Annual Report 2023

NuGO Association

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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NuGO Association 2023

Dear NuGO members, colleagues, and friends,

It is an honor to present this annual report of the NuGO association and reflect on the remarkable progress we've made over the past year.
From September 5-8, 2023, we gathered once again for NuGO Week 2023 in the picturesque city of Senigallia at the Adriatic coast of Italy. Our time there was enriched by engaging discussions on the pivotal theme, "Impact of Nutrition During Different Life Stages – Tracing the Influence of Diet on Human Health," complemented by the delightful flavors of Italian cuisine. At La Rotonda a Mare on Senigallia Beach, we shared exciting advances in Nutrigenomics and Precision Nutrition with colleagues and friends. As part of our renewed NuGO strategy, we also re-established and launched working groups focused on Bioinformatics & Systems Biology, Training, New Developments, Webinars (In-reach), and our Early Career Network.
A special moment during NuGO Week 2023 was the brief celebration of 20 years since NuGO's inception as an EU Network of Excellence in 2003, under the visionary leadership of Dr. Ben van Ommen, who honored us with his presence in Senigallia. This year, we will continue this celebration in Ghent, marking two decades of NuGO Weeks.
In addition to NuGO Week, 2023/24 featured several noteworthy events. Our well-attended NuGO symposium at FENS 2023 and a series of dynamic webinars—such as the one on Lifelines (Netherlands) and others organized by our active Early Career Network (ECN) and partner institutions like TUM (Germany)—stood out as highlights.

As I prepare to pass the NuGO CEO role to Prof. Lydia Afman during NuGO Week 2024, I want to express my deepest gratitude for your unwavering support over the past five years. When I took on the CEO position during NuGO Week in Bern in 2019, none of us could have predicted the challenges that lay ahead, particularly the pandemic. The cancellation of NuGO Week in 2020 and the necessity of our first virtual NuGO conference in 2021 were unprecedented hurdles. Yet, the resilience of our association and the steadfast commitment of all our member organizations ensured that NuGO not only survived but thrived during these difficult times.
Throughout the last 5 years, I've been inspired by the passion for groundbreaking science and the friendship that has defined our annual gatherings.
I would like to extend a heartfelt thank you to Dr. Meike Bünger and Prof. Dr. Lydia Afman from the NuGO office for their tireless and enthusiastic support over the years. I also want to acknowledge each member's dedication and the enthusiasm you bring to our community. It has been a privilege to work alongside you.
I wish you all continued success and look forward to seeing the great strides NuGO will make in the years ahead.

Prof. Michael Müller, CEO of NuGO

NuGO Management Board

From left to right:

Prof. Lydia Afman
Wageningen University (NL)
NuGO Executive Secretary

Prof. Michael Müller
University of East Anglia (UK)
NuGO Director (CEO)

Prof. Baukje de Roos
University of Aberdeen (UK)
NuGO Managament Board (Chair)

As of September 6, 2023, the NuGO Management Board is composed of

Baukje de Roos (University of Aberdeen, UK) – Chair
Stine Marie Ulven (University of Oslo, NO) – Vice Chair
Susan Coort (Maastricht University, NL)
Lorraine Brennan (University College Dublin, IE)
Sergio Polakof (Institute for Agriculture, Food, and Environment, FR)
Lynn Vanhaecke (Ghent University, BE)
Fiona Malcomson (Newcastle University, UK - ECN representative)

NuGO General Members Meeting chair and vice-chair are Baukje de Roos (University of Aberdeen, UK) and Stine Marie Ulven (University of Oslo, NO) respectively.

New Management Board Members

Since the last General Assembly in September 2023 in Senigallia, Italy, A/Prof. Susan Coort, Maastricht University, The Netherlands and A/Prof. Sergio Polakof, INRAE, France have joined the NuGO Manangement Board.
They replace Professor Diana Ivanova from the Medical University of Varna, Bulgaria and Professor Chris Evelo from Maastricht University. The NuGO Board thanks both members for their long-lasting support to NuGO's mission and the energy they brought to the Board.

Susan Coort
Maastricht University
The Netherlands

A/Prof. Susan Coort studied biological health sciences at Maasticht University. In January 2001 she started with her PhD project on the regulation of fatty acid uptake by the cardiac muscle under physiological conditions and in obesity/type 2 diabetes mellitus. Her project was performed at the departments of molecular genetics and physiology at Maastricht University under the supervision of prof. Jan Glatz, prof. Ger vd Vusse and dr. Joost Luiken.
She defended her thesis on June 30th, 2005 and received a NWO talent grant to start a postdoc at the International Institute for Cellular Pathology in Brussels. In 2007 Susan joined the Bioinformatics-BiGCaT group of prof. Chris Evelo to work as a postdoc on the data analysis of nutrigenomics data, with a special focus on micronutrients.
After becoming more skilled in bioinformatics and systems biology analysis approaches she was involved in a variety of studies all with a focus on (micro)nutrients. At the moment Susan is an Associate Professor and NUTRIM division 1 co-lead. In addition to research, she teaches in the bachelor and master of biomedical sciences (BMS) and the master systems biology. Finally, she is mentoring BMS bachelor students.

Sergio Polakof
INRAE
France

The main objective of my research is to better understand the events participating to the metabolic flexibility (or nutritional allostasis) and to study the time-course changes of the metabolic phenotypes leading to the pathologies (metabolic trajectories) using a integrative approach, from the whole body to the target tissues, using open (as metabolomics and transcritptomics) but also targeted (substrates, enzyme activity) approaches.
My studies are focussed on the development of a post-prandial anabolic resistance, a common component of many pathophysiological situations associated with aging, and that includes changes in insulin sensitivity but also nutrient utilisation and signalling.
I utilise classic animal models of nutritionally-induced obesity (high fat/high fructose diet), like rodents, but also minipigs. The latter offers a significant similarity with human physiology and nutrition and has an important technical potential, including time-course studies and the access to several biological compartments allowing inter-organ studies.
I'm also interested on studies aiming to understand the interaction between nutrients and the metabolic crossroads allowing explaining the perturbations and regulations of the amino acids metabolism during pathology onset.
On this context, lipids seem to be involved on the elevated blood levels of one particular kind of amino acids observed during obesity onset: the branched-chain amino acids. On the other hand, some carbohydrates, like fructose, might have a sparing impact on body proteins and amino acids during catabolic states, instead a deleterious role, as observed during high-fructose feeding diets.

General Members Meeting 2023

The NuGO General Members meeting represent the highest authority within NuGO and they meet at least once a year. Of the 29 Members, 22 Members attended the 16th General Members Meeting on the 5th of Septemer 2023. It was held in the beautiful Italian city, Senigallia, in the very famous „La Rotonda".
During the General Members Meeting, the General Assembly accepted two new NuGO members: Sidra Medicine and ETH-Zurich. In general, NuGO has continued to offer a reduced fee to new Members during their first year of membership (50% of the annual fee). During the General Members Meeting the members agreed to set the Annual NuGO Membership fee to €1400 for 2024, keeping still a reduction of 12,50% compared to the general fee of €1600. Before the COVID pandemic the annual fee has been €1600. Membership is only open to organisations, but individuals are more than welcome to participate in events organised or supported by NuGO.

At the end of 2023, 31 organisations were Members of NuGO including the Sidra Medicine and ETH-Zürich.
The General Assembly 2023 accepted Baukje de Roos (University of Aberdeen, UK) as the new chair of the NuGO Management Board. and also accepted Susan Coort (Maastricht University, NL) and Sergio Polakof, (INRAE, FR) as new members of the NuGO Board.

The NuGO Office is based at Wageningen University & Research (NL). Meike Bünger is the person behind the NuGO emails and the NuGO Newsletter as well as the LinkedIN posts where she reaches out to the NuGO members regularly.

NuGO Office - nugo@wur.nl
Meike Bünger
Wageningen University & Research
The Netherlands

NEW Memberships 2023

The General Assembly 2023 accepted Sidra Medicine as new NuGO member. Sidra Medicine provides specialized health care to women, children and young people from Qatar and around the world. The Research Department is becoming fully integrated into every patient's journey, and the 'standard of care' for patients visiting Sidra Medicine benefits from seamless access to state-of-the-art technologies housed within the research.
At Sidra Medicine, the Laboratory of Precision Nutrition (PreNutri Lab), led by Dr Terranegra, is interested to characterize the molecular mechanisms underlying the role of food and nutrients in diseases using cutting-edge technologies, such as bacterial 16S rRNA-sequencing, DNA-methylation arrays, DNA genotyping and nutritional assessment (BMI, body composition, dietary patterns and micronutrient computing). Thanks to local and international collaborations, PreNutri lab is currently running studies on female reproductive health, perturbation of the mother-baby axis during pregnancy and early baby life, pediatric type 1 diabetes, adult and pediatric obesity, cardiovascular diseases, inflammatory bowel diseases, and nephrotic syndrome. PreNutri Lab's research topics perfectly match NuGO's mission and vision and being part of NuGO will definitely improve the quality of our studies and bring new collaborations. Most importantly, the NuGO and Early Carrier Network (ECN) will provide a valid platform for our young scientists to learn more about precision nutrition and to pursue their scientific carrier in this field.

Annalisa Terranegra,
Sidra Medicine (QA)

The General Assembly 2023 accepted a second new NuGO member wich is ETH-Zurich duly represented by Prof. Ferdinand von Meyenn Department of the Health Sciences and Technology (D-HEST).
Ferdinand von Meyenn has been Assistant Professor at the Institute of Food Nutrition and Health at ETH Zurich since January 2019. Ferdinand studied Biochemistry at the TU Müchnen, Germany, before moving to ETH Zürich for his PhD to study metabolism and type-2 diabetes. After his graduation, he joined Wolf Reik at the Babraham Institute in Cambridge, UK, and investigated epigenetic mechanisms during development and ageing. In 2017 he joined King's College London as a Research Fellow and then moved in 2019 to ETH Zurich where he was appointed Assistant Professor for Nutrition and Metabolic Epigenetics. His research focuses on the complex relationship between nutrition, metabolism and the epigenome, whit the aim to contribute to the development of novel strategies to combat obesity and metabolic disease.

Ferdinand von Meyenn,
ETH-Zürich, D-HEST(CH)

NuGO Postgraduate Course 2023

Held just before NuGO Week, the postdoctoral course offers PhD students and postdoctoral fellows the opportunity to attend a training and scientific meeting at no additional cost. The trainers of this year were Dr. Michiel Adriaens and Dr. Susan Coort both from Maastricht University (NL) and Professor Valerio Napolini from the University of Camerino (IT).

Held just before NuGO Week, the postdoctoral course offers PhD students and postdoctoral fellows the opportunity to attend a training and scientific meeting at no additional cost. ‚Primers in omic data analysis: genomics and transcriptomics to boost your research in molecular nutrition' was the title of the 2023 course. The postgraduate course consisted of three days of nutritional genomics training. On the first day, the topic was genome-wide association studies (GWAS). Valerio Napolioni gave in-depth instructions on how to associate single-nucleotide polymorphisms (SNPs) with a preferred trait using a GWAS.

On the second day, Susan Coort taught participants how to link SNPs obtained from GWAS to genes and then to their metabolic function. During the technical part, she led participants through a whole new world of FUMA GWAS, WikiPathways and Cytoscape.

On the final day, Michiel Adriaens took a closer look at linking SNPs to genes. He emphasized that SNPs primarily affect gene expression and instructed participants on the process of linking GWAS results with the transcriptome through an expression quantitative trait loci (eQTL) analysis.

„The supervised practicals were especially helpful in getting a better idea of the theory and how each topic was connected to the others. Nevertheless, getting to know my fellow students, the Italian lunches and the sunny weather were just as good as the course. I am very curious what the next course will be about." (Luc Heerkens, WUR, NL)

Introduction to Nutritional Metabolomics summer school - from 26 to 30 June 2023 University of Copenhagen, Denmark

Hosted at the Department of Nutrition, Exercise and Sports, University of Copenhagen (Denmark), the course comprised a combination of detailed lectures and discussions, coupled with hands-on data preparation and data analysis sessions. During the course, participants dived into the examination of a real-life metabolomics case study that focused on identifying coffee intake biomarkers. The data was collected during a nutritional intervention study carried out by the host laboratory. The initial stages of sample preparation and metabolomic data acquisition, using UPLC-QTOF, had already been completed. The primary learning objective, therefore, was to acquire the skills needed to process and analyse this preexisting dataset. This involved the application of various tools including, but not limited to, R, XCMS, and MZmine. Following data pre-processing and analysis, participants were guided through the identification of metabolites of interest by manual analysis and using web-based databases and structure elucidation tools. The course culminated in the presentation of the results found during the metabolite identification analysis to the course instructors and classmates. The course was broken down into understandable parts. Each step was clearly explained, dispelling the initial perception of metabolomics as unattainably complex. The high quality of the teaching, coupled with the expertise of the lecturers in the Department of Nutrition, Exercise and Physical Education and Sport, helped to "demystify metabolomics", as one of the students on the course put it.

„Working through the stages of a typical nutritional metabolomics study provided an in-depth understanding of each process, making the complex less intimidating." Eugenia Pertziger, PhD student, Agroscope, Switzerland

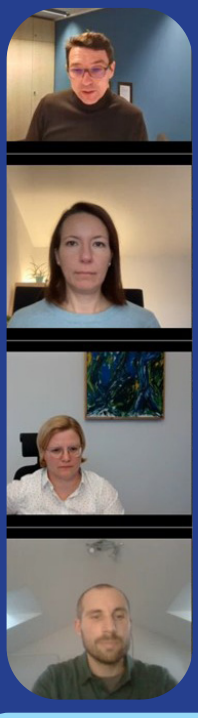
The NuGO travel grant made it possible for Eugenia Pertziger, PhD student, Agroscope (Switzerland) to participate in this course.The picture shows the course participants and the host Lars Dragsted and Jan Stanstrup from the Department of Nutrition, Exercise and Sports, University of Copenhagen (Denmark).

NuGO Webinars

NuGO webinars address a range of nutritional topics, such as metabolism, precision nutrition, new developments, microbiota, data sharing in Nutrition research. The webinars are open to NuGO members and are intended to strengthen networking and collaboration. Webinars were set open to the nutrition community if possible. NuGO webinars were well received during 2023 and will again be part of the 2024 programme. Recordings of the webinars can be found on the NuGO home page.

The 10th NuGO webinar was organized by our representative Prof. Dirk Haller from the Technical University of Munich, Germany, titled: „ZIEL Research Strategy, Food & Microbiome, Human Intervention, Career support for young Scientists". He invited three colleagues from different disciplines to give an overview of ongoing research at ZIEL. One of our fuels to present NuGO partners to other other NuG members

Dirk Haller introduced ZIEL, the Institute for Nutrition & Health and the institutional organization within TUM. ZIEL is a corporate research institute of all research schools and departments with the goal of enabling larger multidisciplinary research collaborations and providing the seat for these projects. The key elements of ZIEL are Research, Mentoring and Core Facilities to get funding for Collaborative Research Centers (CRC). Dirk presented research from the CRC on Microbiome Signature, titled: *Early life intervention using pro- and pre-biotics: lessons from controlled trials*. The keyfinding, that the addition of GOS/BB to a standard formula generated microbiome profiles that were statistically indistinguishable from those of the breastfed reference group, was presented.
Corinna Dawid introduced the concept of the SENSOMICS approach (https://www.mdpi.com/2304-8158/11/3/412) and its use for nutrion reseach, e.g. for Optimization towards low-bitterness pea protein isolates.



Sören Ocvirk presented, *„Dietary patterns along rural-urban gradients in Sub-Saharan Africa affect microbiota function and intestinal health"* one example of the multidisciplinary research collaboration at ZIEL and elaborated on how westernization of diets alters fecal microbiota composition. Melanie Schirmer presented *„The microbiome in inflammatory diseases.* Melanie used the PROTECT cohort to explain the rereach approach she is applying. She typically uses multiomics data from cohorts, computationally predicts hypotheses of host-microbial interactions and analyses and takes these hypothese back to the lab for experimental validation. In summary, she proposed that translocation between mouth and gut is related to inflammation, with nitrate seems to facilitating the adaptation of veillonella parvula and probably other species to the inflamed gut. "

Omics for Nutrition Science

Webinar-1: Nutrition Science, omics data capturing

Lars Dragsted gave an overview of tools that are available for nutritional and biomedical research data capturing and sharing tools and their assets.

He also presented a new data sharing tool, called Squidr, and showed some of the datasets, which can be shared openly, covering different types of data, including metabolomics data. Squidr can be used to share data openly or in closed groups. It can also be used to make a local database of e.g. metabolomics or metagenomics profiles to help finding features encountered in previous studies and thereby supporting identification. The new tool has a particularly facile upload feature allowing easy outline of the study design and flexible options for adding additional data as they become available. He showed some examples of complex data designs that have been uploaded already, including e.g. clinical data, metabolomics, metagenomics, questionnaires and VAS-scores.

Omics for Nutrition Science-2

Webinar-1: Data analysis & infrastructure in food and nutritionl

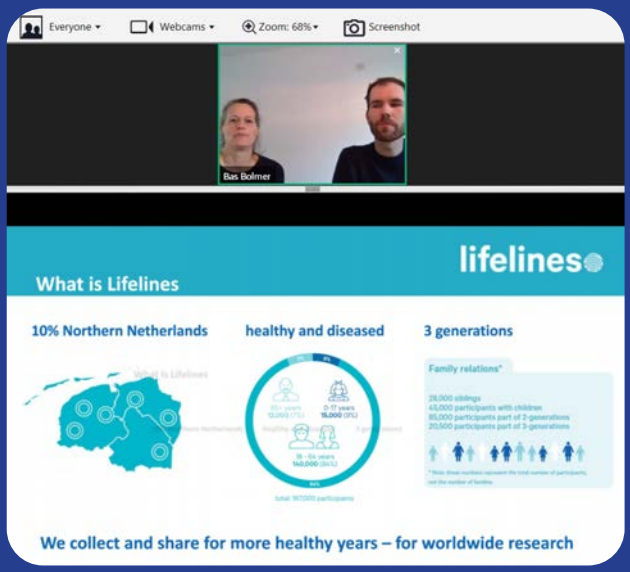
Chris Evelo presented an overview of various aspects of data analysis and infrastructure in nutrition, starting with the european research infrastructure ELIXIR, its five platforms [Compute-data-Tools-interoperability-Training] and how ELIXIR is useful for nutrition scientists. He introduced the ELIXIR Food and Nutrition community, the Phenotype database and European Nutritional Phenotype Assessment and Data Sharing Initiative (ENPADASI). Chris lectured in the second part on „**Systems Biology and reusing data**“ on methods like gene set enrichment analysis, co-expression analysis and pathway analysis are tools that have the advantage that you can see the effects in an understandable biological context and and presented the ELIXIR deposition database list, the RDM kit, FAIR data principles and also addressed the ELIXIR FAIR cookbook.

ECN Webinars

The NuGO ECN Webinar series 2023 launched on 19th of January with a presentation on "Lifelines Biobank for diet and health research" by Ilse Broeders and Bas Bolmer both from Lifelines, The Netherlands.

19th of January 2023 –
"Lifelines Biobank for diet and health research"

In this webinar, project manager Ilse Broeders and data manager Bas Bolmer from lifelines provided insight into what ‚Lifelines' has to offer to expand ones research, with a focus on datasets for search to study diet and health. The Lifelines cohort dataset consists of a combination of quantitative and qualitative data generated within a multi-generational cohort that includes over 167,000 participants (10%) from the general population of the northern region of the Netherlands. Lifelines started this collection in 2006 with the aim to facilitate research into healthy ageing, especially the complex interactions between environmental, behavioural, phenotypic and genomic factors involved in the development of (chronic) diseases and more healthy years. Lifelines does not do its own research on the collected data and samples, but provides easy access to real world data and biosamples.



https://www.lifelines.nl/deelnemers/over-lifelines

The third NuGO ECN webinar was held on the 6th of December 2023. ECN invited Dr .Jim Kaput, Co-founder and CSO Vydiant Inc., California to talk about „The Path to Personalized Health is Paved with Data".

6th of December 2023 – Jim Kaput, „The Path to Personalized Health is Paved with Data"

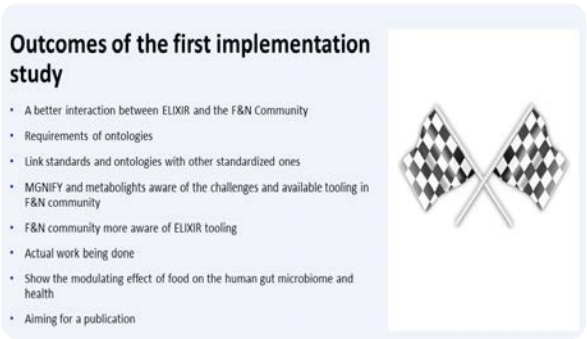
Jim Kaput is co-founder and Chief Scientific Officer of Vydiant, which is developing healthware consisting of a comprehensive knowledge base of factors affecting health and disease and digital tools to deliver holistic personalized recommendations to individuals. Jim's primary research interest is to obtain, analyze, translate, and apply health information to promote individual and public health.

The second NuGO ECN Webinar of the 2023 series was presented by Dr. Jildau Bouwman and A/Prof Susan Coort-Steinbusch. Title: ‚ELIXIR: How to find, analyse and share data'

Wednesday, 7th of November 2023: ‚ELIXIR: How to find, analyse and share data' presented by Jildau Bouwman and Susan Coort.

Susan first introduced the basics of ELIXIR Europe as an intergovernmental organization that brings together life science resources such as databases, software tools, training resources, interoperability resources, computational resources and data management support, and explained how ELIXIR functions as a research infrastructure.

Jildau elegantly demonstrated why the implementation study is so important to the ELIXIR food and nutrition community and its benefits after two years. This first implementation study describes the integration of microbiome, metabolomics and nutrition data from dietary studies as a prime example of how the R&N community can benefit from ELIXIR and vice versa.
Four work packages were set up at the beginning of the implementation study: WP1 - Collection of relevant datasets & training, WP2 - Development and implementation of microbiome standards, WP3 - Development and implementation of metabolomics standards, WP4 - Integration of study (meta)data, microbiome and metabolome. The aim is to make these improvements available to the community as soon as possible.



A great science momentum at the NuGO workshop in Belgrade at FENS 2023

About 80 people attended the NuGO workshop titled „The role of Precision Nutrition in future health promotion" with Prof's. Baukje de Roos and Diana Ivanova as chairpersons for the day. The symposium demonstrated once again that NuGO brings high-quality science from partners (and friends) to science audiences in Europe and beyond, stimulating vital discussions - well worth joining NuGO and supporting this great platform for scientific exchange and skill development.

Prof. Jayne Woodside's presentation questioned whether Precision Nutrition (PRN) and Personal Nutrition (PN) approaches have or can have an impact at the public health level to improve nutrition and lifestyle behaviours. She also asked whether PN promotes societal inequities because current PN approaches are expensive due to the analysis of whatever biomedical markers are being measured (genetics, epigenetics, metabolomics, proteomics, microbiome profiling, etc.), but she did not know whether the PN approaches are the most costly. Thus, for financial reasons, such offerings cannot reach the population subgroups that would benefit most, and current PN approaches thus have a very limited public health impact. We therefore need to rethink and redesign our strategies to make PRN/PN effective in practice. However, there is no question that personalized advice as an outlet of PRN/PN is more effective than generic advice - even when delivered electronically via email, an app or other devices.
Of course, that in itself is not surprising, since we know that face-to-face dietary advice, as it has been given for decades, works, but the fact that it works electronically in the absence of a real person could be called „good news," since it allows for new PRN/PN approaches with new tools such as chat-bots or avatars that can provide advice in any language for any target audience. There are now some articles describing that a chatbot giving advice is perceived by test subjects with a higher positive rating than that of dietitians as a reference group (Kirk, 2023: https://doi.org/10.1155/2023/5548684).

What also became clear was that there are no formal and widely accepted definitions for terms like PRN or PN, with some using PRN as a target group-specific approach that is not focused on an individual, while others use it in the context of the individual and refer to more omics-based input to make advice more specific/precise.
I think it would be very valuable to better define the differences between PRN and PN - and that could be an activity of NuGO, as NuGO was the first group to bring PN into the scientific arena with a first ever conference dedicated to PN in 2005 in Mallorca.

What also became clear was that there are no formal and widely accepted definitions for terms like PRN or PN, with some using PRN as a target group-specific approach that is not focused on an individual, while others use it in the context of the individual and refer to more omics-based input to make advice more specific/precise. I think it would be very valuable to better define the differences between PRN and PN - and that could be an activity of NuGO, as NuGO was the first group to bring PN into the scientific arena with a first ever conference dedicated to PN in 2005 in Mallorca. Over the years, microbiome science has moved into the PRN/PR domains and there is a general perception that diet along with many other lifestyle and environmental factors make up our gut microbiome with a multitude of effects on the health trajectory.
It has been known for decades that breastfed infants have a different stool microbial profile than formula-fed infants. And it is widely believed that the first month of life and food exposure during this period has long-lasting effects. A stunning finding in this context on „feeding the gut microbiome" was presented by Prof. Dirk Haller.

He reported on the results of a randomized controlled trial of infant formula over a one-year period with the research question of whether fermentable fibers such as galactooligosaccharides (GOS) or probiotic strains of Bifidobacteria (BB) or a combination thereof could steer the gut microbiome of formula-fed infants toward that of breast-fed controls. As a key finding, he showed that the addition of GOS/BB to a standard formula generated microbiome profiles that were statistically indistinguishable from those of the breastfed reference group. Moreover, what was a surprising finding was the observation that infants in early life - regardless of how they were fed - have a fairly low bacterial diversity/low richness with some dominant species such as the Bifidobacteria. Over the course of a year, however, the microbiome of infants shifted increasingly toward that of their parents, with higher diversity. Here the question arises whether a less diversified microbiome - as observed here in early life - offers beneficial symbiotic interactions compared to adult microbiomes for which high diversity/richness is currently considered the healthiest.

Taken together, NuGO presented excellent science framed by vital discussions - well worth joining NuGO and supporting this great platform for scientific exchange and skill development.

REPORT by Professor Hannelore Daniel.

NuGO Week 2023

How much nutrition can impact human health during different life stages?

From September 5 to 8, 2023, 150 nutrition researchers from all over Europe and beyond enjoyed the never-ending Italian hospitality and friendliness, delicious food and a great scientific program, trying to answer this question through six topics discussed in separate sessions. The **first session** was on "*early biomarkers of disease*," in which Alessio Fasano and Baukje de Roos gave an overview of adequate nutrition and its relationship to complex diseases.

During the **second session** keynotes and early career researchers explored new aspects related to "n*utrition across the lifespan: learning from the exposome*"; here the interaction between nutrition and the gut-brain axis and multi-omics responses to nutrition were explored by David Vauzour and Marian Beekman.

In the **third session**, "*tools to trace the impact of nutrition and lifestyle on health"*, Sarah Berry and Stine Ulven described how personalized nutrition affects health and the contribution of omics research to trace the role of dietary fats on CVD.
The **fourth topic**, "*strategies to 'rejuvenate' organs*," offered new inside-out strategies to measure and predict biological age with lectures by Ferdinand von Meyenn and Anna Krook.
The **fifth session**, „*nutrigenomics in the control of low-grade inflammation,*" outlined the molecular mechanisms that modulate pro- and anti-inflammatory responses to food intake, thanks to the allusions of Frank B Hu. Finally, Alice H Lichtenstein and Irene G Van Valkengoed described how education, financial status and gender can influence human health during the closing session.

The NuGO Award for **BEST ORAL 2023** was unanimously awarded to **Ammi (Alexandra) King**, from St Mary's University, Twickenham, UK, who did an excellent job presenting her research on
„*Factors that influence intention to use genebased personalized diet and physical activity advice in young adults that perceive themselves to be a healthy weight versus overweight or obese.*"

More than 80 high-quality posters were presented and discussed during the four poster sessions The review committee awarded the **BEST Poster 2023** to
Torunn Melnes from the Department of Nutrition, University of Oslo with the poster entitled:
„*Difference In PBMC Gene Expression Between Elderly Event-Free FH Patients And FH Patients With CHD*".

Once again, NuGO Week brought together young, talented Early Career Researchers and senior scientists to discuss the latest findings in nutrition and food science, nutrigenomics and nutrigenetic research, and to answer the question of the extent to which nutrition can affect human health during different stages of life.

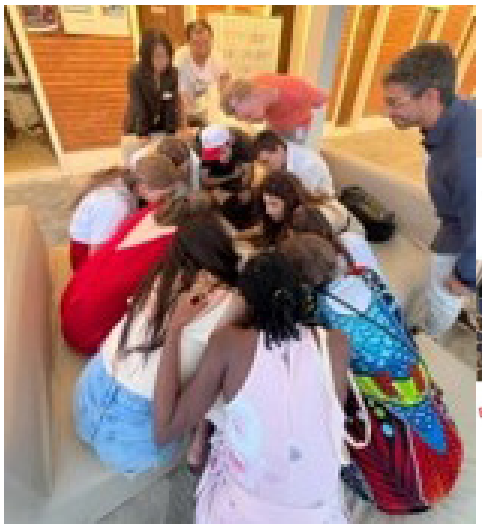
The fantastic local UNICAM team of Rosita Gabbianelli from the University of Camerino, Italy.

BEST ORAL 2023 winner Ammi King (left) and the NuGO chair Baukje de Roos.

BEST POSTER 2023 winner Torunn Melnes (right) and the NuGO chair Baukje de Roos.

ECN Networking event at NuGO Week 2023

ECN networking event in 2023 during NuGO Week was speed dating, a NuGO pub quiz followed by delicious Italian food in Senigallia, Italy.



NuGO
Early Career Network

Fiona Malcomson

Together with **Dr. Fiona Malcomson** (University of Newcastle, UK), the chair of the ECN committee, **Dr. Aimee Dordevic** (Monash University, AU), **Dr. Eva Rath** (Technische Universität München, DE) and **Dr. Laura Bordoni** (University of Camerino, IT) will lead the ECN committee in 2023.
At the end of 2023, Aimee Dordevic will leave the committee after many years of being active in the committee. However, Aimee will remain closely involved as a NuGO representative from Monash University, Australia and as a member of the Bioinformatics and Systems Biology Working Group.
Thank you Aimee for all the work you have done for NuGO's early-stage researchers and for the pleasure you have brought to the ECN.

Aimee Dordevic

Together with NuGO, the ECN committee launched in their new 2022 webinar series. The webinar topics were divided into the following three themes:

1. **Research presentations**
   Given by ECN members and experts in the field.

2. **Journal Club**
   An opportunity for NuGO ECN members to critically-appraise, present, and discuss a nutrigenomics-related paper.

3. **Skills & Training sessions**
   Training and skill development webinars given by experts.

Eva Rath

In 2023 they did a great job hosting three very interesting webinars with topics suggested by the ECN community.. Read more about the webinars of 2023 in the ECN webinar section.

Another success in 2023 was the official launch of the eNuGO book of the 'New ways to understand how foods affect me and my health" special collection (https://kids.frontiersin.org/collections/19437/new-ways-to-understand-how-foods-affect-me-and-my-health), a collaboration between the NuGO ECN and Frontiers for Young Minds and includes 16 articles written by NuGO members. The collection has todate more than 245.000 views.

Want to know more about ECN and be part of it?
More information on the ECN activities can be found on the ECN website.
If you would like to join this fantastic network of early-career researchers, or become active in the ECN committee, pleases contact the ECN committee under email: ecn.nugo@gmail.com.

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