

Stellenbosch University

# Nuusbrief/ Newsletter

## 2010 IS HERE ...

Soccer world cup fever is in the air! You can see and feel it everywhere. It is exciting and it brings hope of being part of something bigger.....

Here at Food Science we also have excitement in the air, because 2010 is yet again a very special year for us. We have a very worthy new Professor in our midst, a record number of post-grad students, big building plans on our table & an international conference coming up!

We have a very special team of students & staff that makes this Department so successful and dynamic. Let's all add a little of the World Cup Magic to our already great team!

### IUFoST Food Science World Congress 22-26 August 2010 @ CTICC, Cape Town [www.iufost2010.org.za](http://www.iufost2010.org.za)

Forty two Stellenbosch Food Science students will be attending the upcoming IUFoST World Congress either as volunteers or sponsored by SAAFoST and the Food Industry. The Local Organising Committee of IUFoST recruited 18 Stellenbosch students to form part of the 20 strong volunteer group that will be helping at the Congress. Five of the chosen volunteers are undergraduate students – another feather in the Department's cap! A further six Food Bev SETA bursars' attendance is being covered by the SETA, 3 students are being sponsored by Appletiser and another 15 students (including 6 undergraduates) are being sponsored by the Cape Branch of SAAFoST.

Several other postgraduate students will also be attending the Congress and most of the Departmental staff will also be attending. The Department will have a stand at the Exhibition, mainly to promote our research and possibly attract more South African and international students. Prof Trevor Britz, Ms Anchen Lombard and Dr Natasja Brown will be managing the stand.

The Department is also well represented amongst the speakers: Prof Manley was invited to present a paper on NIR Hyperspectral work, while Donna Cawthorn and Coleen Leygonie were chosen to present oral papers. The reviewing process was very rigorous, so this is an excellent achievement. Only 192 orals could be chosen from over 1400 abstracts, received from 77 countries. See u @ IUFoST 2010!





## Professor Marena Manley



Marena Manley was born in the Eastern Cape town of Cradock. She grew up in the small mining town of Koegas in the Northern Cape where she completed her primary school years. From there she went to Prieska (and boarding school) to finish high school.

Marena came to Stellenbosch to do a BSc in Food Science. After graduation her first job was at the Small Grain Research Institute in Bethlehem, Free State and after one year of working full time she took a year's unpaid leave to complete her honours degree at the University of Pretoria. On completion of her honours she took up a position at the South African Wheat Board in Pretoria, during which she completed her MSc studies. From Pretoria Marena got the opportunity to do her PhD at Plymouth University in the UK. After completing her PhD she was offered a position at Foss Electric in York, but

when a lecturing position at Stellenbosch became available two years later she decided to grab the opportunity with both hands.

Currently Marena teaches a number of undergraduate courses in Cereal Science, Food Packaging, Quality Management (ISO 9001:2000) and Food Safety (HACCP) systems. She also established an internationally respected research program over the years, using mainly NIR.

Time permitting, Marena is a keen jewellery designer and maker. Otherwise you will find her in the garden or watching an art film or theatre performance.

It is with great pleasure that the Department can announce her promotion to Professor in Food Science. This promotion is well deserved, as her research record over the past years is exceptional.

Marena managed to establish a broad base of collaborators locally and internationally and is regarded highly within the Cereal Science and NIR Spectroscopy field. This is evident from her ever increasing number of invited lectures and her positions on international conference and association committees. Her contribution to the academic programme within the Department is also indispensable and she plays an important role as part of the management team.

Read more on page 5 about Prof Manley's involvement with the NIR 2010, 15th international conference in Cape Town.





## Lecturer appointed at Food Science

The Department of Food Science is very privileged to appoint someone as capable & well liked as Chisala Ng'andwe as a lecturer.

Chisala was born and grew up in the little town of Kabwe in Central Zambia. This is where he went to primary School. From there he went to Changelo School(Mkushi) for his Secondary education. Chisala received his BSc(Agric) Food Science & Technology degree from the University of Namibia in 2003.

From Namibia he spread his wings to the University of Pretoria where he started his Post grad studies and obtained a BSc (Hons) Food Science(2005) and a MSc(Agric) Food Science and Technology (with distinction) from the University of Pretoria (2006-2008).

In 2009 Chisala came to Stellenbosch University to further his studies. This is how he describes his decision in his own words: 'After I first visited Stellenbosch in 2005 during the SAAFoST conference, despite of the terrible weather, I was in love with the picturesque little Boland town of Stellenbosch. So when the opportunity to pursue a PhD at Stellenbosch University came my way in 2009, it wasn't a difficult decision to make. After spending 4 years in the hustle and bustle of Gauteng, a move to the tranquility of this part of the Western Cape was a very welcome change'.

Chisala is the newly appointed lecturer for *Food Chemistry and Analysis*. The topic for his PhD studies under the guidance of Prof Marena Manley is: 'Elucidation of the optimal organic nitrogen profile for yeast in barley wort fermentation: The goal of my work is to establish the collective role of both yeast promoting an inhibiting nitro-

gen containing organic constituents in barley wort and their effect on yeast performance during fermentation.' This work is a collaboration between the Department of Food Science, the Biopep peptide research group of the Department of Biochemistry, Stellenbosch University & South African Breweries & Malting (SABM).

What you might or might not know about Chisala is that he is a vivid Manchester United supporter & a great collector of music. He also enjoys DJ'ing when time permits ..... no wonder some students, after hearing his contagious laugh, named him Food Science's own DJ FRESH!



Mr Chisala Ng'andwe aka DJ Fresh...

## R22 million Building extensions

Dr GO Sigge



For those of you that have not heard the good news, the Department is expanding and construction will hopefully start early in September. A new four story building will rise up slightly behind and to the west of the current building (see artist impression of the future building).

The new building will house three new research laboratories, a large lecture hall, seminar room, a new sensory laboratory, postgraduate workstation areas,

meeting rooms and other facilities. The existing building will be partly refurbished, and this will include a new food microbiology laboratory, new molecular microbiology laboratory, postgraduate workstation areas and a few other alterations.

The main reasons for the expansion in facilities, is the growth in undergraduate and postgraduate student numbers in the last few years. The Department currently boasts with over 140 undergraduate students (average of 35/year) and an astonishing 53 postgraduate students, shared by only 5 academic staff members! The current building just cannot handle this heavy load and the extensions will not only accommodate the growth in student numbers but also the quality of the research and teaching!

There is great excitement in the Department about these developments and anyone is welcome to have a look at them in my office.





## The River by Tshepo Kikine

The Department of Food Science is not only passionate about food but also about the environment. The Department contributes to the “Green” campaign by making sure that the water quality in our rivers is good enough to irrigate the leafy green vegetables we eat. When the rest of the world is worried about the global warming effects drying up the rivers, we are busy making sure that the water being saved is useful for the irrigation of crops. There is no use saving water only to have it polluted to such a dire extent that in-

stead of having water in the rivers, there is only waste water. Therefore our passion does not only lie with food but with the environment that helps grow our food.



Tshepo Kikine taking samples of river water (left) & testing it in the lab (above)

## Diski dance competition

Tshepo Kikine

When the whole world is getting ready to come down to South Africa for the soccer world cup, the South African people are already experiencing the world cup spirit. The Food Science Department showed their world cup spirit to the whole of the Stellenbosch campus when they took part in the Diski Dance competition.

The Neelsie Centre was filled to the brim with audiences who watched as the Food Science Department Team danced the official world cup dance called the “Diski Dance”. The name of the team was *E. coli* and boy they did infect the crowd with their world cup spirit. They were so infectious that the judges put them in the finals of the dance competition. The team lost in the finals but they managed to win the best painted green face. When you see the pictures you will understand why team *E. coli* won the award. So the next time you walk or drive past the Food Science Department, remember that there is more to the department than hyperspectral imaging, DGGE's, flavour wheels and Petri dishes. We have the World cup spirit as well!



Here is some of our Diski dance team showing their World Cup spirit!



## On a personal note....



Right: Gunnar, Karlien & baby Melanie

Left: Debora with the little Max van der Merwe



We had 2 extensions to the family since the beginning of 2010.

Gunnar & Karlien were blessed with a baby girl Melanie.

Debora and Prieur van der Merwe's first born is a boy, Max.

Congratulations and we hope they bring you much joy & happiness!



## Maart Gradeplegtigheid 2010

Tydens die Maart 2010 gradeplegtigheid is 4 BSc Voedselwetenskap grade toegeken, 1 MSc in Voedselwetenskap aan Marijke Lotter en 1 MSc in Voedselwetenskap (Cum Laude) aan Janita Botha.

Baie geluk aan hierdie kandidate en sterkte vir julle pad vorentoe as voedselwetenskaplikes!

### NIR spectroscopy and Cereal Quality Research Group attended CST-SA in Pretoria

Prof Marena Manley and seven of her postgraduate students and postdoctoral research fellows attended the International Grains Symposium: Quality and Safety of Grain Crops and Foods held at the University of Pretoria, 3-5 February 2010. Marena chaired one of the sessions as well as presented an invited talk titled: '*NIR hyperspectral imaging for cereal quality and safety*'. All the postgraduate students presented posters on their respective research projects. The symposium ended well when Paul Williams was awarded the First Prize for the Best Student Poster. The title of his poster was '*NIR hyperspectral imaging for evaluation of endosperm texture of white maize hybrids*'.



Paul Williams receiving his prize from Peter Cowney.



Some of the other attendees from Food Science:  
Kim O'Kennedy, Jana Visser, Paul Williams, Gerida Du Toit & Yvette Roux

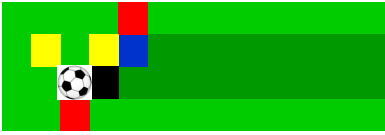
Marena promoting the 15<sup>th</sup> IC-NIRS wearing the NIR 2011 Makaraba



### NIR 2011 comes to Africa

The 15<sup>th</sup> International Conference on Near Infrared Spectroscopy (15<sup>th</sup> ICNIRS) will take place in Cape Town from the 13-20 May 2011. This is the first time ever that the 15<sup>th</sup> ICNIRS (also referred to as NIR 2011) will be hosted on the African continent. The Conference Chair is Prof Marena Manley. NIR 2011 is trusted to be attended by approximately 400 delegates from all over the world, comprising manufacturers of NIR equipment, developers of software packages, scientists from all areas of research where NIR spectroscopy is actively applied, as well as users of NIR spectroscopy from various industries such as agriculture, food, pharmaceuticals, petrochemicals and mining. One of the main aims of the Conference is to promote the use of this environmentally friendly technique on the African continent. NIR 2011 will be held under the auspices of the International Council for Near Infrared Spectroscopy (ICNIRS) ([www.icnirs.org](http://www.icnirs.org)). Please visit the website ([www.nir2011.org](http://www.nir2011.org)) as well as the NIR 2011 Blog for more information ([www.nir2011.wordpress.com](http://www.nir2011.wordpress.com)).





### Group 1

**Keco, a light coconut based pesto, ideal as an accompaniment to Thai dishes**



### Group 2

**B-bits, B for breakfast, banana & vitamin B**  
**Natural, ready-to-eat, energy rich, tasty, nutritious carob & banana breakfast cereal**



### Group 3

**MANUFIG, a refreshing, all natural, sweet, fermented fig sorbet**





**Group 4**  
**Cremé a la Berries is a fruit berry flavoured cream cheese**

## Produkontwikkeling/Product development May 2010

Die finalejaars het weereens baie inisiatief en vernuf aan die dag gelê die afgelope semester.  
 Op 29 April 2010 was dit hul kans om hul produkte aan die Voedselwetenskap Departement sowel as die Voedselindustrie en die res van kampus bekend te stel.  
 Die produkte is weereens met groot belangstelling ontvang.  
 Geluk aan die 4de jaars & Prof Britz met jul puik poning!



**Group 5**  
**I.C.Y.C a fruit flavoured true yoghurt coating for ice cream**

Me R Maguire (SAVVoT President) en Prof T Britz saam met die SAVVoT prysweners vir die beste produk, ManuFig.

**Always bear in mind that your own resolution to succeed is more important than any other.**  
**Abraham Lincoln**







## Food Science Department goes cosmopolitan again ....

On the photograph from left to right:  
Bottom: Laisve Lideikyte, Victoria Ndolo, Custodia Macuamule  
Top: Chrispin Mapanda, Sakeus Emvula & Harry Huang

We have a number of post-grad students & a post-doc from all over the world .....welcome to Stellenbosch, welcome ; welkom; siyaaleemukela; kamogelo, Seja Bem Vindo,欢迎' (huān yíng)!

Here is a bit more about them in their own words...

Laisve Lideikyte: I am from Lithuania, I finished a master's degree in genetics (finished it at Vilnius University, Lithuania). Afterwards, I obtained a PhD degree in the Institute of Agriculture, Lithuania, in 2008. My PhD project was "Genome rearrangements in ryegrass and fescue hybrids".

After finishing my PhD, I moved to Cape Town and did a postdoctoral research in the University of the Western Cape, Institute for Microbial Biotechnology and Metagenomics (IMBM) for 1 year (2009-2010). The research project was "Identification of the enzymes involved in lignocellulose digestion".

I started working at Stellenbosch University, Department of Food Science in 2010. I am involved in a research project about inhibition of the growth of *Mycobacterium* by different kinds of fermented milk. I am going to investigate the change of bacterial communities during milk fermentation. Laisve is working in Prof Corli Witthuhn's Molecular Food Micro lab.

Victoria Ndolo: I am from Malawi & I came to Stellenbosch University's Food Science Department under the sponsorship of African Women in Agricultural Research and Development (AWARD) on a research placement. The aim of my visit is to enhance my scientific research skills and knowledge in Food analysis. While here I enrolled into two undergraduate modules, namely Food Processing and Preservation & Food Chemistry and Analysis. The knowledge gained in the Food Chemistry and analysis will immediately be utilised as I analyse the nutritive content of *Moringa oleifera*, dried leaf powder from Masenjere Escarpment in Chikwawa, Malawi. I conducted my research in Prof Corli Witthuhn's Molecular Food Microbiology lab. Victoria will be going home at the middle of July.

Custodia Macuamule: I am from Mozambique & I came to Stellenbosch to do my PhD in Food Science. My Study leader is Prof Corli Witthuhn and I am working on a program to use milk fermentation as a preventative intervention in the spread of tuberculosis targeting rural communities of developing countries.

Chrispin Mapanda: I am from Zambia & came to Stellenbosch to do my MSc in Food Science. My research project, the utilisation of pork rind and soy protein in the production of polony also involves a lot of Meat Science. For that reason I work at the Meat science Department under supervision of Prof Louw Hoffman. Ms Nina Muller from Food Science is my other study leader.

Sakeus Emvula: I am from Namibia & I came to Stellenbosch to do a MSc in Food Science under Prof Marlena Manley.

My project is on the assessment of variance in the measurement of hectolitre mass of oats using equipment from different grain producing and exporting countries.

## Marena Manley presented Keynote at ANISG, Adelaide, South Australia

In April 2010 Prof Marena Manley presented a Key-note lecture at the 14<sup>th</sup> Australian Near Infrared Spectroscopy Conference on invitation from ANISG (Australian Near Infrared Spectroscopy Group). Her lecture titled: '*NIR hyperspectral imaging: thousands of spectra for exploring heterogeneous products*' was well received by the audience.

She was also given the opportunity by Peter Flinn to invite the Australians to attend NIR 2011 in a year's time, again wearing the NIR 2011 Makaraba. This time she entrusted her Makaraba to Peter Flinn for safekeeping (in exchange for an Australian hat!). Marena did not try to play the Vuvuzela in Adelaide, but rather left it to a professional, Dr Ian Wesley from BRI, Sydney!

'Having seen the quality of NIR spectroscopy research being done in Australia (and New Zealand!), I hope to see many delegates from down under in Cape Town next year, says Marena. Prof Marena Manley is the Conference Chair for NIR 2011.



Peter and Helena Flinn



Ian Wesley playing the Vuvuzela; Marena with the NIR 2011 Makaraba



Catherine Margach, Mary-Lou Swift and Marena Manley at the ANISG dinner in Adelaide

Character cannot be developed in ease and quiet. Only through experience of trial and suffering can the soul be strengthened, ambition inspired, and success achieved.

Helen Keller

## Research collaboration with the South African wine industry

Researchers, post-graduate students of Stellenbosch University and visiting scientists from Norway recently attended a wine tasting of Chenin Blanc wines at the Mount Nelson Hotel, Cape Town.

This event coincided with a research visit of a Principal Research Scientist, Prof Tormod Næs, of Nofima, Norway to Stellenbosch University. Under the leadership of Tormod Næs, Nofima is currently collaborating with other international institutes and universities in the development of ConsumerCheck, a software program that will use new methods of data collection and statistical analysis. This software program will be available in 2013 and will give industry a better insight into what consumers want. In view of this, Drs. Hélène Nieuwoudt and Andreas Tredoux of the Institute of Wine Biotechnology, as well as Nina Muller from the Department of Food Science, SU have established research collaboration with the Chenin Blanc Association and in 2010 four postgraduate students will focus on the chemical and sensory profile of South African Chenin blanc wines, but also consumer acceptability thereof. In this way the SU will collaborate actively on the ConsumerCheck research project.

Helène Nieuwoudt<sup>2</sup>, Nina Muller<sup>2</sup>, Andreas Tredoux<sup>2</sup>, Nina Lawrence<sup>2</sup>, Richard Kershaw<sup>3</sup>, Elena Menichelli<sup>1</sup>, Tormod Næs<sup>1</sup>, Evette Hanekom<sup>2</sup>, Lindi van Niekerk<sup>2</sup>, Hanneke Botha<sup>2</sup>

[<sup>1</sup>Researchers from Nofima, Norway; <sup>2</sup>Researchers & post-graduate students from IWBT & Food Science, SU; <sup>3</sup>Chenin Blanc Association]



Visiting Delaire Graff Estate whilst on a visit to Stellenbosch University:  
Prof Tormod Næs & PhD student Elena Menichelli, both from Nofima Mat, Norway.





