YOGURT IN NUTRITION
INITIATIVE FOR SUSTAINABLE AND BALANCED DIETS

ONLINE EVENT

BALANCING PLANETARY AND HUMAN HEALTH: THE CRUCIAL ROLE OF BIODIVERSITY

THURSDAY, JUNE 10, 2021

12.00 to 13.30 EDT / 18.00 to 19.30 CET

DANONE INSTITUTE INTERNATIONAL

ASN American Society for Nutrition
Excellence in Nutrition Research and Practice
www.nutrition.org

This event is a sponsored satellite program of NUTRITION 2021 LIVE ONLINE.

YOGURT IN NUTRITION
INITIATIVE FOR SUSTAINABLE AND BALANCED DIETS

BALANCING PLANETARY AND HUMAN HEALTH: THE CRUCIAL ROLE OF BIODIVERSITY

For years, food production, health and environmental sustainability have been studied as separated disciplines with limited explorations of synergies. Recently, the concept of Sustainable Healthy Diets has gained popularity among researchers, nutrition experts and health authorities. This year the Yogurt in Nutrition Initiative would like to deep dive into the available research to understand the links between planetary and human health, through microbiomes and biodiversity.

F.DeClerck will discuss nature's contributions to people in terms of regulation of earth system processes, and its contributions to food production. J.Doré will discuss about the importance of microbes diversity in sustainable healthy diets and the impact of diet in the gut microbiota. And H.Hirt will talk about the links between soil, foods microbes and gut microbes; and how microbiome research can bring some light for solving challenges associated with the human impact on the environment through agricultural practices.

Read more at **www.yogurtinnutrition.com**

CHAIRED BY:

Sharon Donovan, PhD, RD
University of Illinois, United States

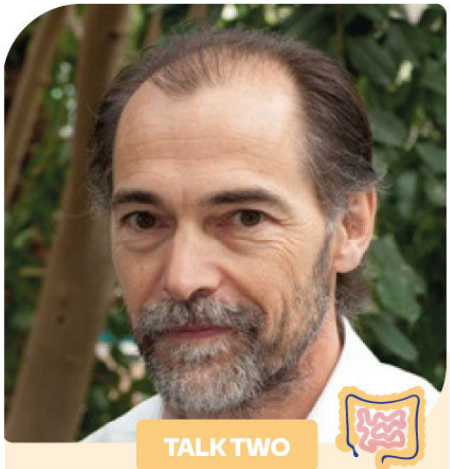
/

Emeran A. Mayer, MD
University of California UCLA , United States

TALK ONE

One Earth:
Increasing evidence of the interconnection between planet, people and health

Fabrice DeClerck
(Belgium)



TALK TWO

Gut microbiome diversity:
Link between food, gut microbiota and health

Joël Doré
(France)

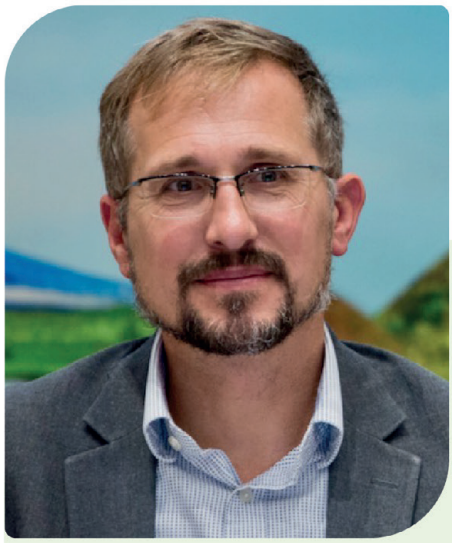
TALK THREE

The importance of microbiome diversity:
The link between soil microbiome, plant, food and health

Heribert Hirt
(Austria)

DANONE INSTITUTE INTERNATIONAL

American Society for Nutrition
Excellence in Nutrition Research and Practice
www.nutrition.org



Fabrice DeClerck
(Belgium)

Biography

Fabrice DeClerck, a Belgian national based in Montpellier, holds a joint appointment with Bioversity International and the EAT Foundation. He leads innovative and synthetic food systems research using systems-based approaches to set clear science targets for healthy and sustainable foods systems. Using global targets, he works closely with multiple networks to drive uncommon collaborations between disciplines (agriculture, environment, health) and domains (science, business, policy) for food systems transformations.

His research emphasizes the critical role that agricultural ecosystems play in supporting sustainable development goals, and the role of agricultural diversity both in as underpinning healthy diets, as well as sustainability. This same research has demonstrated that while agriculture is the current driver of increasingly poor dietary health, and environmental degradation globally, a systems-based approach working across domains and disciplines can transform agriculture to the primary driver of health and sustainability.

Fabrice has extensive experience in multiple regions and enjoys strong collaborations ranging from direct engagement with farmers and farming communities to interactions with food and agricultural companies and policy makers.

Fabrice has regularly contributed articles to peer reviewed journals spanning environment, agriculture and health. He is a contributing author to the EAT Lancet Commission on Healthy Diets from Sustainable Food Systems, The Economics of Ecosytems and Biodiversity for Agriculture and Food reports, and both the Africa and Global IPBES Assessments. He also serves on the advisory boards of the Science for Nature and People Partnership (SNAPP) and the Menus of Change University Research Collaboration (MCURC). He was named Young Professional of the Year by the Association for International Agriculture and Rural Development in 2005, and was Humboldt State University's Man of the Year in 1995.

One Earth: Increasing evidence of the interconnection between planet, people and health

Abstract

If COVID has taught us anything, its that we live in a biological world. Four billion years of evolutionary history precede our presence, and have driving the biological processes, interactions human life livable: from the air we breathe, the stable climates we enjoy, the clean water that courses through many landscapes, and more fundamentally, to the foods we eat.

Food production is our most intimate relationship with nature, yes all to often, in our quest to produce more food, we have driven nature out. Food is also our most intimate relationship with health: what food we eat, how we produce them, where we produce them. Yet these relationships are now broken. Food has become the primary driver of poor health, and the leading cause of premature mortality globally. Nearly half of the world's population struggle with either gaining access to the enough food, or the right foods. Over consumption has become both a health problem, and an environmental problem. Food is also the single largest source of environmental degradation driving planetary boundaries to critical tipping points. We are beginning to understand the consequences of foods transgression of climate, land, water, and nutrient boundaries, both in the increasing instability of climate, but also the increased risks of zoonotic disease infection and spread.

Despite this, food is our best bet solution at improving livelihoods, regenerating and restoring the environment, and preventing pandemics. Making this transition requires however fully embedding food into nature, a one earth approach where land is spared from conversion to support nature's contributions to people, but also here nature is shared in food, whether its habitat for pollinators around farm fields; whether its regenerative pasture management to store carbon, protect grassland biodiversity, and create jobs; whether it means recognizing the microbiomes in our soils, and in our guts are active participants in soil and human health.

A one earth approach fundamentally recognizes the biological nature of life on earth, and seeks to create the innovations, the industry, the technologies and practices that work with nature, rather than against it, and proposes by doing so, we will be able to achieve sustainability targets, and build back better.

Joël Doré
(France)

Biography

Joël is Research Director at INRAE Micalis Institute (www.micalis.fr) "Food and Gut Microbiology for Human Health", and Scientific Director of MetaGenoPolis (www.mgps.eu), a INRAE research unit expert in human and animal microbiome research and laureate of the national "Futures Investment" program.

Gut microbial ecologist by training, Joël pioneered intestinal metagenomics towards food-microbe-host interactions as well as diagnostic applications. With over thirty years of academic research and > 220 publications (H Index 69), Joël aims to provide a better understanding of man-microbes symbiosis towards personalized preventive nutrition and precision medicine.

Joël is laureate of the ERC-Advanced Homo.symbiosus ; co-founder and scientific advisor of www.maat-pharma.com, a startup company dedicated to provide safe and standardized microbiotherapy solutions for the reconstruction of host-microbes symbiosis in the context of programmed clinical interventions inducing dysbiosis.

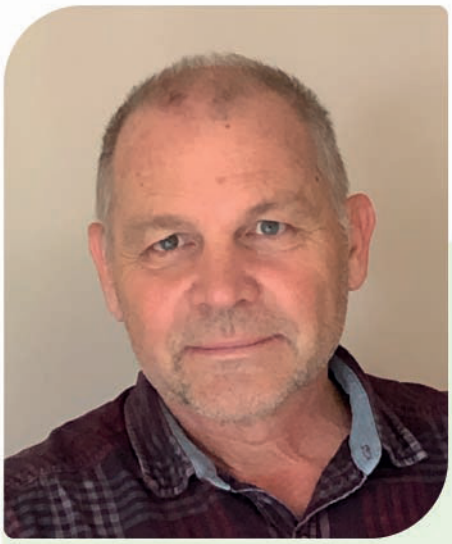
Gut microbiome diversity:
Link between food, gut microbiota and health

Abstract

The human intestinal tract harbours a complex microbial ecosystem which plays a key role in nutrition and health. Interactions between food constituents, microbes and the host organism derive from a long co-evolution that resulted in a mutualistic association. Recognized functions of the dominant gut microbiota relate to a contribution to nutrition via provision of key vitamins such as B12 and K and short chain fatty acids as well as a major implication in the breakdown of fibers and the bioconversion of plant-born polyphenols. It also contributes to trophic functions of the gut, modulation of tissue renewal and mucus production in quantity and composition. Finally, it regulates the vigilance of the immune system and directly prevents proliferation of environmental microbes.

Current investigations into the human faecal microbiome are refining our vision and highlighting its most redundant genomic traits and thereby its functional contributions. These observations show a unique segregation of the human population into individuals with low versus high gene-counts or microbiota richness. It significantly expands our ability to look for dysfunctions and specificities of the microbiota associated with human diseases and to ultimately validate microbial signatures of prognostic and diagnostic value in immune mediated conditions. As an example, the microbiota is a key player in the development of obesity. the overall phenotypic characteristics are worse in individuals with low gene counts (LGC) microbiota, which represent 25% of overweight to moderately obese subjects and up to 75% of extreme obese (candidates for bypass surgery). LGC patients present a low grade inflammatory context also associated with insulin-resistance, and the worst response to a dietary intervention in terms of weight loss or improvement of biological and inflammatory characteristics. Conversely, a calorie-restricted diet, with low fat, high protein and especially high-diverse fiber content, can correct the low gene count microbiota, raising by more than 25% its gene count during a 6 weeks intervention. Gastric bypass surgery rapidly corrects average gene richness and restores higher proportions of symbionts that appear deprived in extreme obesity. The effects seem durable over a 12 months follow up.

The human intestinal microbiota should hence be regarded as a true organ, amenable to rationally designed modulation for human health. Dysbiosis and dysfunctions appear in essence as alterations of man-microbes symbiosis which trigger interest in the application of functional metagenomics to better understand the crosstalk between intestinal symbionts and food constituents on the one hand, and human cells and tissues on the other hand.



Heribert Hirt
(Austria)

Biography

Hirt studied biochemistry at the University of Cape Town and Vienna where he received his PhD in 1987. After post-doctoral fellowships at the University of Oxford, UK, and Wageningen, NL, he became Professor of Genetics and Head of Plant Molcecular Biology at the University of Vienna.

In 2007, he was nominated Director of the INRA/CNRS Plant Genomics Institute in Paris, France, and in 2014 of the Center for Desert Agriculture at KAUST in Thuwal, Saudi Arabia.

Hirt has published more than 300 papers on how plants can survive under abiotic or biotic stress conditions. His current research is focused on how beneficial microbes can help to grow crops under climate change and increasing chemical challenges. His work aims to transform agriculture to produce healthy food for everyone (www.darwin21.org)

The importance of microbiome diversity: The link between soil microbiome, plant, food and health

Abstract

Recent findings show that beneficial microbes are essential for establishing and maintaining a healthy gut microbiome. Many of these beneficial microbes in the human gut can be obtained from eating healthy food, but most current healthy food concepts still lack the aspect of healthy microbes. It is hardly known that many of these beneficial microbes in healthy food are also essential for protecting plants from bacterial, fungal and viral diseases and that the large use of pesticides and herbicides in agriculture challenges the life of gut, plant and soil microbes - and that it is the soil microbiome which is the ultimate source of microbial partners for plants, animals and humans alike.

In our research program, we have isolated more than 3000 beneficial microbes that live in symbiotic association with plants. By using sophisticated techniques and bioinformatic programs, we identify specific functions of different microbial strains with respect to plant and/or human health. We show that beneficial microbes can protect crops from environmental stress and diseases. Our research provides novel strategies for developing sustainable agriculture that allows the production of healthy food on a global scale. We believe that healthy food forms the basis of human health and that we must aim to make healthy food available to every human on this planet.

YOGURT IN NUTRITION
INITIATIVE FOR SUSTAINABLE AND BALANCED DIETS

DANONE INSTITUTE INTERNATIONAL

American Society for Nutrition
Excellence in Nutrition Research and Practice
www.nutrition.org

The Yogurt in Nutrition Initiative for Sustainable and Balanced Diets is funded by the Danone Institute International and conducted in collaboration with the American Society for Nutrition.

Join the discussion

www.yogurtinnutrition.com
@YogurtNutrition
@yogurt_in_nutrition
#SustainableDiets2021