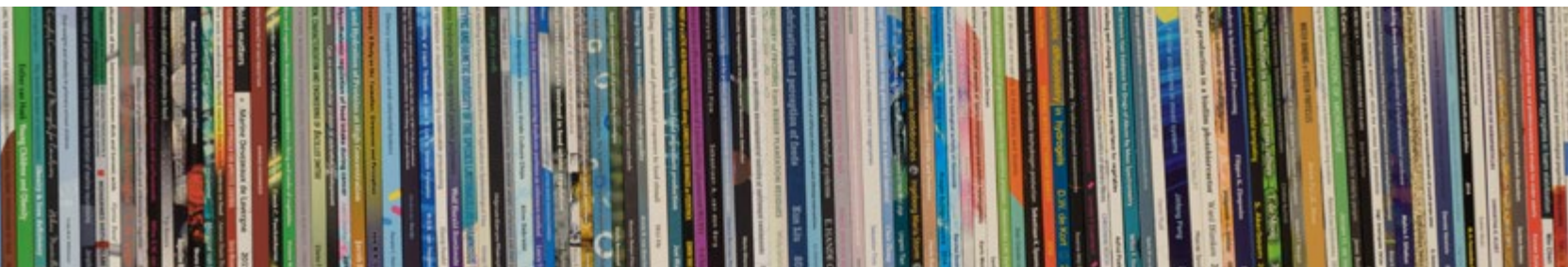




# VLAG Update

2015 | 2016







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# Introduction

This report describes activities and developments at the Graduate School VLAG during 2015 and 2016.

In 2015, several documents were produced as part of the external review process<sup>1</sup>. VLAG has not, however, published (bi)-annual reports since 1998 and the last formal publication was 'Current Research 2010', its seventh edition, which comprised one-page summaries about PhD candidates.

VLAG was established in 1993 by Wageningen University, Utrecht University (UU) and Radboud University (RUN). Maastricht University joined VLAG in 1999 and, in 2003, UU and RUN stepped away. In June 2015, the fourth VLAG External Peer Review concluded the management structure was not in line with how Wageningen and Maastricht universities operate and recommended to change the structure and end the cooperation agreement. Thus, since January 2016, the organisations within VLAG have been Wageningen University & Research (WUR) and the five affiliated research institutions, namely NIZO Food Research BV, TNO Healthy Living, the National Institute of Public Health and the Environment (RIVM), Wageningen Food & Biobased Research (WFBR) and RIKILT Wageningen University & Research - Institute of Food Safety.

Within Wageningen University & Research (WUR), the PhD programme is coordinated by six graduate schools working closely together under the umbrella of Wageningen Graduate Schools (WGS). Monthly WGS meetings are chaired by the Dean of Research, and offer an opportunity to discuss a wide range of policy issues with the Rector Magnificus. Executive Secretaries for the schools meet every two months to ensure operation and policy are effective and efficient whilst WGS Education Coordinators are responsible for planning and execution of skills courses offered to PhDs affiliated with WUR.

This VLAG Update 2015-2016 has a focus on the activities as initiated and coordinated by the VLAG secretariat. We did not list in detail the achievements of the participating chair groups/institutes during the period under review. These achievements can be found on the webpages of the respective groups.

Fré Pepping PhD, Managing director  
Prof. Renger Witkamp, Scientific director

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<sup>1</sup> Graduate School VLAG: Part A VLAG self-assessment report, External Peer Review 2009 – 2014, June 2015 (65 pages)

Bibliometric analysis of the graduate school VLAG 2008 – 2013, April 2015 (59 pages)

Graduate School VLAG: Part B, Self-assessment reports of the chair groups, External Peer Review 2009 – 2014, June 2015 (454 pages)

Graduate School VLAG: Assessment Report External Peer Review, 2015 (71 pages)

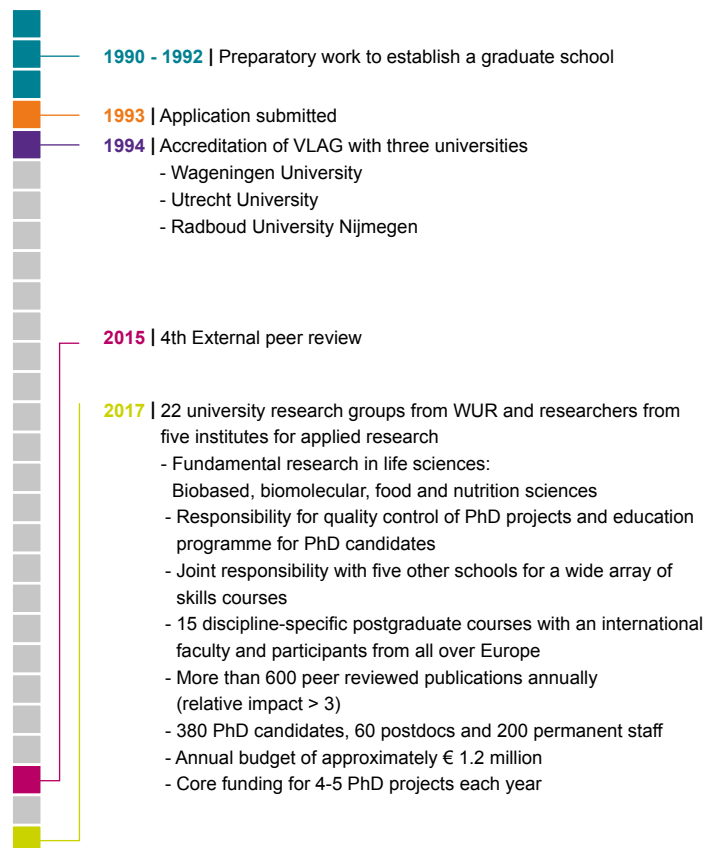




# Our position

The Graduate School VLAG maintains a unique position in the Netherlands. It brings together the vast majority of pre-competitive research in nutrition and food science, biobased and biomolecular sciences in the country, highlighting the strong links between pre-competitive and applied research undertaken by the partners.

## Fact & figures



With five research institutes and 22 affiliated research groups from WUR, VLAG brings together some 380 PhD candidates, approximately 60 post-doctoral scientists, and 200 staff to form one of the largest consortia of food science and nutrition researchers in Europe. In 2015, there were 78 PhD graduates and 86 in 2016. Furthermore, PhD candidates from all over Europe attend VLAG advanced scientific courses. These graduate students benefit from the fact that courses are delivered by VLAG scientific staff, supported by senior scientists from Europe and beyond Europe. At the same time, these visitors contribute to our international atmosphere and are instrumental in building up international contacts and collaborations.

## Research area and mission

VLAG is a high-class academic community in research and post-graduate education and provides a platform for education and professional development of young researchers as well as research collaboration.

The Graduate School VLAG vision is that society needs high quality scientists able to perform excellent science for impact. Our mission is to develop the careers of young researchers and promote research collaboration in nutrition and food science, bio-based and biomolecular sciences. The VLAG mission can be translated to three main goals achieved through specific lines of activity:

- Enable and manage excellent interdisciplinary research
- Educate junior scientists
- Facilitate sharing of knowledge and expertise within VLAG and through collaboration with other universities, research institutions, and networks.



## 2015 External peer review and follow up

The fourth VLAG External peer review was held in June 2015. Earlier reviews were held in 1999, 2004 and 2009. VLAG is reviewed in accordance with the standard evaluation protocol (SEP), as agreed by the Royal Netherlands Academy of Arts and Sciences (KNAW), the Association of Universities in the Netherlands (VSNU) and the Netherlands Organisation for Scientific Research (NWO). Preparatory work began in mid-2014 with a shortlist of potential candidates for the review committee and, at the end of 2014, two workshops were held exploring how the societal relevance of our research might best be presented. In March 2015, the International Advisory Board (IAB) gave feedback on the draft self-assessments undertaken by the various research groups.

Ultimately, the review committee consisted of 13 senior scientists from Europe and the US, assisted by two scientific secretaries. A total of 18 research groups at WUR and four research lines at the Maastricht University were evaluated, based on: Research quality, relevance to society, and viability. Seven research groups at Wageningen University and one research line at Maastricht University received the highest possible score for all three criteria.

The full report is available at [www.vlaggraduateschool.nl/en/research/peerreview-1.htm](http://www.vlaggraduateschool.nl/en/research/peerreview-1.htm). With respect to 'prospects and expectations for the Graduate School VLAG', the report states:

- It is clear that the VLAG is doing an excellent job in managing, stimulating and supporting PhD level training and research

across the two constituent universities. However, the external environment in which the VLAG operates is changing fast with pressures on funding, changes in societal demands and aspirations and a refocusing towards the east by many of the relevant industries. This will mean that in the medium and longer-term, VLAG will need to be responsive to altered funding priorities and mechanisms to ensure that the organisation remains aligned to the changing landscape of national priorities/top sectors.

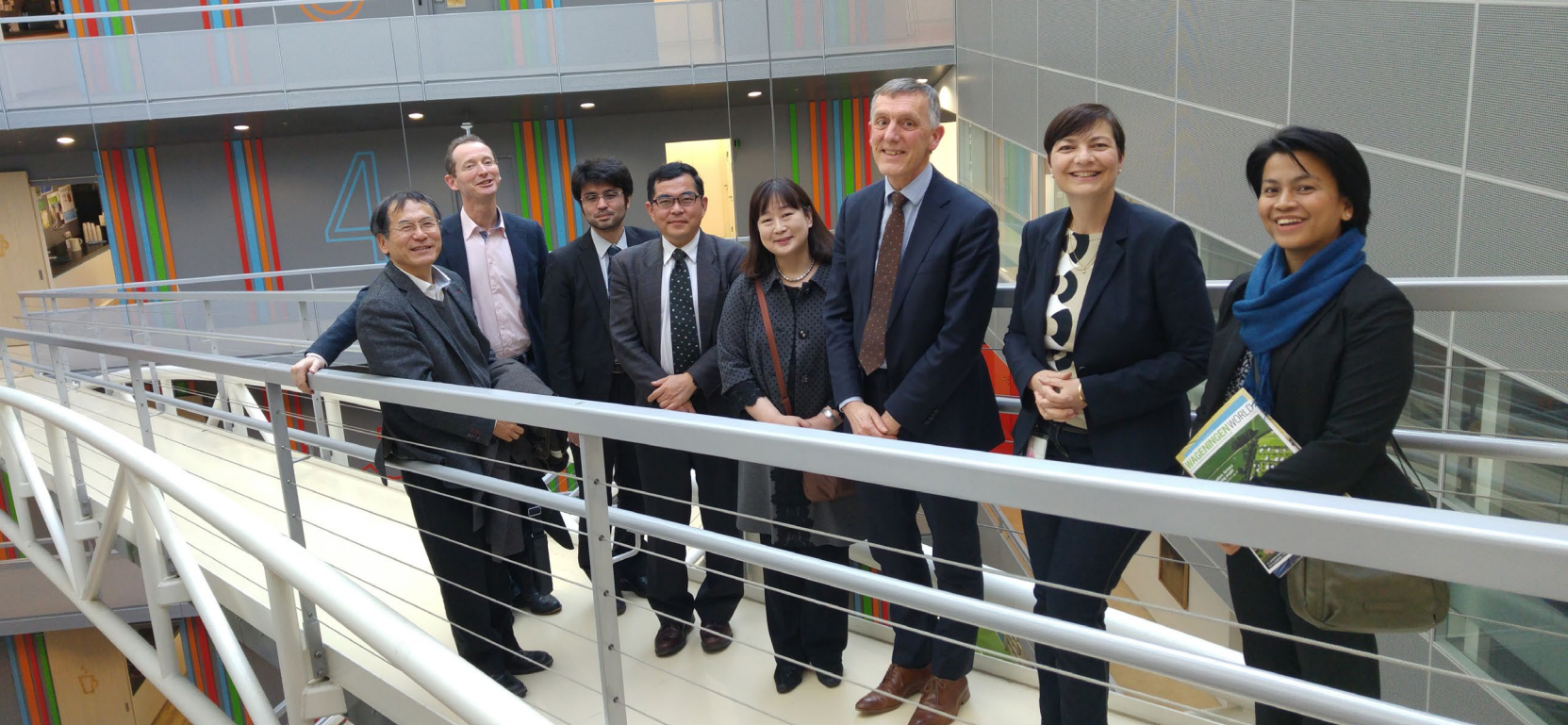
- Engage with food and other relevant companies to understand their shift in focus eastwards and to respond to altered training needs for PhD graduates.
- Build new relationships within and between groups and universities to optimise synergies, to drive innovation, to ensure that the research teams remain at the cutting edge and to minimise research redundancy.
- Recognising excellence in the fields of creativity, innovation and engineering is important for the university. This type of excellence helps to create a true innovation climate, and this is essential to stay at the cutting edge.

In the past, a graduate school would apply to KNAW for re-accreditation after an external peer review. In 2014, this was abandoned with the introduction of the new protocol for graduate schools in the Netherlands. However, the Executive Board of WUR decided that, whilst VLAG Graduate School should continue, the formal link with Maastricht University no longer offered sufficient added value for either organisation.

June 2015: VLAG External peer review committee with WUR staff, from left to right; Jasper van der Gucht<sup>1</sup>, Shaoyi Jiang<sup>2</sup>, Nick Wareham<sup>2</sup>, Roelinka Broekhuizen (secretariat), Nicholas Spencer<sup>2</sup>, Nico Overbeke (VLAG International Advisory Board), Remko Boom<sup>1</sup>, Francisco Ación Fernández<sup>2</sup>, Anne Meyer<sup>2</sup>, John Mathers<sup>2</sup>, Nigel Gooderham<sup>2</sup>, Dietrich Knorr<sup>2</sup>, Gerald Fitzgerald<sup>2</sup>, John van Camp<sup>2</sup>, Louise Fresco (president WUR), Frans van der Akker (secretariat), Matthias Reuss<sup>2</sup>, Vesna Prsic<sup>1</sup>, Fré Pepping<sup>1</sup>, Petr Dejme<sup>2</sup> and France Bellisle<sup>2</sup> (<sup>1</sup>VLAG Management team, <sup>2</sup>External peer review committee)







March 2016: Delegation of Tsukuba University visiting Wageningen and meeting with the Rector Magnificus Prof. Arthur Mol

Based on this, VLAG investigated the potential to extend collaboration with other parties on a more flexible basis. For example:

**Maastricht University (UM):** Joint WU-UM PhD projects were funded from the eighth, ninth and 10th VLAG open calls (see Table 1). These ongoing projects are collaborative efforts within Physics & Physical Chemistry of Foods, Food Process Engineering, and Nutrition, Metabolism & Genomics.

**University of Groningen (RUG):** There is extensive research collaboration through the Carbohydrate Competence Center, and two joint PhD courses are organized bi-annually, namely Glycosciences (attracting 80-110 participants) and Applied Biocatalysis (attracting 30-40 participants). In 2016, RUG scientific staff helped to organise the Oxizymes Conference (3rd-6th July 2016, Wageningen) and, in 2017, WUR and VLAG will participate in the 'Flavins and Flavoproteins' Symposium (2nd-6th July 2017, Groningen).

**Delft University of Technology (TUD):** For more than 10 years, WUR groups affiliated with VLAG have participated in BE-BASIC (Biotechnology based Ecologically Balanced Sustainable Industrial Consortium) or preceding consortium. The joint PhD course, Bioprocess Design, is given annually in Delft or Wageningen, a new joint course (Biorefineries) will be added to this collaboration. The BSDL Graduate School (Biotechnological Sciences Delft Leiden) no longer exists, responsibility for organising postgraduate courses has been taken over by BioTech Delft.

**Eindhoven University of Technology (TU/e):** Collaboration between VLAG affiliated groups with TU/e was, until recently, most

prominently within the framework of the Dutch Polymer Institute (DPI). In 2016, this collaboration was extended with two joint PhD projects, under the WUR investment theme Resource Use Efficiency. VLAG affiliated groups are foremost Physical Chemistry & Soft Matter and Food Process Engineering. Furthermore, collaboration is embedded within the Institute for Sustainable Process Technology (ISPT), NIOK (Netherlands Institute for Catalysis Research) and the DISC Research School (Dutch National Graduate School on Systems and Control).

## Internationalisation and international collaboration

VLAG affiliated research groups have participated in many EU-funded projects and a large proportion of non-Dutch VLAG PhDs are from other European countries. A breakdown of the VLAG PhD community, as of end-of-2016 is given under 'The composition of the PhD community' (page 15).

Across Europe, VLAG collaborates with the University of Copenhagen (DK), initially with LMC FOOD Denmark and now with FOOD Graduate School, several Swedish partner organisations (e.g. under the umbrella of the LiFT Graduate School), and with Finnish universities that participated in the Applied Bioscience: Bioengineering, Food & Nutrition, Environment (ABS) Graduate



School. Although the role of our counterparts FOOD, LiFT and ABS changed over the years, the universities that were involved are still important sources of PhD candidates participating in our courses.

Since 2004, the VLAG Secretariat provides managerial and administrative support for the EU-funded Nutrigenomics Network of Excellence (2004-2010), which became the NuGO Association in 2010. End of 2016, NuGO ([www.nugo.org](http://www.nugo.org)) had 28 member organisations that are participating in several lines of activities initiated by the Network of Excellence. Membership is not restricted to organisations from Europe and, currently, members include some from China, New Zealand and Australia. Each year, several training courses are organised, and the annual meetings were held in Barcelona and Copenhagen during 2015 and 2016, respectively. NuGO pays for the logistical support provided by the VLAG Secretariat, and some of our PhD courses benefit from grants provided by NuGO to its members.

VLAG also collaborated with a variety of partners outside Europe including:

- Singapore: Joint PhD programme with Nanyang Technological University (NTU). Collaboration began with signing of a Memorandum of Understanding in January 2013 and an Expression of Interest one year later. The Implementation Agreement, with respect to the joint PhD programme, was finalised in 2015 and, at this moment, six PhD candidates have been enrolled; four are employed by NTU and two by WUR. The WUR groups involved are Food Chemistry, Food Process Engineering and RIKILT Wageningen University & Research.
- Mexico: Preparatory work to establish a Sandwich PhD programme with Monterrey Institute of Technology and Higher Education (ITESM). A follow up meeting was held in 2016, to enable 3 sandwich PhD candidates to start during the academic year 2016-2017. Funding will be provided by ITESM and CONACYT (Mexican National Science Foundation).
- Ecuador: The VLAG secretariat, with assistance of Wageningen International, facilitated the links between several VLAG affiliated research groups and the Universidad Tecnológica de Ambato (UTA) in Ecuador. Appropriate funding seems to be available to enrol 5-6 sandwich PhD candidates in the VLAG PhD programme during the academic year 2017-2018.
- Thailand: Physics & Physical Chemistry of Foods launched an initiative to establish collaboration with Kasetsart University, enrolling Thai PhD candidates in a double degree programme from 2017 onwards.
- China: Next to the regular influx of candidates with funding through the Chinese Scholarship Programme (CSC, PhDs stay full 4 years at WUR), a sandwich PhD programme with the Chinese Academy of Agricultural Sciences (CAAS; PhDs stay 18 months) was started in 2016. From the first batch of 20 CAAS PhD candidates, four have found a place with VLAG affiliated chair groups.

- Indonesia: The Indonesian Government through, for example the Indonesian Endowment Fund for Education (LPDP) enables young scientists to spend up to four years as PhD candidate at a foreign university.
- Japan: VLAG has been collaborating with University of Tsukuba for some time and the groups involved primarily are Food Process Engineering and Food Chemistry. In recent years, these groups have organised PhD visits to Tsukuba. In 2016, five scientists from University of Tsukuba and the Japanese National Food Research Institute (NARO) visited Wageningen to explore the potential for further collaboration in the context of the Tsukuba Life Science Innovation Program, a visit that also involved Human Nutrition and Bioprocess Engineering researchers. The Food Chemistry PhD study tour (see page 18) visited Tsukuba in October 2016.

### Incoming sabbaticals

VLAG offers financial support to chair groups who want to invite senior scientists to spend time at WUR. The minimum duration of these incoming sabbaticals is three months. In 2015-2016, the following visitors were welcomed or their visit approved:

- Dr Franziska Hanschen (Germany)  
Food Quality & Design
- Prof. Junguo Wang (Mongolia)  
Food Quality & Design/ Food Microbiology
- Prof. Yonghao Chen (China)  
Nutrition & Pharmacology
- Prof. Nicoletta Pellegrini (Italy)  
Food Quality & Design
- Prof. Jelena Hogervorst-Cvejić (Serbia)  
Food & Biobased Research/ Human Nutrition
- Prof. Boris Usachev (Russia)  
Organic Chemistry

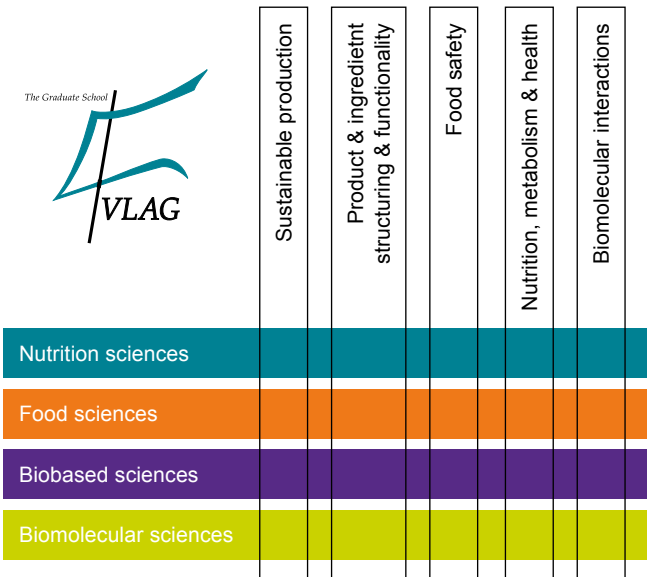
VLAG also provided financial support to facilitate the stay of PhD candidate Kacie Ho (Purdue University, USA) with Food Process Engineering, who won the GROW Food Process Engineering award.

### Incoming postdocs

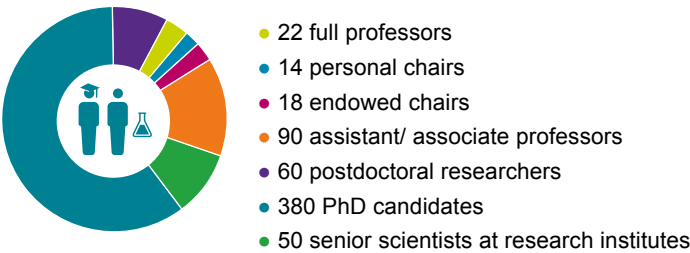
In 2016, a programme for incoming highly-talented post-doctoral researchers was established with the WUR Postdoc Talent Programme; these scientists can stay for up to a year within WUR. Funding was made available through the Executive Board, Graduate Schools, and the hosting chair group. During the first call VLAG received three applications that were supported by Bioprocess Engineering, Organic Chemistry and Food Quality & Design, respectively. Only one applicant met the criteria and was offered a place. However, the candidate accepted a tenure track position at a highly-ranked institute elsewhere before the visit could take place. In 2017, VLAG will use the 2016-2017 funds to select two candidates during the second call.

# Our research

The research effort by the affiliated groups can be presented within four science areas (rows) and five research themes (columns).



The VLAG scientific community consists end of 2016 of:



The five research institutes contribute to the supervision of the PhD candidates with some 50 senior scientists, five of which have a position as endowed professor at WUR. Seven of the 18 endowed professors above are employed by industry.

## Funding of the research

The following funding categories are in use in the Netherlands:

- First flow of funds: core-funding provided by the national government through ministries
- Second flow of funds: funding realised through Netherlands Organisation for Scientific Research (NWO) competitive grants
- Third flow of funds: all other funding including the funding through the European Union, special programmes of national and regional governments, contract research with industry, and charities.

Research areas covered by VLAG are characterised by a relatively

high proportion of external funding. On average, funding for VLAG PhD projects is composed of 10% first flow, 15 % second flow and 75% from the third flow of funds. This high proportion of funding through the third flow is, to a large extent, the result of participation in the so-called Technological Top Institutes (Technologische Top Instituten, originally established in 1996). For several years, the Top Sector approach of the Dutch government is generating many public-private consortia. Such consortia, still represented in the research portfolio associated with VLAG, include:

- Top Institute Food & Nutrition (TIFN), now included in the Top sector Agri&Food and operating as Top Consortium for Knowledge and Innovation (TKI) Agri&Food
- Institute for Sustainable Process Technology (ISPT)
- Carbohydrate Competence Centre (CCC)
- BE-Basic Foundation
- European centre of excellence for sustainable water technology (WETSUS)

The first flow of funds contributes in three ways to this research portfolio:

- Funds available through one or more chair groups. An example of this category is the Food System Dynamics programme initiated by the five chair groups within the cluster Food Sciences.
- Funding made available by the Executive Board to each WUR-based graduate school for innovative high-risk research proposals. Within VLAG, this is implemented via so-called VLAG Open Calls. Funding available to VLAG is around € 600.000 per annum, which is sufficient to fund some 12 PhD projects on a continuous basis, also including participation/co-financing from the research institutes affiliated with VLAG.
  - January 2015 (10th call): four projects were selected from 22 pre-proposals submitted
  - July 2016 (11th call): four projects were selected from 21 pre-proposals
  - December 2016: three projects submitted to the VLAG TKI-TopUp call were selected

An overview of project titles and groups is given in Table 1.

- Through a variety of specific programmes, universities involved foster research areas (see 'Relationship with strategic planning of partners') and funds are set aside for topics, such as research related to development cooperation.

The second flow of funds includes various prestigious personal grants (e.g. Veni-Vidi-Vici Innovational Research Incentives Scheme) as well as grants for research programmes, such as the funding provided by NWO Domain Applied and Engineering Sciences, TTW (previously Technology Foundation - STW) or ZonMw (The Netherlands Organisation for Health Research and Development).



The 'Food structure, digestion and health' graduate programme was based on one of the competitive NWO grants obtained by VLAG.

### **VLAG Graduate programme: Food structure, digestion and health**

Between 2008 and 2015, NWO organised competitive calls for graduate programmes where high-ranking MSc students selected a research topic and supervisor of their choice for a four-year PhD.

In February 2014, VLAG submitted a proposal titled 'Food structure, digestion and health' that involved 11 chair groups affiliated with VLAG; this application received funding in August 2014. Between November 2014 and January 2015, MSc programme directors for Nutrition & Health, Food Technology, Biotechnology, and Molecular Life Sciences, nominated 24 individuals for consideration, and 16 were selected to follow the programme:

#### **2015**

- February: two kick-off sessions with guest lectures and presentations from the 11 participating chair groups
- March-June (Rotations): each candidate visited three chair groups, wrote a short report about research ongoing in these groups, and indicated their preferred ranking
- April-November: candidates were offered the opportunity to attend 1-2 PhD courses (not necessarily VLAG) and an international conference
- September-November: four one-day sessions were organised in which external facilitators worked on elements of personal development

#### **2016**

- 4 January - 8 March: MSc course 'Proposal writing' (12 ECTS<sup>2</sup>) supervised by Prof. Karin Schroën (Food Process Engineering). During the last week, eight candidates were told they could continue to improve their proposal for external peer review. On 4<sup>th</sup> March, the remaining six presented their proposals to the VLAG Management Team and received feedback on proposal and its presentation.
- 15 March-1 May: External peer review including an opportunity for rebuttal.
- 27 May: eight finalists presented their work to the International Advisory Board; four were offered a PhD position.
- 1 September: three candidates commenced their PhD; the fourth will start mid 2017.

Of the 10 candidates that completed the whole programme, but were not offered a PhD position, four have gone on to obtain a PhD position, as of the end of 2016; one in Finland and three in the Netherlands. During an evaluation of the programme, by the VLAG Management Team, it was concluded that there was an imbalance in the numbers of candidates nominated by the respective MSc

programme directors, and the title of the programme did not attract good candidates from the Molecular Life Sciences study programme.

Continuation of the programme was discussed in early 2015, but did not result in a call for proposals. From mid-2016 onwards, WGS worked on a WUR-wide Graduate Programme and a proposal was accepted by the Executive Board at the end of 2016. The VLAG programme will start in 2017 with a maximum of 20 candidates and final selection is scheduled for June 2018.

### **Edema-Steernberg Foundation**

The Edema-Steernberg Foundation was established in 2015 by Mrs Drs. Johanna Edema, who was affiliated with the Division of Human Nutrition from 1968 to 1987. Mrs Edema died on 23rd December 2015 and funding from the foundation became available to support the recruitment of Master and PhD candidates in early 2016. The Board of the foundation is composed of Prof. Frans Kok (Emeritus Professor Nutrition), Prof. Johan Bouma (Emeritus Professor Soil Science) and Dr Fré Pepping (VLAG). VLAG provides support for drafting calls, selecting projects and candidates, and financial management of the foundation. A call, 'Why do we eat what we eat?', was published in spring 2016 and three chair groups from both the Division of Human Nutrition and the Department of Social Sciences each were invited to submit. From the nine submitted, seven were selected for full proposals. After peer-review five projects, comprising 6 PhD candidates, received funding (see Table 1). The projects will start early 2017.

### **Netherlands Fellowship Programme (NFP)**

From 2015 onwards, preselection of the NFP PhD fellowships was delegated to the universities themselves. WGS agreed on a quota for each graduate school and, for VLAG, seven places were made available. In 2015, although seven applications were submitted none was selected for funding. In 2016, six applications were submitted, with a better gender balance and more mature candidates, and three sandwich PhD grants for Toxicology (two grants for candidates from Ghana and Kenya, respectively) and Food Quality & Design (candidate from Tanzania) were approved.

The VLAG secretariat is assisting the chair groups in pre-selecting the best candidates and improving the contents of the applications.

## **Quality control**

One of the responsibilities of the graduate school is to monitor and safeguard the quality of research. This is achieved through peer review of PhD project proposals as well as participating groups. Within WUR, all PhD research proposals are subject to an external peer review. Projects must satisfy top scientific quality standards. Assessment of proposals by expert referees is, therefore, crucial. If this assessment is not performed by the funding agency, then VLAG organises the review (20-30 PhD proposals annually).

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<sup>2</sup> European Credit Transfer System

**Table 1** Successful projects and participating groups involved in the 10th and 11th VLAG Open calls, Graduate programme, WUR Investment themes support programme, and the call of the Edema-Steernberg Foundation

Project title	Collaboration
<b>10th VLAG Open Round (2014 – 2015)</b>	
Real time monitoring of reactions using in situ NMR spectroscopy	<b>WU - Biobased Commodity Chemistry*</b> WU - BioNanoTechnology
Tailoring the design of antioxidant dietary fibres to optimize health benefits of polyphenols	<b>WU - Food Quality &amp; Design</b> WU - Host Microbe Interactomics
Tailored functionalities through structure design: New food emulsions stabilised by solid lipid nanoparticles	<b>WU - Food Process Engineering</b> WU - Physical Chemistry & Soft Matter
How to put a brake on fat: investigation of a novel mechanism of regulation of intracellular fat breakdown	<b>WU - Nutrition, Metabolism &amp; Genomics</b> NUTRIM - Human Biology NUTRIM - Movement Sciences
<b>11th VLAG Open Round (2016)</b>	
Fishing for endogenous inhibitors of inflammation derived from 'omega-3 fatty acids'; unravelling the interactions between N-docosahexaenoyl-ethanol-amide and cyclooxygenase COX-2	<b>Organic Chemistry</b> Nutrition & Pharmacology
Probing submicron anisotropic food structures using single-nanoparticle diffusometry	<b>Biophysics</b> BioNanoTechnology Food Process Engineering
Resolving the rub in food friction	<b>Physics &amp; Physical Chemistry of Foods</b> Physical Chemistry & Soft Matter
The selfish tumour; changes in muscle micro-environment and energy homeostasis underlying cancer-induced muscle loss	<b>Nutrition &amp; Pharmacology</b> Human and Animal Physiology
<b>VLAG Graduate programme 'Food structure, digestion and health' (2014 – 2016)</b>	
"Mare incognita" – from exploration to exploitation: Sponge microbiota metabolites for improved gut health	<b>Microbiology</b>
Lactic Acid Bacteria for efficient delivery of vitamin K2	<b>Food Microbiology</b>
Survival of cardiovascular patients: A matter of fat?	<b>Nutrition and disease</b>
Flare versus remission in Inflammatory Bowel Disease: a potential role for bile acid dysmetabolism?	<b>Nutrition, Metabolomics &amp; Genomics</b>
<b>VLAG – TKI 'Top Up' call 2016</b>	
Resource Use Efficiency: Smart Colloids from cellulose using natural deep eutectic solvents	<b>Physical Chemistry &amp; Soft Matter</b> Food Process Engineering Eindhoven Univ. of Technology TU/e
Resource Use Efficiency: Design and sensory perception of multi-scale food structures fabricated by 3D printing	<b>Food Process Engineering</b> Human Nutrition Eindhoven Univ. of Technology TU/e
Global One Health: Bringing the consumer perspective to the table	<b>Human Nutrition</b> Wageningen Food & Biobased Research
<b>Edema - Steernberg Foundation (2016)</b>	
Why pregnant women eat what they eat. Exploring food choices of pregnant women and opportunities for health nutrition promotion	<b>Health and Society</b> Nutrition and health over the life course
Ten2twenty: optimal nutrition, social and economic status of adolescent girls in low and middle income countries for future health and development.	<b>Nutrition and health over the life course</b> Sociology of Consumption and Households
To like or not to like: on negotiating taste in children of families with lower socioeconomic status	<b>Sensory Science and Eating Behaviour</b> Strategic Communication
How to navigate a tempting food environment?	<b>Sensory Science and Eating Behaviour</b> Strategic Communication
From diet to everyday-life in diabetes type 2 prevention and care: connecting physical, social and environmental dimensions of healthy eating	<b>Health and Society</b> Nutrition and health over the life course

\* Lead groups are bold



## Relationship with the strategic planning of partners involved

This report coincides with the most recent phase of the WUR Strategic Plan 2011-2015 and the first follow-up year (Strategic Plan 2015-2018). With financial support from the Executive Board, VLAG and third parties, several interdisciplinary programmes have been realised, each with six-10 PhD candidates and/or post-doctoral scientists. Five PhD projects were co-financed through VLAG.

## 2011-2015

- Programme Customised Nutrition: 'Development of protein-enriched meal concepts tailored to the needs of elderly'  
PhD candidate: Canan Ziyilan, Human Nutrition and Wageningen Food & Biobased Research
- Programme Systems Biology in collaboration with Programme Biorefinery: 'Systems Biology of microalgae as photosynthetic platform for tailored production of chemical building blocks and biomass.' PhD candidate: Benoît Carrères, Bioprocess Engineering and Systems & Synthetic Biology.

## 2015-2018

- Programme Resource Use Efficiency: two PhD projects are listed in Table 1
- Programme A Global One Health: one PhD project is listed in Table 1

## Research output

As part of the 2015 external peer review, an in-depth bibliometric analysis of each chair groups' outputs was undertaken by the library of Wageningen University & Research, the previous one having been done in 2009. The report, *Bibliometric analysis of the graduate school VLAG 2008-2013*, was published in April 2015 and includes research lines of Maastricht University.



The relative impact, over the review period, ranged from 1.67 (2008) to 2.92 (2013), and was on average 2.37, which is more than twice the world average. The relative impact of VLAG publications improved steadily, with publications from 2014 having an average impact of 2.57 compared with those in 2015, which have an impact of 3.13 (based on WoS data, January 2017).

**Table 2** Publications 2014-2016 of the VLAG affiliated chair groups of WUR\*

Academic publications	2014	2015	2016
Refereed articles	596	710	693
Non-refereed articles	10	17	7
PhD theses	60	78	86
Refereed book chapters	28	18	29
Professional publications and products	30	36	17

\*Includes the publications from groups that are only affiliated partially with VLAG but excludes publications produced in the context of other graduate schools

## Daan Swarts wins price for best WUR publication



From left to right: Prof. Martin Kropff (rector Magnificus WUR), Daan Swarts and Jan Karel Mak (chairman Wageningen University Fund)

Daan Swarts did his research from 2011-2015 at the laboratory of Microbiology, he graduated cum laude on 2 June 2015. He obtained the price for his article *DNA-guided DNA interference by a prokaryotic Argonaute* that was published in Nature. He continued his career outside the Netherlands, from Switzerland he wrote:

*'During my PhD, I often played with the idea to do a post-doc abroad. I believed that transferring to a new environment would expose me to new research fields and would allow me to further develop my skillset. The choice to move to Zürich was based firstly on the quality and the focus of the research group, and secondly on the (location of the) country. The latter was important for both me and my girlfriend, as we highly value contact with our friends and families. Furthermore, Switzerland has a very high living standard and living so close to the mountains allows for many outdoor activities.'*

*I am currently funded as an EMBO long-term Fellow and work at the University of Zurich in the research group of Prof. Martin Jinek. My research focusses on the characterization of enzymes that can be programmed to cut DNA at a location of choice, similar to the proteins I have studied during my PhD research. My work is fundamental; we aim to solve the 3D structure of these enzymes, which allows to understand (and potentially improve) their mechanism of action. The enzymes we study have many applications in research (e.g. inactivating or inserting genes) and have potential future applications to cure genetic diseases. Besides it being excited to work in this fast-developing field, I am learning a lot of novel techniques. Although my research grant ends this summer, we aim to stay in Zürich a bit longer – I am not finished learning here yet!” Early 2017 his publication list shows: 7 first author publications and also 7 co-author publications, 2 peer-reviewed protocol publications and 2 patent applications.*

### High, higher, highest; VLAG top publications

There are various ways to rank publications. Dr. Ellen Fest (Wageningen University & Research Library) made a number of rankings of the articles published in 2015 – 2016 that have as first author a VLAG PhD candidate (as off 1 March 2017, name of the first author given in full/bold and the groups involved inserted at the end of the citation).

### Articles with the highest altmetric score\*



233

**Guido Camps**, Mars, M, De Graaf, C & Smeets, PAM (2016). Empty calories and phantom fullness: A randomized trial studying the relative effects of energy density and viscosity on gastric emptying determined by MRI and satiety. *American Journal of Clinical Nutrition*, 104(1), 73-80. [www.altmetric.com/details/8600549](http://www.altmetric.com/details/8600549) [21 news outlets] (Human Nutrition)

133

**Elske Brouwer-Brolsma**, Dhonukshe-Rutten, RAM, Van Wijngaarden, JP, van der Waluw, NL, Van der Velde, N & de Groot, CPGM (2015). Dietary sources of vitamin B-12 and their association with vitamin B-12 status markers in healthy older adults in the B-PROOF study. *Nutrients*, 7(9), 7781-7797. [www.altmetric.com/details/4611272](http://www.altmetric.com/details/4611272) [157 tweeters] (Human Nutrition)

93

**Sweecha Joshi**, Annida, RM, Zuilhof, H, Van Beek, TA & Nielen, MWF (2016). Analysis of mycotoxins in beer using a portable nanostructured imaging surface plasmon resonance biosensor. *Journal of Agricultural and Food Chemistry*, 64(43), 8263-8271. [www.altmetric.com/details/12560757](http://www.altmetric.com/details/12560757) [12 news outlets] (Organic Chemistry and RIKILT)

\* The Altmetric Score is a score for reference made to scientific articles in a various online sources and platforms. Examples of sources and platforms are: news articles, policy documents, blogs. The link gives access to the underlying information.

### Articles with the highest relative impact

(measured as FWCI)



29.03

**Lingmin Tian**, Scholte, J, Borewicz, K, Van den Bogert, B, Smidt, H, Scheurink, AJ, . . . Schols, HA (2016). Effects of pectin supplementation on the fermentation patterns of different structural carbohydrates in rats. *Molecular Nutrition and Food Research*, 60 (10), 2256 – 2266. (Food Chemistry and Microbiology)

15

**Grace Tan**, Fischer, ARH, van Trijp, HCM & Stieger, M (2016). Tasty but nasty? exploring the role of sensory-liking and food appropriateness in the willingness to eat unusual novel foods like insects. *Food Quality and Preference*, 48, 293-302. (Food Quality & Design and Marketing & Consumer Sciences)

13.62

**Lieke Gijsbers**, Ding, EL, Malik, VS, De Goede, J, Geleijnse, JM & Soedamah-Muthu, SS (2016). Consumption of dairy foods and diabetes incidence: A dose-response meta-analysis of observational studies. *American Journal of Clinical Nutrition*, 103(4), 1111-1124. (Human Nutrition)

FWCI = Field Weighted Citation Impact; an indicator similar as the Relative Impact, it gives a normalised citation score in comparison to other publications in the same field.

### Articles published in journal with the highest impact factor (IF)



34.6

**Prarthana Mohanraju**, Makarova, KS, Zetsche, B, Zhang, F, Koonin, EV & Van der Oost, J (2016). Diverse evolutionary roots and mechanistic variations of the CRISPR-cas systems. *Science*, 353(6299) (Microbiology)

24.7

**Nico Claassens**, Sousa, DZ, Dos Santos, VAPM, De Vos, WM & Van der Oost, J (2016). Harnessing the power of microbial autotrophy. *Nature Reviews Microbiology*, 14(11), 692-706. (Microbiology and Systems & Synthetic Biology)

14

**Tessa Quax**, Claassens, NJ, Söll, D & Van der Oost, J (2015). Codon bias as a means to fine-tune gene expression. *Molecular Cell*, 59(2), 149-161. (Microbiology)

**Tim Künne**, Kieper, SN, Bannenberg, JW, Vogel, AIM, Mielliet, WR, Klein, M, . . . Brouns, SJJ (2016). Cas3-derived target DNA degradation fragments fuel primed CRISPR adaptation. *Molecular Cell*, 63(5), 852-864. (Microbiology)



## Articles with the highest number of views\*



**272**  
**Ha Nguyen**, Van der Fels-Klerx, HJ, Peters, RJB & Van Boekel, MAJS (2016). Acrylamide and 5-hydroxymethylfurfural formation during baking of biscuits: Part I: Effects of sugar type. Food Chemistry, 192, 575-585. (RIKILT and Food Quality & Design)

**217**  
**Klementina Kireziova**, Luning, PA, Jacxsens, L, Allende, A, Johannessen, GS, Tondo, EC, . . . van Boekel, MAJS (2015). Factors affecting the status of food safety management systems in the global fresh produce chain. Food Control, 52, 85-97. (Food Quality & Design and various partners of an EU project)

**195**  
**Grace Tan**, Fischer, ARH, Tinchan, P, Stieger, M, Steenbekkers, LPA & van Trijp, HCM (2015). Insects as food: Exploring cultural exposure and individual experience as determinants of acceptance. Food Quality and Preference, 42, 78-89. (Food Quality & Design and Marketing & Consumer Sciences)

\* The sum of the abstract views in Scopus, and clicks on the link in Scopus to view full-text at the publishers website.

## Articles with the highest number of citations



**40**  
**Emre Günerken**, D'Hondt, E, Eppink, MHM, Garcia-Gonzalez, L, Elst, K & Wijffels, RH (2015). Cell disruption for microalgae biorefineries. Biotechnology Advances, 33(2), 243-260. (Bioprocess Engineering)

**35**  
**Tessa Quax**, Claassens, NJ, Söhl, D & Van der Oost, J (2015). Codon bias as a means to fine-tune gene expression. Molecular Cell, 59(2), 149-161. (Microbiology)

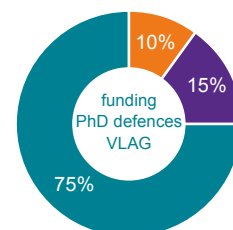
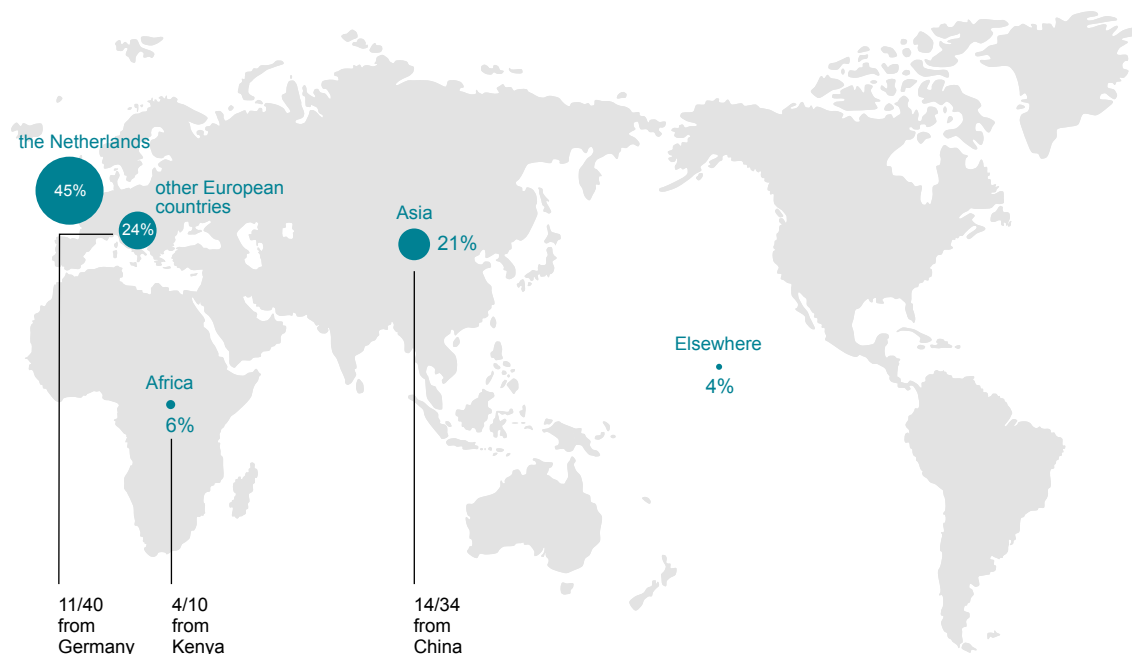
**30**  
**James Dower**, Geleijnse, JM, Gijsbers, L, Zock, PL, Kromhout, D, & Hollman, PCH (2015). Effects of the pure flavonoids epicatechin and quercetin on vascular function and cardiometabolic health: A randomized, double-blind, placebo-controlled, crossover trial. American Journal of Clinical Nutrition, 101(5), 914-921. (Human Nutrition)

## PhD defences

A total of 164 PhD dissertations were defended during the review period. Financing of these 164 PhDs followed the overall trend in terms of funding as presented on page 8.

	2015	2016
PhD dissertations	78	86

## Nationalities of alumni



- 1st flow of funds
- 2nd flow of funds
- 3rd flow of funds

## Logistic support to scientific meetings held in Wageningen

The VLAG Secretariat provides logistical support to scientists that have taken the initiative to host a conference. Although not restricted to Wageningen, experience over the years has shown that hosting such events in Wageningen offers considerable advantages, not least the participation of VLAG PhD candidates. During this review period, we hosted:

- British Feeding & Drinking Group (9-10<sup>th</sup> April 2015) – Every five years this UK-based group holds its annual meeting outside the UK. In 2015, it was hosted by Prof. Kees de Graaf (Sensory Science and Eating Behaviour); 153 people attended, 35 of which affiliated with WUR.
- 8<sup>th</sup> European Meeting on OxiZymes (3-6<sup>th</sup> July 2016) – The Organising Committee was chaired by Prof. Willem van Berkel (Biochemistry), supported by colleagues from Organic Chemistry, Food Chemistry, Wageningen Food & Biobased Research, University of Groningen and Delft University of Technology; the meeting was attended by 210 people.

## Other activities

A wide range of other activities with close links to the research agenda have been organised during this review period. Financial support was provided by VLAG for:

- Wageningen Evolution & Ecology Seminars (WEES) seminars 2015 and 2016
- Two 'expert meetings' with RIVM on Safe, Healthy and Sustainable Food with representatives of all science groups of WUR (2014-2015)
- Farewell Symposium Professor Daan Kromhout, Human Nutrition (16<sup>th</sup> April 2015)
- Food Valley Symposium (12<sup>th</sup> October 2015)
- Farewell Symposium Professor Frans Kok, Human Nutrition (15<sup>th</sup> October 2015)
- Visit delegation from Tsukuba, Japan (16-18<sup>th</sup> March 2016)
- 16<sup>th</sup> Food Colloids Conference (10-13<sup>th</sup> April 2016)
- 40<sup>th</sup> Dutch Epidemiology Conference (WEON, 16-17<sup>th</sup> June 2016)
- Postgraduate Symposium on Food Fraud (23-24<sup>th</sup> June 2016)

- Congress Photosynthesis in a Changing World (7-12<sup>th</sup> August 2016, Maastricht)



- International BioBased Economy Student Symposium (IBBESS) (August 2016)
- iGEM<sup>3</sup> 2015 and 2016 (Wageningen and Boston - USA, respectively)
- Seminar series of the WUR Chemical Sciences 2016-2018

<sup>3</sup> The international Genetically Engineered Machine Foundation is an independent, non-profit organisation o.a. dedicated to the advancement of synthetic biology.

# Our education

PhD studies, generally, last four years, three years devoted to the research and the remaining 12 months spent on a personalised training plan and assisting with educational activities. For sandwich PhDs (employed elsewhere, most often based on a North-South cooperation) and external PhDs (employment elsewhere, most often with a permanent job outside academia) the educational activities might take less time or no time at all.

## The composition of the VLAG PhD community

As of end of 2016, the VLAG PhD community comprised 379 PhD students.

### the Netherlands



181

### other European countries



69

Representing 18 nationalities with Germany (12), Greece (10), Italy (9) and Portugal (6) each contributing more than five individuals

### outside Europe



129

Representing 30 nationalities, the largest group comes from China (40) followed by Indonesia (13), India (10), and Mexico (7), each contributing more than five individuals

In recent years, we have seen a decrease in the proportion of PhD candidates with a four-year contract of the university; in 2015 and 2016, 76% (124/ 164) of the PhD graduates was employed

in comparison with only 54% (88/ 163) of PhD candidates that started during the same period. This trend brings up challenging issues, such as funding, research agenda setting, time-to-degree, which will need to be considered carefully.

## Training and supervision of PhD candidates

Under a personal Training & Supervision Plan (TSP) each PhD candidate submits within 3 months of starting, the contents of an educational programme, and teaching duties and supervision are formalised, safeguarding statutory rights and obligations of the PhD candidate and supervisors. Formal annual performance evaluations result in an update of the TSP, which must comprise a minimum of 30 ECTS earned by attending courses or undertaking training activities, categorised as:

- **Discipline specific activities** > 11 ECTS  
(post-graduate courses, workshops, symposia)
- **General courses** > 6 ECTS  
(VLAG PhD week, statistics, ethics, scientific writing, other skills)
- **Optional activities** > 8 ECTS  
(PhD excursions, journal/ literature clubs, optional MSc courses)

In 2015, 77 (of 78) PhD graduates obtained the VLAG education certificate and, in 2016, 84 (of 86). This average of 98% is exceptional and something of which we are very proud. A summary of the completed training activities is included in each PhD thesis.

### Graduation rate and time to graduation

In documentation provided for the external peer review (Part A: VLAG self-assessment report, External Peer Review 2009-2014, June 2015) detailed metrics was provided for the 2003-2014 PhD cohorts. On average, 8% of the PhD candidates discontinued or did not complete their thesis. For the 2003-2009 cohorts, nearly 60% graduated within five years (including the three months between submission and the public defence of their thesis). The most recent data indicates that the 2015 and 2016 PhD graduates needed, on average, 63 and 58 months, respectively, to complete the whole programme. The 'WU employed' sub-cohort had a shorter average time to degree than the 'non-employed' sub-cohort. Given the proportion of non-employed PhD candidates is rising, this is a point for the attention of the VLAG management.



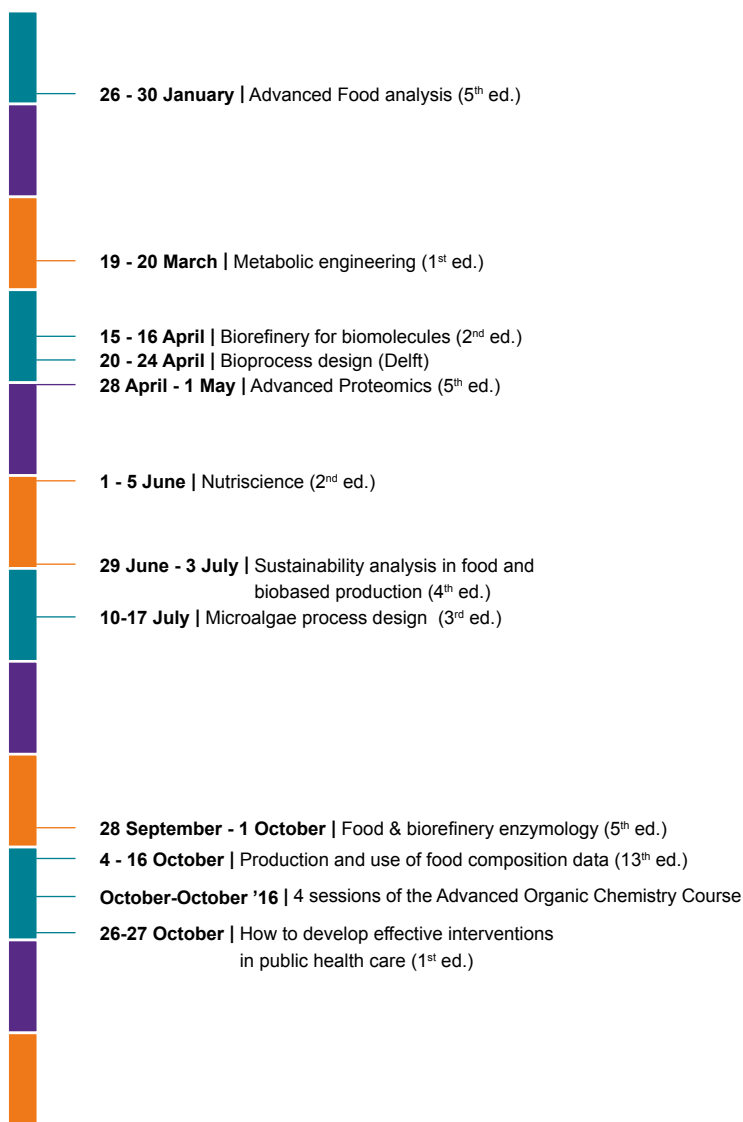
# VLAG Discipline specific courses

The first ‘VLAG International Advanced Course’ was organised in 1995, one year after the formal start of VLAG. Ever since, all courses have been offered in English and are open to PhD candidates, post-doctoral scientists and other professionals. The duration of the courses varies from three-10 days. Nearly all the courses are supported by an international faculty, sometimes through collaboration with EU-funded projects. This international faculty might be one of the reasons why VLAG courses are attracting a substantial number of participants from academia and industry beyond the Netherlands.

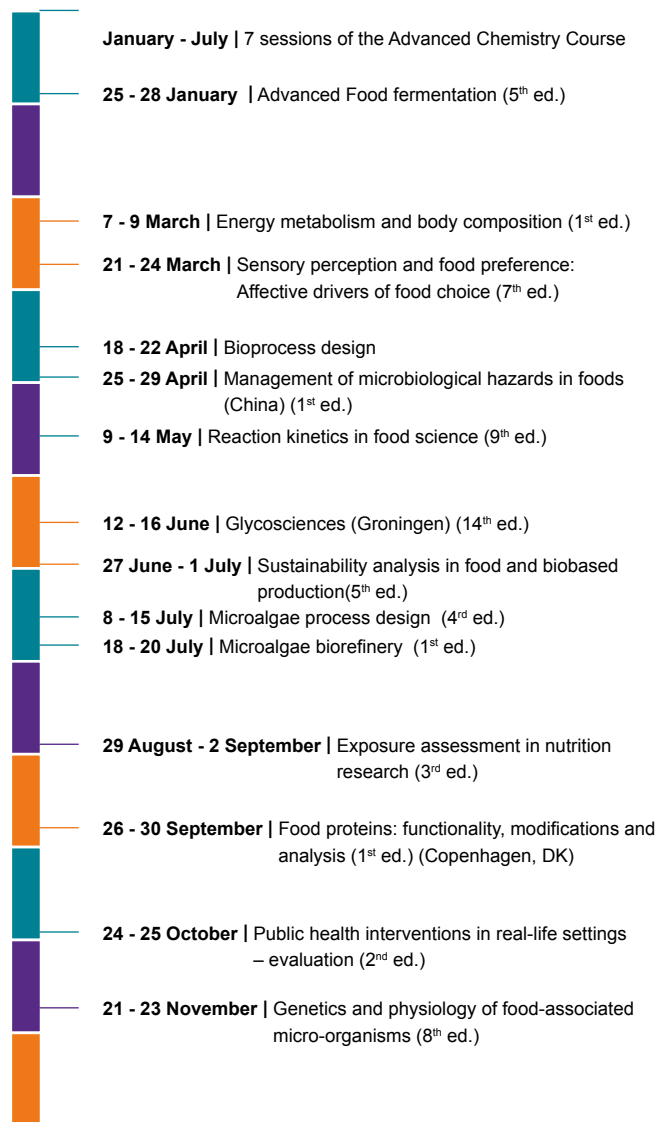
In principle, courses are offered every other year, although some courses are organised more frequently. ‘Management of microbiological hazards in foods’, for example, had its 15th edition in 2014 in Wageningen and the 16th was held in Beijing (China) from 25-29th April 2016. In 2015 and 2016, 25 ‘discipline specific’ courses were organised in collaboration with several partners, namely ACC AGORA, Maastricht University, Biotech Delft, China Agricultural University (CN), University of Groningen and the University of Copenhagen (DK); of the 25 courses, four were new.

## Postgraduate courses organised by VLAG

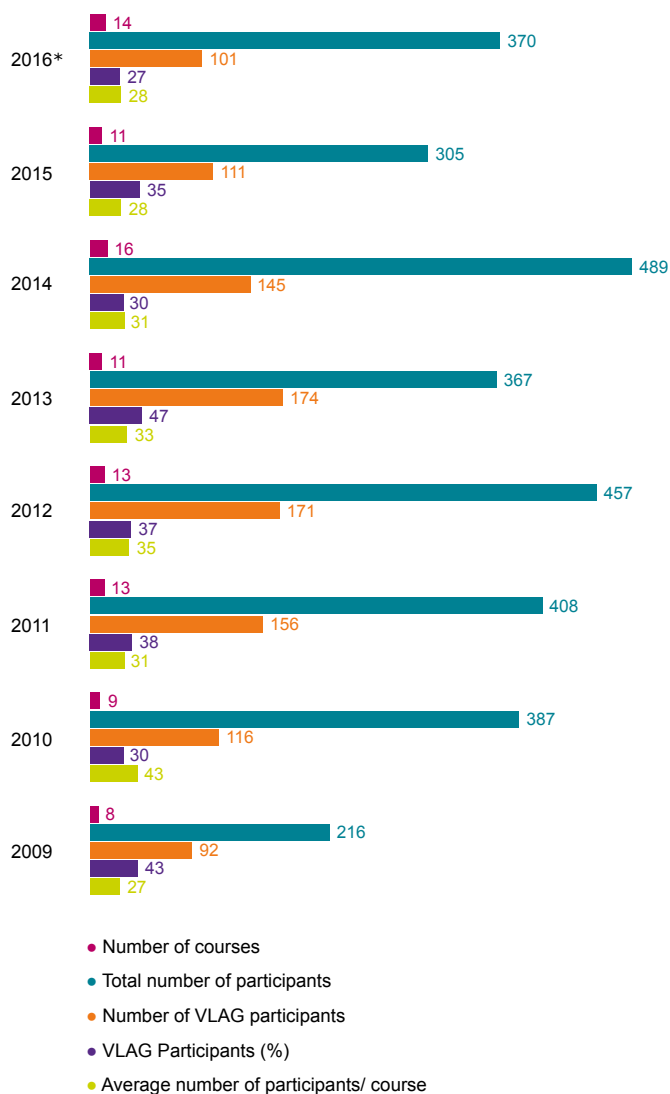
### 2015



### 2016



## Overview of participant numbers in VLAG discipline specific courses at WU (2009 - 2016)



\* No longer includes NUTRIM PhDs

All courses subject to thorough evaluation for relevance and quality. Evaluations are discussed with course leaders and adjustments are made for subsequent editions. Advanced scientific content, interactive didactic approaches, compact set-up, international and multi-stakeholder faculties, and diverse participant populations contribute to the overall evaluation as valuable and unique.



Each year, the national Postgraduate Education in Toxicology (PET) offers several toxicology-related courses (the PET

Secretariat is housed at WUR) and VLAG provides financial support to its PhD candidates to attend these courses. In 2015 and 2016, PhD candidates from Toxicology followed 150 PET modules.

Several discipline specific courses (co-)organised by the NuGO Association would also benefit from the logistical support by the VLAG Secretariat (see Internationalisation and international collaboration on page 6). In 2015 and 2016, these included:

- Molecular nutrition and regulation of cardiovascular health, Dublin (IE)
- Tools in nutrigenomics research, Barcelona (ES)
- Introduction to nutritional metabolomics, Copenhagen (DK)
- Personalised nutrition: From scientific discovery to interventions, Newcastle (UK)
- Use of large-scale data in dietary intervention studies, Copenhagen (DK)

## General courses by VLAG



Participants of the 35th edition of the VLAG PhD week, November 2015

During 2015-2016, VLAG offered the following general courses:

- Four editions of the VLAG PhD-week - an introduction course for new PhD candidates the emphasis of which lies in a variety of professional skills, network formation, and insights into the wide spectrum of VLAG research. The first edition of the VLAG PhD-week was organised in October 1994; 2015 and 2016 weeks were the 34-37 editions.
- Two editions of 'Philosophy and Ethics in Food Science' consisting of six half-day modules (January and February), which is also open for non-VLAG PhDs.
- Three statistics courses, given by WUR-Biometris staff:
  - Applied statistics (2 days)
  - Multivariate analysis for food data/scientists (3 days)
  - Chemometrics (3 days)

All these general courses were fully booked.

## General courses by Wageningen Graduate Schools

In addition to the activities described above, the six WUR graduate schools also organise jointly a wide spectrum of general courses under the umbrella of WGS. These comprise 30 different courses (e.g. time and project management, language courses focused on scientific writing and publishing, development of professional communication skills, career planning, entrepreneurship, etc.). Participation of VLAG PhD candidates in these courses is excellent, and the VLAG secretariat is responsible for delivering four courses:

- Career Perspectives (3 editions annually)
- Career Assessment (individual)
- Entrepreneurship (1 edition annually)
- Brain training (5 editions annually)

Information about the WGS courses is available at: <https://crs.wur.nl>

WGS actively supports staff by organising:

- Courses for staff supervising PhD candidates, which are mandatory for those enrolled in the Tenure Track programme
- Support programmes for candidates applying for the NWO Innovational Research Incentives Scheme, and the EU ERC Programme
- Career development course for post-doctoral scientists 'Science and the Alternatives'

## PhD Study Tours



As part of their PhD study tour to Japan staff and PhDs of Food Chemistry visited the Kao Museum in the Kao Corporation (they operate nine plants in Japan, and are involved in beauty, human health care, chemistry).

Unique to the VLAG education programme at WUR are the international PhD Study Tours. These 1-2 week long excursions are organised (including fundraising) by the PhD candidates in the chair groups. The programme consists of site visits to universities, research institutes and companies as well as attending and providing lectures and/or seminars. This allows both the PhD

candidates and the staff to interact with the international scientific and business community and vice versa. VLAG provides financial support for these excursions. In 2015-2016, eight study tours were organised:

### April - May 2015

Organic Chemistry	UK	(15 participants)
Physical Chemistry & Soft Matter	UK	(12 participants)
BioNanoTechnology		
Biobased Chemistry & Technology	CN	(13 participants)

### May 2015

Microbiology and Systems & Synthetic Biology	US	(35 participants)
----------------------------------------------	----	-------------------

### October 2015

Human Nutrition & Epidemiology	US	(25 participants)
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### May 2016

Food Process Engineering	DE/ CH	(20 participants)
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### October 2016

Food Chemistry	JP	(30 participants)
Food Quality & Design	IT	(20 participants)

VLAG also hosts incoming international PhD Study Tours. In August 2015, a group of 10 PhD candidates from the Institute of Food Research (Norwich, UK) visited VLAG. The group was accompanied by Dr Richard Mithen (deputy Director Research). The scientific programme was put together by the VLAG Secretariat in collaboration with several senior scientists, and included a one-day seminar with presentations by PhDs from both IFR and VLAG.



# Our societal relevance

In the self-assessment prepared for the fourth VLAG external peer review, each group described the societal relevance of its research and received feedback from the external peer review committee. Several issues were highlighted by the committee (e.g. patents, spinoffs, medically relevant products/ biosensors, industrial collaborations, outreach activities, and contributions to public databases, policy-making and national advisory bodies). At the level of VLAG, the external peer review committee concluded,

*'The historic foundation of the university together with the more recent integration of a series of research institutes into the university structure, has transformed it into the most successful applied research and technology transfer organisation in The Netherlands. These developments ensure that the university's high societal relevance is matched with its major scientific challenge.'*



Scientists from Food Process Engineering (left; Nam Phuong Hua, Birgit Dekkers; right; Jacqueline Berghout, Atze Jan van der Goot, Jarno Gieteling) investigate a meat analogue, which is produced with an in-house developed equipment/ couette cell

# Participating research groups

The VLAG Secretariat stays in contact with the affiliated WUR chair groups and the research institutes in various ways:

- a visit of the scientific director every two years to discuss ongoing issues,
- an annual visit to the PhDs to discuss matters related to the Training & Supervision Plan,

- 3-4 meetings per year with the so-called Contact Persons, during these meetings half of the time is devoted to ongoing issues and the other half is used for presentations of external speakers. Topics presented by external speakers in 2015 - 2016 covered a.o. data management plans, the collaboration with Mexico, the success of the Carbohydrate Competence Centre, the KIC Nexus initiative and the 4 TU federation.

## Agro-Technology & Food Sciences

### Cluster Bio-based Sciences:

#### Biobased Chemistry and Technology

Prof. Dr J.H. (Harry) Bitter, Group leader

#### Bioprocess Engineering

Prof. Dr R.H. (René) Wijffels, Group leader  
Prof. Dr G. (Gerrit) Eggink, Special chair  
Prof. Dr. M.H.M. (Michel) Eppink, Special chair  
Prof. Dr S.A. (Shirley) Pomponi, Special chair

### Cluster Bio-molecular Sciences:

#### Biochemistry

Prof. Dr S.C.(Sacco) de Vries, Group leader  
Prof. Dr W.J.H. (Willem) van Berkel, Personal chair

#### BioNano Technology

Prof. A.H. (Aldrik) Velders, Group leader

#### Biophysics

Prof. Dr H. (Herbert) van Amerongen, Group leader  
Prof. Dr J.P.M. (John) van Duynhoven, Special chair

#### Microbiology

Prof. Dr W.M. (Willem) de Vos, Group leader  
Prof. Dr J. (John) van der Oost, Personal chair  
Prof. Dr H (Hauke) Smidt, Personal chair  
Prof. Dr A.J.M. (Fons) Stams, Personal chair  
Prof. Dr J. (Jan) Knol, Special chair  
Prof. Dr R. (Richard) van Kranenburg, Special chair

#### Organic Chemistry

Prof. Dr J.T. (Han) Zuilhof, Group leader  
Prof. Dr F.L. (Floris) van Delft, Special chair  
Prof. Dr M.W.F. (Michel) Nielen, Special chair  
Prof. Dr C.J.M. (Cees) van Rijn, Special chair

#### Physical Chemistry and Soft Matter

Prof. Dr J. (Jasper) van der Gucht, Group leader  
Prof. Dr F.A.M. (Frans) Leermakers, Personal chair  
Prof. Dr S.D. (Simeon) Stoyanov, Special chair

#### Systems and Synthetic Biology

Prof. Dr V.A.P. (Vitor) Martins dos Santos, Group leader

#### Toxicology

Prof. Dr I.M.C.M. (Ivonne) Rietjens, Group leader  
Prof. Dr B. (Bennard) van Ravenzwaay, Special chair

### Cluster Food Sciences:

#### Food Chemistry

Prof. Dr H. (Harry) Gruppen, Group leader  
Prof. Dr H.A. (Henk) Schols, Personal chair  
Prof. Dr. R.J. (Rob) Hamer, Special chair  
Prof. Dr H.J. (Harry) Wichers, Special chair





The Helix building housing since mid 2016. 12 VLAG affiliated research groups

Agro-Technology & Food Sciences	
<b>Food Microbiology</b>	Prof. Dr M.H. (Marcel) Zwietering, Group leader Prof. Dr T. (Tjakko) Abee, Personal chair Prof. Dr E.J. (Eddy) Smid, Personal chair Prof. Dr H.M.L.J. (Han) Joosten, Special chair
<b>Food Process Engineering</b>	Prof. Dr R.M. (Remko) Boom, Group leader Prof. Dr A.J. (Atze Jan) van der Goot, Personal chair Prof. Dr C.G.P.H. (Karin) Schroën, Personal chair Prof. Dr A. (Albert) van der Padt, Special chair
<b>Food Quality and Design</b>	Prof. Dr V. (Vincenzo) Fogliano, Group leader Prof. Dr S.M. (Saskia) van Ruth, Special chair Prof. Dr A.C.M. (Toon) van Hooijdonk, Special chair (retired)*
<b>Physics and Physical Chemistry of Foods</b>	Prof. Dr E. (Erik) van der Linden, Group leader
<b>Cluster Nutrition Sciences:</b>	
<b>Nutrition and Health over the Lifecourse</b>	Prof. Dr E.J.M. (Edith) Feskens, Group leader Prof. Dr C.P.G.M. (Lisette) De Groot, Personal chair Prof. Dr F.J. (Frans) Kok (retired)* Prof. Dr P. (Pieter) van 't Veer, Special chair Prof. Dr M. (Michael) Zimmermann, Special chair (retired)*
<b>Nutrition and Disease</b>	Prof. Dr E. (Ellen) Kampman, Group leader Prof. Dr J.M. (Marianne) Geleijnse, Personal chair Prof. Dr H.C. (Hendrik) Boshuizen, Special chair Prof. Dr D. (Daan) Kromhout, Personal chair (retired)* Prof. Dr B.J.M. (Ben) Witteman MD, Special chair
<b>Nutrition, Metabolism and Genomics</b>	Prof. Dr A.H. (Sander) Kersten, Group leader
<b>Nutrition and Pharmacology</b>	Prof. Dr R.F. (Renger) Witkamp, Group leader
<b>Sensory Science and Eating Behaviour</b>	Prof. Dr C. (Kees) de Graaf, Group leader
Animal Sciences	
<b>Host-Microbe Interactomics</b>	Prof. Dr J.M. (Jerry) Wells, Group leader Prof. Dr M. (Michiel) Kleerebezem, Personal chair
<b>Human and Animal Physiology</b>	Prof. Dr J. (Jaap) Keijer, Group leader

\* Retired: Retirement took place in 2015 or 2016



# Composition and activities of VLAG committees

## VLAG Secretariat

- Prof. Remko Boom, VLAG Scientific Director 2011 - 2015
- Prof. Renger Witkamp, VLAG scientific director (2016 onwards)
- Dr Fré Pepping (Managing director)
- Vesna Prsic, MSc (Programme coordinator)
- Chantal Doeswijk, MSc; Ingeborg van Leeuwen-Bol; Yvonne Smolders, MSc; Eva Oudshoorn-Gijsbertsen, MSc (Education coordinators, each with additional tasks in the field of PhD adviser, project management, finance, etc.)



VLAG secretariat May 2017, front row: Yvonne, Chantal, Eva  
Back row: Fré, Vesna, Renger and Ingeborg

- Dr N. Zoon, NIZO food research
- Prof. J.A. Schuit, RIVM
- Ir E. van Seventer, Wageningen Food & Biobased Research
- Prof. W.M. de Vos, Wageningen University & Research – Microbiology
- Representative of the PhD council
- Vacancy (TNO)

The VLAG Board meets one – twice per year.

## International Advisory Board

- Prof. Dr Lubbert Dijkhuizen, Microbiology, University of Groningen, NL
- Prof. Dr Martine Laville, Human Nutrition Research Centre of Lyon, FR
- Dr David Mela, Unilever Research and Development B.V., Vlaardingen, NL
- Dr Michael O'Donohue, INRA, Toulouse, FR
- Prof. Dr Karin Schwarz, Food Technology, University of Kiel, DE

An IAB meeting was held on 2nd March 2015 at Amsterdam Schiphol to review the draft self-assessments and comments were fed back to chair holders. Two IAB members attended the debriefing at the end of the external peer review on 18th June 2015. On 26-27th May 2016, the IAB came together in Wageningen to discuss the actions to be taken after the external peer review. During this meeting, the tenure of three IAB members ended [Dr Nico Overbeeke (since 2004), Prof. Ian Macdonald (since 2008) and Prof. Sean Strain (since 2012)] and Dr David Mela (Unilever) was welcomed, as a new member. Prof. Rabah Boukherroub (University Lille 1, FR) agreed to join the IAB as of early 2017.

## Management Team

- Prof. R.F. Witkamp, VLAG scientific director
- Prof. J.H. Bitter, WUR Biobased Chemistry & Technology (cluster Bio-based Sciences)
- Prof. V. Fogliano, WUR Food Quality & Design (cluster Food Sciences)
- Prof. J. van der Gucht, WUR - Physical Chemistry & Soft Matter (cluster Bio-molecular Sciences)
- Prof. C. de Graaf, WUR- Sensory Science & Eating Behaviour (cluster Nutrition Sciences)

The Management Team meets every 3 months.

## Board

- Prof. I.M.C.M. Rietjens, Wageningen University & Research – Toxicology (chair)
- Dr R.F.M. van Gorcom, RIKILT - Institute of Food Safety, Wageningen University & Research

## VLAG PhD Council 2015 - 2016

The PhD Council looks after the interests of PhD candidates (e.g. education programme, labour agreement, etc.) and informs them about developments, communicates with other PhD Councils and VLAG management and organises scientific and social activities. Annually, the council provides a report for evaluation and improvement purposes.



VLAG PhD Council members, from left to right: Jaoa Gouveia (BPE), But Andrada (BCT), Canan Ziyilan (FFC), Anne Vissers (FCH), Jonathan Nicolas (TOX), Natalia Domeradka (PCC), Isabelle Silvis (FQD/RIKILT), Tjerk Sminia (ORC), Ita Sulistyawati (FQD), Lennart Kleinjans (MIB), Anika Oppermann (SSEB/FPH)

**Academic career survey:** A survey was launched to learn more about attitudes to the current tenure track system. The aim was to find out whether PhDs are interested in pursuing an academic career and whether WUR might be the place to do it. Furthermore, we wanted to find out if the tenure track system is attractive, and motivates people to undertake an academic career. Data were collected during October-December 2015, 141 responses (ca. 35%) were received. The results indicated:

- There is a general interest in academic careers
- There are some perceptions associated with an academic career:
  - It is not easy to get a permanent position
  - It can help in your personal development
  - Academic career is a constant learning experience, and
  - Researchers can contribute to their field of expertise
- For those who do not want to pursue an academic career, careers of interest were within R&D or at a research institute.
- Impressions on tenure track system at WUR were:
  - Poor work: life balance
  - Unlikely to achieve a personal chair (full professorship)
  - High workload combined with high expectations, especially for grant writing

**Teaching load survey:** A teaching load survey was also undertaken to evaluate whether PhD candidates are prepared and feel comfortable teaching and supervising students. Based on results from a Wageningen PhD Council (WPC) survey on teaching load in June 2015, “... the responsibilities of teaching and supervision load are not well divided over the departments ...” and within VLAG PhD candidates of several chair groups felt under pressure. The main findings from the 2016 survey (140 responses) were:

- More than 75% respondents (2nd and 3rd year PhDs) liked teaching and supervising students, and more than 75% respondents felt comfortable teaching

- Half had no previous teaching experience
- Half of first year PhDs and more than 80% of 2nd and 3rd year PhDs do not know whether they are good supervisors. Half of the 2nd year PhDs perceived themselves to be better supervisors after attending the courses provided by VLAG
- Just over half of the PhDs were aware of the VLAG guidelines for BSc and MSc supervision

**Lunch lectures:** Two-three times a year, the VLAG PhD Council organises a lunch lecture. The basic concept is a lunch provided by VLAG with time for networking, followed by a relevant lecture from an external speaker. During 2015-2016, the lectures involved 30-55 PhD students and topics were:

- February 2015: Career planning
- May 2015: VLAG PhD Counsellor
- October 2015: Tenure track system
- May 2016: Science communication
- December 2016: Teaching load

Reports on the lunch lectures are available at [www.vlaggraduateschool.nl/en/phd-candidates/phd\\_council/PhD-lunch-lectures.htm](http://www.vlaggraduateschool.nl/en/phd-candidates/phd_council/PhD-lunch-lectures.htm)

## VLAG PhD Council

presents

### Lunch Lecture about

## Teaching Load

From the perspective of  
PhD candidates, a chair holder and the Dean of Education

**PhD candidates**

Teaching load, how does the increasing number of students affect you? The VLAG PhD council will show results of their survey on teaching load, both supervision of thesistudents and teaching of courses and practicals will be discussed.

**Chair holder – Professor Zwietering**

Marcel Zwietering is the chair holder of Food Microbiology. He is responsible for the allocation of teaching duties over the staff and PhD candidates in his group. How does he deal with the increasing teaching load?

**Dean of Education – Professor van Boekel**

As the Dean of Education, Tiny van Boekel is responsible for the education at our university. He develops regulations and guidelines regarding education, how is this affected by the increasing number of students?

Friday 2nd of  
December 2016

Location: Axis X, grote zaal

Time: 12:00 – 13:30

Free lunch included!

Register before 26th of November  
(VLAG PhD students only): [phdcouncil.vlag@wur.nl](mailto:phdcouncil.vlag@wur.nl)

**Wageningen PhD Council (WPC):** This committee is made up from members of the PhD councils at the six WUR Graduate Schools including VLAG. Birgit Dekkers (2016-present) is the current VLAG WPC member having succeeded Marlies Geerts (2014-2016).

WPC addresses issues that are shared by all WUR PhDs and has access to the University Board.

## How to contact us



[www.vlaggraduateschool.nl](http://www.vlaggraduateschool.nl)



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### Colophon

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