



NuGO Association 2016 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.

NuGO Management Board (01.01.2017)

John Mathers, University of Newcastle (UK)
Cristina Andres-Lacueva, University of Barcelona (ES)
Diana Ivanova, Medical University of Varna (BG)
Jim Kaput, Nestle Institute of Health Sciences (CH)
Marjukka Kolehmainen, University of Eastern Finland (FI)
Guy Vergères, Agroscope, Institute of Food Science (CH)

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» 01.1 Message from the directors

2016 marked a successful year for NuGO with the creation of the Early Career Network Committee (ECN), several PhD training courses and NuGO facilitated staff exchanges, four new NuGO members, and a very busy NuGOweek 2016!

One of NuGO's flagship events, NuGOweek 2016 was held in Copenhagen, and Lars Dragsted and his team delivered a superb programme of state-of-the-art talks by international experts.

NuGOweek 2017 will be held in the beautiful seaside resort of Varna (BG) and we have already been able to secure many key speakers.

During NuGOweek 2016, the ECN organised a networking event and it was a great pleasure to watch so many enthusiastic individuals engage with the event. We look forward to supporting the ECN in the coming year and are excited by the possibilities it can deliver for our members.

Training is at the heart of NuGO, so it was fantastic to see several successful courses in 2016, and we are planning the next batch of courses. In 2015, we launched the NuGO Exchange Programme to facilitate further collaboration between NuGO member organisations. However, applications have been relatively low. We are now considering ways of enhancing the programme to make it more attractive.

To expand our reach internationally, we attended both the 10th Annual Conference of the International Society for Nutrigenetics and Nutrigenomics (ISNN, 23rd-26th May 2016 - Tel Aviv, IL) and the Asia Pacific Nutrigenomics Nutrigenetics Organisation (APNNO) Biennial Conference (5-6th December 2016 - Gyeongju, South Korea). Attendance at both events revealed that NuGO's goals and vision align very much with that of APNNO, and we are developing mechanisms to establish a meaningful collaboration between both organisations.

It is a great pleasure to welcome our new members, By-Health Co., Ltd (CN), NIMGenetics (ES), Chalmers University of Technology (SE) and Universitat Rovira i Virgili (IT). We are continuing to expand our membership and, in 2017, we will engage with several potential groups/ organisations.

We look forward to working with you all as we further develop NuGO into a more international, inclusive and influential organisation.



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



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

› 01.2 NuGO shared software licences

The best way to continue with the shared software licences was discussed during 2016 at various levels including discussions with individual users, the Management Board, and members during the General Assembly. It is important to maintain a consensus, as this affects the annual fee. One of the parallel sessions during NuGOweek 2016 was devoted to the use of Metacore software, and included a presentation by the supplier. As of October 2016, only the Metacore license was extended until the end of 2017. Several new users were also registered.

› 01.3 NuGO Early Career Network – ECN

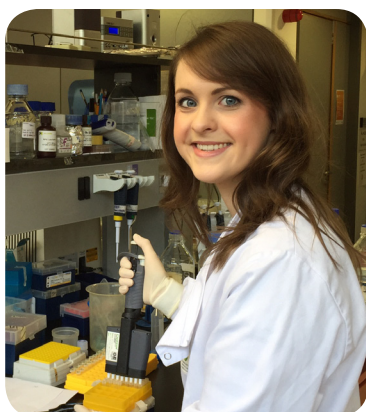
During NuGOweek 2016 (Copenhagen – DK), the ECN organised a networking event encouraging researchers to meet one another and start creating personal networks that will grow and develop during their professional careers. Many enthusiastic individuals engaged with this event.

The ECN already has 127 members and new members are joining. By organising a series of webinars, the ECN aims to connect scientists and share information across different organisations. The first webinar, given by Dr Rosa Vázquez-Fresno, was about the web-based tool MetaboAnalyst and was a great success with more than 50 participants globally.

› 01.4 NuGO Research Exchange Programme

• NuGO Research Exchanges 2016

The concept behind NuGO research exchanges is collaboration between NuGO members. The grants support travel and living expenses for scientists to undertake research at a member organisation for a period greater than two weeks. In 2016, exchange grants were awarded to Elaine Kennedy and Michael Lenz.



Elaine Kennedy (UCD – IE) visited Maastricht University (NL) for two months. During this time, she worked with the research groups of Prof. Ellen Blaak and Prof. Luc van Loon. As a result of this exchange, further collaboration is being discussed.

Elaine Kennedy said, *“I was delighted to have the opportunity to visit Maastricht University to work with leading researchers in the field of obesity research at a state-of-the-art facility”*.



Michael Lenz (UM – NL) visited Nestlé Institute of Health Sciences in Lausanne (CH) for two weeks to address research related to an ongoing project (DIOGenes), in which both Maastricht University and Nestlé Institute of Health Sciences are involved, and evaluate further the potential for building on their complementary expertise.

Michael Lenz said, *“It was very interesting and stimulating to experience how fundamental research in nutrition and health management is approached in an industrial setting”*.

• NuGO Research Exchanges 2017

In December 2016, NuGO received two applications for the third round of exchange grants. Both applications have been approved, meaning Oscar Daniel Rangel-Huerta (University of Oslo, NO) will visit the University of Copenhagen (DK) and Neshe Nazifova-Tasinova (Medical University Varna, BG) will visit the University College Dublin (IE).

» 02 EVENTS

» 02.1 NuGOweek 2016

The theme for NuGOweek 2016 was 'Phenotypes and prevention: The interplay of genes, life-style factors and gut environment', hosted by Professor Lars O. Dragsted (University of Copenhagen, DK).

This was the 13th annual NuGOweek and topics included:

- Omics in disease prediction – integrating genes and phenotypes
- Early infant/childhood nutrition and later phenotypic response
- Alcohol in prevention? – Understanding the J-shaped response
- Parallel sessions – hands-on software demos
- Microbiota-host interplay as target in nutrition
- Early Career Investigators' session
- Exercise in disease prevention
- Biomarkers
- Genotypes, phenotypes and personalised responses

The University of Copenhagen (DK), Amway (US), VITAS AS (NO), Nestlé Institute of Health Sciences (CH), Waters (DK), Carlsberg Group (DK), Metabolon (US), Biomed (USA), Nordplus Horizontal (DK) and NuGO provided financial support, which is gratefully acknowledged.

In total, 153 participants from 26 different countries attended NuGOweek 2016.



Conference dinner at the National Museum (top); Organising Committee 2016 (right); Poster Prize Winners 2016 (bottom)

Poster Prize Winners 2016 with Nicole Bauer (Amway) from left to right:

1. Diederik Esser, Wageningen University & Research (NL)
2. Lena Leder University of Oslo (NO) and Charlotte Michielsen Wageningen University & Research (NL)
3. Marie-Pier Scott-Boyer University of Trento (IT) and Qian Gao University of Copenhagen (DK)

» 03 Courses

In 2016, NuGO supported two courses with course travel grants covering admission fees and accommodation:

» 03.1 Introduction to Nutritional Metabolomics (8-11th February 2016, Copenhagen – DK)

The aim of this course was to introduce all the phases in a nutritional metabolomics study and train delegates in the use of tools available for data handling. Both targeted and untargeted LC-MS methods were discussed but the major focus was untargeted LC-MS based metabolomics.

Course coordinators: Lars O. Dragsted (DK) and Gözde Gürdeniz (DK)

Other lecturers: Jan Stanstrup (DK), Rastislav Monosik (DK) and Mads Vendelbo Lind (DK)

The course attracted 15 participants, six of them from NuGO members, including two from the University of Copenhagen (DK). Four participants obtained a travel grant through NuGO:

- Anne Geijssen and Charlotte Michielsen, Wageningen University (NL)
- Mirella Kalafati, Maastricht University (NL)
- Bastian Kochlik, German Institute of Human Nutrition Potsdam-Rehbrücke (DE)

» 03.2 Personalised Nutrition: From scientific discovery to interventions

(5-7th July 2016, Newcastle upon Tyne – UK)

The aim of this course was to increase delegates' knowledge of the evidence linking genes and nutrition and implications for health, and advances in technology for developing and delivering Personalised Nutrition interventions. It also increased awareness of the development and implementation of personalised nutrition interventions in improving public health and provided hands-on experience in the design of personalised nutrition interventions targeted at specific population groups and conditions.

Course coordinators: John Mathers (UK), Fiona Malcomson (UK) and Michelle Barr (UK)

Other lecturers: Hannelore Daniel (DE), Georg Lietz (UK), Hyang-Min Byun (UK), Dianne Ford (UK), Lorraine Brennan (IE), Carlos Celis-Morales (UK), Baukje de Roos (UK) and Eileen Gibney (IE)

The course attracted 27 participants, 12 of them from NuGO members, including six from the University of Newcastle. Four participants obtained a travel grant from NuGO:

- Ulrike Kaiser and Nicole Küffel, German Institute of Human Nutrition (DE)
- Sophie Schutte, Wageningen University (NL)
- Kelly Stewart, Maastricht University (NL)



John Mathers said, "We got excellent feedback on this course. The student teams worked really well and developed very interesting ideas for personalised nutrition".

› 03.3 NuGOweek 2016 Pre-event Course: Use of large scale data in dietary intervention studies (3rd-5th September 2016, Copenhagen – DK)



In total 28 participants attended this course for PhD students and post-doctoral researchers, one each from Australia, France, Sweden and Switzerland, two from Austria, Egypt, Germany, Italy and the Netherlands, six from Norway and, finally eight from Denmark.

The objective was to give the delegates a chance to see and experience how to plan nutrigenomics-related dietary interventions and handle data from such studies. Topics discussed were the use of large scale data in nutrition research, how to interpret data and the use of bioinformatics, design of controlled dietary interventions, epigenomics, metabolomics and transcriptomics, and application of biomarkers.



Also, in a group assignment, delegates were given different designs and aims for a variety of dietary interventions. Their task was to plan the use of results from these studies including data collection, from sample collection to the interpretation of data. The aim was to understand the demands of large-scale data collection in human studies.

Course directors: Marjukka Kohlemainen (FI) and Stine Marie Ulven (NO)

›› 04 PARTNERSHIPS

› 04.1 Funding opportunities

NuGO participated in two EU grant applications, one infrastructure related pre-proposal and a Marie Skłodowska-Curie Initial Training Network. Neither proposal was selected for funding.

› 04.2 Application of new technologies and methods in nutrition research: Phenotypic flexibility

NutriTECH ended mid-2016. NuGO provided financial support for six junior scientists, affiliated with NuGO members, to attend the final symposium 'Phenotypic flexibility: A new concept to quantify and optimise health, and its impact on nutrition research' (13-14th June – Lisbon, PT), specifically William Crowe, Ulster University (UK), Dominic Patridge, University of Aberdeen (UK), Mar Garcia Aloy, University of Barcelona (ES), Yoghatama Cindya Zanzer, Lund University (SE), Zhi Xin Yau Qiu, University of the Balearic Islands (ES), and Marjanne van der Hoek, Wageningen University (NL).

› 04.3 Working with other nutrigenomics organisations

As already highlighted in the 'Message from the Directors', in 2016, NuGO invested in developing relationships with other nutrigenomics organisations. The NuGO Directors contributed with scientific presentations, and hosted a breakfast session at the ISNN Annual Conference (Tel Aviv – IL). NuGO also subsidised the overall costs of the meeting.

Both Directors attended the Biennial Meeting APPNO (Gyeongju, KR). Besides giving scientific presentations, they were also invited to the Executive Committee Meeting and discussed how closer collaboration might be facilitated between APNNO and NuGO in coming years. There are some exciting opportunities for NuGO members to establish links with Asian groups.

Activities might include joint NuGO-APNNO international courses for young investigators, for which NuGO would provide travel grants. Also, NuGO members could be hosted by APNNO members or vice versa, which would extend opportunities for learning and create a truly global character to the activities of both organisations. It would also facilitate closer research links between Europe and Asian Pacific and increase awareness of NuGO in Asia. Several key actors within APPNO already have long standing relationships with NuGO, e.g. Prof. Lynette Ferguson (NZ) and Prof. Michael Fenech (AU, and first president of APNNO), and we have welcomed a delegation from South Korea to NuGOweek for several years. NuGO has also invited two APPNO scientists to give presentations during NuGOweek 2017.

» 0.5 Membership

» 05.1 Leavers and joiners in 2016

Membership is open to organisations only, but individuals are welcome to participate in events organised or supported by NuGO. At the end of 2016, two organisations decided not to continue their membership, specifically the University of Ulster (UK) and Eurogenetica (GR).

Four new members were welcomed, namely:

By-Health Co., Ltd - CN



NIMGenetics - ES



Graduate School LiFT (SE), represented by Chalmers University of Technology



Universitat Rovira i Virgili (ES)



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ROVIRA i VIRGILI**

» 05.2 NuGO General Assembly

The 9th General Assembly (formerly called the Participants' Assembly) was held on Monday, 5th September in Copenhagen (DK); 18 member organisations were represented at the meeting.

The growing interest in joining NuGO was seen as a very positive development, and NuGOweek 2016 attracted a substantial amount of sponsorship. Positive financial results, combined with a reduction in the number of software licences, meant membership fees were reduced for 2017 to €2000. Professors Dragsted, Perrozi and Haller completed their time on the Management Board and Prof. John Mathers took over as chair of the General Assembly and the Management Board.

» 05.2 NuGO Secretariat

The NuGO Secretariat remains at Wageningen University (NL), in the office of the Graduate School VLAG, and organises - amongst other things - the bi-monthly Management Board conference calls. Ingeborg van Leeuwen-Bol is responsible for course coordination, communication and financial administration whilst Fré Pepping is the Executive Secretary, responsible for overall coordination and management issues.

► 05.2 Members as of the end of 2016

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24. **National Research School LiFT** – www.chalmers.se/en/departments/bio
(represented by Chalmers University of Technology)
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