

Contents

News from the secretariat
Editorial
Study trip to Canada
Vlag PhD Party 2004
New PhD Projects
New Postdoc Projects
Summercourse Glycosciences
News from the PhD Councils
The first NuGo week
Overview of the
2004/2005 Courses
5th CHN Thematic Day
In & Out
Dissertations
Awards
Interview with
a former PhD Students

News from the secretariat of the Graduate School VLAG

One page more!!

From mid 2004 onwards most PhD-theses defended at Wageningen University are one page longer as before. This extra page, always found at the last pages of the booklet and accompanying the curriculum vitae, summarizes the training plan the 'young doctor' has completed. Although the decision to include the summary of the training plan in the thesis gave some confusion (it's compulsory for PhD students who started after 31 December 2001 and described in the official guidelines), it is another step forward in getting recognition for the fact that a PhD study in The

Netherlands is composed of two parts; - a research part and - an education part. What we should try to achieve is that all activities are referred to in such a way that it is not only understood by your fellow PhD-students but also by others. First step is of course to use all the same description for a certain activity and ... to use proper English. Up to now I saw as headings 'training and supervision plan', 'educational programme' and 'overview educational programme'. The secretariat of the Graduate School (Yvonne Smolders) is willing to guide you in this. With

several native English speakers within our PhD community it should not be too difficult to agree upon the proper wording of your training activities.

Fré Pepping

EDITORIAL

Dear readers,

We are happy to welcome Chantal Doeswijk as a new staff member (course coordinator) of the secretariat of the graduate school, VLAG. Chantal works on Monday, Wednesday and Friday.

Furthermore we want to thank Eira Carballo for all the energy she put in to making the VLAG-FLASH. At the moment, she is on maternity leave. On September 13 she gave birth to a beautiful son named "Kyran".

In VLAG-FLASH, you can read about the PhD trip of Food and Bioprocess Engineering to Canada. Further more this issue covers the PhD student party, news from the PhD council, the NuGO congress and the Summerschool Glycosciences. Three former VLAG PhD students received a VENI Award from the KNAW and Robert van den Heuvel talks about his life after his PhD.

Finally, we wish you lots of new energy for your research in this new academic year. We see you in our next issue!

The editorial board.

You can reach the editorial board of the VLAG-FLASH by e-mail at ingeborg.vanleeuwen-bol@wur.nl maaike.schutte@wur.nl

PhD-fellows of the Food and Bioprocess Engineering department visit Canada

From 29th of May until 5th of June the PhD-fellows and supervisors of Food and Bioprocess Engineering went on a study-trip to Canada. We visited universities in Waterloo, Guelph, Toronto and Kingston and a brewery in London.

On Saturday May 29th we left for Toronto. In Toronto we picked up our rental vans. These vans were a good opportunity to integrate

visited the Chemical Engineering department there. They gave interesting presentations about antifreeze proteins in winter rye and the applications of polymer membranes.

In the afternoon we went to the Labatt brewery in London. This is a brewery of Interbrew. They focus their research on innovation, development and problem shooting. It was very surprising to see a brewery with a

Science and the Canadian Research Institute for Food Safety. They gave presentations about dairy research, wine making and food engineering. These presentations also showed clear connections between their and our research.

At the end of the day they had organized a "Beer and Pizza" event for us with the possibility to meet and talk with the M.Sc and PhD students of the University of Guelph.

On Wednesday we drove back to Toronto and went to the department of Chemical Engineering of the University of Toronto. They gave presentations about biodegradation of groundwater, characterization of a-amylases, biological wastewater treatment and dynamics in a moving bed biofilm reactor. A remarkable fact about this department is that a big part of their research is funded by the Pulp and Paper industry.

The next day we visited the department of Food Engineering (also University of Toronto). There were two presentations about the extraction of oil out of mustard seeds. They also do a lot of research on micro-nutrient fortification, extrusion processing and reducing the formation of trans-fatty acids through hydrogenation.

Friday was unfortunately already the final day of our study tour. We went to the department of Chemical Engineering at Queen's University in Kingston. One of us had a nice reunion with the supervisor of her traineeship. We heard presentations about two-phase bioreactors and release of pharmaceutical proteins using

alginate microspheres. During the lunch-break they had organized a real Canadian barbecue for us. At the end of the day we had the opportunity to visit the labs and we were invited for another barbecue at a student home. Several Kingston PhD students came for a good chat. At the end we left to a nearby bar, where we had our farewell party. Next morning it was hard to get up, because we were leaving at 9am to Toronto, where the PhD-trip ended. Several people left by car or by plane for their holidays into Canada, others went back to the Netherlands.

The PhD study tour was a very good opportunity to see how research in Canada differs and resembles research at our own university. We also got to know each other better on a social level.

Cynthia Akkermans



in the Canadian way of life: big fuel slurping vehicles with automated gearbox and cruise control. The next day we had a day off to recover from our jet lag. Most people went into Toronto and enjoyed the clear view from the CN tower and walked along the shore of lake Ontario. A small part of the group drove to the Niagara Falls. At the end of the afternoon we left to Guelph. On Monday we drove to the University of Waterloo and

research centre. During this tour we got of course very thirsty. Fortunately we got the opportunity to taste some beers. A new trend in Northern America is low-carb beers, but most people did not appreciate those "diet" beers. The next day we visited the University of Guelph. This university resembles Wageningen University very much: a university in a small town with an agricultural background. We visited the department of Food

VLAG PhD Party 2004

On Thursday May 20th, VLAG organized the annual PhD student party at SSR. This day is a national holiday and for this reason our partners were invited along. There was a nice crowd at the party.

The party started with a nice dinner, and since the weather was so good, we were able to enjoy it in the garden of SSR. After the dinner we went to the bar to mingle and enjoy the music of the band "Het Pact". They played some of the most famous Dutch songs, so it was a good opportunity for foreign PhD students to see what happens the Dutch are exposed to popular Dutch music. Just before midnight the band played the Dutch song "Suzanne" and there was even a Suzanne present among the PhD students. It was her birthday, so it was a



Suzanne is joining the band

good opportunity to celebrate this!

At the end of the evening we were sitting on the floor with lighters in our hands enjoying the song "Stil in mij". We thank the organizers of this evening Sandra van der Graaf and Elke Scholten for the effort they put into organizing this nice evening.

Maaïke Schutte

New PhD Projects

Daniel Halsema, 1 May 2004

Highly selective oligosaccharide production through integration of enzymatic synthesis and peptide affinity under non-conventional process conditions. WU-Process Engineering, supervisors: Prof. R.M. Boom, Dr. A.E.M. Janssen

Gina Kenedy, 1 May 2004

In-depth regional analysis of gender and urban-rural differences in the prevalence and determinants of nutritional status in children under five years of age. WU-Human Nutrition, supervisors: Prof. F.J. Kok, Dr. I. Brouwer, Prof. C. Garza

Pascal Weijzen, 1 May 2004

My food, individual behaviour. WU-Human Nutrition, supervisors: Prof. P. van 't Veer, Dr. C. de Graaf, Dr. G. Dijksterhuis

Heidy den Besten-Stellingwerff, 15 May 2004

Quantification of stress response in gram positive pathogens. WU-Food Microbiology, supervisors: Prof. W.M. de Vos, Prof. M.H. Zwietering, Dr. T. Abee, Dr. R. Moezelaar

Elton Zvinavashe, 15 May 2004

Development of a computational chemistry-based QSAR approach that sets research priorities in toxicity testing of selected groups of EINECS list chemicals. WU-Toxicology, supervisors: Prof. I.M.C.M. Rietjens, Dr. A. Murk

Pascal Hommelberg, 1 June 2004

Diet, insulin-resistance and chronic inflammation. UM-Human Biology, supervisors: Prof. R.P. Mensink, Dr. J. Plat, Dr. R. Langen

Evy Mercken, 1 June 2004

Exercise induced oxidative stress in COPD. UM-Respiratory Medicine, supervisors: Prof. E.F.M. Wouters, Dr. A.M.W.J. Schols, Dr. G. Hageman

Stijn van der Veen, 1 June 2004

Microbial food preservation and safety. *Listeria monocytogenes* stress response. WU-Food Microbiology, supervisors: Prof. W.M. de Vos, Prof. M.H. Zwietering, Dr. J.A. Wouters

Renate Winkels, 1 June 2004

Folate and folic acid: studies on bioavailability, food content and food fortification. WU-Human Nutrition, supervisors: Prof. M. Katan, Dr. P. Verhoef

Kishore Tetala, 1 June 2004

Microreactors. WU-Organic Chemistry, supervisors: Prof. E.J.R. Sudhölter, Dr. G.M. Visser, Dr. T.A. van Beek

Marielle Engberink, 7 June 2004

Bioactive peptides. WU-Human Nutrition, supervisors: Prof. E.G. Schouten, Prof. F.J. Kok, Dr. J.M. Geleijnse

Ineke van Boeijen, 1 July 2004

Microbial food preservation and safety. Pathogen genotypic impact on stress survival. WU-Food Microbiology, supervisors: Prof. M.H. Zwietering, Dr. T. Abee, Dr. R. Moezelaar

Maarten Mols, 1 July 2004

Microbial food preservation and safety. Identification of molecular targets for preservation stresses in *Bacillus cereus*. WU-Food Microbiology, supervisors: Prof. W.M. de Vos, Prof. M.H. Zwietering, Dr. T. Abee, Dr. R. Moezelaar

Lex Verdijk, 1 July 2004

Structural and metabolic basis of sarcopenia. UM-Movement Sciences, supervisors: Prof. H. Kuijpers, Dr. L.J.C. van Loon, Dr. H.H.C.M. Savelberg

Guido Sala, 12 July 2004

Dynamic and sensory properties of gels filled with emulsion droplets and foam bubbles. WU-Physical Chemistry & Colloid Sciences, supervisors: Prof. M. Cohen Stuart, Dr. G. van Aken

M.W.H.J. de Been, 1 August 2004

Signal transduction and stress response in *Bacillus cereus*. WU-Food Microbiology/KUN-CMBI, supervisors: Prof. W.M. de Vos, Prof. R.J. Siezen, Dr. C. Francke

Jeroen Heck, 1 August 2004

Milk genomics. WU-PDO, supervisors: Prof. J. Lankveld, Dr. H. van Valenberg

Lidwien van Sprundel, 15 August 2004

Process on a chip: combining massive parallelization of multi-chamber reaction and separation with precise control of selectivity in multi-route enzyme systems. WU-Food Chemistry/Biochemistry, supervisors: Prof. A.G.J. Voragen, Dr. H. Gruppen, Dr. W.J.H. van Berkel

Marie-Jeanne Aarts, 1 September 2004

Animal studies on DAG metabolism. UM-Human Biology, supervisors: Prof. R.P. Mensink, Dr. P. Schrauwen

Koen Bekedam, 1 September 2004

Towards a better understanding of the forming and modeling of Maillard derived non-volatiles in complex food systems. WU-Food Chemistry, supervisors: Prof. G. Smit, Prof. M.A.J.S. van Boekel, Dr. H. Schols

Stan Gaj, 1 September 2004

Effects of short-term dietary intervention on molecular signatures in man. UM-Human Biology, supervisors: Prof. R.P. Mensink, Dr. C. Evelo

Nicole Leferink, 1 September 2004

Genome-based discovery and characterization of novel carbohydrate oxidoreductases. WU-Biochemistry, supervisors: Prof. S.C. de Vries, Dr. W.J.H. van Berkel

Gertrude Zeinstra, 1 September 2004

Methodology of sensory research in children. WU-Human Nutrition, supervisors: Prof. F.J. Kok, Dr. C. de Graaf

New Postdoc Projects

Ad Knaapen, 1 June 2004

UM-GRAT
The mechanism of particulate air pollution-induced progression of atherosclerosis

B.W.C. Bongaerts, 1 June 2004

UM-Epidemiology
Alcohol consumption and risk of genetic alterations in genes involved in colorectal cancer in The Netherlands. Cohort Study on Diet and Cancer

Marjolein van der Spiegel, 19 July 2004

WU-Product Design & Quality/WU-Management Studies
Understanding how human and food behaviour affect quality performance in the food chain: a techno-managerial approach.

Philip de Groot, 15 August 2004

WU-Human Nutrition
IC-Nutrigenomics

Nicole de Wit, 1 September 2004

WU-Human Nutrition
IC-Nutrigenomics

Summercourse Glycosciences 28 June-1 July 2004

Every two years the graduate school VLAG, including Wageningen University, Universities of Utrecht and Groningen and the Bijvoet Centre- organise the summer course, glycosciences. This year, there were 137 participants from different universities companies, and institutes from all over the world. The organisers of the summer course succeeded in combining a symposium with a lecture series. The presentations at the symposium gave an insight into new developments, and the lectures discussed basic principles such as nomenclature. The summer course illustrated the wide spectrum of carbohydrate chemistry, since there were speakers from plant

science to medical science. There was also a good mixture of fundamental and applied research. Several success stories from industries were presented such as the one given by Organon about the role of carbohydrate knowledge in developing a new drug.

The presentations on new techniques and approaches such as microarrays were of special interest for the Ph.D. students. In addition, there were presentations that gave background information and suggestions about using already respected techniques, like NMR.

Like every symposium, there were also several poster

sessions, which catalyse informal contacts. During the poster sessions, there were plenty of opportunities to meet colleagues, who are working on similar subjects, which often resulted in fruitful discussions. Prizes were given to the best posters. The winning authors were given the opportunity to present their work in little more details during parallel sessions.

The summer course took place in the WICC and lasted for 4 days. During this time the participants enjoyed the hospitality of the WICC and an abundance of good food and drinks, and some entertainment added lustre to the dinner during the last evening.

For us it was the first opportunity to meet researchers from all over the world and to hear different views about our research. Even now, we are still in contact with other participants of the summer course, which shows that in addition to increasing your knowledge, the course is also a good opportunity to start networking in your own research field.

Bas Kuipers and Gerd-Jan Coenen



News from the PhD Councils

How to cope with problems during your Ph.D.

Being a Ph.D. student is a good experience for most people, offering a lot of freedom to do research, expand network, develop various skills, etc. However, it is not a regular job, but a job over 4 years (if one works full-time) where you have to write a good quality thesis at the end and it is not always easy.

If you are faced with problems concerning your project, your daily advisor/supervisor and/or other aspects related to your work, it is very important to be able to talk about it and to try to solve the problem. Usually, just talking to your colleagues helps a great deal. However, the Graduate School staff are also here to help and contacting them may be a good first step to approach any problems. You could also make an appointment with the general confidant for employees of the university, Martie Wagenaar who will try to help you solve your problems.

It is important to have an annual progress assessment with your supervisor/daily advisor in order to discuss your Ph.D. Having these assessments makes it possible to recognize problems early, thus allowing enough time to resolve any issues. To discuss more formal problems, you could request the presence of a HRM-officer at the meeting.

If a Ph.D. student decides to leave his/her job, there will be a so called 'exit meeting' with a representative from the graduate school. An evaluation of the role of the daily advisor/supervisor will also be performed. In this way it is possible to monitor the reasons for leaving and the Graduate School can investigate whether there are issues that need to be improved for future Ph.D. candidates.

More information:

Martie Wagenaar
Martie.Wagenaar@wur.nl
Tel 0317 - 484553

A report about supervising Ph.D. students
<http://www.hetpnn.nl/Beleid/BehoudTalent.pdf>

OVERVIEW OF THE 2004/2005 COURSES

VLAG courses 2004-2005

www.wau.nl/vlag
www.nutrim.unimaas.nl

2004

Courses

10-13 October
1-4 November
11-12 November

8-9 & 2-30 November
22-27 November
30 November – 1 December
6-9 December
13-17 December

Conferences/symposia

29 October
25 November

Other activities

4-19 December

2005

16-18 February
28 February-3 March
13-16 April
18-21 April
3-10 June
August/September
10-13 October
31 October – 18 November
Autumn?

Conferences

11-12 April
2-3 June

Other activities

5-15 March

Food fermentation
12th VLAG PhD-week
Workshop Health Education "Van goede voornemens tot daden (in Dutch), Maastricht
Nutrition and sports, Zeist & Papendal
Chemistry and Biochemistry of Antioxidants (FEBS)
Gene expression meets genetic epidemiology (Maastricht)
Genetics and physiology of food-associated micro-organisms
Reaction kinetics

Transition towards sustainable protein supply chains, Profetas one-day meeting
1-day CHN symposium; SNP's in dietary-related disease (RIVM, Bilthoven)

PhD-tour Food Chemistry to Japan

Food Enzymology
Eco-physiology of the Gastro-intestinal Tract
Regulation of food intake
Food Safety
Nutritional and lifestyle epidemiology
European Summer School 'Food & Health', Paris, France
Food Perception
Production and use of food composition data in nutrition (FoodComp)
13th VLAG PhD-week

Joint scientific meeting of WEVO (Werkgroep Voedingsgewoonten) and the BFDG (British Feeding & Drinking Group)
WEON Conference (Working group Epidemiology)

PhD-tour Food Microbiology to South Africa

All courses will be held in Wageningen unless indicated otherwise.



5th CHN Thematic Day SNPs in Diet-related Disease Thursday November 25th, 2004

The Graduate School



National Institute of Public Health and the Environment (RIVM)
Room T.007, Bilthoven

Registration (before 18th November): Karin van Mourik
Phone: 030 - 274.3318, E-mail: Karin.van.Mourik@rivm.nl

Local organisers: Dr Edith Feskens, Dr Barbara Hoebee, Dr Jolanda Boer

09.30 - 10.00	Registration & Coffee	13.30 - 14.00	Population screening for familial hypercholesterolemia. Prof. Joep Defesche (AMC)
10.00 - 10.30	Gene-environment interactions in association studies of the Metabolic Syndrome: a wish-List. Dr Edith Feskens (Centre for Nutrition and Health, RIVM)	14.00 - 14.30	SNPs in chicken and pig genome. Prof. Martien Groenen (Animal Breeding and Genetics Group, WU)
10.30 - 11.00	Measuring SNPs in large studies: samples and examples. Prof. Eline Slagboom (Molecular Epidemiology, LUMC)	15.00 - 15.40	Nutrigenetics: possibilities for personalised diets? Prof. Pieter van 't Veer (Human Nutrition and Epidemiology, WU)
11.15 - 11.45	How much information is lost by haplotype uncertainty in SNP-analysis? Prof. Hans van Houwelingen (Medical Statistics, LUMC)	15.40 - 16.30	Can we realistically detect gene-lifestyle interaction in the aetiology of diabetes? Prof. Nick Wareham (MRC Epidemiology, Cambridge UK)
11.45 - 12.15	SNPs in biotransformation enzymes and coloncancer. to be announced (Radboud MC)	16.30 - 17.00	Discussion 'What will we know by 2010?'
12.15 - 13.30	Lunch		

The Graduate School VLAG (Advanced studies in Food Technology, Agrobiotechnology, Nutrition and Health Sciences) is a cooperative endeavour of four universities; Wageningen University, Maastricht University, Utrecht University, Radboud University Nijmegen; and five research institutes: Agrotechnology & Food Innovations, RIKILT/Institute of Food Safety, NIZO Food Research, TNO Nutrition and Food Research, and the National Institute of Public Health and the Environment (RIVM), The Netherlands

First conference of the European Nutrigenomics Organisation or (in short) the first NuGO week

In the first week of September, Wageningen became the center of 'nutrigenomics research' where the first NuGO week was held. NuGO is short for 'European NUtriGenomics Organisation', an EU-funded network of scientists working in nutrigenomic research, that started this year.

The week started with workshops (e.g. on 'nutrition-genotype interaction: risk-benefit analysis') or progress meetings for smaller groups of scientists. On Wednesday the conference kicked off with an inspiring lecture by Prof Jan van der Greef on nutritional systems biology. During the plenary sessions,

work in different areas within NuGO was presented, such as metabolic stress, risk benefit and nutrigenomics or new technologies. The poster sessions during lunchtime on Wednesday and Thursday were filled with lively discussions, on topics such as carcinogenesis, lipid metabolism, micronutrients and genetics. After the first full day of talks, about 70 doctoral students and/or young scientists boarded a ship at Wageningen harbor and spent the evening sailing the Rhine. The weather was great, and everybody enjoyed the scenery with their drinks in the sun. A buffet was served on board, with lots of fish and salads.

Outside, the lights of Arnhem-by-night were beautiful. Inside, the disco provided great music, which eventually tempted some people to dance. A little after eleven, all young NuGO people were welcomed back in the harbor by Fre. But for some, the night did not end there. Some people decided to go to the 'Vlaamse Reus' to continue the good times. It was a great night!! (It seemed that the dinner in the WICC for the 'old' scientists ended at 9 pm..... Ben Van Ommen (NuGO director) says that it is the young scientists which will make nutrigenomics happening....and he is probably right!). On the second day the plenary lectures were followed by parallel sessions on metabolic health and gut health.

In the evening, a dinner was held for all of the NuGO members at the WICC. The entertainment provided included three baronesses who welcomed everybody at the entrance and opened the dinner with a welcome-song. Similarly, they sang an introductory song for each of the speakers during the dinner. Prof Piero Dolaro invited everybody to the second NuGO week (September 2005) in Italy.

The singing baronesses invited some people to dance, but it was not until after the main course (also announced by a song from the baronesses) that the dancing really took off (it must have been the effect of the Asian foods, or maybe the wine....).

The plenary sessions on the last day, on novel models in nutrigenomics and on nutrition and genetics, were followed by parallel sessions on life stage nutrition and bioethics and communication. It was a pity that many people had to leave early due to problems with the trains at Ede-Wageningen. They missed the inspiring closing lecture of Prof. Hannelore Daniel. NuGO week 2004 was a great start for the European Nutrigenomics Network! (For more information see www.nugo.org)

Marjan van Erk



Poster discussion with a moderator (Christian Drevon from the University of Oslo)



Fré



The PhD-boat party on Wednesday evening



Dinner for the "Old" scientists on Wednesday evening



Dancing



Poster sessions on Wednesday and Thursday



The 3 Baronessen



Name Hans Ketelslegers
Place & date of birth Leunen, 15/12/1978
Research title High-throughput Genotyping of Single Nucleotide Polymorphisms as biomarker of genetic susceptibility
Group/Department Health Risk Analysis & Toxicology, Maastricht University
(Co)promoters Prof. Dr. JCS Kleinjans, Dr. JHM van Delft
Start of PhD project January 2003

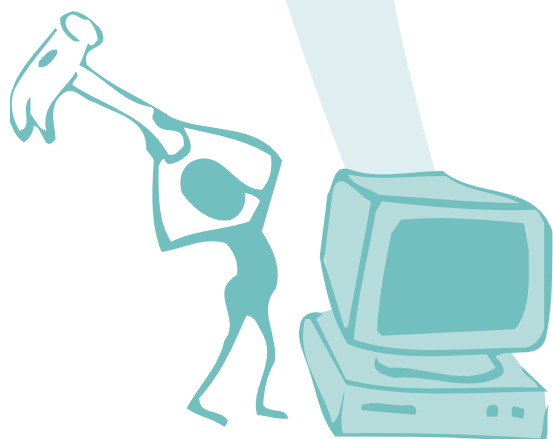
"It is great to keep in touch with the people from Maastricht"; they told me when I was asked by VLAG to write this article. I thought about these words again and I came to the conclusion that I could rephrase it. Because I think it is also great to keep in touch with Maastricht, or to be in Maastricht. Since I started my study Biological health Sciences in Maastricht, I fell in love with this town, but also with the "Maastricht-way-of-life" and, of course the work I was doing there. During my study, I went to Leiden (Leiden University Medical

Centre) to do an internship on the topic "Reverse Transfection using cDNA microarrays". It was the first (little) research project on my own, and I had a really great time there. For the first time I was seriously thinking about what to do after my graduation, and I got really interested in becoming a PhD student. But, you know, Maastricht... So I went back to Maastricht where I could start with my graduation on "Genotyping Single Nucleotide Polymorphisms using Arrayed Primer Extension" at the department of "Health Risk Analysis and Toxicology". During

my graduation I went for a 2-week course on this topic to Tartu (Estonia), as the only graduation student among PhD students who made me even more enthusiastic to do a PhD project. So when I was asked to continue my project as a PhD student, I didn't think twice. I am currently working on a high throughput method for genotyping Single Nucleotide Polymorphisms as a biomarker for genetic susceptibility. This project is part of a large biomonitoring project by the Flemish Government ("FLEHS: Flemish Environment and Health

Study"), which is a collaboration between several scientific research institutes. We are developing this genotyping method for application in several biomonitoring studies of this project. During the next 2.5 years, I hope to learn a lot in several ways. Doing research, writing papers and proposals, tutoring, but also to learn a lot about "life" and myself. I know the latter sounds a little dreamy, but maybe that's also what they mean here in Maastricht by "life sciences". I know I liked the past years of this way of life, and I hope this applies

for the next 2.5 years. And now it's almost weekend, so I have the opportunity to explore the "Maastricht-way-of-life" again...



Name David Patsouris
Place & date of birth Pierrelatte (France) 18/12/1976
Research title Probing the role of PPARα in glucose metabolism
Group/ Department Nutrition Metabolism and Genomics/ Human Nutrition (WU)
Promoters Prof. Michael Muller, Dr. Sander Kersten
Start of Project July 2002

Well, exactly 2 years ago I was starting my PhD project over here! I read most of PhD students article in the VLAG FLASH and pretty much agree with the general feeling that "time flies". My project is aiming at better understanding the function of a ligand activated transcription factor - PPARα - in glucose metabolism. This transcription factor is highly expressed in liver and such as illustrated in mice mutant for its gene, one of its function is to maintain fasting glycaemia. Combination of microarrays and promoter studies techniques enabled us to demonstrate that some key gluconeogenic genes are PPARα direct target genes. So far, I have obtained lots of satisfactions with

this project since I could get a publication accepted and a review should also come out. Like just said, I am very much delighted with my research and I enjoy very much the interaction I have with my supervisors. The two coming years will certainly be very tied since I would like to finish some other already started projects. Actually, those are tightly connected with my former observations except that the context switches from fasting to diabetes. Both "challenges" are very similar in the sense that under both situations, expression of gluconeogenic genes is stimulated. With all this, if I have to find a drawback to research and/ or being a PhD student, it would be that it's tempting to do

nothing else, especially if the project is made abroad. For this little "issue", I am trying to have some extra- activities, which mainly consist in using the sport facilities provided by Wageningen. As a PhD student I am trying to learn how to be independent and lead a scientific project from the A to the Z. Still, I am looking forward to finally be a "doctor" and eventually get the satisfaction to have done my best.



Name Anouk Geelen
Place & date of birth Maastricht (The Netherlands), 25/03/1975
Title thesis N-3 fatty acids from fish and markers of cardiac arrhythmia
Group Wageningen Centre for Food Sciences and Human Nutrition, Wageningen University
(Co)promoters Prof. M.B. Katan, Prof. E.G. Schouten, Dr. P.L. Zock
Date of defence 15/09/2004 at Wageningen University

According to the huge amount of information on the Internet n-3 fatty acids from fish fight and prevent heart disease, cancer, depression, Alzheimer's, arthritis, diabetes, ulcers, hyperactivity and many other diseases. However, definite scientific evidence is lacking for several of these promises. N-3 fatty acids indeed reduce the risk of heart disease, but the true mechanism behind this is still unknown. An attractive and promising hypothesis would be that n-3 fatty acids prevent unexpected cardiac death by suppressing life-threatening cardiac arrhythmia. I studied the short-term effects of n-3 fatty acids on several electrophysiological markers in human intervention studies. Based on the results of our straightforward studies it is doubtful whether n-3 fatty acids

affect the investigated markers of arrhythmia. We only found an effect of n-3 fatty acids on 24-hour heart rate, which indeed may predict a lower risk of sudden death. I very much enjoyed doing this research. I appreciated the very diverse activities that had to be done: The management of the project, the contacts with the different co-workers and participants, the analysis of the data, and finally the writing. I also liked the fact that I could share the troubles of a PhD job with all my colleague-PhD's at the division. Furthermore, I would like to mention all the nice trips to conferences, the courses that I followed, the PhD-excursion, the contacts with students etc. All parts of the unique PhD-job and even the salary is not that bad anymore;-)

Altogether, I never regretted my choice for this job and therefore I am very happy that I have the opportunity to continue doing research at this University as a post-doc. At this time, my thesis is finished and the date of my defence is approaching quickly. I will be happy if it's all over and done with. It is time to go on and look back at a great period!



What PhD's always wanted to know ...

Dear PhD student,

Have you ever had a question that you did not dare to ask? Do you think that you know something deep inside that everybody should know?

This is your opportunity!

Send us your questions, remarks and opinions (ingeborg.vanleeuwen-bol@wur.nl), and we will get back to you on that.

Dissertations

10 May 2004 at Wageningen University
Wim Wijting: 'Wetting phenomena and interactions in phase-separated colloid-polymer mixtures.'
 (Co)promoters: Prof. M.A. Cohen Stuart, Dr. N.A.M. Besseling

13 May 2004 at Universiteit Maastricht
Anke Oenema: 'Promoting awareness of fat, fruit and vegetable intake.'
 (Co)promoters: Prof. J. Brug, Dr. P. van Assema

14 May 2004 at Wageningen University
Marjolein van der Spiegel: 'Measuring effectiveness of food quality management.'
 (Co)promoters: Prof. W.M.F. Jongen, Dr. P.A. Luning, Dr. G.W. Ziggers

27 May 2004 at Utrecht University
Lina Engelen-Lindgren: 'A rough guide to texture; oral physiology and texture perception of semi-solids.'
 (Co)promoter: Prof. F. Bosman

28 May at Wageningen University
Peter Bron: 'The molecular response of Lactobacillus plantarum to intestinal passage and conditions.'
 (Co)promoters: Prof. W.M. de Vos, Dr. M. Kleerebezem

28 May at Wageningen University
Koen Weel: 'Release and perception of aroma compounds during consumption.'
 (Co)promoters: Prof. A.G.J. Voragen, Prof. G. Smit, Dr. A.E.M. Boelrijk, Dr. H. Gruppen

2 June 2004 at Wageningen University
Wanda Wendel-Vos: 'The public health impact of physical activity.'
 (Co)promoters: Prof. D. Kromhout, Prof. W.H.M. Saris, Dr. A.J. Schuit

14 June 2004 at Wageningen University
Laurice Pouvreau: 'Occurrence and physico-chemical properties of protease inhibitors from Solanum tuberosum.'
 (Co)promoters: Prof. A.G.J. Voragen, Dr. H. Gruppen, Dr. G.A. van Koningsveld

15 June 2004 at Wageningen University
Yves Bollen: 'Surfing the free energy landscape of flavodoxin folding.'
 (Co)promoters: Prof. S.C. de Vries, Dr. C.P.M. van Mierlo

18 June 2004 at Universiteit Maastricht
Danielle Curfs: 'The role of polycyclic aromatic hydrocarbons in atherosclerosis: implications for chemical atherogenesis.'
 (Co)promoters: Prof. F.J. van Schooten, Prof. M.J.A.P. Daemen

22 June 2004 at Wageningen University
Natalie Hotrum: 'Emulsion droplet spreading at air/water interfaces: Mechanisms and relevance to the whipping of cream.'
 (Co)promoters: Prof. M.A. Cohen Stuart, Dr. G.A. van Aken, Dr. T. van Vliet

10 September 2004 at Wageningen University
Kaouther Ben-Amor: 'Microbial eco-physiology of the human intestinal tract: A flow cytometric approach.'
 (Co)promoters: Prof. W.M. de Vos, Dr. T. Abee, Dr. E.E. Vaughan

15 September 2004 at Wageningen University
Anouk Geelen: 'N-3 fatty acids from fish and markers of cardiac arrhythmia.'
 (Co)promoters: Prof. M.B. Katan, Prof. E.G. Schouten, Dr. P.L. Zock

15 September 2004 at Wageningen University
Miriam Verwei: 'Bioavailability of folate from fortified milk products.'
 (Co)promoters: Prof. G.J. Schaafsma, Prof. C.E. West, Prof. J.P. Groten, Dr. R. Havenaar

27 September 2004 at Wageningen University
Marieke Verheijden: 'Nutrition counselling in general practice; the Stages of Change Model.'
 (Co)promoters: Prof. W.A. van Staveren, Prof. C. van Weel, Dr. J.C. Bakx

29 September 2004 at Wageningen University
Monica Mars: 'The acute leptin decline after energy restriction. A biomarker for the susceptibility to weight gain?'
 (Co)promoters: Prof. F.J. Kok, Dr. C. de Graaf, Dr. C.P.G.M. de Groot

1 October 2004 at Wageningen University
Marjan van Erk: 'Role of phytochemicals in colon cancer prevention: a nutrigenomics approach.'
 (Co)promoters: Prof. P.J. van Bladeren, Dr. B. van Ommen, Dr. J.M.M.J.G. Aarts

Colophon

VLAG-FLASH is the newsletter of the PhD-students of the Graduate School Vlag (Advanced Studies in Food Technology, Agrobiotechnology, Nutrition and Health Sciences). **VLAG-FLASH** is published three times a year. In every newsletter attention will be paid to ongoing research, general information concerning training- and research activities of Vlag, the agenda of relevant courses, congresses etc.

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Interview with a former PhD student

Name
Title thesis

Robert van den Heuvel
 Exploring the limits of vanillyl-alcohol oxidase
 Wageningen, April 6th 2001
 Prof. Dr. Colja Laane and Dr. Willem van Berkel
 Department of Biomolecular Mass Spectrometry, Utrecht University

Date and place thesis defense
(Co)promoters

Current working institute

1. What was topic of your PhD thesis?

Vanillin is the world's principal flavoring compound, extensively used in food and personal products. The curing process of *vanilla* beans is labor intensive and the *vanilla* plant only grows in a few territories over the world, making synthetically produced vanillin far cheaper than natural vanillin. With the increasing interest in natural products alternative methods, such as biocatalysis are being developed to produce natural vanillin from sources other than *vanilla planifolia*.



In this project, we aimed to enlarge the catalytic potential of the flavin-containing enzyme vanillyl-alcohol oxidase. To that end, the vanillyl-alcohol oxidase-mediated production of natural vanillin and optically pure compounds was addressed. Two different methods were used to direct the reactions towards the most favorable product. In the first method we controlled the reaction medium and in the second method we introduced a few subtle mutations in the

enzyme itself. For these studies insight in the protein-flavin and protein-protein interactions were of crucial importance. The project was successful as we managed to direct vanillyl-alcohol oxidase-catalyzed reactions by both medium engineering as mutagenesis. The most fascinating result was the inversion of stereospecificity of the enzyme by site-directed mutagenesis.

2. Can you describe the most important experiences during that period?

During my PhD period I worked a few months in other European labs. I spent 5 weeks in Glasgow (Strathclyde University) and 5 weeks in Pavia (University of Pavia, Italy). These experiences were of great value, not only from a scientific point of view but also from a personal point of view.

3. What is your current job like? Is it in the same field as your PhD research?

After my PhD period, I worked for two years at the University of Pavia as a Marie Curie post-doctoral fellow. In this period I became interested protein-protein interactions. Since April 2003 I am working in the Biomolecular Mass Spectrometry group at Utrecht University as assistant professor. In our group we are working on the analysis of protein networks, protein interactions and post-translational protein modifications by mass spectrometry. The research I am focusing on in Utrecht is somewhat related to the

work in Wageningen as I am still working on structure-function relationships of proteins and protein complexes, however, I am now primarily using mass spectrometry-based techniques. My current job as assistant professor involves teaching, writing research proposals and manuscripts etc. as well as supervising students and PhD students.

4. How are you combining your career and your private life?

Combining career and private life is not always easy, but I manage quite well. During the week my main activities next to work are running and cycling (5-6-times a week). I regularly compete in road races and duatlons in the weekend. Reading papers and writing short proposals etc. is sometimes a task for the evening or the weekend. Still I find enough time to have enjoyable weekends together with my wife.

5. What are your plans for the future?

Currently, I am setting up my own research subgroup at Utrecht University. I hope to have an established subgroup focusing on the (structural) analysis of protein networks and protein interactions as studied by mass spectrometry within 5 years.

6. Do you have an advice for current PhD students?

Use your PhD period to look around in the scientific world and in the case you want to continue working in science do not be afraid to change your field of research after obtaining your Ph.D. I have very positive feelings about my moves to different areas. It broadens your knowledge and will give you the ability to set-up cross-talk between different research areas.

Awards

3 VENI grants by the Netherlands Organisation for Scientific Research (NWO) for 3 former VLAG PhD-students.



Dr. Ilja Arts from RIKILT has been awarded to conduct research on the 'flavonoid paradox'.

Flavonoids are natural components of plant foods that may partly explain the health benefits of a diet high in fruits and vegetables. However, flavonoids are inactivated through conjugation by the human body immediately after consumption. The central question in Arts' research is whether mechanisms exist to 'recycle' these inactivated flavonoids, thus explaining their health effects. The VENI grants are part of the Innovational Research Incentives Scheme (Vernieuwingsimpuls), which has been set up in 2000 by NWO, KNAW and the universities jointly, to promote innovation in the academic research field. The VENI scheme gives young, talented, creative researchers the opportunity to conduct innovative research and to develop ideas by granting up to 200 000 Euro.



Dr. Marieke Bruins started as a post-doc on September 1st of this year at Process Engineering. She acquired a VENI-

grant for the next 3 years to do research and develop ideas. The topic of her research is high pressure and enzymes. Both can be used to accelerate and improve chemical reactions. Enzymes that can function under extreme conditions for instance

from hot springs or the deep-sea are being increasingly discovered. This enables research on the combination of enzymes and high pressure, which will be used to develop new processes.



Dr. Jochem Plat from UM-Human Biology also acquired a VENI-grant to do research and develop ideas. A

short description: There is a wealth of evidence from *in vitro* and *in vivo* studies that increasing concentrations HDL cholesterol, or its major protein (apoA-I), lowers the risk for coronary heart disease (CHD). As apoA-I - the predominant protein in HDL - is a driving force for *de novo* HDL synthesis, it is logical to direct interventions to increase apoA-I synthesis. Although apoA-I is produced in the intestine and liver, most knowledge on determinants and mechanisms of apoA-I synthesis is derived from hepatic studies. This selective interest is surprising, since the intestine contributes substantially to serum apoA-I levels. Thus, there is a clear need to understand the role of diet-induced intestinal apoA-I production as related to cardiovascular risk. However, there are no suitable models available. Therefore the first objective of this project is to develop a new transgenic mouse that selectively produces human apoA-I in the intestine. In a series of experiments the antiatherogenic potential of intestinal-derived apoA-I will then be compared with that of hepatic-derived apoA-I. The second objective is to develop and validate an easy method to analyze *in vivo* apoA-I production. Altogether, this knowledge and models may open new venues for (nutritional) counseling with respect to life-time prevention of CHD.