**Workshop : Nutrition and the gut microbiome**

**March 17-18th, 2022 (online event -Zoom platform)**

Domain 18: Pharmacy, pharmacology, nutrition, nanosciences and nanoformulations

**Aims and General information**

**Nutrition** is a critical parameter in dictating the structure and function of host-**microbial** systems, and thus is a prominent feature of **microbiome** research. Indeed, dietary patterns harbour a major influence on the microbiota and consequently on global nutritional status, body composition, health and wellbeing. Within this two-day online CIVIS workshop we will explore current and emerging knowledge on the human microbiome, its interaction with diet and the impact on human health.

Learning outcomes:

This workshop is expected to give an outline of the current status and future developments in the field of nutrition, microbiome and health.

The workshop will bring together students, professors and researchers within the CIVIS alliance to address and discuss crucial aspects of the nutrition-microbiota-health interplay including: i) the microbiota response to diet and dietary components; ii) ways to modify the microbiota through dietary interventions; ii) novel foods -  regulatory frameworks and policies needed to support the uptake of novel foods with health beneficial effects iv) social aspects – Body composition, impact of overnutrition and undernutrition on the gut microbiota.

General information

This workshop is a teaching offer of the CIVIS partners: UAM, UB, AMU

* The workshop series will be delivered in the March 2022 (17-18th March 2022)
* Each day will be of 2 academic hours - 40 estimated participants per presentation
* Primary target audience: master students of Pharmacy, Medical Biology, Medicine, Chemistry, Biotechnologies, Microbiology courses and PhD students of courses in the relevant areas
* Participants in this workshop will receive 0.2 ECTS

**Full description of the content of the workshop and dates**

**Meeting details**

Join Zoom Meeting
<https://zoom.us/j/97506140760?pwd=Mk5SeDg0eG1lL2dLVEFMU3NMRVNwUT09>

Meeting ID: 975 0614 0760
Passcode: 481974

**DAY 1 - March 17th, 2022 (10-12 CET)**

**Presenters -** Charles Desmarchelier (AMU), Gratiela Gradisteanu (UB), Ionela Avram (UB), Chair – Consuelo Prado (UAM)

**Presentations:**

*1.Overview of food digestion* - Charles Desmarchelier, Aix-Marseille University - This course will present the major steps of food digestion: organs involved, mechanical and chemical processes and the digestive fate of carbohydrates, proteins and lipids.

*2. The microbiota response to diet and dietary components* **–** Gratiela Gradisteanu, University of Bucharest – Students will be introduced to the world of microbiome and omic technologies (metabolomics) and be familiarised with the mechansims behind the diet-microbioem interplay

3.*Ways to modify the microbiota through dietary interventions* – Ionela Avram, University of Bucharest – the course will answer 2 important questions in the field - Can we change the composition of our gut microbiota? What are the factors that affect the structure of our gut microbiota and how can we control them? The presentation will focus on probitoics – definitions, examples, use of probiotics for different diseases, impact of probiotics on the host microbiome

**DAY 2 - March 18th, 2022 (10-12 CET)**

**Presenters -** Consuelo Prado (UAM), Bianca Tihauan (UB), Chair-Gratiela Gradisteanu (UB)

Presentations

1. Novel foods -Bianca Tihauan , University of Bucharest .The presentation will focus on regulatory frameworks and policies needed to support the uptake of novel foods with health beneficial effects
2. **Social aspects** – Body composition, impact of overnutrition and undernutrition on the gut microbiota -Consuelo Prado, University **Autonoma**of**Madrid. -** The presentation focus on the different possibilities to estimate body composition and its variation by sex and age.

**Biosketches of the presenters (listed in alphabetical order):**

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| Ionela Avram (Sarbu), Senior Researcher and Lecturer at University of Bucharest , Faculty of Biology, Department of Genetics. Her main research interests include probiotics, prebiotics, synbiotics, the gut microbiota and dairy microbiology.Charles Desmarchelier is an Assistant Professor at the Center for CardioVascular and Nutrition research (C2VN), a joint research unit under the triple supervision of Aix-Marseille University, INSERM and INRAE, France (<https://c2vn.univ-amu.fr/equipes/equipe-1-micronutrition-humaine/?lang=en>). He earned his engineering degree from AgroParisTech (France), his PhD in Nutrition from the Technical University of Munich (Germany) and his PharmD from Aix-Marseille University (France). His research focuses on the identification of factors influencing the bioavailability of fat-soluble vitamins and phytochemicals, such as carotenoids. His researches include clinical trials, cell experiments (mainly Caco-2 as a model of human enterocyte) and in vitro gastro-intestinal digestions. He teaches nutrition and analytical chemistry for pharmacy students and for health professionals. Gratiela (Pircalabioru) Gradisteanu – Senior Researcher at the Research Intitute of University of Bucharest (ICUB), she teaches Medical Microbiology (6 ECTS) and Newtargets for developing antimicrobial agents (5 ECTS) to Master Students at the Faculty of Biology. She is member of the CIVIS Health Hub Council. Her research interests include microbiome changes in diabetes and metabolic syndrome, in vivo and ex-vivo investigation of host-pathogen crosstalk during the infectious process, oxidative stress in health and disease, assessment of the antimicrobial activity of novel antimicrobial compounds, SARS-CoV-2 diagnostic and omic technologies. She coordinates the microbiome analysis platform at UB.Consuelo Prado Martínez is Professor of the University Autonoma of Madrid in the area of Physical Anthropology. Her research focuses on the analysis of the human cycle lifem focusing on both biological and nutritional, as well a socio-environmental and cultural aspects that can modulate their variation. Understanding and knowing how to transmit the beauty of ontogenetic processes, helping, with knowledge to prevent the distance from normality in them, have been and are her goals.Bianca Tihauan, PhD is a postdoctoral researcher at UB, with an educational background in Biochemistry, Microbiology and Immunology with a PhD in Biology. Her area of expertise includes: conventional microbiology techniques (assessment of food safety, antimicrobial activity, sterility tests, microscopic examination, investigation of microbial adhesion to inert substrate, study of temporal dynamics of microbial biofilms developed on inert substrate and expression of microbial virulence factors), microbiology and molecular biology applications in flow cytometry, general biochemistry, separation of serum proteins, determination of immunological markers, cell cytotoxicity assessment of dietary supplements and food by-products |