

# **EuChemS** Division of Chemistry and the Environment



### 18TH INTERNATIONAL CONFERENCE ON CHEMISTRY AND THE ENVIRONMENT

www.icce2023.com 11 – 15 JUNE 2023 VENICE, ITALY Venue: SCIENTIFIC CAMPUS CA'FOSCARI UNIVERSITY OF VENICE (ITALY) Call for Papers

#### INVITATION

Dear Colleagues and Friends,

The Environmental and Cultural Heritage Chemistry Division of the **Italian Chemical Society** (SCI) and the Division of Chemistry and the Environment of the **European Chemical Society** (EuChemS) cordially invite you to the **18th International Conference on Chemistry and the Environment** in Venice (Italy) from **11th to 15th June 2023**.

IMPORTANT DATES Abstract Submission: extended until March 24th 2023 Notification of acceptance: by 12 April 2023 Early registration deadline: by 30 April 2023

### **News from EUCHEMS**

**EuChemS** was invited by the European Commission to join the Zero Pollution <u>Stakeholder Platform</u>. The Commission, in cooperation with the Committee of the Regions, set up this Zero Pollution Stakeholder Platform to achieve the zero *ICCE 2023* addresses scientists in academia, industry and in governmental institutions alike. The conference will provide a unique and inspiring information and communication platform for environmental scientists and a forum of professional exchange with collaborators and colleagues in toxicology, analytical chemistry, microbiology, geosciences and other related disciplines. In addition, several satellite events will be associated with the Conference for in-depth discussion, seminars and workshops on selected and highly relevant topics.

Sincerely,

Antonio Marcomini ICCE 2023 Conference Chair – On behalf of the LOC and the SciCom of ICCE 2023

pollution ambition. The Platform will effectively mainstream the <u>zero pollution</u> <u>agenda</u>. It will bring together stakeholders and experts of different policy areas, such as health, agriculture, research and innovation, transport, digitalisation and the environment. It will create co-ownership, promote collaboration, and foster integrated solutions to maximize synergies with decarburization and post-COVID 19 recovery efforts. EuChemS will approach the challenges from the angle of chemical



sciences. It will be represented by Ioannis Katsogiannis Nineta and Hrasteli.  $14^{\text{th}}$ On of December the zero pollution conference took place in Brussels. The

main topic of the conference was the 2022 Zero Pollution Monitoring and Outlook report, which consists of the results and future trajectories of the targets outlined in the EU's Zero Pollution Ambition. The report uses an integrated approach to monitor a wide range of pollution metrics and their effects on health, economy and biodiversity.

Executive Board member Ioannis Katsogiannis contributed to this session. After introducing EuChems to fellow stakeholders, he highlighted three key areas from a chemical standpoint. Firstly, he emphasized the high rate of European groundwater and surface water bodies which failed to achieve good chemical status. Secondly, he highlighted how waste reduction may cause other pollution-related issues due to waste burning, and lastly, he pointed out how the energy crisis may lead people to rely on hazardous heating materials, which is an issue that should be considered from a zero pollution standpoint.

Ioannis Katsoyiannis, Assoc. Professor, Department of Chemistry, Aristotle University of Thessaloniki; Chair of the Division of Chemistry and Environment of European Chemical Society

### **MICROPLASTICS AROUND US**

Plastic is considered one of the most practical inventions of the 20th century due

to its low production cost, versatility of polymers and intrinsic characteristics, as light weight, durability, inertness, corrosion resistivity, high thermal and electrical insulation and resistance to degradation. These properties, together with the huge plastic production worldwide, are the cause of the widespread plastic pollution. Once released in the environment, plastics are weathered, eroded and breaking to progressively smaller fragments over time, known microplastics (MPs). as Heterogeneous MP particles <5 mm in length are considered emerging contaminants with potential risks to the environment and human health. Environmental and health agencies have started to express concern on the "MP

 mention the following:
In 2019, Science Advice for Policy by European Academies (SAPEA) indicated the need for science-based policy advice on the health and environmental impact of MPs.

problem". Among others, it is worth to

- The World Health Organization (WHO) indicated that there is not enough evidence to prove that MPs are toxic, and that toxicity studies using laboratory animals are not robust enough to extrapolate the potential effects in humans.
- Directive (EU) 2020/2184 on the quality of water intended for human consumption calls on for monitoring the levels of MP in drinking water by adopting a methodology capable to determine the different polymers at low concentrations before including them in the Watch list.
- The recent MPs Initiative indicates the need to reduce the unintentional release of MP to the environment.
- The Horizon Europe Mission to restore our ocean, seas and waters by 2030, where Objective 2 aims at reducing by at least 30% MPs released into the environment.

There is more and more evidence that humans and wildlife are exposed to MPs, but still there is little information on the pollution sources, environmental transport and exposure pathways, and to what extent MPs represent a risk. Within the "onehealth" concept, where environmental pollution and human health are considered as a whole, characterizing MPs in the environment is a first step towards understanding their impact. Unlike other types of contaminants, such as organic compounds or metals, plastics and MPs are visible and this causes a social awareness with unprecedented impact on the media. Visualizing MPs in samples related to our daily lives may give us a thought on how necessary it is to monitor MPs and to develop new strategies and technologies to minimize the release and exposure to MP. Some examples are given below:



**Fig.1**.Condensed water from a tumble dryer from one washing (47 mm diameter filter of 1  $\mu$ m).

Figure 1 shows the fibers preconcentrated on a 47 mm filter corresponding to condensed water from a tumble dryer from one single laundry load. Mostly fibres from 500 -1000  $\mu$ m were detected, with > 2000 MP/drier.

Main polymers identified were polyester, polyethylene terephthalate, polypropylene, and polyamide, clearly associated with the main materials used in textiles. Considering that millions of washing machines and tumble driers are installed in Europe, an estimated annual discharge of 1500 Mm<sup>3</sup> of waters containing hundreds to thousands of MPs/wash and plastic additives reach the sewage grid and, via sewage works, to the receiving bodies. With a river dilution factor of 5-30, typical of European rivers, about 1/20th of European waters come from washing machines. Therefore, there is an urgent need to develop new technologies to eliminate MPs from washing machines and

other appliances, contributing to the atsource treatment instead of end-of-pipe wastewater treatments to minimize the environmental impact of MPs.

Figure 2 corresponds to the preconcentration of 2.5 L of river water on a 47 mm filter. On average 60% were fibres between 200 and 500  $\mu$ m, and 40% fragments between 500 and 1000  $\mu$ m. The



Fig.2. Two and a half L river water filtered on a 47 mm filter of 1 µm.

concentration ranged from 0.9 to 2 MP/L, corresponds which to the average concentration reported in European rivers. Polyester and polypropylene were abundant. However, cellulose with indigo, corresponding to jeans-type of textile was ubiquitous, reinforcing the idea that washing machines are a main source of MPs to river waters.

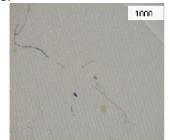
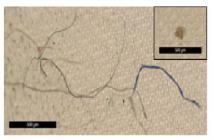


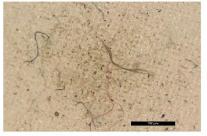
Fig.3. Five L filtered bottled water on a 25 mm filter of  $20 \,\mu m$ .

MPs are also present in bottled water (Figure 3) with more fibres than fragments, both at sizes< 300  $\mu$ m. Their presence is associated to the bottling process. Reported concentrations are generally low (<0.1 MP/L), but this depends on the study and the method used for analysis. The main polymers detected are polyethylene terephthalate, polypropylene, acrylonitrile and polycarbonate.



**Fig.4.** House indoor air,180  $m^3$  preconcentrated on a 25 mm filter of 25  $\mu$ m.

Exposure to MPs in indoor environments is attracting interest due to the time spent indoors. Air from houses (Figure 4) has on average 80% fibers and 20% fragments, generally of sizes <200  $\mu$ m and at mean concentrations of 4.8 ± 1.6 MP/m<sup>3</sup>. Main polymers detected in indoor air are polyamide and polyester, associated to clothing.



**Fig.5.** Bus indoor air, 180  $m^3$  preconcentrated on a 25 mm filter of 25  $\mu$ m.

Figure 5 shows air from a bus, where on average 65% are fibres of < 100  $\mu$ m and 45% fragments from 100 to 200  $\mu$ m. The mean concentration is 17.3 ± 2.4 MP/m<sup>3</sup>, and main polymers detected are polyamide and polyester. Considering that a breath is of 20 m<sup>3</sup>/day for an adult, the amount of MPs inhaled could be an emerging risk, especially for small MP particles.

Face masks have been used to fight against SARS-CoV-19 transmission. A migration experiment following Directive 10/2011/EU showed that polypropylene, the main material used for their fabrication, and polyester in a lesser extent, migrated from the masks to water with 73% fibres of < 400  $\mu$ m and 27% fragments < 200  $\mu$ m, at a mean concentration of 3000 MP/mask, depending on the type of masks. Considering that often face masks reach water bodies intact, they can be considered a direct source of MP in river waters.



Fig.6. Surgical mask migration experiment, where MP released from the mask arepreconcentrated on 25 mm filter of 25  $\mu m.$ 

The saying that "images speak louder than words" can make people realize how we are surrounded by MPs. However, MPs are difficult to analyse given that the concentrations are generally low, many different types of polymers are present, and the still great analytical complexity to analyse the < 1  $\mu$ m particles.

Despite the fact that knowledge on the adverse effects of MPs in humans is limited, there is scientific evidence that MPs can produce genotoxicity, apoptosis, necrosis, tissue damage, fibrosis and carcinogenesis.

Also, MPs can adsorb contaminants and act as vectors of microorganisms, which can be critical in the case of pathogens. Thus, more studies on their occurrence in water, air and food are crucial to define exposure routes and unravel the effects they cause, both towards the environment and human health.

Consciousness about global pollution produced by MPs and other contaminants is essential as a step forward towards new regulations, uses,management, and disposal of plastic.

Silvia Lacorte, member DCE Spain Research Professor, Department of Environmental Chemistry, IDAEA-CSIC. Jordi Girona 18-26, 08034 Barcelona

Environmental research in European Universities and Research Institutions

Overview of the new environmental chemistry related projects in Serbia (Twinning Western Balkans (HORIZON-WIDERA-2021-ACCESS-02))

Twinning aims to enhance networking activities between the research institution from the Western Balkan and top-class leading counterparts at EU level, to facilitate knowledge transfer and to exchange best practices. Twinning actions intend to help raise the research profile of the institutions from the Western Balkan countries as well as the research profile of their staff with special focus on strengthening the research management and administrative skills.

### *TwinSubDyn* - *Twinning* excellence on organic soil amendments effect on nutrient and contaminant dynamics in the subsurface (101059546)

- Project Coordinator: University of Novi Sad, Faculty of Sciences, Professor Snezana Maletic
- Partners: University of Vienna (Professor Thilo Hoffmann and Dr Gabriel Sigmund); Forschungszentrum Jülich GmbH (Dr Roland Bol and Dr Lutz Weihermüller); Martin Luther University Halle-Wittenberg (Professor Bruno Glaser) and Instituto de Recursos Naturales y Agrobiología de Sevilla (Dr Heike Knicker)

TwinSubDyn aims to establish a research knowledge hub at UNSPMF, Serbia, on the impacts of organic soil amendments on the fate of contaminant, and nutrient dynamics in the soil subsurface and implications for groundwater quality. The project will significantly boost research and innovation capacities of UNSPMF, through a twinning action with internationally leading research institutions in this research field from Europe: UNIVIE, FZJ, MLU and IRNAS-CSIC. The strategy for stepping up and stimulating scientific excellence and innovation capacity for our TwinSubDyn defined research topic is based on: Networking for Excellence, Establishment of long-lasting strategic partnerships with leading European research organizations; Raising the EU and global research profile of UNSPMF and its staff, Development of Science and Innovation Strategy, Spreading scientific knowledge and finally Increasing overall competence via the strategic collaborative consortium TwinSubDyn research project and its intrinsic knowledge exchange and gains.

Contact: <u>snezana.maletic@dh.uns.ac.rs</u>

TwiNSol-CECs - Twinning for enhancing the scientific excellence of Faculty of Technology Novi Sad for innovative solutions to protect environmental resources from contaminants of emerging concern (101059867)

- Project Coordinator: University of Novi Sad, Faculty of Technology Novi Sad (TFNS), (Prof. Nataša Đurišić-Mladenović).
- Partners: Spanish National Research Council, Institute of Environmental Assessment and Water Research (CSIC) (Dr Marinella Farre); NOVA University Lisbon, NOVA School of Science and Technology (UNL), (Professor Joao Crespo)

Overall objective of TwiNSol-CECs is to raise the TFNS scientific and innovation excellence in various aspects of CECs (contaminants of emerging concern) research integrated in broader EU networks of excellence, contributing to national and regional scientific and economic growth and well-being and to the harmonization of advanced research and innovation efforts important for the overall faster and sustainable transition of whole Europe foreseen by European Green Deal (EGD) zero-pollution. toxic towards free environment. Specific **TwiNSol-CECs** objectives are:

- Stepping up the excellence of the TFNS scientific capacity and resources in the field of wide-range CECs' surveillance and innovative removal technologies, contributing to the stronger R&I system in Serbia and WBs integrated in the EU networks of excellence,
- 2. Intensification of strategic networking activities of TFNS with 2 top-class leading research institutions at EU level: CSICand UNL,
- 3. Raising reputation, research profile and attractiveness of TFNS and its staff,
- Strengthening the research management and administration skills of TFNS,

5. Improving the TFNS creativity in new R&I approaches for the CECs' wide range surveillance and removal with increasing mobility of qualified scientists.

The project represents a coherent set of knowledge-, skills, experience-, and awareness- raising activities, dissemination, communication, networking, coordination, etc. for successful achieving of the project objectives. *Contact: natasadjm@tf.uns.ac.rs* 

### SmartWaterTwin - Twinning for Smart Water- Thinking and Rethinking Wastewater Management in Circular Economy Frame (101060110)

- Project Coordinator: University of Novi Sad, Faculty of Sciences (UNSPMF), (Profssor Djurdja Kerkez)
- Partners: Universite Paris XII Val de Marne (UPEC), (Professor Julien Le Roux) Fundacio Institut Catala De Recerca De L'aigua (ICRA), (Professor Jelena Radjenovic)

SmartWaterTwin consortium UNSPMF, a Serbian research institution and two internationally-leading institutions -UPEC and ICRA, contributing to a more balanced development of the European research. SmartWaterTwin's main task is to strengthen and raise the research profile of UNSPMF and address its issues related to the deficiency in both scientific and technical aspects on wastewater treatment. Project's key objective is establishing a methodological framework for potential application of circular-economy principles into wastewater sector in Republic of Serbia. Joint action to harmonize Serbia's economic, environmental and social goals with EU goals will be very useful in promoting broad acceptance of the circular economy concept in this sector. End objective is to develop a unique platform for economy-wastewater circular treatment nexus to envelop most recent scientific reach in the field, expertise, data exchange and to prompt the joint research collaboration. SmartWaterTwin will have long-lasting impact in promoting broad acceptance of the concept of circular

economy in this field. In addition, it will serve as "soft instrument" for creating the boundary conditions for circularity by influencing knowledge levels, collaboration and governance structures. *Contact: djurdja.kerkez@dh.uns.ac.rs* 

# **PFAStwin** - Twinning to address the PFAS challenge in Serbia (101059534).

- Project Coordinator: University of Belgrade – Faculty of Chemistry (UBFC) (Professor Vladimir Beškoski)
- Partners: Agencia Estatal Consejo Superior De Investigaciones Cientificas (CSIC-IQOG), (Dr Begoña Jiménez) Bureau de Recherches Geologiques et Minieres France (BRGM), (Dr Marc Crampon)

This project aims to enhance networking activities between UBFC and two top-class counterparts, who are leaders in Per- and polyfluoroalkyl substances (PFAS) analysis (CSIC-IQOG) and innovative (bio)remediation of emerging pollutants (BRGM). Namely, PFAS are synthetic chemicals widely used for more than 60 years to make plastics, firefighting foams, and lubricants, and help create stain-resistant, waterproof, and nonstick products. However, they ended up in the environment and now can be found in the soil, water, and sediment, human accumulated in bodies and represent а worldwide challenge. Addressing the PFAS challenge in Serbia will be conducted through the development of a scientific strategy for dealing with PFAS, knowledge transfer in the field of analysis and (bio)remediation, networking and promoting joint research integrating creativity and developing new approaches for PFAS remediation. The expected impact of PFASTwin is to enhance the reputation, research and administrative profile, and channels of UBFC while networkina simultaneously benefitina partner institutions through new contacts, skills, and collaborations.

Contact: vbeskoski@chem.bg.ac.rs

**WeBaSOOP-** Research Reinforcing in the Western BalkanS in Offline and Online

# Monitoring andSource Identification of Atmospheric Particles (GA 101060170).

- Project Coordinator: Vinca Institute of Nuclear Sciences, National Institute of the Republic of Serbia. University of Belgrade-(Professor Milena Jovašević-Stojanović) Partners: Norwegian Institute for Air Research (Nilu), (Dr Alena Bartonova) Spanish National Research Council. Institute Of Environmental Assessment And Water Research (CSIC), (Professor Andres Alastuey) University of Nova Gorica (UNG), (Professor Griša Moćnik) Deakin University of Australia, (Dr Svetlana Stevanović) Mining and Metallurgy Institute Bor (IRMB) (Dr Renata Kovačević) Public Health Institute of Belgrade (PHIB) (Dr Anka Cvetković)

Information on atmospheric particles (PM) and related hazards is based on monitoring data. The main metric used is PM mass. This does not sufficiently account for physical, chemical and biological properties of PM that determine toxicity and bioavailability. Such properties can only be assessed by advanced methods. These are being developed in several European activities, including research infrastructures ACTRIS and RI-URBANS. WeBaSOOP will reinforce in Serbia coordinator (VINCA) and partners institution (IRMB, PHIB) research hub by knowledge and skills related to PM monitoring and assessment, with the aim of association with the infrastructures. We will introduce innovative observing metrics and methods and address networking gaps. The internationally leading partners (NILU, CSIC, UNG, DEAKIN) have each central roles in the infrastructures and extensive knowledge of and experience with the European research system. WeBaSOOP research and associated training will focus on particle size distribution and composition including novel organic source tracers and black carbon. bv online and offline monitoring and assessment methods. We will introduce oxidative potential as proxy for health effects. We will generate new data and knowledge and close the information gap on PM in Western Balkans. We will use the new generated data for novel source

apportionment. We will enable the participating institutions to become partners in discussions of the R&I systems, and to better liaise with the NCPs who will be asked to contribute to the trainings and will be our dialogue partners when looking for future opportunities for research. *Contact: mjovst@vin.bg.ac.rs* 

TwinPrebioEnz - Twinning for intensified

## enzymatic processes for production of prebiotic containing functional food and bioactive cosmetics (101060130)

Project Coordinator: University of Belgrade – Faculty of Technology and Metallurgy (FTM), (Professor Dejan Bezbradica)

Partners: Maastricht University (MU), (Professor Koen Venema) Spanish National Research Council (CSIC), (Dr Jose Miguel Palomo) Radboud University Medical Center (Radboudumc), Netherlands (Professor Ellen van den Bogaard)

TwinPrebioEnz aims to advance the research and innovation capacity of the FTM in the area of prebiotics technology by collaboration with leading institutions with complementary expertise. The consortium includes MU and Radboudumc contributing with the expertise in analysis of human microbiota, which provides determination of the activity of prospective gut and skin prebiotics, and CSIC contributing with the expertise in protein engineering. *TwinPrebioEnz* is focused on development of prebiotic technology based on renewable raw materials and use of enzymatic processes, hence one of the goals is to contribute to the green transition of Western Balkan and give impetus to implementation of circular economy concepts in the regional economy. Additionally, wider economic, technological and societal impact will be provided through establishment of the Center Scientific Excellence for of Prebiotics, which will promote novel ways of utilization of agricultural waste and byproducts for manufacturing novel, addedproducts. value Still, motives behind formation of the consortium go beyond goals of this project because long-term sustainable cooperation between four

institutions is envisioned. All members of the consortium foresee increased demand for innovative, environmentally sound prebiotic technologies, for which the consortium with such a high level of interdisciplinarity is needed. Contact: *dbez@tmf.bg.ac.rs* 

Professor Vladimir Beškoski, University of Belgrade, Faculty of Chemistry and Professor Ivana Ivančev-Tumbas, Serbian member DCE, University of Novi Sad, Faculty of Sciences



SUSTAINABLE BY DESIGN: new Horizon Europe ERA Chair project to be implemented at "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania



BioMat4CAST – Multi-Scale In Silico Laboratory for Complex and Smart Biomaterials

As shown in "Safe and sustainable by design chemicals and materials" report<sup>1</sup> (Caldeira, 2022): "The European Union CSS action plan foresees the development of a framework to define safe and sustainable by design (SSbD) criteria for chemicals and materials that **should contribute to achieve the Green Deal ambitions**, going beyond current regulatory compliance. The aim of the SSbD framework is to support the design and development of safe and sustainable chemicals and materials with research and innovation (R&I) activities".

Within the spirit of the Green Deal principles and with the experience obtained by their implementation in a previous ERA Chair project from Horizon 2020: SupraChem Lab Laboratory of Supramolecular Chemistry for Adaptive Delivery Systems ERA Chair initiative (H2020 WIDESPREAD 2-2014: ERA Chairs Project no.667387; 2015 2020) **BioMat4CAST** Era Chair project emerged. The target was also to develop the computational chemistry group, within the Advanced Research Center for Bionanoconjugates and Biopolymers (IntelCentru) of the "Petru Poni" Institute of Macromolecular Chemistry (ICMPP) .

. The project, having a total value of 2500000 Euro and an implementation period of 60 months (5 years), is financed by Horizon Europe: HORIZON-WIDERA-2022-TALENTS-01-01 — ERA Chairs.

The strategic objective of the BioMat4CAST project is to implement a the structural change in scientific management paradigm of the "Petru Poni" Institute of Macromolecular Chemistry (ICMPP), Iasi, Romania, by establishing a competitive research group in the field of computational chemistry under the supervision of an outstanding researcher in the field of computational chemistry, Professor Aatto Laaksonen (Department of Materials and Environmental Chemistry, Arrhenius Laboratory, Stockholm University, Sweden). He has two decades of experience in green chemistry practiced in previous centres of excellence devoted to: (i) novel porous materials used in carbon capture and utilisation and (ii) using ionic liquids (novel green solvents) as a new generation of lubricants replacing fossil lubricants.

The objectives of the **BioMat4CAST** project directly address the targets of the Horizon Europe programme: "supporting organisations research attract to outstanding researchers and/or innovators in this scientific field so that they achieve excellence on a sustainable basis". In order to encourage the scientific and managerial development of research institutions from states with more modest participation in the European Research Framework Programme, the ERA Chairs' actions aim to attract. in а sustainable manner. outstanding scientists from universities or research organizations of prestige in Europe

or world-wide. The creation of a permanent and highly qualified research group in the chosen scientific field will ensure excellence, visibility and better integration in the European Research Area (ERA), as well as stimulating competitiveness for research funding and promoting institutional reforms



aligned with ERA priorities.

<sup>1</sup> Caldeira, C., Farcal, L., Garmendia Aguirre, I., et al., European Commission, Joint Research Centre, *Safe and sustainable by design chemicals and materials: framework for the definition of criteria and evaluation procedure for chemicals and materials*, Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2760/487955

Dr. Teodora Rusu "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

## Future Events



2<sup>nd</sup> ISO-FOOD Symposium Portorož, Slovenia

#### April 24 – 26, 2023

## ISO-FOOD FROM FOOD SOURCE TO HEALTH

https://www.isofood2023.si/

We are pleased to announce the 2<sup>nd</sup> ISO-FOOD Symposium in Portorož, Slovenia, April 24 – 26, 2023. The conference is organised by ISO-FOOD ERA Chair, Department of Environmental Sciences at the Jožef Stefan Institute, Ljubljana Slovenia.

We invite you to submit original abstracts in relation to the following broad topics: Food authenticity and traceability; Food safety and quality; New alternative food sources; Nanomaterials and nanotechnology; Foodomics; Food databases and semantics; Nutrition & Health; Risk assessment & risk management; Metrology in food; Quality and sources of water.

The 2023 MCT Symposium, organized by the Royal Dutch Chemical Society, section **Environmental Chemistry and Toxicology**, will take place on Thursday April 6 in Utrecht. The theme is "Success stories in environmental research as inspiration". Programme and additional information: <u>https://mct.kncv.nl/symposium-</u> 2023



With the global focus on Circular Bioeconomy, the key players are the new generation of experts and managers who possess a broad educational background and can cover the entire spectrum of this multidisciplinary and cross-sectoral field. Within this framework, we would like to invite students and young scientists to participate in the *5th Summer School* to be organized at Perrotis College (American Farm School), Thessaloniki, in July 2023.

### Newsletter issue contributors:

Michaela Dina Stanescu (Romania - editor), Ioannis Katsoyiannis (Greece), Silvia Lacorte (Spain), Vladimir Beškoski and Ivana Ivančev-Tumbas (Serbia), Teodora Rusu (Romania)