

## WEBINAR PROGRAM

Title of the proposed activity	Food Chemistry, nutrition and health, circular economy and future food sustainability
Type of activity (webinar, workshop, summer school, course, miniprogramme, multiple and joint degree (Bachelor's, Master's or PhD involving at least 3 CIVIS partner universities)	<u>Webinar</u>
Health domain (s) of reference	<u>18</u>
CIVIS partner universities involved (at least 3)	NKUA, UB, UAM, UG
Name, affiliation and contacts of the proponent (s)	Charalampos Proestos, NKUA, <a href="mailto:harpro@chem.uoa.gr">harpro@chem.uoa.gr</a>
Name and affiliation of all academics involved in the initiative	Eliza Oprea, UB, <a href="mailto:eliza.oprea@g.unibuc.ro">eliza.oprea@g.unibuc.ro</a> Charalampos Proestos, NKUA, <a href="mailto:harpro@chem.uoa.gr">harpro@chem.uoa.gr</a> Maria Reguera, UAM, <a href="mailto:maria.reguera@uam.es">maria.reguera@uam.es</a> Lavinia Ruta, UB, <a href="mailto:lavinia.ruta@chimie.unibuc.ro">lavinia.ruta@chimie.unibuc.ro</a> Diana Pelinescu, UB, <a href="mailto:diana.pelinescu@bio.unibuc.ro">diana.pelinescu@bio.unibuc.ro</a> Irina Zarafu, UB, <a href="mailto:irina.zarafu@chimie.unibuc.ro">irina.zarafu@chimie.unibuc.ro</a> Konstantinos Gerasimidis, UG <a href="mailto:Konstantinos.Gerasimidis@glasgow.ac.uk">Konstantinos.Gerasimidis@glasgow.ac.uk</a> Marilena Dasenaki, NKUA <a href="mailto:mdasenaki@chem.uoa.gr">mdasenaki@chem.uoa.gr</a>
Estimated number of participants who will be benefit from this activity (please specify if they will be academics and/or administrative staff members and/or students and/or PhD candidates. In case of students please specify the workload in ECTS credits <sup>1</sup> in view of the possible recognition of the activity by the home institution	<u>Open to students, PhD, post doc, academic staff</u>
Short description of the initiative (max 200 word)	<u>Webinar will focus on Food Chemistry, nutrition and health. Participants will have the opportunity to hear about major good categories and how daily food intake can have a positive or negative impact on consumer's health. information on the efforts that have been made so far understanding the contribution of the genotype (G), environment (E), and genotype and environment interaction (G x E) effects on nutritional quality of crops, bioactive compounds and artificial compounds, daily consumed beverages and their impact on health will be presented. We will also discuss aspects of human nutrition and in particular</u>

<sup>1</sup> 1 ECTS = 25 hr [https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects\\_en](https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects_en)

	<p>assessment of micronutrient status in health and disease and the interaction between food, diet, and nutritional therapies with the human gut microbiome. The preservation of foods by organic compounds will be presented along with Future perspectives for improving biotechnological processes. Last but not least, how metabolomics are utilized in Food and Nutrition Research will be presented.</p>
<p>Estimated total cost of the initiative (a detailed budget will be requested upon approval of the proposal)</p>	<p>The initiative is at no cost. If financial resources will be made available, these will be used as incentives to administrative/technical staff for registering students' attendances and assembling the recordings to be uploaded in the CIVIS Digital Campus Platform.</p>

## Full description of the initiative

### Title of the proposed activity

Food Chemistry, nutrition and health, circular economy and future food sustainability

### Type of activity

Webinar

### CIVIS partner universities involved

NKUA, UB, UAM, UG

### Name, affiliation and contacts of the proponent

Charalampos Proestos, NKUA, [harpro@chem.uoa.gr](mailto:harpro@chem.uoa.gr)

### Name and affiliation of all academics involved in the initiative

Eliza Oprea, UB, [eliza.oprea@g.unibuc.ro](mailto:eliza.oprea@g.unibuc.ro)

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Marilena Dasenaki, NKUA, [mdasenaki@chem.uoa.gr](mailto:mdasenaki@chem.uoa.gr)

### Duration

The course will take place online on 28 and 29 March 2022.

### Description

Presentation time: 45 min and 15 min for questions from audience.

A total of 10 hours of teaching will be offered, corresponding to 0.4 ECTS.

## Programme

<b>1<sup>st</sup> day, 28 March 2022</b>		
Study of Food Bioactivity: How to connect Food Chemistry with Nutrition	Charalampos Proestos	10:00-11:00
Gut Microbiome and Diet Interactions in Health and Disease	Konstantinos Gerasimidis	11:00-12:00
Organic Alternatives for Manufacturing and Preserving Food Products	Diana Pelinescu	12.00 – 13.00
Coffee and Caffeine	Lavinia Ruta	13.00-14.00
<b>2<sup>nd</sup> day, 29 march 2022</b>		
The environment and genotype as key factors determining nutritional quality of crops	Maria Reguera	10:00-11:00
Assessment of micronutrients in health and disease	Konstantinos Gerasimidis	11:00-12:00
Aloe plant: Health Benefits or Consumption Risks	Charalampos Proestos	12:00-13:00
<b>Break</b>		13:00-14:00
Flavors in Food Chemistry. Natural and Synthetic Compounds	Irina Zarafu	14:00-15:00
Metabolomics in Food and Nutrition Research	Marilena Dasenaki	15:00-16:00
Plant Anthocyanins & Stroke	Eliza Oprea	16:00-17:00
<b>End of Webinar, Discussion</b>		17:00-18:00

## Participants

- Prof. Charalampos Proestos, Laboratory of Food Chemistry, Department of Chemistry, National Kapodistrian University of Athens
- Dr. Maria Reguera, Universidad Autónoma de Madrid, Plant Physiology Unit, Department of Biology
- Dr. Diana Pelinescu, University of Bucharest, Faculty of Biology, Department of Genetics
- Dr. Irina Zarafu, University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry, Biochemistry and Catalysis
- Dr. Eliza Oprea, University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry, Biochemistry and Catalysis
- Dr. Lavinia Ruta, University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry, Biochemistry and Catalysis
- Prof. Konstantinos Gerasimidis, Human Nutrition, School of Medicine, University of Glasgow
- Ass. Prof. Marilena Dasenaki, Laboratory of Food Chemistry, Department of Chemistry, National Kapodistrian University of Athens

## Participants-profiles

**Charalampos Proestos** is Associate Professor at the Department of Chemistry, National and Kapodistrian University of Athens and director of the laboratory of Food Chemistry. He has published more than 80 papers in reputed journals and has been serving as an editorial board

member of more than 10 reputed journals. He is Member of the European Committee of the Division of Food Chemistry, European Association of Chemical and Molecular Sciences (EuChemS). His research field focuses on Food antioxidants, food antimicrobials, foodomics and food contaminants. Currently he works on use of natural antimicrobial and their use to produce nanocomposite films for active packaging materials to improve shelf life of foods.

**Dr. Maria Reguera** is a Ramon y Cajal Researcher and lecturer at the Department of Biology, Universidad Autónoma de Madrid, Madrid, Spain. She has published 29 peer-reviewed research papers and 6 book chapters and she has also combined her research work with an intense teaching and mentoring activity in Plant Sciences, supervising PhD, MS and undergraduate students, in Spain and abroad. Besides, she actively participates in I+D evaluation activities (as a referee of high impact factor journals and as a member of several international research committees, including the European Commission) and outreach activities. Her main research line focused on studying the biological mechanisms underlying plant responses to changing environmental conditions and their impact on seed quality in emerging crops such as quinoa while she keeps working on plant boron nutrition. Altogether, her research experience gives evidence of her knowledge working on a diversity of crops and plant model systems, her achievements in understanding the regulation of key agronomic traits (including grain yield or seed quality under various abiotic stresses) and she has proven results extending basic research findings on applied agronomic research.

**Pelinescu Diana** is Associate Professor at the University of Bucharest. The didactic and scientific research activity (over 20 years and 40 research projects) carried out mainly in the Faculty of Biology, the University of Bucharest as well as during 3 internships at the University of Hamburg (Germany), the University of Brussels (Belgium) and Children's Research Centre Our Lady's Hospital for Sick Children (Ireland) has materialized in over 170 scientific publications and 2 invited speakers (50 in ISI journal -14 as main author, 31 in BDI journals, 5 patents, 87 in book of abstracts) and 747 citations (Google Scholar) h index Scopus and Web of Science 11, h index Scholar Google 18.

**Irina Zarafu** is an Associate Professor at the University of Bucharest, Faculty of Chemistry. Within the Department of Organic Chemistry, Biochemistry and Catalysis she taught over 15 courses in the field of organic chemistry, for the undergraduate sections with teaching both in Romanian and French, including "Fine organic syntheses", "Determination of the structure of organic compounds", "Reagents and syntheses in modern organic chemistry", "Multifunctional and heterocyclic organic compounds", "Retrosynthesis of pharmaceutical compounds" etc. She has given a series of courses and seminars for master students, such as: "Stabilized anions in fine organic synthesis. Applications to organic sulfur compounds", "Synthetic drugs", "Natural compounds with therapeutic action", "Natural and synthetic compounds used in the medicine and cosmetics industry". She coordinated over 45 undergraduate and master's degree students in the chemistry of biologically active heterocyclic compounds and nanomaterials, such as: Synthesis and study of the biological activity of sulfamide-functionalized graphene, Synthesis and study of the biological activity of gold-functionalized nanoparticles thiadiazoles, Functionalized organic nanosilica for biomedical applications, etc. She was a supervisor of doctoral students. She has published 9 books and has 1 patent application and over 90 conferences attended. She was responsible for pedagogical practice, technological practice and responsible for students from the first training in medicine and pharmacy. She was a Project Leader "Professional Conversion Program" -PIR-funded by the World Bank and member in over 20 national and international research projects sponsored by CNCSIS, UEFISCDI, AUF.

**Eliza Oprea** is a research and lecturer at the University of Bucharest with two Bachelor's Degrees (Chemistry and Pharmacy). She is co-authored 60 publications (from the Web of Science Core

Collection) in Pharmacology, Organic Chemistry, and Biochemistry, three book chapters, seven books, and delivered more than 40 scientific communications at conferences. She was also involved in two research projects as a project director and a team member in 12 national and UE projects. She has concerns evaluating biological properties (antimicrobial activity, antioxidant properties, hypoglycaemic activity, cicatrizing activity, phytotoxic activity) of extracts from different sources through in vivo and in vitro studies. She was also involved in obtaining and characterizing the extracts by various methods (spectrophotometric, GC-MS, or HPLC). In addition, she developed skills in research studies concerning evaluating the plasma and red blood cell redox status in pathological conditions (diabetes, post-acute stroke).

**Lavinia Ruta** is a lecturer at the University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry, Biochemistry and Catalysis. She is a researcher with a double specialization: pharmacy and chemistry. Her focus is now on the applied biochemistry and molecular biology field, joining the research group of Dr I.C. Farcasanu. Her researches are focused on the study of molecular mechanisms involved in *Saccharomyces cerevisiae* cells' response to environmental stress (metallic, oxidative) and on engineering yeast cells aimed to hyperaccumulate heavy metals from the environment in order to use them as potential bioremediators of wastewaters. The pro-oxidant and antioxidant activity of organic compounds are other important topics of her researches. She has authored and co-authored 38 ISI publications and participated as a researcher in 9 national grants, 2 international grants, H-Index 11.

**Konstantinos Gerasimidis** is Professor of Clinical Nutrition. He has graduated in Nutrition and Dietetics and completed his postgraduate studies in Clinical Nutrition. During his doctoral research at the University of Glasgow, he explored the effect of exclusive enteral nutrition on the gut microbiota and nutritional status of children with Crohn's disease. He holds an honorary contract as Clinical Paediatric Nutrition Scientist with the National Health Service at Greater Glasgow and Clyde. He has more than 110 publications and H-Index 29. He is the Secretary elect of the Special Interest Group in Clinical Paediatric Nutrition Group of the European Society of Clinical Nutrition and Metabolism (ESPEN) and the Chair of the Clinical Malnutrition Group of ESPGHAN. He holds a cumulative research incomes exceeding £9M. His current team comprise of 4 Post-doctoral researchers, 1 Research Technician and 9 PhD students, all externally funded by competitive grants.

**Marilena Dasenaki** is an Assistant Professor at the Laboratory of Food Chemistry of National and Kapodistrian University of Athens. Her research activity focuses on the study of food safety and food authenticity using cutting-edge mass spectrometric techniques and advanced chemometric tools. Her research interests include the development of novel methodologies for the determination of food contaminants and also the development of authenticity protocols for the determination of food adulteration, geographical origin and type of farming as well as food alterations during treatment. Overall, Dr Dasenaki's research has been published in 32 peer-reviewed papers and three book chapters, attracting more than >800 citations, with h-index 12 and her work has been presented in several international scientific conferences. ORCID: 0000-0002-0853-4547

### Dissemination

The event will be promoted through the construction of a web page and announcements to all CIVIS community and more specifically it will be promoted targeting students from the Departments of Pharmacy, Chemistry, Biology, Medicine and related disciplines.