

PRESS RELEASE

The gut microbiota decade: a major discovery that will shape the future of medical practice

Leading experts will gather this weekend in Paris to review the major discoveries from the last ten years around gut microbiota. Due to its importance for overall health, the community of bacteria inhabiting human gut is now considered as a supra organ involved in key functions, including immune and digestive activity and organ functioning, among others. Recent research has also shown it could act as a biomarker for disease and a fundamental target for specific interventions, including therapeutic and dietary ones.

Paris – March 9, 2017.- The gut microbiota and its impact on health and diseases will be the topic of an upcoming gathering of medical and scientific experts including gastroenterologists, paediatricians, nutritionists and dieticians: the sixth [Gut Microbiota for Health World Summit](#). Prof. Francisco Guarner, gastroenterologist and researcher at University Hospital Vall d’Hebron (Spain) and chair of the Scientific Committee, explains “Our knowledge on the microbial communities that inhabit the human gut has grown exponentially during the last decade. **The Summit aims at decoding the most recent advances (gut-brain-microbiome axis, IBS, IBD, pediatrics, ...) for the medical community.**” The event will be held **for the first time in Paris** on March 11th and 12th and is jointly organized by the [European Society of Neurogastroenterology & Motility](#) (ESNM), the [European Society for Paediatric Gastroenterology, Hepatology and Nutrition](#) (ESPGHAN), and the [American Gastroenterological Association](#) (AGA), with the support of [Danone](#), [Biocodex](#) and [Sanofi](#).

Key findings from 10 years of research: Gut microbiota as a new “supra organ”

The past ten years have seen remarkable gains in knowledge about the gut microbiota, thanks to major gut microbiota research projects in the US, Europe, and Asia. According to Dr. Joël Doré, Research Director at the French Research Institute in Agricultural Sciences (INRA) "The tools we can use to assess the microbiome and thereby try and understand 'man-microbe symbiosis' have gained in resolution and sensitivity." For Prof. James Versalovic, Pathologist-in-Chief at Texas Children's Hospital and Professor of Pathology at Baylor College of Medicine (USA), “The US Human Microbiome Project has provided a new perspective on the body of a healthy human through the study of its associated microorganisms. Each body site, including the intestine, has a distinct microbial community.”

Increasing data supports the idea that **the human body is not complete without microbes**—especially the microbes living in the intestinal tract. Given the unique functions of the gut microbiota, some have described it as a ‘supra organ’ that should be afforded the same level of attention as any other part of the body. “The gut microbiota is essential for any mammal, including humans, to fully develop its intestine, immune system, vascular system and nervous system,” Versalovic points out. “In other words, to be fully human requires a diverse and fully functional gut microbiome. **It is not possible to discuss human health today without describing the role of gut microbiota in sustaining and restoring human health.**”

How modern life can affect the gut microbiota

In many disease conditions, from functional bowel disorders and inflammatory bowel disease to type two diabetes and obesity, scientists find a disruption of the normal microbial community that leads to a **breakdown of host-microbe symbiosis — a condition called ‘dysbiosis’**. According to Jöel Doré "We changed many things over the past few generations that were key to the mutualistic association with our microbes. This probably contributed in a marked way to the **increase in incidence of immune-mediated diseases** we have seen on the rise for more than 60 years now, seemingly uncontrolled."

Doré points out that there are **three major elements of modern lifestyle that have the strongest impact on the human-microbe symbiosis: nutrition, environmental exposures to chemicals and drugs, and conditions surrounding birth**. When it comes to nutrition, research shows an unbalanced diet including a lack of fibre could have detrimental effects on health through the gut microbiota. Doré says, "After 100,000 generations receiving more than 60% of their energy from plant-based food, over 2-3 generations we brought this down to 10%."

The modern lifestyle, including stress, and antibiotics treatments or chemotherapy, have also shown to have an important impact on gut bacteria. More recently, research has also confirmed that gut microbiome has an influence on the bidirectional communication between the gut and the brain. **Discoveries around the gut microbiome-brain axis will maybe change the way some conditions are perceived (including autism, depression and anxiety, among others).**

Microbiota modulation: nutrition and medications as key strategies

One of the insights to come out of Chinese metagenomics projects reinforced the importance of nutrition, as it showed a close connection between diet and health. "**Diet is the major force in shaping the gut microbiota,**" points out Dr. Liping Zhao, professor of microbiology at Shanghai Jiao Tong University and leader of the Functional Metagenomics Platform at Shanghai Center for Systems Biomedicine emphasizes.

Probiotics have been tested in many clinical trials to date. **Some of them demonstrated benefits of probiotics in prevention of antibiotic-associated diarrhea, of allergy disease in early life, or improvement of symptoms in adult irritable bowel syndrome and some liver diseases.** Further insights are needed into the yeast strains or bacterial species and the doses that effectively modulate the gut microbiota to produce different health outcomes.

Understanding and modeling the complexity of the intestinal ecosystem is an important challenge in the field—and one that may be critical to the future of healthcare. "Concepts and practices in human nutrition will change as **we begin to couple food intake with changes in the behavior of the gut microbiota,**" predicts Versalovic. "**We will consider nutrition and medications differently** in pediatric and adult medicine based on life-stage-specific differences in the microbiota."

Specific new therapies that target gut bacteria are also on the global research agenda. **Going from the basic science to the clinic, however, will not be without its challenges.** "The biggest barrier to translation is that the gut microbiota is so complex that it is taking time—plenty of time in years—for many scientists to find the signals and ‘hike’ through the noise to get to new diagnostics and therapeutics as cornerstones of metagenomic medicine," Versalovic says.

The Gut Microbiota for Health World Summit takes place in an important context: in view of the recent discoveries on the broad impact of gut microbiota in human health, **experts point out the need for medical practice guidelines for physicians, nutritionists and other health care professionals.** Sharing knowledge and experiences, as will be done in this conference, is key for achieving a better understanding and implementation of interventions to protect our unique bacterial partners.

Media services

- Plenary sessions will be broadcasted via streaming on www.gutmicrobiotaforhealth.com.
- The Summit can be followed via Twitter on **@GMFHx** and **@gutmicrobiotaww** and using **#GMFH2017**.
- Registration to the summit is mandatory for Journalists. For registration contact media@gutmicrobiotaforhealth.com.
- Further information on the summit programme can be found here: <http://www.gutmicrobiotaforhealth.com/en/gut-microbiota-health-world-summit-2017/program>

Further information, registration and interview requests:

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About the Gut Microbiota & Health Section of ESNM

ESNM stands for the [European Society of Neurogastroenterology and Motility](http://www.esnm.eu), a member of United European Gastroenterology (UEG). The mission of ESNM is to defend the interests of all professionals in Europe involved in the study of neurobiology and pathophysiology of gastrointestinal function. The [Gut Microbiota & Health Section](http://www.esnm.eu) was set up to increase recognition of the links between the gut microbiota and human health, to highlight the role of diet and nutrition and to spread knowledge and to raise interest in the subject. The Gut Microbiota & Health Section is open to professionals, researchers, and practitioners from all fields related to gut microbiota and health. www.esnm.eu

About AGA

The American Gastroenterological Association is the trusted voice of the GI community. Founded in 1897, the AGA has grown to include more than 16,000 members from around the globe who are involved in all aspects of the science, practice and advancement of gastroenterology. The AGA Institute administers the practice, research and educational programmes of the organisation. www.gastro.org

About ESPGHAN

The European Society for Paediatric Gastroenterology, Hepatology and Nutrition is an international scientific society based in Europe. The role of early nutrition on implementation of gut microbiota is a dynamic field of research. Founded in 1968 the society has over 700 members who are paediatric gastroenterologists, hepatologists and nutritionists, as well as scientists in relevant fields. ESPGHAN also has members who are trainees, nurses and dieticians to ensure that this growing multi-disciplinary approach improves the outcomes for children in Europe. www.espghan.org

About Biocodex

Biocodex is an independent multinational pharmaceutical Company, founded in France in 1953. The Company's initial focus was gastroenterology and specifically a unique probiotic discovery, *Saccharomyces boulardii*, the first probiotic drug of its kind that has a positive effect on the gut's microflora. Today, Biocodex has transformed itself beyond its probiotic drug roots, expanding its portfolio into a multitude of therapeutic areas, such as: gastroenterology, pediatric, pain management, neurology /psychiatry, otolaryngology and rheumatology. Biocodex operates its own research and development center, housing a diverse team of scientific researchers with a vast array of experience. Biocodex' scientific teams frequently partner with major universities and research organizations worldwide and are continually involved with some of the most provocative research in medicine today. Biocodex has partnered with healthcare professionals for more than 60 years with the mission of developing meaningful solutions to today's challenging healthcare problems. Biocodex has grown into a multinational research and development, manufacturing and commercial enterprise operating in over 115 countries, via a network of 10 subsidiaries, distributors and licensed retailers. The Company employs more than 1,100 persons worldwide. www.biocodex.com

About Danone

Dedicated to bringing health through food to as many people as possible, Danone is a leading global food company built on four business lines: Fresh Dairy Products, Early Life Nutrition, Waters and Medical Nutrition. Through its mission and dual commitment to business success and social progress, the company aims to build a healthier future, thanks to better health, better lives and a better world, for all its stakeholders—its 100,000 employees, consumers, customers, suppliers, shareholders and all the communities with which it engages. Present in over 130 markets, Danone generated sales of approximately €22 billion in 2016. Danone's brand portfolio includes both international brands (Activia, Actimel, Danette, Danonino, Danio, evian, Volvic, Nutrilon/Aptamil, Nutricia) and local brands (Oikos, Prostokvashino, Aqua, Bonafont, Mizone, Blédina, Cow & Gate). Listed on Euronext Paris and on the OTCQX market via an ADR (American Depositary Receipt) program, Danone is a component stock of leading social responsibility indexes including the Dow Jones Sustainability Indexes, Vigeo, the Ethibel Sustainability Index, MSCI Global Sustainability, MSCI Global SRI Indexes and the FTSE4Good Index. www.danone.com

About Sanofi

Sanofi, a global healthcare leader, discovers, develops and distributes therapeutic solutions focused on patients' needs. Sanofi is organized into five global business units: Diabetes and Cardiovascular, General Medicines and Emerging Markets, Sanofi Genzyme, Sanofi Pasteur and Consumer Healthcare. Sanofi is listed in Paris (EURONEXT: SAN) and in New York (NYSE: SNY). www.sanofi.com