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NuGO Association 2020

2020 was marked by the Covid-19 pandemic and NuGO was no exception with regard to the impact of public health restrictions on activities, including cancellation of NuGOweek 2020 in Tarragona (ES). Preparatory work conducted by our Spanish colleagues and the scientific committee is, however, not lost and NuGO Members are eagerly looking forward to meeting face-to-face in Tarragona autumn 2022.

NuGO views training as a key asset of the association and we endeavour to support such activities and award grants as frequently as possible. Financial support from NuGO for young researchers for participation in conferences and courses, was diminished as events (e.g., Nutrigenomics course in Camerino - IT and the Melbourne - AU transcriptomics workshop) were cancelled, one after the other, as the crisis continued towards the end of 2020.

Despite an extraordinary year, NuGO activities did continue including two webinars and two PhD training courses. Since its inception in 2016, the Early Career Network (ECN) has provided an important voice for young scientists and is, indeed, also represented on the NuGO Management Board. Its activities (e.g., webinars) have continued throughout 2020, and the ECN has launched a programme aimed at publishing articles based on NuGO research in Frontiers for Young Minds, a journal devoted to the dissemination of science to children.

Remarkably, the pandemic has emphasised the importance that our Members attribute to the NuGO network. In particular, the dynamics associated with organisation of the NuGO webinars and their attendance helped maintain, if not strengthening, scientific exchange amongst the Members. 2020 was marked by the creation of the ELIXIR

Food & Nutrition Community, supported by NuGO's Bioinformatics Working Group (NBWG). ELIXIR is an intergovernmental (Research Infrastructure) organisation that brings together life science resources from across Europe (databases, software tools, training materials, cloud storage, supercomputers) whilst the aim of NuGO's NBWG is to support the access of NuGO Members to these resources.

Thus, aside from its dramatic societal consequences, the Covid-19 pandemic has led NuGO towards new and alternative ways to engage Members that might be sustained in coming years.

Inevitably, discussions during the 2020 General Assembly were dominated by Covid-19, but aimed to identify and launch activities that might compensate for cancelled events. Also, NuGO was able to maintain its network in 2020. Two organisations cancelled their Membership at the end of 2020 (CREA-NUT-IT and Institute of Nutrigenetics - IN) but two new institutions joined Oslo Metropolitan University - OsloMet (Oslo, NO) and Folkhälsan Research Center (Helsinki, FI).

We would like to thank all Members for their commitment to NuGO over the past year and the enthusiasm you bring to the Association, and your resilience during 2020!



Prof. Michael MüllerUniversity of East Anglia (UK)
NuGO Director



Dr Lydia AfmanWageningen University (NL)
NuGO Executive Secretary



Dr Guy VergèresAgroscope (CH)
NuGO Managament Board (Chair

As of 24th September 2020, the NuGO Management Board is composed of:

- Guy Vergères (Agroscope, CH) Chair
- Marjukka Kolehmainen (University of Eastern Finland, FI)
- Chris Evelo (Maastricht University, NL)
- Diana Ivanova (Medical University of Varna, BG)
- Chiara Muraia (Monash University, AU)
- Lynn Vanhaecke (Ghent University, BE)
- Fiona Malcomson (Newcastle University, UK ECN Representative)
- Lorraine Brennan (University College Dublin, IE)
- Baukie de Roos (University of Aberdeen, UK)

NuGO General Assembly chair and vice-chair are Dr Guy Vergères (Agroscope, CH) and Dr Marjukka Kolehmainen (University of Eastern Finland, FI), respectively.

General Assembly



The NuGO General Assembly is the Association's highest authority and meets at least once a year, and the 14th General Assembly was held online (Thursday, 24th September 2020).

Interest in joining NuGO, despite the economic impact of the pandemic, was a positive development. The auditor's report for 2019-2020 showed the Association was in a healthy financial situation at the end of 2020.

NuGO offers a reduced fee for **new Members** during the first year (50%) but, because of the pandemic, the General Assembly also reduced 2021 fees to €800.

Membership is open to organisations only, but individuals are welcome to participate in events organised or supported by NuGO. At the end of 2020, 30 organisations were Members of NuGO including two **new Members**, Oslo Metropolitan University (NO) and Folkhälsan Research Center (FI).





Ingeborg van Leeuwen-Bol & Lydia Afman NuGO Secretariat

NuGO Secretariat is based at Wageningen University & Research and, since 9th September 2019, is comprised of Lydia Afman and Ingeborg van Leeuwen-Bol (WUR, NL).

NuGO Courses

6th Nutrition Winter School

27th-31st January 2020 - Levi (Lapland, FI)

The Nutrition Winter School 2020 offered a programme exploring microbes, diet, and brain health. There were also plenty of opportunities to explore the outdoors, despite temperatures as low as -30° C!

On the first day, Prof. Karl-Heinz Herzig (University of Oulu, FI) gave an introduction about the current landscape for gut health research and was followed by an update of our knowledge to date, given by Prof. Willem de Vos (Wageningen University, NL). Both talks demonstrated the complexity of the field and touched upon topics to be discussed during subsequent days. The first day ended with snap presentations from all seminar attendees, as a chance to get to know one another.

Tuesday morning was focused on gastrointestinal diseases and gut health from, amongst others, Prof. Robert-Jan Brummer (Örebro University, SE). In the afternoon, neurological diseases were discussed, including the role of the gut microbiota in mental health. Fecal microbiota transplants caught the attention of several researchers, an observation that would hold up during following days.

Gut-host interactions and metabolites were discussed on Wednesday with lectures from Prof. Michael Schemann (TUM, DE), Dr David Houghton (University of Newcastle, UK), and

Dr Teemu Aitta-aho (University of Helsinki, FI) as well as a mini-session exploring commercial solutions in current research. The talks ended on Thursday by diving more into the role of diet, with talks from Prof. Magnus Simrén (University of Gothenburg, SE) and Prof. Stefan Kiechl (Medizinische Universität Innsbruck, AT).

Prof. Eero Mervaala (University of Helsinki, FI) highlighted the importance of gut health in metabolic diseases and, in the afternoon, next steps in gut health research were explored by Dr Justus Reunanen (University of Helsinki, FI). Finally, Prof. Seppo Salminen (University of Turku, FI) guided the audience through current paths for gut microbe approval in commercialisation.

Each day, delegates gave short presentations about their research and, on Friday, several workshops, including one on bioinformatics and graphics, were offered.

The Winter School ended with an dinner at a typical Lappish Restaurant.

Six NuGO grants supporting attendance were awarded to Erika Coletto (QIB, UK & University of Helsinki, FI), Karolin Weitkunat (DIfE, DE), Camilla Doitallevi (Fondazione Edmund Mach, IT), Veronica Arreaza (RVU, ES), Anne Geijsen (WUR, NL), and Chiara Salvesi (University of Camerino, IT).





From Left to right: Veronica Arreaza, Karoline Weitkanut, Anne Geijssen, Erika Coletto, Chiara Salvesi, Camilla Diotellavi

Karolin Weitkunat: For me as a nutritionist it was a new inspiration to attend the course. As I'm not an expert in the field of microbiology, I learned a lot about host-microbe interactions and their effects on disease development. I had the pleasure to present my work in a short presentation and, thereby, was fortunate to discuss my results with a number of high ranking researchers, both during the session as well as during the well organised activities. Due to the large number of presentations, I got many new ideas that I want to include and discuss in my next publication.

Camilla Diotallevi: My research topic is focused on how a healthy diet, enriched in polyphenols, can help metabolic syndrome patients and this seminar was helpful to broaden and update my knowledge. Thanks to this seminar I learnt that IBS is the main gastrointestinal disease that show how gut and brain are correlated. Beside the scientific programme, I really enjoyed all the outdoor activities provided by the organisers. All of them were lovely. They gave us the possibility to explore the wonderful and magic world of Lapland. The conference dinner was amazing, and the Lappish cuisine delicious. It was also a nice experience to meet new colleagues and have fun together. The only one thing I am sorry about is we did not see the Northern lights.

Chiara Salvesi: I also had the opportunity to present my PhD research, a project on probiotics and elderly people, and I'm very grateful for this. On Friday, we had the opportunity to attend one of the available workshops: bioinformatics, graphics and writing workshops. A good chance to discover or improve our skills. The organisers provided a very detailed social programme with outdoor experiences and other activities to enjoy the week all together. It was amazing and funny! We discovered the typical Lappish cuisine, and I loved it!

Veronica Arreaza: My research topic is focused on the impact of the aut microbiota dysbiosis on the functionality of polyphenols under different photoperiods, in a metabolic syndrome context. Therefore, this course has given me the opportunity to learn and widen my knowledge about the role of diet in gastrointestinal diseases and in the gut-host interactions, as well as to share ideas and different views with other seminar attendees about my project in the poster session. Beside the scientific programme, I really enjoyed with all the outdoor activities. They gave us the opportunity for interaction with other researchers, and to explore Lapland and its wonderful snowy landscape. The whole week was a nice experience, somewhere to learn, share ideas, network and enjoy the environment.

Anne Geijsen: I am finishing my PhD in nutrition in relation to colorectal cancer using metabolomics. In my next challenge, I would like to transition into the fields of gut and brain health. The course was a great opportunity to learn about groups working on these topics and to meet fellow early-career scientists. The focus of the talks were very diverse, which gave me a lot of ideas for the future. It [course] had a very informal atmosphere and I loved the outdoor activities. The whole week was an inspirational experience, with a lot of opportunities to network and meet fellow researchers.

Erika Coletto: The course was a really exciting scientific meeting, both the high quality science and the outdoor activities, and I have enjoyed every single bit of it. I was glad to share a short oral about my project with the audience and happy for their feedback. Other than that, Lapland was a dream came true!

NuGO Webinars

Due to public health restrictions preventing face-to-face meetings, NuGO hosted a series of short scientific webinars, which will be continued in future years. Each webinar addressed a specific research topic (e.g., metabolism, precision nutrition, microbiota, nutriepigenetics) or related issues (e.g., conducting research and/or teaching in pandemic times, making more use of existing nutrigenomics data). The webinars were composed of several short research presentations by NuGO Members or associated researchers, and were followed by questions and answers as well as wider discussions. The webinars were not open to non-members, as their purpose was to strengthen networking and collaboration amongst NuGO Members during the pandemic. They were chaired by a NuGO Member, organised by the NuGO Secretariat, and delivered using GoToWebinar.

The first NuGO webinar "Metabolic biomarkers: from diet to diseases" (25.06.2020) discussed the relevance of metabolites, in particular those derived from untargeted metabolomics studies, at the boundaries between food, nutrition, and metabolic diseases. Four speakers from NuGO Members presented and discussed their data from animal models and human studies. Each presentation was concluded with a short round of questions by the audience. Chair of this first webinar was Dr Lydia Afman (WU, NL). The speakers were:

- Prof. Lynn Vanhaecke, Ghent University, (BE), How does the digestion of red and processed vs. white meat in a Western and prudent diet affect the gut metabolome of pigs?
- Dr Sergio Polakof, INRAE, (FR) Metabolomics analysis across the liver of obese minipigs after a hypercaloric diet
- Dr Guy Vergères, Agroscope, (CH) Identifying markers of obesity by challenging normal weight subjects with a high-fat meal
- Prof. Vanessa de Mello Laaksonen, University of Eastern Finland, (FI)
 Aromatic amino acids from non-targeted metabolomics approach demonstrate divergent associations with metabolic phenotypes in patients with non-alcoholic fatty liver disease.

The second NuGO webinar "Nutrigenomics debate - Application of nutrigenomics tools in Nutrition Research has made a significant impact on Human Nutrition" (25.11.2020) aimed to provoke a robust debate about the merits of using nutrigenomics tools in nutrition research. In the course of the debate, pitfalls and shortcomings were highlighted as well as some good examples of where applying these tools has enhanced our understanding/made a significant impact.

Chairs of this webinar were Prof. Lorraine Brennan (University College Dublin, IE) and Professor Baukje de Roos (University of Aberdeen, UK). The programme was:

- Prof. John Mathers, University of Newcastle (UK) - NO Argument
- Prof. Helen Roche, University College Dublin (IE) - YES Argument

Panel Discussion: Prof. John Mathers (University of Newcastle, UK), Prof. Helen Roche (UCD, IE), Dr Lydia Afman (WU, NL), Prof. Michael Müller (UEA, UK), Prof. Lorraine Brennan (UCD, IE), Dr Fabio Virgili (CREA, IT), Prof. Stine Marie Ulven (University of Oslo, NO)

Final Consensus: Prof. Michael Müller (UEA, UK)

PhD Training

Post-graduate courses/workshops were held in the days leading up to NuGOweek 2020, offering PhD students and postdoctoral researchers an opportunity to attend training courses as well as a scientific meeting.

Although NuGOweek 2020 was postponed due to Covid-19, the post-graduate course was held as scheduled on 7-9th September.

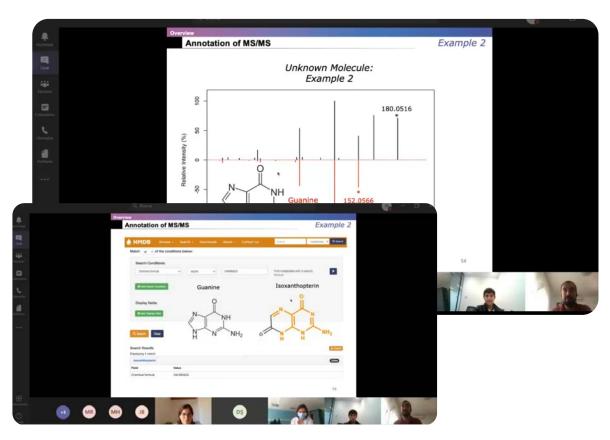
The topic of the course was "Multiplatform-omics data analysis in nutrigenomics studies" and it was delivered as a TEAMS webinar, providing PhD students with the opportunity to learn about and practice new procedures for data analysis.

After an introduction, attendees were assigned to breakout rooms, where they could put in practice concepts explained previously.

Eleven PhD students belonging to NuGO research groups from seven countries (AU, FR, UK, ES, FI, NL, DE) participated, facilitating contact with other researchers at a time when opportunities for mutual support were few.

The course was coordinated by Manuel Suárez and Begoña Muguerza (URV, ES), Xavier Domingo-Almenara (Eurecat, ES), Susan Coort (Maastricht University, NL) and Kathryn Burton-Pimentel (Agroscope, CH).

Xavier Domingo-Almenara, Adrià Ceretó-Massagué, Sara Martínez and Núria Canela (Eurecat, ES), Susan Coort and Lauren Dupuis (Maastricht University, NL) and Kathryn Burton-Pimentel (Agroscope, CH) participated as lecturers.



NuGO Early Career NETWORK

Despite the challenges of 2020, the NuGO ECN has continued to encourage exchange amongst early career researchers online.

At the beginning of the year, the ECN was delighted to welcome former NuGO ECN committee and board representative, Prof. Jarlei Fiamoncini (USP,BR) to present a webinar on dietary challenges and metabolomics analysis for identification of metabotypes and early markers of chronic diseases.

This was followed by a webinar by current NuGO ECN committee member, Dr Kathryn Burton-Pimentel (Agroscope, CH), who presented on microbiota analysis in the context of nutritional research, inspired by the 6th Winter School Diet and Microbes: Gut health for the brain and body (University of Helsinki).

Our webinars also aimed to address requests from NuGO ECN Members for support on writing and funding applications; tips on the EC grant writing were offered in an insightful webinar given by Dr Siân Astley (EuroFIR, BE).

This year has also seen one of our committee members, Dave Houghton, step-down to pursue a career in medicine. We thank him for his support and wish him every success in his future studies.

As ever, the ECN would like to thank the wider NuGO Association for sponsoring these activities.



Jarlei Fiamoncini (USP, BR)



Kathryn Burton-Pimentel (Agroscope, CH)



Siân Astley (EuroFIR, BE)

Frontiers for Young Minds

nutrigenomics journal collection

A big project for the NuGO ECN in 2020 was to create a nutrigenomics focused journal collection for the scientific journal Frontiers for Young Minds. This is a journal designed for, and reviewed by, children and young people (8-15 years). With the support of the Frontiers for Young Minds team, in particular Will Savage, the NuGO ECN committee brought together a team of NuGO guest editors: Prof. Lorraine Brennan (University College Dublin, IE), Prof. John Mathers (University of Newcastle, UK), Prof. Marjukka Kolehmainen ((University of Eastern Finland, FI), together with NuGO ECN representatives Dr Fiona Malcomson (University of Newcastle, UK) and Dr Kathryn Burton-Pimentel (Agroscope, CH).

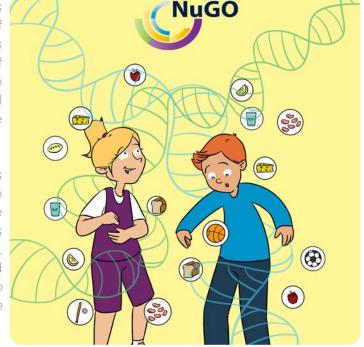
Frontiers for Young Minds - Science Mentors

NuGO ECN is also encouraging members to consider participating in the Frontiers for Young Minds review process by becoming science mentors for the journal collection. Science Mentors are the link between authors and young reviewers to support successful peer review. The role offers a opportunity to engaging with the young people to help them acquire essential skills for reading information with a critical eye, and to inspire them about exciting advances in nutrigenomics.

The editorial team decided to focus on the latest research in the field of nutrigenomics from technologies to study design, with the aim of showing how nutrigenomics can be used to help personalise nutritional advice for individuals and at the public health level.

Following an early call for abstracts within the NuGO community, there was a great response from the NuGO ECN members with numerous high-quality submissions received, many of which were selected for participation in New ways to understand how foods affect me and my health.

For more collections visit: kids.frontiersin.org/collections



Membership



MEMBERSHIP

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