



**NuGO Association
2014 Annual Report**

NuGO is an Association of universities, research institutes and SMEs focusing on the development of molecular nutrition, personalised nutrition, nutrigenomics and nutritional systems biology.

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01 › Management

01.1 › New Directors

Between September 2013 and September 2014, Professor Michael Müller (Wageningen University until end December 2013, University of East Anglia from January 2014) was interim Director of NUGO.

Dr Lorraine Brennan (University College Dublin, IE) and Dr Baukje de Roos (University of Aberdeen, UK) became Directors of NuGO at the Participants' Assembly, held during (11th) NuGOweek 2014 in Castellammare (Naples, IT).



*Dr Lorraine Brennan
(University College Dublin, IE)*

*Dr Baukje de Roos
(University of Aberdeen, UK)*

Going forward, Baukje and Lorraine plan to ensure NuGO remains at the forefront nutrigenomics research in Europe and beyond. They intend to broaden the scope to include molecular nutrition and personalised nutrition, which should also help ensure NuGOweek is attractive for current as well as new members, rebranded and updated the NuGO website and logo, and will to continue organise and/ or facilitate training PhD students during NuGOweek and throughout the year. In addition, they hope to develop new mechanisms to help fund continued professional development amongst NuGO research, which supports the development of collaborative grant proposals as well as exchange of expertise and technologies across Europe.

01.2 › NuGO Executive Committee

The Executive Committee met in January 2014 (teleconference) and during NuGOweek 2014 (IT), and the Directors (Lorraine Brennan and Baukje de Roos) met with the NuGO Secretariat in December 2014 (Wageningen, NL).

Christian A. Drevon (University of Oslo, NO) resigned as member of the Executive Committee during 2014. Thus, as of December 2014, the NuGO Executive Committee includes:

- Lars Dragsted, University of Copenhagen (Chair, DK)
- Cristina Andres-Lacueva, University of Barcelona (ES)
- Dirk Haller, Technische Universität München TUM (DE)
- Diana Ivanova, Medical University of Varna (BG)
- Jim Kaput, Nestle Institute of Health Sciences (CH)
- Marjukka Kolehmainen, University of Eastern Finland (FI)
- Giuditta Perozzi, CRA-NUT (formerly INRAN, IT)

02 › Events

02.1.1 › NuGOweek 2014

The 11th edition of NuGOweek ‘Nutrigenomics and foods’ was held at the Vesuvian Institute in Castellammare between 6th and 12th September 2014, hosted by Giuditta Perozzi (CRA-NUT, IT). Substantial financial support was obtained from the Italian Ministry of Agriculture, Food and Forestry (MiPAAF).

Importantly, NuGOweek 2014 also hosted several EU-funded project meetings (QualiFY, NutriTech, EuroDISH and Food4Me, see the section on Partnerships) and a three-day PhD course (Nutrigenomics studies in humans: from epidemiology to intervention), which started on Sunday, 6th September.

The various EU-funded projects are using NuGO data/ knowledge or have beneficiaries in common and, by holding these meetings in parallel with NuGOweek, participants were able to fulfill activities across several projects as well as bringing project activities to the attention of NuGO members.

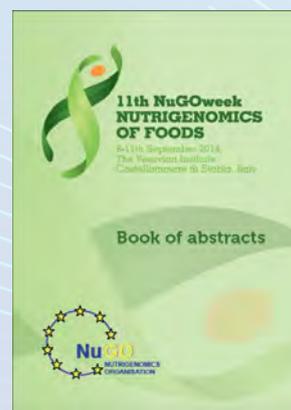
The conference attracted 215 participants, and sessions included:

- Mediterranean diet versus Nordic diet
- Systems biology of foods
- Food-gut microbiota interactions in nutrigenomics
- Food and the human variome
- Towards a European core infrastructure
- Applied OMICS in the field of nutrigenomics
- Personalised food in health maintenance
- Personalised health

02.1.2 › NuGOweek 2014 Prizes

The **Professor Arturo Leone Young Lecturer** prize was awarded to Catalina Cuparencu, University of Copenhagen (DK) for *Untargeted metabolomics reveals urinary exposure biomarkers for intake of berries*.

Stefania Leone, daughter of Arthur Leone, presented the prize.



Stefania Leone & Catalina Cuparencu

More than 80 posters were presented at NuGOweek 2014, and the committee (chaired by Siân Astley, EuroFIR AISBL) selected five for excellence in science and communication presented by Nicole Bauer from Amway, sponsors of the prizes.



Clara Woolhead, Kersten Eckardt, Carlos Pineda, Fré Pepping, Jerko Markovina, Maria Kakkoura and Nicole Bauer



Nicole Bauer (Amway) and Maria Kakkoura

1. Maria Kakkoura , Cyprus School of Molecular Medicine (Cyprus)
Mediterranean diet and breast cancer risk: The role of polymorphisms in the MnSOD and CAT genes
2. Clara Woolhead, University College Dublin (Ireland)
The development of a meal coding system and the examination of its impact on nutrient intake.
- = 3. Jerko Markovina, University of Bradford (United Kingdom)
Perceived barriers to the uptake of personalised nutrition: a comparison between European countries
- = 3. Carlos Pineda Vadillo, INRA UMR-STLO (Science & technologie du lait & de l'œuf) (France)
Delivering anthocyanins in the gastrointestinal tract: processing conditions and food matrix effect
- = 3. Kersten Eckardt, University of Oslo (Norway)
The myokine decorin is regulated by contraction and involved in muscle hypertrophy

Best PhD student poster prizes, reviewed separately, were awarded to:

1. Kathryn Burton, Université de Lausanne in collaboration with le Centre Hospitalier Universitaire Vaudois (Lausanne) and Agroscope (Bern) (Switzerland)
A regulatory role for probiotic yoghurt on metabolic health in healthy men : A pilot study
2. Estelle Zirkler, Tufts University, USA
Phytochemicals for personalized health
3. Youjin Kim, Ewha Womans University, South Korea
Understanding the physiological mechanism of black raspberry as antioxidant using next-generation RNA sequencing

Fabio Virgili, chief editor of Genes & Nutrition, presented the prizes on behalf of Springer.



Fabio Virgili, Larry Parnell (representing Estelle Zirkler), Grégory Pimentel (representing Kathryn Burton), Youjin Kim and Elisa Cirillo (chair, PhD Student Poster Prize committee)

02.1.3 > NuGOweek 2014 in the media

The efforts of our local hosts also saw NuGOweek 2014 in the Italian media.

The collage features several news snippets:

- ANSA - Terra&Gusto:** "Salute: Cra, convegno su nutrigenomica, per 'curare' mangiando".
- Sicilia Agricoltura:** "NuGO: i nuovi orizzonti della ricerca internazionale in nutrigenomica".
- agi.it:** "Alimentare: Cra, nuovi orizzonti della ricerca in nutrigenomica".
- L'Espresso:** "Dieta personalizzata? Per arrivarci occorrono tempo e investimenti. Attenzione ai kit che promettono scelte alimentari basate sul DNA. Intervista a Giuditta Perozzi".



(c) Rob van Leeuwen

02.1.4 > NuGOweek 2015

From 6-10 September 2015, Barcelona will host the 12th annual scientific meeting. Satellite meetings will include the second edition of the PhD course, workshops for Micronutrient Genomics and MICROGENNET and FOOTBALL and ENPADASI consortia meetings.

More information is available at www.nugo.org



Microarray analysis using R & Bioconductor (January 2014, Maastricht - NL)

03 > Courses

In 2014 NuGO (co-)organised or supported the following courses:

Microarray analysis using R & Bioconductor (January 2014, Maastricht - NL)

Organised by Dr Lars Eijssen and Prof. Chris Evelo as an part of the dixafp7.eu network, this course attracted 31 participants of which NuGO supported three with bursary awards:

- Maija Vaittinen, University of Eastern Finland – Kuopio (FI)
- Antonia Graja, Deutsches Institut für Ernährungsforschung Potsdam-Rebrucke (DE)
- Christina-Alexandra Schulz, Lund University (SE)

Introduction to nutritional metabolomics (February 2014, Copenhagen - DK)

Organised by Prof. Lars Dragsted, and previously held in 2012, this course attracted 17 participants of which seven were sponsored by NuGO:

- Olha Khymenets and Lyda Zimena Mora Cubillos, University of Barcelona (ES)
- Martina Kutmon and Rianne Fijten, Maastricht University (NL)
- Parastoo Fazelzadeh, Wageningen University (NL)
- Rocío Zamanillo, University of Balearic Islands (ES)
- Aoife Curran, University College Dublin (IE)

Advanced visualization, integration and biological interpretation of -omics data (May 2014, Wageningen, - NL)

This course is organized bi-annually by the Nutrition, Metabolism & Genomics Group (Wageningen University, NL) in collaboration with the Graduate School VLAG. Course leaders were Mark Boekschoten and Guido Hooiveld. The course attracted 26 participants of which 20 were affiliated with a NuGO member organization; seven obtained financial support through NuGO:

- Eva Rath, Technische Universität München (DE)
- Aoife Murphy and Helena Gibbons, University College Dublin (IE)
- Mireia Urpi-Sarda, University of Barcelona (ES)
- Alice Chaplin, University of the Balearic Islands (ES)
- Christina Alexander Schulz, Lund University (SE)
- Reka Toth, NCT-Heidelberg (DE)



Advanced visualisation, integration and biological interpretation of -omics data

7 - 8 May 2014
Wageningen, The Netherlands



Signal proteins related to diet and exercise (June 2014, Oslo - NO)

This course was a joint activity of the University of Oslo (Prof. Christian Drevon), NuGO and the Graduate School VLAG. Guest lecturers came from the Netherlands and Germany.

The course attracted 19 participants of which NuGO supported seven financially:

- Dominic Partridge, University of Aberdeen (UK)
- Birgitta van der Kolk and Nadia Roumans, Maastricht University (NL)
- Romina di Giuseppe and Veronica Murahovschi, Deutsches Institut für Ernährungsforschung Potsdam-Rebrücke (DE)
- Madhu Asnani Kishnani and Petar Petrov, University of the Balearic Islands (ES)

Nutrigenomics studies in humans: from epidemiology to intervention (September – Castellammare, IT)

This three-day course started on Sunday, 6th September in advance of NuGOweek 2014. The faculty consisted of six senior scientists, all affiliated with NuGO, namely Marjukka Kolehmainen, Jim Kaput, Lorraine Brennan, Baukje de Roos, Anne Marie Minihane and John Mathers. The course was oversubscribed and only 34 participants were accepted, which helped ensure interaction with the faculty and among the participants (22 NuGO affiliated juniors and 12 external delegates).

04 › Partnerships

04.1 › Nutrigenomics research and infrastructure projects

EU-funded projects involving NuGO or NuGO members include:

Food4Me (coordinated by Prof. Mike Gibney, University College Dublin, IE)

– www.food4me.org

NuGO is tasked with constructing personalised nutrition information systems, and a progress meeting was held at NuGOweek 2014 (1.5 days) finalising tasks before the end of Food4Me in 2015.



NutriTECH (coordinated by Dr Ben van Ommen, TNO, NL)

– www.nutritech.nl

The tasks assigned to NuGO in 2014 were restricted to discussion about workshops scheduled for 2015 in the USA and Asia. NuGO will assist in organising the final NutriTECH consortium meeting (scientific congress) scheduled for May 2016 in Paris (FR).



EuroDISH - Studying the need for food and health research infrastructures in Europe (coordinated by DLO and Wageningen University, NL)

– www.eurodish.eu

NuGO is engaged in the exploration of ‘research infrastructure for innovative mechanistic studies’, involving TNO (NL), Maastricht University (NL), University of Oslo (NO) and the University of Copenhagen (DK) as Third Parties. A progress meeting was held in March 2014, in Amsterdam (NL) as well as a workshop during NuGOweek 2014 and, in November 2014, another progress meeting took place in Zaandam (NL). EuroDISH ends mid-2015, and the final outcomes were presented during a session at the Milan EXPO (15 May 2015).



Quantify Life – Feed Yourself (QualiFY, coordinated by RTD Services, AT)

– www.qualify-fp7.eu

Technische Universität München (DE), University of Copenhagen (DK), University of Eastern Finland (FI) and Wageningen University (NL) are Third Parties under the umbrella of NuGO. Beneficiaries, including 12 SMEs, aim to valorise and integrate concepts, tools and infrastructures developed by various FP6- and FP7-funded projects.

The kick off meeting was held in January 2014 (Hoofddorp, NL) and was attended by six representatives from participating NuGO members, and QualiFY held its second consortium-wide meeting during NuGOweek 2014. NuGO was responsible for two deliverables during the second half of 2014 related to the self-assessment technologies and ethical approval of the Nutrition Researchers Cohort (NRC).



04.2 › Nutrigenomics research and infrastructure grant applications

Proposals for EU-funding involving NuGO or NuGO members included:

Towards SELF-quantification of health in response to dIEtary changes (SELFIE)

In 2014, a proposal for a Marie Curie Initial Training Network was submitted. The majority of beneficiaries were NuGO members. The project was not selected for funding.

To develop a regional roadmap for a food and health infrastructure in Western Balkan and European Neighbourhood policy countries through improved data management and access, and training (BalkanDISHES)

In September 2014, a proposal involving several NuGO member organisations (IFR -UK, Wageningen University - NL, University of Varna - BG and CRA-NUT - IT) was unsuccessful in obtaining funding.

Nutrigenomics resources

Within the Joint Programming Initiative Healthy Diet for Healthy Lives (JPI HDHL) several pilot activities were agreed on during 2012-2013. Pilots on ‘biomarkers’ and ‘data handling’ were approved in 2014.

FOODBALL

The consortium consists of 20 research organisations, from nine EU-countries, Canada, and New Zealand, and is led by Edith Feskens (Wageningen University, NL). Several NuGO members are actively involved including University College Dublin (IE), University of Oslo (NO), University of Copenhagen (DK), University of Eastern Finland (FI), Technische Universität München (DE), CRA-NUT (IT), University of Barcelona (ES) and Agroscope (CH).

MIRDIET

The consortium consists of beneficiaries from the Netherlands, France and Switzerland working on biomarkers.

ENPADASI (European Nutritional Phenotype Assessment Data Sharing Initiative - www.healthydietforhealthylife.eu)

The consortium is lead by Jildau Bouwman (TNO, NL) and it is perhaps no coincidence that within NuGO Jildau was responsible for leading the work on the nutritional phenotype database (dbNP). ENPADASI involves 51 organisations from nine countries.

The Nutrition Researcher Cohort (NRC) is a global cohort of researchers in nutrition and health sciences who gather self-assessment data on lifestyle and health. At the end of 2014, NRC250 started with the aim of involve at least 250 researchers from 10 countries. In 2014, NuGO contributed to the NRC through:

- (co-)Organisation and co-funding of a workshop held in Rome (IT, 9-10th April 2014) attended by 25 delegates and hosted by CRA-NUT (IT).
- Publication of two newsletters
- Financial and administrative support for a one-day workshop (6th October 2014, Amsterdam Schiphol, NL) to discuss the progress

Baukje de Roos and Marjukka Kolehmainen are members of the NRC Board and several NuGO-affiliated scientists are national contact points. TNO Innovation for Life (NL) provides management support for the NRC.

05 › Other activities**NuGOnet and public relations**

End of 2014 it was decided to end hosting and maintenance by Topshare International BV, which has support NuGO since mid-2003. The choice was made for a simpler and more efficient platform that better suits NuGO in 2014. Early 2015, members will be moved over to the new website although the old site will be maintained as a repository in the short-term. Weekly news items were posted on the new homepage throughout 2014.

NuGO shared licenses

The use of the software packages from Genomatix and Metacore continued in 2014. During the first quarter of 2014, we published reports about users of the software under the 'weekly news items'.

NuGO Secretariat

The NuGO Secretariat is based at Wageningen University (NL) in the office of the Graduate School VLAG. Ingeborg van Leeuwen-Bol takes care of course coordination, communications and financial administration whilst Fré Pepping is the Executive Secretary, responsible for overall coordination and management issues.

06 › Membership

NuGO membership is open for organisations only, but individuals are welcome to participate in events organised by NuGO. As of January 2015, the following organisations are members of NuGO (listed as NuGO Network of Excellence partners 2004-2010 and ordinary members joining after 2010):

1. **Wageningen University** - www.wageningenuniversity.nl
Lydia Afman (lydia.afman@wur.nl)
2. **TNO Innovation for Life** - www.tno.nl
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3. **University Maastricht** - www.maastrichtuniversity.nl
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4. **Technische Universität München**
- www.nutrition.tum.de
Hannelore Daniel (nutrition@tum.de)
5. **Deutsches Institut für Ernährungsforschung Potsdam-Rebrücke** - www.dife.de
Tilman Grune (tilman.grune@dife.de)
6. **Institute of Food Research** - www.ifr.ac.uk
Richard Mithen (richard.mithen@ifr.ac.uk)
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8. **University of Newcastle, Human Nutrition Research Centre** - www.ncl.ac.uk/hnrc/people
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17. **Universitat de Barcelona** - www.ub.edu/web/ub/en
Christina Andres-Lacueva (candres@ub.edu)
18. **Centro di ricerca per gli alimenti e la nutrizione**
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19. **Nestlé Institute of Health Sciences**
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Jim Kaput (james.kaput@rd.nestle.com)
20. **Eurogenetica** - www.eurogenetica.gr/en
Keith Grimaldi (keith.grimaldi@gmail.com)
21. **Agroscope, Institute of Food Sciences**
- www.agroscope.ch
Guy Vergères (guy.vergeres@agroscope.admin.ch)
22. **Medical University Varna** - <http://mu-varna.bg/EN/Structure/Pharmacy/Pages/Katedrabiohimiq.aspx>
Diana Ivanova (dg_ivanova@yahoo.com)
23. **EdgeLeap** - www.edgeleap.com
Marijana Radonjic (marijana@edgeleap.com)

EdgeLeap is a data science company providing analytics solutions to life sciences industry. It offers a unique platform and expertise in translating diverse data and information into actionable knowledge to support decision-making. The unique network discovery platform builds on robust statistical, network and machine learning methods to detect patterns across heterogeneous data, and embed it in biologically relevant knowledge using graph database technologies. By providing consultancy and flexible analytics solutions, the EdgeLeap team helps clients keep up with the quick pace of developments in science data and bridge the gap between data generation and decision-making.



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