PROGRAMME

Monday, 4th November

13.30 - 14.00 Registration

14.00 - 14.30 Welcome address chaired by Prof. Walter Baratta
- Prof. Roberto Pinton, Rector of the University of Udine
- Prof. Paolo Gardonio, CISM Deputy Secretary General

14.30 - 15.00 Introduction to the course - *Food science and technology, nutrition and health: a collaborative integrated approach by the University of Udine* - **Monica ANESE**

15.00 - 16.30 *Dietary habits and risk of cancer (part I)*
Valeria PALA

16.30 - 17.00 Coffee break

17.00 - 18.30 *Dietary habits and risk of cancer (part II)*
Valeria PALA

Tuesday, 5th November

9.00 - 10.30 *Evolution and impact of food structure research (part I)* - **José M. AGUILERA**

10.30 - 11.00 Coffee break

11.00 - 12.30 *Evolution and impact of food structure research (part II)* - **José M. AGUILERA**

12.30 - 14.00 Lunch

14.00 - 15.30 *Dietary modulation of the gut microbiota to improve and sustain health (part I)* - **Maria MARCO**

15.30 - 16.00 Coffee break

16.00 - 17.30 *Dietary modulation of the gut microbiota to improve and sustain health (part II)* - **Maria MARCO**

Wednesday, 6th November

9.00 - 10.30 *The role of micronutrients and supplements in human nutrition and pathophysiology (part I)*
Francesco VISIOLI

10.30 - 11.00 Coffee break

11.00 - 12.30 *The role of micronutrients and supplements in human nutrition and pathophysiology (part II)*
Francesco VISIOLI

12.30 - 13.00 Concluding discussion

13.00 - 14.30 Lunch

GENERAL INFORMATION

The Early Bird registration fee, valid until November the 4th, 2019, is 300,00 Euro + VAT taxes*, where applicable (bank charges are not included).
Single day registration (the relevant request should be specified in the note field of the on-line registration):
- Monday, 4th November - 100,00 Euro + VAT taxes*
- Tuesday, 5th November - 150,00 Euro + VAT taxes*
- Wednesday, 6th November - 100,00 Euro + VAT taxes*

The registration fee includes a complimentary bag, two fixed menu buffet lunches, coffee breaks, downloadable lecture notes and wi-fi internet access.

Applications should be made on-line through our web site: http://www.cism.it/courses/E1902/.

A message of confirmation will be sent to accepted participants.

Information about travel and accommodation is available on our web site, or can be mailed upon request.

A limited number of rooms is available at our Guest House at the rate of Euro 30,00 per person/night.

Applicants may cancel their course registration and receive a full refund by notifying CISM Secretariat in writing (by email) no later than two weeks prior to the start of the course.

If cancellation occurs less than two weeks prior to the start of the course, a Euro 50,00 handling fee will be charged. Incorrect payments are subject to Euro 50,00 handling fee.

* Italian VAT is 22%.

For further information please contact:
CISM
Palazzo del Torso
Piazza Garibaldi 18

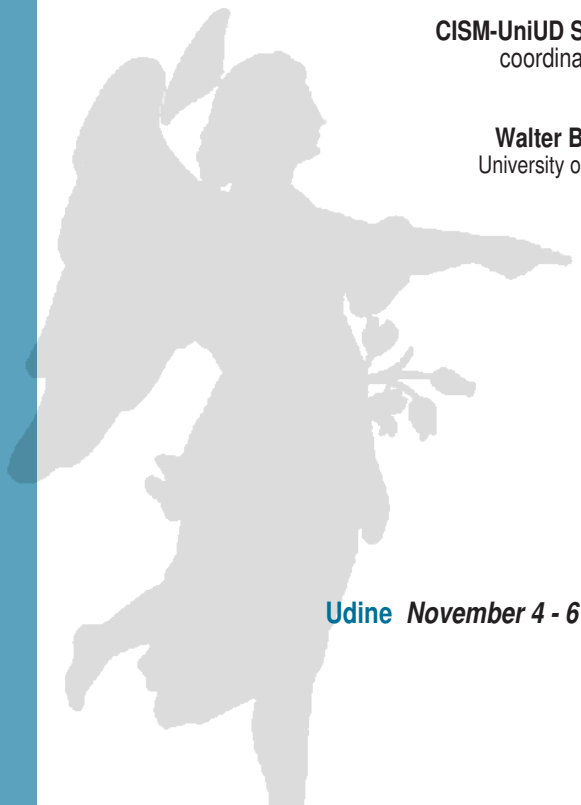
CISM-UniUD Joint Activities

University of Udine
International Centre for Mechanical Sciences

UNIVERSITÀ DEGLI STUDI DI UDINE

Centro Internazionale
di Scienze Meccaniche
International Centre
for Mechanical Sciences

NUTRIENT DELIVERY AND IMPACT ON HUMAN HEALTH



CISM-UniUD School
coordinated by

Walter Baratta
University of Udine
Italy

Udine *November 4 - 6* 2019

NUTRIENT DELIVERY AND IMPACT ON HUMAN HEALTH

The healthy food market has increased tremendously during the last years. However, a deep knowledge of diet-health relationship and main hurdles hampering the desired effects on human health have to be further elucidated to develop innovative solutions for personalized nutrition advice and/or support. That will help consumers to achieve their optimal health and well-being and to adopt long-term healthy and sustainable diets.
The course is aimed at PhD students, post-docs and early career researchers in the food and health areas. The attendants should have basic knowledge of food science and technology and nutrition.
The course provides the essential skills for understanding the relationship between food and health and nutrition as well as updated knowledge on the design of food systems for efficient nutrient delivery and gut microbiota modulation.
The course brings together experts, internationally recognized for their contribution to the advance in knowledge in the fields of food epidemiology, pathophysiology and nutrition, food technology and food microbiology.

ORGANIZING COMMITTEE

Walter BARATTA (Udine University, Department of Agricultural, Food, Environmental and Animal Sciences - DI4A)

Monica ANESE (Udine University, Department of Agricultural, Food, Environmental and Animal Sciences - DI4A)

Giuseppe DAMANTE (Udine University, Department of Medical Area - DAME)

Lucilla IACUMIN (Udine University, Department of Agricultural, Food, Environmental and Animal Sciences - DI4A)

LECTURERS

Valeria PALA - Fondazione IRCCS - Istituto Nazionale dei Tumori di Milano, Italy

Dietary habits and risk of cancer

The lecture will cover the relationship between food and cancer prevention, reviewing the main issues one has to deal with when studying such relation. In the first part the methodologies designed for nutritional epidemiology will be presented, including dietary assessment, study design and statistical methods. Further, the judgment and grading criteria applied to epidemiological evidences will be discussed. The second part will introduce dietary recommendations for cancer prevention and discuss their validity; evidences related to other major chronic diseases prevention (such as prevention of cardiovascular diseases) will also be covered with a deeper focus on conflicting recommendations related to different health conditions.

José M. AGUILERA - Pontificial Catholic University of Chile, Santiago, Chile

Evolution and impact of food structure research

The lecture will start with a general overview about the role of food engineering (FE) and food materials science (FMS) in the last 50 years. The role of food structure in product performance and value (i.e., structure-property relationships) will be reviewed, as well as some instrumentation and techniques. Food engineers applied concepts of polymer physics to the stability of metastable food matrices plasticized by water. Simultaneously, the field expanded to the study of food rheology and food microstructure as related to processing and products, thus, the area of FMS was established as a subdiscipline within FE. Although FE is associated with the industrial processing of foods, most underlying phenomena associated with FE also take place in the kitchen during meal preparation. The lecture will address areas that may broaden the vision of FE by interfacing with cooking and gastronomy. Finally, the concepts of food matrix and food microstructure, introduced by food technologists and food engineers around 50 years ago and determinant in several properties (texture, flavor release, digestion, etc.) and during processing (dehydration, extraction, structuring operations) will be covered. Nutritionists have only recently realized that the behavior of several nutrients during digestion and absorption in the body (e.g., bioaccessibility, bioavailability and bioactivity) is quite different if they are tested alone (as single nutrients) or embedded in a matrix, which is the case of most of the foods we eat.

Maria MARCO - University of California, Davis, USA

Dietary modulation of the gut microbiota to improve and sustain health

The intestinal microbiota is increasingly understood to have pivotal roles in human health and disease. This lecture will cover highlights on our current understanding of intestinal microbiology, ranging from emerging methods to investigate the gut microbiome to efforts focused on transitioning from correlative to causative associations. The lecture will next explore how the gut microbiota can be directly targeted to improve and maintain health using dietary approaches. Specifically, these approaches encompass the ingestion of certain nutrients (e.g. fiber and prebiotics) and living microorganisms as probiotics. The two approaches have distinct benefits and limitations which should be considered in light of individual health goals, background diet, and indigenous microbiome composition. Such factors along with facets specific to prebiotic and probiotic use will be discussed using type 2 resistant starch and probiotic Lactobacillus as examples. Ultimately, integration of these dietary-based, gut microbiome-modulating interventions will require improvements to our understanding of their molecular mechanisms of action and advancements in personalized nutrition.

Francesco VISIOLI - Università degli Studi di Padova, Italy

The role of micronutrients and supplements in human nutrition and pathophysiology

The lecture will deal with the issue of how do we study the effects of food and food items, with particular regard to the current obstacles that we are facing when we study the effects of diets and its components. The available information on the use of supplements and regulatory framework analyses will be provided, as well as some ways followed in the area of pharma-nutrition. An overview of the most recent findings of the relationship between olive oil and health will be reported, including some bibliometric analyses that show how fast the field of "olive components and health" is indeed moving.