU Food Science 4th years attended an exchange program in Thailand, at the Agro-Industry Summer School

(Ineke Stoffberg)

I was privileged to be one of four Stellenbosch University students chosen to attend the first Agro-Industry Summer school hosted at Kasetsart University in Bangkok. The summer school included housing, meals and transport within Thailand. We stayed in the university's hotel, KU Home, which is on campus and a short distance from many restaurants and food stores.

At the summer school we met students from China, Japan, Germany, Indonesia and Philippines to name only a few. On the first day of the summer school we had an introduction and a tour of Kasetsart University.

The university hosts a large library where you can study, do research and even watch a movie in one of the two theatres. Kasetsart university is unlike other universities as it hosts various activities and markets daily, which are open to the public.

The summer school mainly focused on food science and related topics. We visited two factories in Thailand. The first factory was Thai Union Group, the largest producers of canned tuna and frozen seafood in the world.

We also visited Smile Bull, a factory that produces edible insects as snacking foods. Dr Nathan Preteseille presented a lecture on the use of insects as feed and food and the solutions and opportunities it offers for the future. The summer school focused mainly on new product development and - packaging. Kasetsart University has a large New Product Development department with various speciality equipment. The university provides an opportunity for small businesses and start-ups to rent the equipment in order to develop and produce new products on a small scale.

We also had lectures on innovative packaging and its use in the food industry.



We had the opportunity to attend the Fruitec symposium where new research on the pre- and post-harvest supply chain of fresh produce were presented. This congress included speakers from Thailand and Germany. We were introduced to many new packaging technologies and agricultural practices that could improve the quality of exported fresh produce.

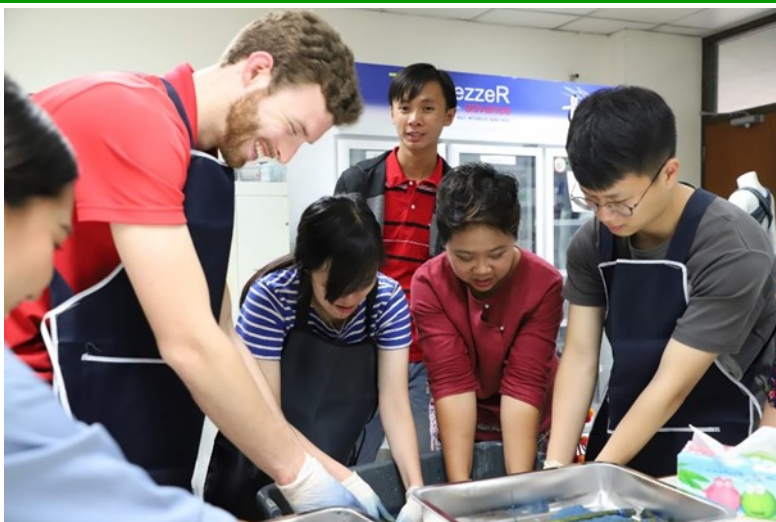
We visited the province of Suphanburi where we learnt about rice farming. We had opportunity to get our hands dirty and plant a row of rice ourselves. Here we learnt that in Thai culture rice is seen as much more than just food - it is seen as a crop that gives life.

As a group we visited the Grand Palace and the Emerald in Bangkok central. We were accompanied by a guide who explained the different influences of cultures on the designs of the different buildings. Most of the buildings are plated in gold and it is one of the most beautiful places in Bangkok. Kasetsart University is an outstanding institution with the most kind and helpful staff. We will definitely miss Mr Phuthai who made this summer school an unforgettable experience.



We also had some time to enjoy a few Thai traditions.

On our last day we had a Thai cooking course and learnt about indigo dyeing. We each made our own scarf which we took home as a souvenir.



Jani Bisschoff,
Ineke Stoffberg,
Trudie Rust &
Marco Oosthuizen in
Thailand





Group 1: Suzaan Hobson, Chanté Nortjé, Kayla Ayres, Cara Ehlers, Nosisi Mabandla, Lin-Mari Visser, Jacob Kasselmann, Iain Aaron with FAVAMITE, a vegan Fava-bean & yeast based savoury spread.

Winners of the IPSA Goldpack, SILVER medal



Group 2: Pieter Heckroodt, Ineke Stoffberg, Samantha Raggett, Anri van Wyk, Noma Mzaza, Jordannah Leach, Tiaan Claassen with ELULA, a dairy-free hemp & pea based cream cheese

Winners of the IPSA Goldpack, GOLD medal



Group 3: Eric Gericke, Shreya Naidu, Aimee Weyer-Henderson, Anina Steenkamp, Sarina Crous, Jesse Kelfkens, Celeste van Graan, Trudie Rust, Johan Jansen with UNUMMI, a garlic & rosemary flavoured mushroom & legume based tortilla style chip





Group 4: Allen Scheepers, Alex Engelke, Kate Litten, Annette Grobbelaar, Kirsten Wessels, Helene van Schoor, Natasha Simpungwe with BEA-gurd, a vegan legume-based, lactose-free dairy alternative snack



Groep 5: Caity Turner, Natascha Holfelder, Nicholas Smith, Mari Engelbrecht, Yusra Ismail, James King, Anika van der Mescht, Gameedah Riffel with NUTRI-SOUP a vegetable & legume based instant soup concentrate



Group 6: Benjamin Baleta, Liné Becker, Jonése Smit, Carla Dippenaar, Taish Ramkisson, Marbi Schwartz, Shannon Meihuizen, Delia Marie Meyer with PROCO, a ginger & cinnamon sweet cookie spread—smooth & crunchy version with insect bits





Group 7: Ruchelle Eloff, Danielle du Toit, Tegan Gibbens, Karabo Makhetha, Mary-Anne Bigalke, Tamsyn Jack, Marco Oosthuizen, Sebastian Bester with WellBEAN, a vanilla flavoured vegan custard made from white kidney beans

Winners of the IPSA Gold Pack, BRONZE medal



Prize winners at the 2019 NPD presentations

SAAFoST—most sustainable project according to theme	PROCO
SAAFoST—most commercially viable product, <i>voted by the audience</i>	UNUMMI
InnovUS—most innovative product	UNUMMI
Synecore—most commercially viable product	WellBEAN
Food Safety Excel—best communication of integral food science concepts to a broad audience—WellBEAN	
Sense of Nambitha—products sensory testing with consumers well executed and learnings extracted from research clearly presented	PROCO
FACTS—complying best with the appropriate regulations in SA	PROCO
Microchem—best liked product, <i>voted by the audience</i>	UNUMMI
SynNotaion—most commercial product	ELULA
Progress Excellence—best HACCP plan	WellBEAN
IPSA Gold pack—3 prizes for packaging	Elula, Favamite & WellBEAN

Companies or individuals who would like to get involved can contact the
Department of Food Science @ 021•8083578

1. KITTY SIMMONS-PRIZE: R750.00

Kim Mannix

To be awarded annually to a third year BSc Food Science student with the highest average percentage in Food Science 214 and Food Science 244 (Commercial Food Processing and Preservation)

2. BESSIE RETIEF-PRIZE: R1000 Anika van der Mescht, Mary –Anne Bigalke, Carla Dippenaar

To be awarded annually to a final year BSc Food Science student with the highest average in the undergraduate module, Sensory Analysis (FS 354).

3. MIMSIE SMIT-PRIZE: R1500

Anri van Wyk

To be awarded annually to a final year BSc Food Science student with the highest average percentage in Food Science 344 module (Food of plant origin).

4. NONNA RABIE-PRIZE: R6000

Mia Schutte

Presented by: Dr John Steer (Son of Nonna-Rabie)

To be awarded annually to a second year BSc Food Science student for the best achievement in his/her first year in all Food Science modules.

5. DEPARTMENT OF FOOD SCIENCE-PRIZE: R800

Meghan Gomes

Awarded annually to a third year BSc Food Science student. Involvement in and general interest in Food Science as a field of study.

6. DEPARTMENT OF FOOD SCIENCE-PRIZE: R700

Eduard Zehrt

Awarded annually to a second year BSc Food Science student. Involvement in and general interest in Food Science as a field of study.

7. DEPARTMENT OF FOOD SCIENCE-PRIZE: R600

Jana Schreuder

Awarded annually to a first year BSc Food Science student. Involvement in and general interest in Food Science as a field of study.

8. JEANNE MARIE VAN DER POEL-PRIZE: R5500

Jesse Kelfkens

Awarded annually to a final year BSc Food Science student. Involvement in and general interest in Food Science as a field of study

9. MATTIE JOOSTE (UNDERGRADUATE)-PRIZE: R12000 Anika van der Mescht

To be awarded annually to an undergraduate final-year student in BSc Food Science for having obtained the highest average percentage for all modules over the first three year

10. SASKO-PRIZE: R12 000

Anja Laubscher

Presented by: David Howard, Manager Technical 2

To be awarded annually to a third-year BSc Food Science student for the best achievement in all the first year and second year modules.



Some of the prize-winners attended the prize-giving ceremony on 10 October 2019.

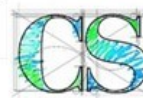
Photo from left to right: Anika van der Mescht, Anja Laubscher, Kim Mannix, Meghan Gomes, Prof Gunnar Sigge, Jesse Kelfkens, Jana Schreuder, Mia Schutte, Eduard Zehrt, Emma van der Merwe



GUEST SPEAKERS



INGREDIENTS SPONSORED



ANALYSES SPONSORED



SNACKS SPONSORED



STREAMING



LUCKY DRAW



Rooibos Ltd Gift
Hamper



Wine Tasting at
Avondale for two



x2 Beers and
x2 Burger Meals

Jeff Green (alumni)

x2 Bain's Cape
Mountain Whiskey



STEELCRAFT
STAINLESS STEEL PRODUCTS

x4 Cake Cooling
Racks

Brewing cup back in Matieland

The annual Anheuser-Busch Inbev (AB-Inbev), formally South African Breweries (SAB), intervarsity beer brewing and tasting competition were held on the weekend of 23 to 25 August in Bloemfontein. The competition was held jointly by the Central University of Technology (CUT) and the University of the Free State, with CUT being the host university. The Stellenbosch University team were made up of Food Science (Sebastian Orth and Ivan Harris), Microbiology (Ludwig Bröcker) and Polymer Science (Gestél Kuyler) students.

This year 14 South African universities took part in the competition, each submitting four beers which were brewed according to the Beer Judge Certification Program (BJCP) standards for each beer style. Beer style categories included, winter warmer, Indian Pale Ale (IPA), lager and a completely new style, African premium lager. This one was included to test the initiative and creativity of all participants in the competition.

Stellenbosch University set out to brew three of the four classes, these being; Imperial Indian Pale ale, Belgian triple and the new premium African lager. With a little luck, excellent teamwork and a lot of pre-emptive tasting, sipping and discussing, the beers were brewed, fermented, kegged and finally bottled. With no time to spare, the beers were sent off to Bloemfontein on an early morning flight.

Arrival in Bloemfontein saw to be an educational experience, and a meet and greet over a few beers promptly took place. After meeting students from the competing universities, a series of lectures commenced all focusing on beer brewing principles and applications – an excellent learning experience. The evening commenced and each university introduced their team and brewery. Some 'beer-inspired' presentations seemed to kick-off the spirit for the SU BREW CREW. This culminated in fantastic discussions with the main organiser Mr Anton Erasmus, brew master extraordinaire, and the other brewers that were present at the event.

The next day judging started at 9 am and for the students more lectures and learning about beer and beer making were included in the program. The evening saw the start of the prize giving, with tensions running high and all participants seeking brewing greatness and fame. Finally, Stellenbosch University won the prizes for best African premium lager and best beer at the show (also the African premium lager). Setting the benchmark for a completely new style of beer to be potentially brewed worldwide. With a lot of hard work, severe brainstorming and the use of some unique South African ingredients we pulled it off. In the end, it was worth the effort and the taste of victory was sweet indeed.

It was an honor to represent Stellenbosch University at the competition, which we previously won in 2009.

It was a great feeling to be able to return the trophy to where it belongs, and to win some other prizes and money destined to improve our brewery.

With great thanks to the organisers, AB-Inbev, CUT and the University of the Free State.

(Sebastian Orth – on behalf of the Stellenbosch University brewing team)

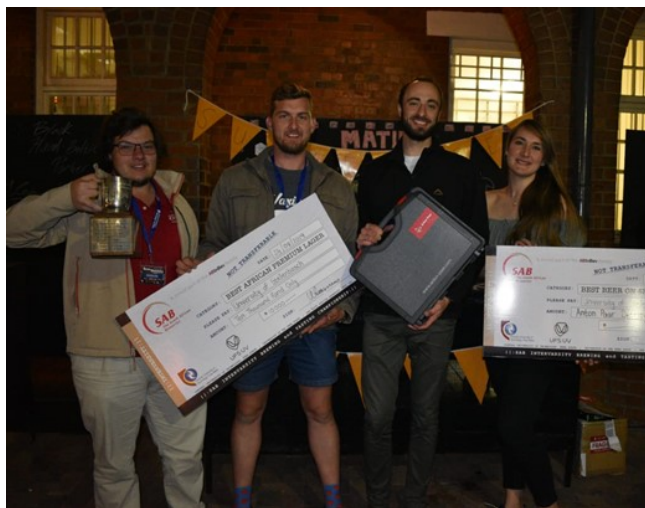


Photo: Stellenbosch University team members with the prizes, from left to right: Sebastian Orth, Ivan Harris, Ludwig Bröcker and Gestél Kuyler



The winning labels



Let's hear how Jesse Kelfkens experienced the 23rd SAAFoST Congress

The 23rd SAAFoST Congress, themed "Science and Technology for the 21st century" hosted in September 2019 in Johannesburg and I had the privilege of being able to attend. It is an international event held biennially and aims to bring together exhibitors, students, young professionals, professionals and academia of the food industry. I travelled to Johannesburg from Stellenbosch University, curious to hear and learn from a wide variety of local and international speakers and exhibitors.

Beside the science and technology itself, there were several key take-aways that I see as hugely important for my development. The most important for me was simply the development of self-confidence. Confidence in delivering a message, not being afraid to ask questions and to critically consider and discuss various topics. I soon realised the importance of networking and even had to take an occasional criticism as advice. Meeting leaders in the food industry really helped me to shape my vision and endeavours for the future.

On arrival at the congress on Sunday evening, I was pleasantly greeted at the reception desk. Everything was well prepared and I was handed my nametag and various other goodies. Some familiar faces, such as Owen Frisby, were already there to introduce me to some new people and so the journey began. The program was very well set out and I found my fellow congress attendees inspiring to talk to as these people really enjoyed sharing their knowledge.

The panic I experienced when standing up to become the first student to ask a question in a packed auditorium is a feeling I will never forget. Some mental notes to self and possible suggestions for other young people at this kind of event would be to dress well, feel confident, take the leap and ask questions. Don't be afraid to talk to people and ask for their opinions. Be open to listen to the ideas and experience they have to share. As hard as this may be for you, getting to know your peers in this specialized industry is so important. Shy introductions on my first day lead to friendly chats later and familiar faces the next day was easier to talk to which brought along knowledge sharing.

To the professionals, academia and retired members, your knowledge and insight may be just the tools we, as students, need to be inspired to accomplish a brighter future across the globe. It would be great for more young professionals to be involved in future events to help bridge the generational gap between students and established professionals.

To conclude, I would like to extend my greatest appreciation to SAAFoST for hosting the congress and the industry for participating and contributing to its success. I would also like to acknowledge that without the encouragement and support of several individuals at the Food Science departments of both Stellenbosch and Pretoria Universities as well as SAAFoST, I may have missed a wonderful opportunity for development and for this I am truly thankful. I am certainly going back to my studies feeling more motivated than ever to take on the challenges of the 21st century food industry. By the end of the week I had met some incredible people in the industry and even made many new friends.



Photo, from left to right: Lynn McMullen;
Owen Frisby; Deon Gallus; Jesse Kelfkens;
Ingrid Woodrow; Stellar Frisby; Carina Mendes;
Richard Beardsley

Class of 2019



We wish you a joyous holiday season & prosperous 2020

