NEXT-GEN PROBIOTICS, PREBIOTICS AND POSTBIOTICS: WHO, WHAT & WHY?

**Probiotics**
This session will underline the advances of research and clinical applications of probiotics, stimulating the discussion on:
- Probiotics 2.0: new indications
- Revision of clinical studies
- Novel formulations and delivery systems
- Regulatory

**Prebiotics**
The composition and function of host gut microbiota can be impacted through the consumption of prebiotics. This session will review the definition of prebiotic and elaborate future frameworks for product development, encouraging the discussion on:
- Criteria for the classification of prebiotics
- New baseline for prebiotic innovation
- Discussion on the chances of prebiotics to improve gut health
- Regulatory

**Postbiotics**
Metabolomics is increasing the evidence that postbiotics have a role similar to that of probiotics in maintaining health. The discussion will focus on:
- How to better understand the role of bacterial metabolites
- Applications to the food, nutrition and nutraceutics
- Audit of well-studied postbiotic ingredients
- Discussing pathways and health benefits
- Regulatory
THE GUT MICROBIOTA, FOOD SCIENCE, AND HUMAN NUTRITION

- Microbiota-host crosstalk and intestinal microbiota signaling to extraintestinal organs
- Food - botanicals - microbiota interactions
- Effective therapeutic strategies to manipulate the gut microbiota
- Mobilome: the dynamic of gut microbiota
- Is it possible to modulate the quality and diversity of human microbiota?
- Is it possible to induce durable beneficial changes in gut microbiota?
- How to better understand the role of bacterial metabolites?
- Gut microbiota and development of diseases
- Gut microbiota and host defense against infectious diseases
- Gut-bone marrow axis
- Gut skin axis
- Mucosal microbiota in genito-urinary and respiratory systems
- Gut microbiota and the immune system: from allergies to cancer
- Gut microbiota and gut secretory IgA in systemic metabolism
- Gut microbiota and tryptophan metabolism
- Gut microbiota and chemosensing mechanisms
- Gut mycobiota in immunity and inflammation
- SCFA: gut hormone release, digestive tract motility and appetite control
- Gut microbiota and metabolic syndrome

GUT BRAIN AXIS
Many preclinical and clinical studies demonstrate gut-brain mechanisms of action in neurological disorders.

- It is important to define what the bacterial metabolites are and which influence they have on the gut-brain axis communication and cognitive processes at multiple levels, and how do they operate in molecular mechanisms
- It is necessary to implement and translate these data into therapeutic trials delineating the role of the gut microbiota, diet and metabolites to prevent disease progression in, Autism, Depression, Parkinson, Alzheimer

BOTANICALS, MICROBIAL MEDIATORS AND INTESTINAL HOMEOSTASIS

- Botanicals impact the gut microbiome and intestinal homeostasis
- Exosome-like nanoparticles (ELNs) mediate communication with gut microbiota
- The impact of botanicals and fibers on the fermentation capabilities of gut microbiota:
  - Why does the same dietary fiber impact the composition of the microbiota differently in different people?
  - Do different people produce different metabolites from the same dietary fiber input?
  - Is it possible to devise personalized nutrition strategies?
- Botanicals and Immunity
PROBIOTICS, PREBIOTICS AND BOTANICALS IN HEALTH AND IN DISEASES
- Gastro-intestinal diseases
- Gut liver axis
- Gut kidney axis
- Gut skin axis
- Obesity, Diabetes Type-2, Metabolic Syndrome

Intestinal Microbiota Transplantation: *Clostridium difficile* and beyond

PROBIOTICS FOR SPORT NUTRITION
- A healthy gut and an improved immune system are key factors to help overtake the competition
- Are gut microbiota modification a benefits for physical exercise in health?

IMMUNO-ONCOLOGY & GUT MICROBIOTA
Gut virome & phage therapy
From lab bench to bedside: positioning microbiome analysis for clinical utility

WOMEN MICROBIOME: A DIFFERENT WAY TO FEEL HEALTHY
- Vaginal microbiome in menopause
- Gut-urogenital axis (cross link with gastroenterologists)
- Vaginal microbiome diseases & probiotics treatments in gynecology (women perceptions and feelings)
- Vaginal microbiome transplantation (new frontiers)

PROBIOTICS REGULATORY AND OUTREACH SEMINAR
By IPA Global

EARLY MICROBIOTA COLONIZATION
By BINC Foundation