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GLOBAL
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COUNCIL

aegean islands
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Region of South Aegean



RHODES2024

19-22 JUNE

rhodes2024.uest.gr

11th International Conference on Sustainable Solid Waste Management

rhodes2024.uest.gr | 19-22 June, Rhodes, Greece



11th International Conference on Sustainable Solid Waste Management

WELCOME

On behalf of the Scientific and Organising Committee, I am pleased to welcome you to the **RHODES 2024 11th International Conference on Sustainable Solid Waste Management**.

As in the cases of the previous international conferences, the RHODES 2024 11th International Conference aims to make an additional step forward in the field of waste management through the promotion of innovative technologies and effective practices. We are happy to announce that the series of our conferences keeps attracting the attention of the academia, private and public sector local authorities and businesses. This is proven by the gradual increase in the numbers of participants, the participating countries, the abstracts received and papers presented during the conference. We expect to exceed the number of 1,000 participants including both virtual participants and those traveling to the beautiful island of Rhodes in South Aegean.

Every year significant effort is made to improve the quality of the papers and keep high standards, as proven by the increase of the papers finally published in the collaborating journals with high reputation and high impact factors. At the same time, efforts are continuous in order to achieve high quality services for the conference participants. It is also important to mention the PhD Summer School and Executive Training on Solid Waste Management & Circular Economy will be organized for the 6th time prior to the conference. More than 50 participants will attend the summer school this year and our aim is also to continue and keep it in all our future conferences giving emphasis on different research fields every year.

The RHODES 2024 Conference aims to stimulate the interest of scientific community, competent authorities of public and private sector including local authorities, businesses, financial institutions, policy makers and society and present the latest developments and achievements in the field of solid waste management with special emphasis on municipal solid waste. Waste prevention, source separation, recycling and production of secondary materials, biological Treatment (aerobic & anaerobic), the treatment at central facilities constitute priority subjects of the conference agenda. Attention is drawn to bioprocesses, biorefineries in waste management to close the loops, circular economy and bioeconomy and of course WASTEtoENERGY with the contribution of the Waste-to-Energy Research and Technology Council, that is a co-organiser of this conference, with the active involvement of Prof. Qunxing Huang, President of the Global WtERT Council, who will be the first virtual keynote speaker on Thursday 20th June 2024. Emphasis is placed on circular economy in all key action areas (production, consumption, waste management, secondary raw materials, innovation, investment & monitoring) and all priority sectors (food waste, plastics, biomass and bio-based-products, construction & demolition waste, critical raw materials, textiles, etc.).

The Conference will provide an opportunity to bring together scientists & professionals from government departments, industries, Municipalities, private institutions, research & education institutions, being a forum for the exchange of the most recent ideas, techniques & experiences in a broad area of waste management. A special Session will focus on solid waste management and the role of Local Authorities & Municipalities for taking advantage of both recyclable materials and biowaste minimize residues for landfilling. The Conference agenda is rich and dense, offering a considerable variety of topics

presented through more than 500 presentations within the twenty-six different oral sessions and an extensive poster session with more than 220 posters.

In addition, it is our intention to enlarge the conference benefits by including parallel sessions and events of ongoing projects within the conference agenda. The agenda includes this year the final event of the LIFE project CIRCforBIO entitled *“A circular economy system for multi-source biomass conversion to added value products”* Thursday morning (Session IX), while the final event of the LIFE BRINE-MINING project with title *“Demonstration of an advanced technique for eliminating coal mine wastewater (brines) combined with resource recovery”*, aiming to enable the improvement of the saline wastewater management performance of coal mining activities by recovering useful and marketable materials as water and salts has been scheduled Friday morning (Session XVIII).

Furthermore, we have included in the agenda on Wednesday 19th June 2024 an event of the European project SolarHub dealing with solar technologies to enable and encompass sustainability and circularity in the energy sector. Lastly, a LIFE networking session has been scheduled on Thursday 20th June 2024 organized in collaboration with the Green Fund. I would like to thank you all very much for joining us this year. Many of you are repeaters and we certainly appreciate that very much and we will continue our attempts to do our best at all levels in order to enlarge this warm conference family and meet every year. Also, I would like to thank the co-organisers, the Waste-to-Energy Research & Technology Council, the Region of South Aegean (Cyclades & Dodecanese), the FODSA (Waste Free Aegean) that is responsible for municipal waste management in South Aegean and the sponsors for the support to the conference.

We hope you will find the RHODES 2024 Conference interesting, useful and up to your expectations. After the hybrid Conference in Corfu in 2022 and in Chania 2023, we are happy that even more speakers join us this year with physical presence (just two sessions with virtual speakers) and I welcome you all, either joining us with physical presence or virtually.



Maria Loizidou, Professor NTUA
Chair of the Scientific Committee

11th International Conference on Sustainable Solid Waste Management

SCIENTIFIC COMMITTEE

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David Newman, World Biogas Association
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Dimitrios Komilis, Democritus University of Thrace
Dimitrios Malamis, National Technical University of Athens
Dimosthenis Sarigiannis, Aristotle University of Thessaloniki
Di Wang, Technische Universität Braunschweig
Dolores Hidalgo Barrio, CARTIF Technology Centre
Evina Katsou, Brunel
Ezio Ranieri, University of Bari
Filiz Dilek, Middle East Technical University

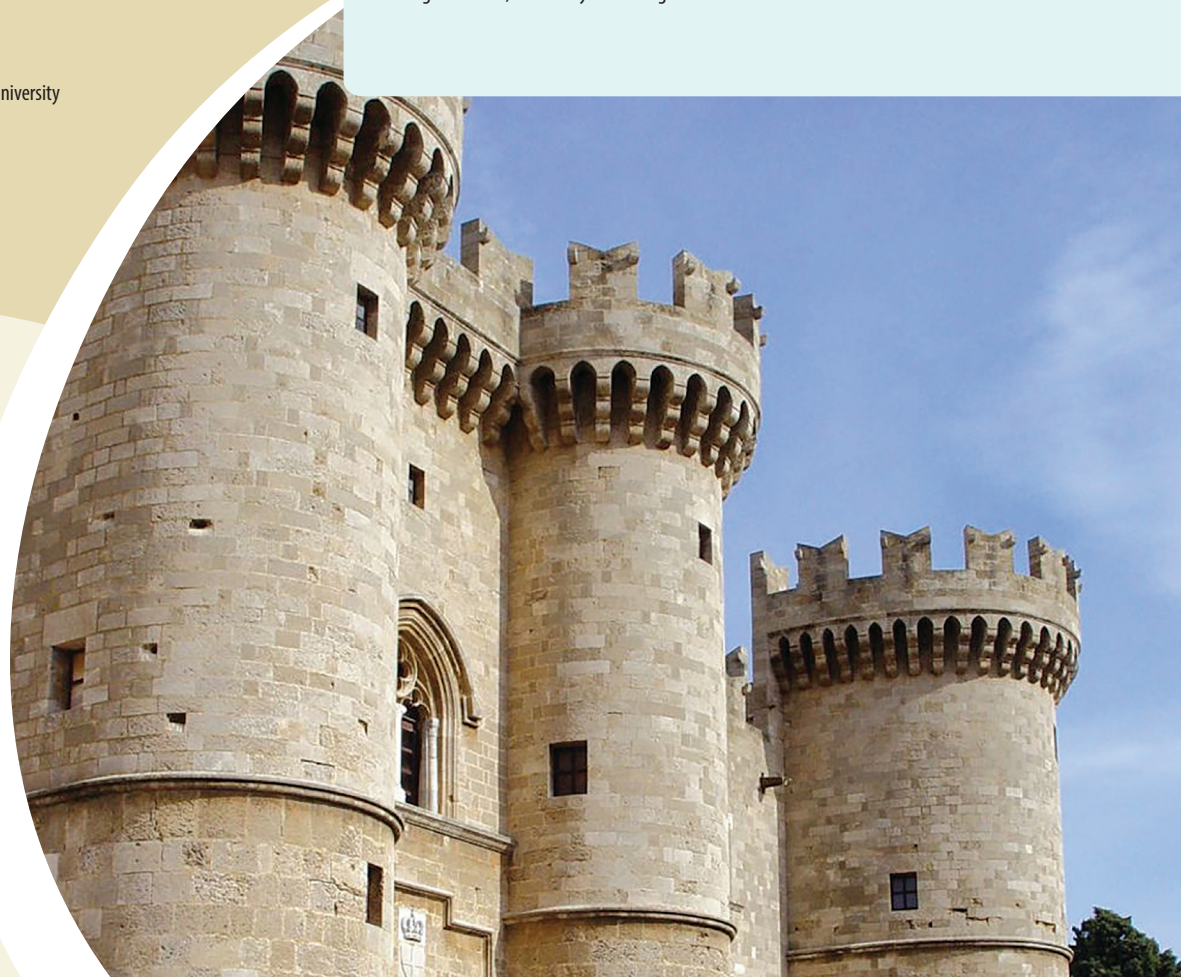
Francesco Fatone, Marche Polytechnic University
Georgia Labuto, Universidade Federal de Sao Paulo
Gerasimos Lyberatos, National Technical University of Athens
Giuseppe Mancini, University of Catania
Heribert Insam, University of Innsbruck
H.J.H. (Jos) Brouwer, Eindhoven University of Technology
Ioannis Anastopoulos, University of Ioannina
Ioannis Skiadas, Technical University of Denmark
Irina Angelidaki, Technical University of Denmark
Isam Janajreh, Masdar Institute
Jale Yanik, Ege University
Jian Li Hao, Xi'an Jiaotong-Liverpool University
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Stergios Vakalis, University of the Aegean
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Sunita Varjani, City University of Hong Kong
Ta Yeong Wu, Monash University
Thrassyvoulos Manios, Hellenic Mediterranean University
Ulku Yetis, Middle East Technical University
Vassilis Inglezakis, University of Strathclyde

ORGANIZING COMMITTEE

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Stergios Vakalis, University of the Aegean



Publications in International Scientific Journals

High quality RHODES 2024 papers will be published after evaluation in:

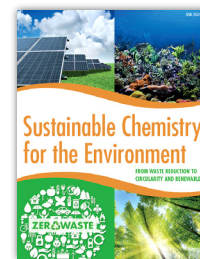
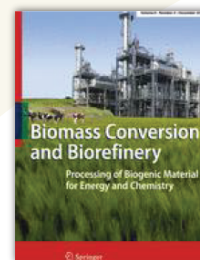
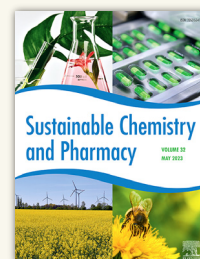
a Special Issue of **SUSTAINABLE CHEMISTRY & PHARMACY** (Elsevier, Impact Factor: 6.0) with title: Advances in waste management in the era of circular economy

a Special Issue of **ENVIRONMENTAL SCIENCE & POLLUTION RESEARCH** (Springer, Impact Factor: 5.8) with title: Effective waste management towards promoting circular economy

a Special Issue of **BIOMASS CONVERSION AND BIOREFINERY** (Springer, Impact Factor: 4.0) with title: Treatment of food and other biodegradable waste streams

a Special Issue of **WASTE AND BIOMASS VALORIZATION** (SPRINGER, Impact Factor: 3.2) in collaboration with Prof. Ange Nzihou, Editor-in-Chief of the Journal

a Special Issue of **SUSTAINABLE CHEMISTRY FOR THE ENVIRONMENT** (ELSEVIER, gold open access – full fee waive upon invitation) in collaboration with Prof. Konstantinos Triantafyllidis, Editor-in-Chief of the Journal



11th International Conference on Sustainable Solid Waste Management

One-day visit to Lindos

VENUES

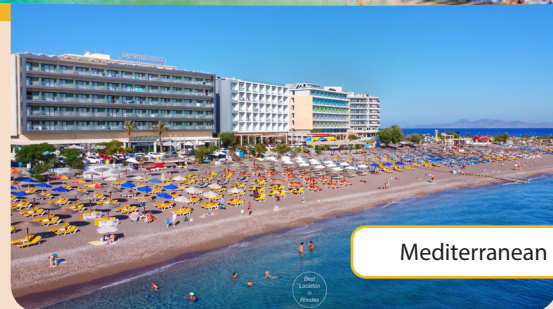
The **RHODES 2024 conference** will take place both with physical presence at the **Mediterranean Hotel** (<https://www.mediterranean.gr>) and online (virtually).

Just the opening session on **Wednesday 19th June 2024** (welcome speeches and keynote session) will take place at the **NESTORIDEION MELATHRON** (<https://mgamuseum.gr/en/>), which is very close (walking distance) to the Mediterranean Hotel.

The **welcome cocktail** will take place on **19th June 2024** very close to the conference venue after the end of the conference sessions.

The **Gala Dinner** will take place on **Thursday 20th June 2024** at the **Villa Rodia** (<https://www.villarodia.gr>). We will move there by buses after the end of the afternoon sessions.

A **one-day excursion** (by bus) will take place on **Saturday 22nd June 2024** starting from the conference venue at 8.30 a.m. The site visit will include visit **Lindos** and the return time at the conference venue is estimated at about 18.00.



Mediterranean Hotel



Nestorideion Melathron

08.00-9.15

Registration**ROOM 1****Welcome Speeches**

9.15-9.45

Welcome Speeches

9.45-11.15

Keynote Speakers**Chair: M. Loizidou, K. Moustakas, D. Malamis****Carsten Rasmussen, DG Regional and Urban Policy, European Commission***How can Greece become a European leader in sustainable waste management?**Challenges and opportunities related to EU legislation and EU funding***Arnoldas Milukas, European Research Executive Agency - European Commission***EU Research and Innovation: New Funding Opportunities for the Circular Economy***Nicolas Abatzoglou, Université de Sherbrooke***A novel solid waste autothermal pyrolysis and reformer platform to produce carbon**nanofilaments: Operation, Results and Industrial transferability***Stephen Smith, Imperial College London***Properties over Process: Why understanding the properties of waste materials is critical**to treatment and recovery***Irini Angelidaki, Technical University of Denmark***Emerging biotechnologies for CO₂ capture*

11.15-11.45

**Coffee Break**

ROOM 1
SESSION I
MSW management I
Experience of local authorities in waste management
Chair: C. Rasmussen, M. Loizidou, G. Kremlis

11.45-12.00	M. Loizidou Waste management in Cyprus – Central Facilities and their challenges
12.00-12.15	C. Gamvroudis Achieving circularity in the Greek archipelago: The case of Tilos island
12.15-12.30	M. Geranis Circular Economy: From theory to practice
12.30-12.45	N. Aggelopoulos Waste management in Peloponnese Region
12.45-13.00	J. Constantinidou LIFE-IP CYzero WASTE: Intelligent monitoring and efficient waste reduction in Cyprus Island
13.00-13.15	E. Tritopoulou PAYT in Municipality of Aradippou – An integrated approach (LIFE IP CyZero Waste)
13.15-13.30	G. Michalopoulos Adaptation of MBT plants to the RRF concept - Challenges and prospects in MESOGEOs projects
13.30-13.45	P. Gkouvousis The technological versatility of the Mechanical and Biological Treatment (MBT) plant of Western Macedonia. Conversion of the Mixed waste composting unit to a Biodrying unit for the production of secondary fuel
13.45-14.00	THALIS E.S S.A, G. Koufodimos, Engineering, Construction & Operations Director Investing in the circular economy: Challenges and opportunities
14.00-14.15	K. Bormpoudaki HORIZON-MISS-2022-OCEAN-01-03: Mediterranean Sea basin lighthouse - Actions to prevent, minimize and remediate chemical pollution (iMermaid). Use case 5: Demonstration of innovative solutions for the removal of organic contaminants from landfill leachate
14.15-14.30	E. Choleva, C. Raptis, J. Misailidis, T. Tsevas Green smart circular economy in our cities
14.15-15.00	Lunch Break

ROOM 2**SESSION II****Circular Economy & Symbiosis Networks****Chair: A. B. Ribeiro, P. Sospiro, D. Hidalgo, D. San Martin**

- | | |
|-------------|---|
| 11.45-12.00 | S. Ahmed, M. C. Liscio, P. Sospiro
Organisational Life Cycle Assessment: A state of the art |
| 12.00-12.15 | S. Ahmed, M. C. Liscio, A. Pelaggi, P. Sospiro
Economy-Wide Material Flow Accounting: Review and Application in the Italian Glass Industry |
| 12.15-12.30 | G. Sánchez, J.C. Fernández, J. Hereza, Q. Farràs, E. Abacete, W. Naessens, J.R. Vázquez-Padín, R. Cáceres, C. Biel
Intensive treatment of waste effluents and conversion into useful sustainable outputs: biogas, nutrients and water- Life Infusion project |
| 12.30-12.45 | M. Landrat, M. Lewandowski, K. Pikoń
Potential of using hemp as an accumulator of heavy metals and a raw material for the production of bioconcrete – a review |
| 12.45-13.00 | J. Almeida, E. P. Mateus, A. B. Ribeiro
Circular economy perspective for critical raw materials valorization and hydrogen production from secondary resources |
| 13.00-13.15 | A. Luciano, M. La Monica, R. Spada, A. Tecci, L. Cutaia
Resource audit and industrial symbiosis: application to a high-performance bifacial photovoltaic modules GigaFactory |
| 13.15-13.30 | M. Fardafshari, M. Rahmati, B. Kaviani
Implementation of circular economy to achieve sustainability through the management of industrial waste at Mobarakeh Steel Complex; focus on securing essential raw materials |
| 13.30-13.45 | G. Mancini, A. Luciano, L. Lombardi, L. Gurreri, D. Fino
Boosting agro-industrial districts development through the IS-based waste-wastewater- energy nexus |
| 13.45-14.00 | Fan Zhang, A. Cannone Falchetto, Di Wang, Weina Wang
Reuse of Industrial Slags for Microwave Deicing of Asphalt Roads: A Solid Waste Disposal Solution and Circular Economy Example |
| 14.00-14.15 | S.C. Gölboylu, S.S. Akın, B. Akata
Synthesis of Zeolites from Class C and Class F Fly Ash Through Alkali Fusion: Focus on The Role of Main Impurities on Zeolite Formation |

- 14.15-14.30 C. Mohan, A. P. Annachhatre, A. Kumar Dikshit
Utilization of Himalayan Pine Needles for Sustainable Environmental Practices and Energy Recovery- A Circular Economy Approach
- 14.30-14.45 M. Kumar Awasthi
Resource recovery and biorefinery potential of apple waste towards to circular bioeconomy

ROOM 3
SESSION III

Solar technologies to enable and encompass sustainability and circularity in the energy sector
Chair: N. Tsongidis, R. Davoudnejad, B. Akata



- 11.45-12.00 F. Galliou, G. Sabathianakis, G. Christoforakis, M. Sabathianakis, C. Bouki, A. Papadaki, N. Markakis, G. Daskalakis, T. Manios
Solar Drying: a starting point for various waste utilization processes
- 12.00-12.15 D. Kuzyaka, Ö. Yalçın, R. Çelik, T. Özden
Fostering Sustainable Agriculture: Innovations in Smart Irrigation, AgriPV, and Rainwater Harvesting
- 12.15-12.30 S. Piravadili, A.O. Kodolbas, O. Yilmaz, Ç. Yildirim, E. Aydin
Implementing Sustainable Solutions in Turkey: Addressing Solar Panel Waste Management for a Green Future
- 12.30-12.45 S.C. Gölboylu, R. Davoudnezhad, B. Akata
Fluoride Ions Removal from Photovoltaic Industry Wastewater by FAU Zeolite Synthesized from Coal Fly Ash
- 12.45-13.00 N.I. Tsongidis, C.A. Poravou, C. Lekkos, G. Karagiannakis, B. Ulkutasir, D. Baker, O. Taylan
Hydrothermal liquefaction of agri-food waste: Concentrated solar thermal coupling with a sensible heat storage system

Wednesday, 19 June 2024

- 13.00-13.15 O. Spyroglou, A. Koumpis
Accelerating Solar Energy Ecosystems through Open Innovation: the paradigm of SolarHub EU Project
- 13.15-13.30 P. Paşabeyoğlu, G. Moumin, B. Akata
Solar calcination of non-metallic minerals: metakaoline production to synthesize zeolites
- 13.30-13.45 Y. Kadohiro, E. Prats-Salvado, J.H.S. Martins, D. Dimitrakis, D. Thomey, N. Monnerie, C. Sattler, J. Michels, I. Pfeifer, M. Kürten
Energy demand analysis of a practical solar hybrid sulfur cycle: the HySelect project
- 13.45-14.00 G. Skyfta, A. Bakratsa, C. Poravou, V. Zacharopoulou, N. Tsongidis, K. Votis, G. Karagiannakis, D. Dimitrakis, C. Agrafiotis, D. Thomey, M. Roeb, C. Sattler, S. Sau, A. Tizzoni, S. Harth, D. Trimis, C. Kentri, S. Boghosian, I. Shvets, Y.L. Chiew, M. Zackrisson, J. Vieten, P.-F. Mougard-Camacho, P. Vespa
Solar-aided Thermochemical Cycle using Sulphur as an Energy Vector
- 14.00-14.15 S. Nold, A. A. Khan, A. Zindel, M. Hermle, E. Ionescu
Analysis of the Global Warming Potential of Scalable Perovskite-Silicon Tandem Solar Cells
- 14.15-14.30 K. Fotiadis, G. Karagiannakis, C. Pagkoura, N. Vlachos, V. Mitrousis, L. Chasapidis, C. Agrafiotis, M. Pein, A. Eltayeb, M. Roeb, A. K. Singh, Z. Cao, J. Gebbeken, T. Xie
High Temperature Redox Thermochemical Heat Storage in Solar-Thermal Plants and Energy Intensive Industrial Processes

ROOM 4

SESSION IV

Construction & Demolition Waste Chair: A.P. Galvin, F. Cioli, A. López-Uceda

- 11.45-12.00 A. López-Uceda, A. Barbudo, S. Sorlini, R. Linares, A. P. Galvín
Influence of Sample Conditions in Leaching Tests on Pollutant Release of Recycled Aggregates from C&DW
- 12.00-12.15 F. Cioli, A. P. Galvín, S. Sorlini, M. Vaccari
Risk Assessment Applied to the Recovery of Recycled Aggregates for Quarry Backfilling Case Study in the Province of Brescia

Wednesday, 19 June 2024

- 12.15-12.30 P. García-Verde, R.-M. Ramírez-Zamora, B. Alcántar-Vázquez
Construction and demolition waste as a precursor to sustainable CO₂ adsorbent materials
- 12.30-12.45 L. Acampora, G. Costa, F. Lombardi, F. Onorati, A. Paina, N. Tonol, A. Tornambé, A. Vecchio, I. Verginelli
Analysis of the environmental compatibility of the use of different types of recycled aggregates from C&D waste based on the results of leaching tests and risk assessment
- 12.45-13.00 A. Piccinali, I. Cavallotti, G. Plizzari, S. Sorlini
Case studies analysis on life cycle assessment of the production of recycled aggregates
- 13.00-13.15 E. Farinha, V. Sousa, C. Matos Silva
Rainwater runoff from green roofs with construction and demolition waste
- 13.15-13.30 C. Gutiérrez Palacios
Design of Integral Centers for Construction and Demolition Waste in Latinoamerican Countries
- 13.30-13.45 K. Özçelik, A.T. Çetinkaya, H. Güven, M. Altınbaş, M. Z. Duman, O.A. Arıkan
Determination of Unit Area Debris Amounts After February 6, 2023 Earthquakes in Türkiye

ROOM 1 SESSION V

MSW management II Experience of local authorities in waste management K. Moustakas, D. Malamis, C. Dias-Ferreira

- 15.00-15.15 P. Fandel, E. Marišová
Efficiency assessment of solid waste management in municipalities of Slovakia incorporating waste targets information - a DEA AR-I approach
- 15.15-15.30 L. Rigamonti, M.J. Nichilo, G. Cavenago, M. Grosso
Quantification of the environmental benefits associated with a reuse centre in Italy
- 15.30-15.45 G. Hafner, D. Drissner
Food Waste in Private Households - Automated Monitoring, Self-Feedback, System Optimization, Nutrition Information & Reporting in the Context of the Sustainable Development Goals (Smart Food BaWü)
- 15.45-16.00 A. Perdigão, C. Dias-Ferreira, R. L. Aguiar
Smart biowaste collection: the case for 5G technologies
- 16.00-16.15 M. Struk, J. Soukopová, E. Bakoš, D. Tóthová
Communication strategy for circular economy in the municipalities

Wednesday, 19 June 2024

- 16.15-16.30 L. Stocco, J. Slekiene, Trinh Thi Tuyet Dung, Vu Phuong Thao, Ngo Thi Thuy Huong, Le Thanh Thao, Hoang Thi Thu Huong, Nguyen Thi Dieu Phuong, Thi Hanh Tien Nguyen, C. Zurbrüg
Using Risks-, Attitudes-, Norms-, Abilities-, and Self-regulation (RANAS) approach to identify behavioural drivers of recyclables separation
- 16.30-16.45 S. De Meester
Textile recycling in Europe: does that mean end of waste?
- 16.45-17.00 K. Tsimaras
The Future Role of Renewable Gases, empowering mediterranean collaboration for a common energy future
- 17.00-17.15 S. Giannaki, E. Lymperopoulou, A. Tsigas
Environmental Educational Program “Close the line”
- 17.15-17.30 V. Dimoulis
recycle.corfu.gr: An award-winning online guide to sustainable waste management for the Municipality of Central Corfu and Diapontia Islands
- 17.30-17.45 P. Nowakowski, M. Wala
Artificial intelligence supported separated waste collection to minimize costs and environmental impact in local communities – a Polish case study
- 17.45-18.00 A. Maly, S. Grebien, H. Bradl, F. Gra
On the acoustic difference of metal and glass when falling on an impact plate
- 18.00-18.15 A. Vannahme
Deposit Return Systems in the United States
- 18.15-18.30 S. Apostolou, A. Zafeirakou, A. Katsoulea, G. Perkoulidis, N. Moussiopoulos
Sustainable Management of Organic Waste: Evaluating the Potential of Hydrothermal Carbonization in the North Aegean Region, Greece
- 18.30-18.45 N. Kothris, V. Louka
Hazardous Medical Waste Management: Evaluation of the impact of COVID-19 on Medical Waste production & approach on the environmental footprint of Med Waste Management
- 18.45-19.00 M. P. B Castro, E. Henning, V. Grace Barros
Urban Health Planning Policies, Sanitation and Outbreaks: interfaces with Solid Waste Management

Wednesday, 19 June 2024

- 19.00-19.15 M. Koncagül, K. Özçelik, K. E. Maçın, M. Waqas, O. A. Arıkan
The impact of COVID-19 on the waste amount and distribution in city hospitals of Turkey
- 19.15-19.30 D. Singh, A. Kumar Dikshit, S. Kumar
Performance analysis of municipal solid waste litter management scheme using on-site technical indicators in developing economies
- 19.30-19.45 B. De Pascale, P. Tataranni, A. Bonoli
Optimization of reclaimed asphalt pavement and recycled concrete aggregates in Cold Emulsified Porous asphalt mixture

ROOM 2 SESSION VI

Tools in the field of waste management Chair: D. Fino, F. Dilek, U. Yetis, P. G. Kougias

- 15.00-15.15 M. Abdulkareem, K. Grönman, L. Lombardi, S. Sobek, M. Kyriazi, G. Arcese, C. Elmo, A. Woszczek, M. Khan, K. Moustakas, M. Horttanainen
LIFE-C - Educating non-environmental engineers on life cycle thinking and tools
- 15.15-15.30 L. Leucci, F. Demichelis, S. Bensaid, D. Fino
A sustainable way of producing carbon fiber reinforced plastic: LCA of recycled carbon fiber
- 15.30-15.45 E.I. Kose, F.B. Dilek
Evaluation of Best Available Techniques for the Selected Integrated Solid Waste Plant Using Life Cycle Assessment
- 15.45-16.00 F.B. Dilek, H. A. F. Rahmy, S. Nour El-Deen, F. Mohamed Abosamra, A. M. Khaled, D. San Martin, U. Yetis
Life Cycle Assessment of Valorizing Olive Cake Waste in Animal Feed Production
- 16.00-16.15 A. Porley Santana, J. Lacuesta, S. Gutiérrez Parodi
Decision making tool for industrial dairy sludge management: A real case study
- 16.15-16.30 G. A. Tsalidis, E. C. Nika, V. Vasilaki, E. Katsou
Assessing Ecosystem Services with Life Cycle Assessment: A Nature-Based Solution for Wastewater Treatment in Lesvos, Greece
- 16.30-16.45 J. Čespiva, J. Ryšavý, T. Ochodek
LCA Case Study: Solid Recovered Fuel for Energy Sector in Declining Coal Region:
Part I: Environmental Burden of Solid Recovered Fuel Production

- 16.45-17.00 J. Ryšavý, J. Čespiva, T. Ochodek
LCA Case Study: Solid Recovered Fuel for Energy Sector in Declining Coal Region:
Part II: Replacement of Coal Within the Regional Energy Strategy
- 17.00-17.15 L. Gurreri, G. Mancini, A. Luciano, M. Calanni, D. Bonanno, D. Fino
Sustainability of microalgal industries: meta-analysis and prospects for the development of a
viable bio-economy
- 17.15-17.30 C.E. Orrego, C.A. Cardona, N. Salgado, J.D. Galvis, J.G Salcedo-Mendoza, J. Figueroa-Flórez
Enhancing Competitiveness in the Rice Value Chain through Biorefinery:
A Sustainable and Strategic Approach
- 17.30-17.45 A. Tarek, F. Laviano, D. Fino, S. Perucchini, G. Cantoni, G. Schimperna, F. Rubertelli
The Use of Decision Support Systems for The Handling of E-Waste in a Circular Economy
- 17.45-18.00 R. Linares, C. Martínez-Ruedas, A. López-Uceda, A. P. Galvín
Implementing Sustainable Practices in Olive Oil Production Using Life Cycle Assessment (LCA)
- 18.00-18.15 A. Giuliano, M. Occhinegro, F. Todaro, M. Notarnicola
Integrated model to optimize the performance of mechanical biological treatment of municipal
solid waste
- 18.15-18.30 S. Castelluccio, C. Comoglio, S. Fiore
Towards Greener Operations: EMAS-Registered Companies' Efforts towards Energy Efficiency
- 18.30-18.45 X. Yan, A. Alahmary
Environmental impact assessment of municipal solid waste management and Comparative
Life Cycle Assessment of system solution scenarios in Riyadh, Saudi Arabia
- 18.45-19.00 H. Rojosa, S. dit Sadio Sidibe, M. Sawadogo, S. Koucka Ouimenga
Unveiling Government Strategies for waste reduction from development of a dynamic
Optimization Framework based on Python
- 19.00-19.15 O.R Dada, B.D Ikotun
Harnessing the Benefits of Symbiotic Relationship between the Agricultural and Energy Sectors
for Achieving Sustainable Development Goals (SDGs) 2 and 7 in Africa
- 19.15-19.30 J. Martusewicz, M. Łukaszewicz, K. Suchorski
Shaping Carbon Neutral Policy: Effective Sustainability Management through EFQM Model
Implementation – A Case Study

ROOM 3

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Bioprocesses, Biorefineries in waste management**Chair: C.A. Cardona Alzate, N. Abatzoglou, S. Fiore, S. Campanaro**

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| 15.00-15.15 | D. Liakos, K. Triantafyllidis, L. Chryssikou, C. Kekes, S. Bezergianni
Hydrothermal Liquefaction of oleaginous yeast targeting intermediate biofuels production |
| 15.15-15.30 | G. Pesante, D. Bolzonella, A. Jelic, N. Frison
Upgrading of biogas plants to produce microbial proteins from agro-waste |
| 15.30-15.45 | G. Proietti Tocca, V. Agostino, B. Menin, T. Tommasi, D. Fino, F. Di Caprio
Mixotrophic and heterotrophic growth of microalgae using acetate from different production processes |
| 15.45-16.00 | M. Ortiz-Sanchez, J. C. Solarte-Toro, P.J. Inocencio-García, J.G Salcedo-Mendoza, D. Otero-Meza, J. Hernandez-Ruydiaz, C. A. Cardona-Alzate
Global strategy for valorizing organic kitchen food waste through sustainable biorefineries |
| 16.00-16.15 | Jiachen Sun, Kai-Chee Loh
A Convergent Approach for Lignocellulose Valorization Through Integrated Carbohydrates Anaerobic Digestion and Lignin Bioconversion |
| 16.15-16.30 | M. Pezzuto, R. Lo Coco, D. Bolzonella, N. Frison
Integrated photo-anaerobic bioprocess for the treatment and valorization of a winery wastewater |
| 16.30-16.45 | V. M. Serrano-Martínez, H. Pérez-Aguilar, M. P. Carbonell-Blasco, F. Arán-Ais, E. Orgilés-Calpena
Advanced Approaches in Rice Straw Valorisation: Efficient Extraction and Purification of Cellulose and Lignin for Sustainable Biomaterials |
| 16.45-17.00 | C. Agabo-García, S. Ioannidou, D. Ladakis, A. Blandino, C.J. Álvarez-Gallego, L.I. Romero-García, A. Koutinas
Comparison of different strategies for saccharification of algae <i>R. okamurae</i> |
| 17.00-17.15 | E. Orellana, N. De Bernardini, G. Zampieri, R. Serna, S. Campanaro, L. Treu
Unveiling Biomethane Potential: Amino Acids' Influence on Microbial Activity |
| 17.15-17.30 | A. Córdova, A. Solimeno, C.M. Castro-Barros, D. Checa, M. Poch, M. Ruiz
Sustainable Mobility through Biological Methanation of WWTP Biogas with renewable Hydrogen |

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| 17.30-17.45 | A. Dimitriadis, N. Tourlakidis, G. Meletidis, S. Bezergianni
Biofuels production from solid waste microbial oils and from pre-treated waste cooking oils |
| 17.45-18.00 | B.U. Olano, A. M. Macarulla, E. Unzueta, A. Alonso-Vicario
Waste-to-x: waste conversion processes into value-added products in biorefineries |
| 18.00-18.15 | S. George Shiju, P. Quille, E. Broderick, G. Rajauria
CircBioCityWaste: Transformative Biorefining for Concurrent Biostimulant and Protein Recovery from Sludge and Digestates |
| 18.15-18.30 | X. Shi, X. Zhan
Enhancing selective butyric acid production by controlling fermentation conditions |
| 18.30-18.45 | P. Lomwongsopon, R. Wimmer, C. Varrone
Selection of polyolefins-degrading mixed microbial consortia through long-term enrichment |
| 18.45-19.00 | J. C. Solarte-Toro, P. J. Inocencio-García, C. A. Cardona-Alzate
The sustainability problem in model biorefineries based on residues |
| 19.00-19.15 | Jiachen Sun, Kai-Chee Loh
Fine-tuning O ₂ -Modulated Metabolic Fluxes for Enhanced Lignin Bioconversion |
| 19.15-19.30 | M. Ortiz-Sanchez, J. C. Solarte-Toro, P.J. Inocencio-García, C. A. Cardona-Alzate
Modern Biorefineries for obtaining high demanded products for sustainable agriculture |

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Waste Valorisation I
Chair: K. Chojnacka, D.S. Achilias, N. Lyczko, J. L. Hao

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| 15.00-15.15 | H. A. F. Rahmy, S. Nour El-Deen, F. M. Abosamra, A. M. Khaled
The Impact of Broiler Feed on Growth and Performance by Valorisation of Olive Cake as By-product in the Ration |
| 15.15-15.30 | A.-I. Petaloti, E.-M. Varka, D.S. Achilias
By-products from the coffee industry as additives in the preparation of poly(lactic acid), PLA based composite films for food packaging applications |
| 15.30-15.45 | F. Demichelis, C. Galletti, F.A. Deorsola, R. Pirone, D. Fino
Technical and environmental assessments of hydrogen sulphide adsorption using biochars from slow pyrolysis of rice husk and modified rice husk |
| 15.45-16.00 | M. Popova, M. Dimitrov, M. Oykova, P. Shestakova, D. Kovacheva, G. Atanasova, Á. Szegedi
CO ₂ Hydrogenation to Renewable Methane on Mg-doped Ni-Cu and Ni-Co modified mesoporous SiO ₂ prepared from rice husks |
| 16.00-16.15 | A. Kyriakoudi, K. Misirli, A. Toumpeli, I. Mourtzinis, N. Nenadis
Holistic valorization of rice bran towards high-added value products for industrial applications |
| 16.15-16.30 | S. Mihalyi, A. Putz, M. Neureiter, F. Quartinello, G. Gübitz
Orange peel waste: a powerful resource for future biopolymer production |
| 16.30-16.45 | D. Ladakis, K. Filippi, S. M. Ioannidou, V. Korcka, A. Koutinas
Economic and Environmental Evaluation of Poly(3-Hydroxybutyrate) Production Utilizing Brewery Spent Grain and Implementing Biological Recirculation of the Biopolymer |
| 16.45-17.00 | L. Martinez-Sanchez, E. Suarez, E. Esteban, M. Reguera, A. F. Mohedano, M. A. de la Rubia, M. Tobajas
Application of hydrochar and biochar from bio waste and sewage sludge as a soil amendment on a sandy loam soil |
| 17.00-17.15 | P. Llopart, E. Autó, B. Bayarri, C. Sans
Influence and modeling of operational parameters on the synthesis yield and adsorption capacity of biochar derived from vine prunings |
| 17.15-17.30 | Z. Sun, J. Nieto-Sandoval, B. Bayarri, C. Sans
Enhancing adsorption capacities of municipal sewage sludge-derived biochar: a comparative study of chemical and physical activation methods for improved removal of penconazole and acetamiprid |

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| 17.30-17.45 | Yiyang Wang, Chi-Hwa Wang
Biochar as a Growth Seed for Carbon Nanomaterials: A Sustainable Solution for Plastic Waste Management |
| 17.45-18.00 | A. Malamakis, D. Geroliolios, L. Melas, C. Karkanias, G. Baniias
Integrating Biochar in Swine Feed: A Sustainable Approach to Enhancing Livestock Production and Environmental Management |
| 18.00-18.15 | Yumin Duan, Mukesh Kumar Awasthi
Biochar regulating humification of livestock manure composting and its improvement on soil quality |
| 18.15-18.30 | C. Karkanias, D. Geroliolios, A. Malamakis, S. Skoutida, L. Melas, M. Batsioula, G.F. Baniias
Blockchain for Sustainability: Pioneering traceability in the Agri-food Sector |
| 18.30-18.45 | J. Colin, A. Sarrion, M.A. De la Rubia, E. Diaz, A.F. Mohedano
Ecotoxicity of hydrochar from hydrothermal carbonization of biomass waste |
| 18.45-19.00 | I. E. Achouri, S. Karakache, N. Abatzoglou, D. Abatzoglou, D. Allous
Fischer–Tropsch Synthesis over sustainable catalyst in a 3-φ CSTR reactor as part of GOLD 2020 project for land recovery (GOLD 2020 - Horizon) |
| 19.00-19.15 | K. Pikon, M. Abawalo, M. Landrat, W. Scierski
Review of advanced biowaste-to-hydrogen technologies: Their role in modern waste management and environmental impact |
| 19.15-19.30 | R. Devasan, G. Halder
Trash to Treasure: Upcycling discarded plastic into heterogeneous carbon dots for use as a catalyst in sustainable production of Honge oil biodiesel |

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- 01 V. Silva, J. Eduardo Pereira, L. Maltez, G. Igrejas, P. Poeta
Harnessing the Potential of Winemaking By-Products for Combating Antimicrobial Resistance: A Comparative Study
- 02 V. Silva, A. Aires, R. Carvalho, J. Eduardo Pereira, L. Maltez, G. Igrejas, P. Poeta
Olive Tree Components as Natural Antimicrobial and Antioxidant Agents: Leaves, Skin, and Pit Extracts
- 03 V. Silva, S. Araújo, J. Eduardo Pereira, L. Maltez, G. Igrejas, P. Poeta
Emergence of Multidrug-Resistant MRSA and *K. pneumoniae* in Hospital Wastewater: Implications for Antimicrobial Resistance Surveillance
- 04 A. Silva, V. Silva, A. Aires, R. Carvalho, G. Igrejas, P. Valentão, V. Falco, P. Poeta
Evaluation of polyphenols extracted from grape by-products as novel natural antimicrobial compounds against multidrug-resistant pathogens
- 05 A. Silva, V. Silva, R. Martins, F. Fernandes, R. Carvalho, A. Aires, G. Igrejas, P. Valentão, V. Falco, P. Poeta
Can wine industry by-products hold the key to natural antioxidants and antimicrobials? Exploring phenolic compound for health and sustainability
- 06 M. Olszewska, A. Krupińska, S. Włodarczak, M. Ochowiak, M. Banaszak, O. Ochowiak
The study of conical flow regulators: the effect of the diameter of the inlet/outlet ports
- 07 Seok Seok Seok, Yejin Lee
Energy recovery and activation of biochar from kenaf, manure, and food waste via pyrolysis
- 08 S. Uludag-Demirer, G. N. Demirer
Determination of the residual biogas potential of the digestate from three full-scale anaerobic digesters in Michigan
- 09 Sun-Wook Jeong, Jung Eun Yang, Yong Jun Choi
Microbial upcycling of food wastes into novel carotenoids and bioplastics
- 10 K. Xyrostilidou, M. Gaspari, T. Sfetsas, A. Mitsopoulos, V. Tziakas, P.G Kougias
Enhancing the process of biological CO₂ hydrogenation by investigating the role of packing materials.
- 11 M. Banaszak, A. Krupińska, S. Włodarczak, F. Mellerowicz, M. Ochowiak
Effect of inlet and outlet pipes geometry on turbulence in swirl sedimentation tanks
- 12 J.F. Hernández-Arango, J.C. Solarte-Toro, M. Ortiz-Sanchez, C.A. Cardona-Alzate
Integration of the sustainability analysis and planetary boundaries assessment: Application in residues valorization
- 13 C. Mazilu, D.P. Georgescu, A. Apostu, R. Deju
Cementitious compositions obtained with recycled aggregates and micro/nanosilica admixtures
- 14 A. Sleiniute, T. Mumladze, G. Denafas
Delamination Techniques for Sustainable Packaging: A Focus on Multilayer Aluminum- Based Food Packaging
- 15 M. Hyrycz, M. Ochowiak
The influence of the place of flocculants dosing on the efficiency of the decanter centrifuge
- 16 F. Mellerowicz, A. Krupińska, S. Włodarczak, M. Ochowiak, M. Olszewska, O. Ochowiak
Effervescent atomization in the agriculture sector
- 17 A. Pawlowska
Inhibition of arsenic bioleaching from mining wastes
- 18 P. Gkotsis, E. Pelaka, A. Chatzis, A. Zouboulis
Application of a two-stage polymeric membrane system for capturing CO₂ from simulated power plant flue gases

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- 19 J. Skřínský, E. Salzano, J. Čespiva, J. Vereš, J. Ryšavý, T. Ochodek
Safety characteristics of metal hydride materials for hydrogen storage - Comparison of LaNi₅ and LiBH₄
- 20 J. Skřínský, E. Salzano, J. Čespiva, J. Vereš, J. Ryšavý, T. Ochodek
Influence of Initial Temperature on Explosion Severity Parameters of Methane and Methanol/Air Hybrid Mixture Measured in 20-L and ISO 1-m³ Vessels
- 21 R. Freire, H. N.F. Lira, S.L.B. Santos, A. Foster
Use of redmud as a selective catalyst to produce hydrocarbons like the aviation biofuel by the pyrolysis reaction of Cumaru Oil (*Dipteryx odorata*)
- 22 D. Vamvuka, E. Sdoukou, D. Pentari, X. Tzortzaki, G. Asiminas
Simultaneous adsorption of ammonium and phosphate from contaminated water solutions by a nut residue biochar
- 23 H.M. Fogarin, M.C.M. Santos, J.P. Souza, E.R. Filletti, K.J. Dussán,
Neural Network-Enhanced Hydrolysis Process for Valorizing Spent Coffee Grounds
- 24 M. Zubrowska-Sudol, K. Ramm, A. Knap-Baldyga, K. Sytek-Szmeichel, J. Czajkowska, M. Wojciechowska, M. Smol
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- 25 A.G. Santos, D.A. Bertuol, E.H. Tanabe
Production of biochar derived from swine sludge modified with CaO for removal of methylene blue from water
- 26 E.D. Cruz, E.H. Tanabe, D.A. Bertuol
Recovery of eutrophication agents and metal ions from post treatment effluent: a study of Biochar-LDH composite in adsorption
- 27 L. Rodrigues, I.P. Brás, M.E. Silva
Soils amendments production from composting of digestate of agroforestry waste
- 28 E. D. Pinto; T. Beone; S. Zanlucchi
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- 29 S. L. Kouvalakidou, S. Marlagkoutsos, K. N. Maroulas, A. D. Meretoudi, Ramonna I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, A. K. Tolkou, P. Efthymiopoulos, G. Z. Kyzas
Novel magnetic chitosan/graphene oxide/activated carbon composite beads for the removal of nonsteroidal anti-inflammatory pharmaceutical compound (Diclofenac) from aqueous solutions
- 30 S. L. Kouvalakidou, M. Tassopoulou, A. D. Meretoudi, K. N. Maroulas, R. I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, A. K. Tolkou, P. Efthymiopoulos, G. Z. Kyzas
Modified graphene oxide/chitosan composites for the adsorption of Methylene blue and Reactive black 5 from dyeing mixtures
- 31 I. Siadimas, S. Kavafaki, R. I. Kosheleva, P. Efthymiopoulos, G. Maliaris, G. Z. Kyzas
3D-printed hybrid adsorbent monoliths for the removal of emerging organic contaminants from wastewaters
- 32 K. N. Maroulas, A. K. Tolkou, A. D. Meretoudi, S. L. Kouvalakidou, R. I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, P. Efthymiopoulos, G. Z. Kyzas
Curcumin/MgO/graphene oxide nanoadsorbents for the removal of fluoride from wastewaters
- 33 A. D. Meretoudi, I. Kalampogias, K. N. Maroulas, S. L. Kouvalakidou, R. I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, A. K. Tolkou, P. Efthymiopoulos, G. Z. Kyzas
Chitosan/graphene oxide@montmorillonite composites for the adsorption of dyes from wastewaters
- 34 J. Žaltauskaitė, I. Kniuiipytė, M. Plytnikaitė, G. Sujetoviene, J. Ankuda, E. Bakšienė
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- 35 R.A. Timmers, M.A. Sánchez-Gatón, D. Hidalgo
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- 36 A. Kyriakoudi, E. Chezanoglou, A.M. Goula, E. Gklavakis, I. Mourtzinou
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- 37 G. Luta, D. Balan, M. Stanca, O. Jerca, S. Jurcoane, C. Gaidau, M. Niculescu, S. Cristea
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- 38 G. C. G. Delaqua, C. C. M. F. Vieira
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- 39 B. Anzá, S. Fraterrigo, D. Fino
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- 40 H. N.F. Lira, M. H. A. Portela, S. D. Júnior, F. M. R. Neto, S. R. B. Queiroz
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- 43 R. Ionce, A. Ionce
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- 44 A. Karkazi, A. Mentzis, N. Gargoulas, M. Nikolaou, I. Dimitriadis
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- 45 C.A. Guerrero-Fajardo, L. Giraldo, J.C. Moreno-Pirajan
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- 47 C.A. Guerrero-Fajardo, L. Giraldo, J.C. Moreno-Pirajan
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- 48 S. Werle, S. Sobek, M. Sajdak, H. Mumtaz, R. Muzyka
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- 49 CA Guerrero-Fajardo, L. Giraldo, JC Moreno-Pirajan
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- 51 B. Nogueira Simões Cobuci, D. Coverdale Rangel Velasco, A. Rangel Garcez de Azevedo, N. Tonini Simonassi, C. Mauricio Fontes Vieira, F. Perissé Duarte Lopes
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- 55 C. García-Delgado, V. Polo, B. Mayans, M.A. Jiménez-González, T. Fresno, E. Eymar, S. López-Rayó
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Caffeine removal by SCG biochar
- 208 G. Sujetovienė, R. Dagiliūtė, J. Žaltauskaitė
Generation and management of hazardous waste in Lithuania
- 209 M. Omirou, I. Anastopoulos, S. Ioannidou, I. M. Ioannides
Organic amendments are critical for N₂O emissions in apple orchards under organic farming schemes
- 210 A. Nemmour, Hongtao Zhang, K. Elkadi, I. Janajreh
Salts Recovery by Eutectic Freezing for Waste Brine Management: Experiments and Simulation
- 211 R. S. Carvalho, J. Brinco, M. Gomes da Silva, A. B. Ribeiro, P. Guedes, E. P. Mateus
Development and optimization of a new extraction of pesticides from soil using direct-immersion SPME LC-Tips followed by GC-MS/MS
- 212 Habiba Khalid, Fanfan Cai, Jiyu Zhang, Ruihong Zhang, Wen Wang, Guangqing Liu, Chang Chen
Optimizing key factors for biomethane production from KOH-pretreated switchgrass by response surface methodology
- 213 M. Ilić, A. Žerađanin, O. Došen, J. Milić, J. Avdalović, G. Dević, T. Šolević-Knudsen
Ability of bacteria isolated from oil-contaminated soil to utilize lindane under aerobic and anaerobic conditions
- 214 A. Malamakis, D. Geroliolios, L. Melas, C. Karkanias, G. Banias
Sustainable Enhancement of Poultry Health and Egg Quality Using *Silybum marianum* Extracts: Evaluating Environmental and Economic Impacts
- 215 K. Kamaterou, K. Boulamatsis, D. A. Bagaki, P. F. Chatzimaliakas, D. Malamis, E.M. Barampouti, S. Mai
Investigation of a lab-scale physicochemical CO₂ capture system
- 216 MA. Karatzia, V. Kotsampasi, Z. Basdagianni, S. Mai, E.M. Barampouti, E. Kasapidou
Orange peels as a secondary feedstuff for dairy sheep
- 217 C. Papachrysostomou, A. Agapiou, A. Zorpas, M. Stylianou
Presence of veterinary drugs in livestock samples
- 218 P. Grivas, D. Liakos, S. Vakalis
Comparison of GC methods for VFAs analysis: the role of plasma detection
- 219 M. Margari, V. Karayannis, K. Moustakas, E. Lakioti
Sustainable water resources management and drinking water quality – a social survey
- 220 C. Chroni, S. Fortatos, E. Sigala, K. Boikou, C. Minotou, K. Synani, K. Abeliotis, K. Lasaridi
Assessing Food Waste from the primary sector in Greece
- 221 Makaridis, D. Liakos, K. Moustakas, S. Vakalis
Hydrothermal biofuels for the valorization of agroforestry pruning
- 222 T. Van Laere, P. Knockaert, J. Suk Coene, S. De Meester
Zero-Waste Approach for greenhouse fruit vegetables
- 223 M. Tsirtsiliou, G. Altiparmaki, K. Moustakas, S. Vakalis
Assessment of the phenol adsorption potential of biocarbons - a focus on hydrochars
- 224 G. Altiparmaki, K. Moustakas, S. Vakalis
The role of hydrothermal gasification on the fate of pesticides in OMWW
- 225 A. Tzani, I. Pitterou, A. Chroni, I. Kostopoulou, A. Detsi
Biomass Valorisation for the Development of Chitosan Films Using Natural Deep Eutectic Solvents
- 226 I. Pitterou, M. Belia, A. Tzani, A. Detsi
Extraction of beetroot peels using Natural Deep Eutectic Solvents and incorporation of the extract in cosmetic formulation
- 227 V. Phinikettou, I. Voukkali, I. Papamichael, A. Zorpas
Assessment methodologies to measure microplastics
- 228 V.O. Sinelnikov, P.P. Łoś, V.V. Tokarchuk, S.V. Semiryagin, K.E. Buczkowska
New scientific solutions for recycling solid waste by ferroalloy industry within in circular economy

08.00-9.30

Registration**ROOM 1**

9.00-10.45

Keynote Speakers**Chair: K. Moustakas, D. Malamis**

**Qunxing Huang, President of the Global WtERT Council & Vice Dean,
College of Energy Engineering, Zhejiang University**

Novel pyrolysis technology for recovery valuable products from waste tires

**Kyriakos Maniatis, International Consultant, Ex Principal Administrator in
the Directorate General for Energy of the European Commission**

Advanced biofuels in decarbonising transport

Ezra Bar-Ziv, Michigan Technological University

MSW Valorization by Solvent-Based Technology to High-Added Value Products

Heribert Insam, University of Innsbruck

Microbes and Climate with a special emphasis on waste management

David Bolzonella, University of Verona

From anaerobic digestion to multipurpose biorefinery: valorizing organic waste

10.45-11.15

**Coffee Break**

ROOM 1
SESSION IX

The LIFE CIRCforBIO project
Chair: A. Milukas, M. Loizidou, D. Bolzonella,
D. Malamis



11.15-11.30	D. Malamis CIRCforBIO project Overview
11.30-11.45	N. Kontogianni, K. Passadis, E.M. Barampouti, S. Mai, D. Malamis, M. Loizidou CIRC4BIO platform as a powerful tool for promoting biomass valorisation
11.45-12.00	F. Battista, D. Bolzonella Optimization of the acidogenic fermentation for VFA production
12.00-12.15	K. Passadis, E.M. Barampouti, S. Mai, D. Malamis, M. Loizidou A circular economy system for multi-source biomass conversion to added value products: LIFE CIRCforBIO
12.15-12.30	C. Aouf, I. Dedieu The AgriLoop Horizon Europe EU-CN project: upgrading agricultural residues into high added-value bio-products
12.30-12.45	R. Jimenez-Lorenzo, P. Ferrero, M. de la Feld, A. Pizza, N. Frison, C. Bastianelli The ELLIPSE Horizon Europe project: efficient and novel waste streams co-processing to obtain bio-based solutions for packaging and agricultural sectors
12.45-13.00	M. Bampaou, G. Kardaras, Tz. Kraia, K.D. Panopoulos, L.P. Chrysikou, S. Bezergianni, S. Kiartzis, E.A.Nanaki Paving the Way to the conversion of plastic wastes to fuels
13.00-13.15	J. Ibarri, B. Iñarra, A. Bikandi, A. Salvarrey, N. Luengo, J. Ferrer, J. Zufía, M. Gutierrez, D. San Martin Optimization of bioethanol production from a sugar-rich liquor and a functional animal feed ingredient obtained in the biorefinery scheme of grape stem
13.15-13.30	D. San Martin, J. Ibarri, A. García-Rodríguez, I. Goiri, R. Atxaerandio, N. Luengo, J. Ferrer, J. Zufía, M. Gutierrez, E. Sáez de Cámara, B. Iñarra Valorization of grape stems as a functional ingredient in ruminant diets
13.30-13.45	L. Mejias, D. Cantabella, M. Martínez-Quintela, O. Osegueda, M. Bistué, L. Paredes, S. Ponsá Applying circular strategies to the food industry: slaughterhouse solid waste valorization in a pilot demonstration plant

Thursday, 20 June 2024

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| 13.45-14.00 | V. Veleva, A. Abend
Current practices, drivers and barriers to advance a circular economy: Insights from the Massachusetts craft beer sector |
| 14.00-14.15 | L. Caroscio, C. Chiavetta, A. Bonoli
Sailing Towards Sustainability: A Life Cycle Analysis of Mussel Farming in La Spezia |
| 14.15-14.30 | B. Iñarra, M. Ciudad, D. Villanueva, S. Ramos, J. Ibarriuri, M. Gutierrez, J. Zufía, E. Sáez de Cámara, D. San Martin
Sustainability analysis of new circular strategies for the use of coffee by-products as a new raw material for animal feed |
| 14.30-14.45 | A.B. Moldes, A. López-Prieto, A. Martínez-Arcos, X. Vecino, J.M. Cruz
Optimizing Biosurfactant extraction yield from Corn Steep Liquor: A Strategic Approach for Cost-Effective Pilot-Scale Biopesticide Product |
| 14.45-15.00 | R. Soloha, L. Kristiana Lukasa, E. Dace
Assessment and bio-valorisation of by-products from food industry in Europe |
| 14.15-15.00 | Lunch Break |

ROOM 2 SESSION X

Sludge Management & Recovery of materials from wastewater & sludge Chair: A. Zouboulis, H. Insam, A. G. Capodaglio, C. Di Iaconi

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| 11.15-11.30 | M. De Sanctis, S. Murgolo, C. De Ceglie, G. Mascolo, C. Di Iaconi
An innovative plant for preventing sewage sludge generation |
| 11.30-11.45 | F. Corona, L. Garrote, E. Pérez-Zapatero, J.M. Martín-Marroquín, D. Hidalgo
Potential of novel hybrid microalgae cultivation technology for nutrient recovery from wastewater |
| 11.45-12.00 | C.H.J. Koh Yang, G.C. Liu, W.P. Chan, W. Liu, T.T. Lim, G. Lisak
Oxygen carrier derived from ferric sludge for chemical looping combustion of MSW syngas |
| 12.00-12.15 | B. Ruffino, G. Campo, A. Cerutti, M.C. Zanetti
Techno-economic analysis of thermo-alkali and biological pre-treatments applied to waste activated sludge |

- 12.15-12.30 A. Fantasse, S. L. Parra Angarita, E.K. Lakhali, E.H. Bougayr, A. Idlimam, A. Léonard
Exploring convective drying behavior of hydroxide sludges through micro-drying systems
- 12.30-12.45 A. Cano-Larrotta, R. Castellnou, L. Colomer, R. Moreno, E. Uggetti
Evaluating Rest Period and Sludge Composition in Sludge Treatment Wetland
- 12.45-13.00 L. Mezule
Sewage sludge hygienization for its use as soil amender
- 13.00-13.15 T. De Somer, M. Van Melkebeke, B. Goethals, S. Gusev, P. Van der Meeren, K. M. Van Geem, S. De Meester
Modelling and Application of Dissolved Air Flotation for Efficient Separation of Microplastics from Sludges and Sediments
- 13.15-13.30 J. Bu, Y.W. Tiong, Y.W. Tong
Utilizing Zeolite for Nutrient Recovery from Anaerobic Digestate to Enhance the Growth Performance of Choy Sum
- 13.30-13.45 L. Lee, P.H. Lee
Towards closed-loop production of biodegradable plastics from municipal sewage sludge: using multi-meta-omics and quantum computing analyses to improve VFA to PHA production pathways
- 13.45-14.00 G. Torres, P. I. Romero, M. S. Córdova, A. E. Silva, L. A. García, G. Fernández
Application of natural coagulants to reduce the turbidity present in water from drainage channels that feed the Endhó dam, Hidalgo, Mexico
- 14.00-14.15 M.E. Koulouri, M.R. Templeton, G.D. Fowler, C. Batarda, L. Owomuhangi, Y. Lugali, O. Tuyishimire, F. Nteziyaremye
Co-carbonisation of faecal sludge and biomass waste for resource recovery: Lessons learned from Uganda and Rwanda
- 14.15-14.30 C. Duarte, I.P.L. Brás, M.E.F. Silva
Carbon footprint calculator for textile and clothing sector: development, application and validation
- 14.30-14.45 T. Pilevneli, E. Ercin, G. Capar
Water footprint of key-traded crops of Turkey
- 14.45-15.00 B. Ucar Islam, G. Capar
Agricultural virtual water trade of Turkiye

ROOM 3**SESSION XI****Waste Valorisation II****Chair: Chr. Argirusis, J. Yanik, J. Dosta, A. Djukic-Vukovic**

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| 11.15-11.30 | C. Magonara, E. Montagnese, G. Pesante, C. Vona, M. Villano, F. Battista, D. Bolzonella
Production of PHAs with variable HV content from agricultural residues |
| 11.30-11.45 | A. Zamboi, S. Fraterrigo Garofalo, F. Demichelis, T. Tommasi, D. Fino
Opuntia ficus-indica: a biorefinery integrated process for the valorization of cladodes |
| 11.45-12.00 | K. Filippi, V. Korka, J. Sjöström, H. Li, D. Ladakis, O. Sevastyanova, A. Koutinas
Biorefinery development of lignocellulosic biomass for lignin extraction and succinic acid production via fermentation |
| 12.00-12.15 | P. J. Inocencio-García, C. A. Cardona-Alzate
CO ₂ as raw material as raw material for sustainable for sustainable biorefineries |
| 12.15-12.30 | G. Dall'Osto, D. Mombelli, S. Scolari, C. Mapelli
Survey on the valorization of wood and agribusiness wastes for their application as fossil carbon substitutes in metallurgical processes |
| 12.30-12.45 | S. Peña-Picola, M. Jordán, N. Pérez-Esteban, M. Peces, J. Vila, M. Grifoll, F. Valentino, S. Astals, J. Dosta
Volatile fatty acids production from organic fraction of municipal solid waste: Effect of hydraulic retention time, feeding regime and temperature |
| 12.45-13.00 | A. M. Khaled
Enhancing compost of Organic municipal solid waste using Phosphate rock |
| 13.00-13.15 | A. Martorell-Múgica, C. González-Fernández, S. Greses
Indigenous microbiome as a promising strategy to maximize organic waste valorization into added-value chemicals |
| 13.15-13.30 | J. Lalthanmawii, R. Banerjee, N.B. Maheswarappa, S. Biswas, B.M. Belore, P.M. Govindaiah, G. Patra, P.B. Koneti
Green extraction and valorization of poultry skin: Collagen hydrolysates with improved functional attributes and bioactivity |
| 13.30-13.45 | A. Ramírez, A. Parodi, F. Martin, M. Muñoz-Morales, E. López-Fernández, J. Llanos
Sustainable valorization of digestate and polluted phytomass through hydrothermal carbonization to produce hydrogen peroxide |

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| 13.45-14.00 | F. Rizzioli, D. Bolzonella, A. Gronroos, F. Battista
Valorization of agricultural digestate by sequential filtration steps for the recovery of nitrogen and phosphorous compounds |
| 14.00-14.15 | A. İbrahim Ahmed, G. Duman, T. Karayildirim, J. Yanik
Production of Bio-Fuel from Food Industry Wastes |
| 14.15-14.30 | A. Djukić-Vuković, J. Grbić, D. Mladenović, S. Lazović, L. Mojović
Interaction of cold plasma with different chemical reagents for improved fractination of lignocellulose |
| 14.30-14.45 | M. Margallo, E. Martinez, A. Fernández-Ríos, J. Laso, R. Aldaco
Environmental traceability and eco-labelling of food supply chains under a life cycle approach |

ROOM 4
SESSION XII
Plastics & Bioplastics
Chair: W. Heikkilä, F. Todaro, F. Lombardi, S. Mai

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| 11.15-11.30 | S. Paukkunen, M. Pölönen, J. Nyssönen, J. Hämäläinen, A. Pohjonen
Possibilities for the processing LLDPE waste plastic produced by agricultural farms |
| 11.30-11.45 | G. Santomasi, F. Todaro, A. Petrella, E.U. Thoden van Velzen, M. Notarnicola
Strategies to enhance the circularity of PET thermoformed packaging waste based on material characterisation |
| 11.45-12.00 | M. S. Morlino, R. Serna García, M. Demo, I. Porqueddu, B. Müller, L. Favaro, T. Morosinotto, S. Campanaro, L. Treu
Bioconversion of anaerobic digestion products to biomass and polyhydroxyalkanoates with <i>Cupriavidus necator</i> |
| 12.00-12.15 | G. Denafas, A. Torkelis, L. Kliučininkas
Analysis of factors influencing the circularity of plastic packaging waste recycling |
| 12.15-12.30 | N. Collier, D. Manhaeghe, M. Roosen, T. De Somer, S. De Meester
Improving the odour removal from flexible packaging waste by optimizing the water management in plastic recycling plants |
| 12.30-12.45 | M. M. Madirisha, B. D. Ikotuna, M. A. Rikhotsoa, E. K. Onyari
Turning the Tide: The Potential of Geopolymer in Microplastic Pollution Control, A Review |
| 12.45-13.00 | M. Coletta, A. D'Alessandro, G. Sagratini, A. La Terza
Impact on wheat health and rhizosphere microbiome of compost produced by adding compostable bioplastic packaging to organic waste: A field experiment |
| 13.00-13.15 | P. Tsai, A. Onishi, T. Tabata
Investigating Households Attitudes and Behaviors Toward Dealing with the Single-use Plastic Products in Japan |
| 13.15-13.30 | D. Sorino, L. Bartolucci, S. Cordiner, A. Falsetti, F. Lombardi, V. Mulone
Mixed polyolefine recycling from a composting plant: Monomer recovery for circular economy by Pyrolytic process |

- 13.30-13.45 M. F. Senekane
Employing technological methods to manage plastic waste material
- 13.45-14.00 I. Voukkali, I. Papamichael, P. Loizia, F. Economou, M. Stylianou, A. Maalouf, V. Naddeo, T. Zara, A.A Zorpas
The impact of Environmental Management System in Hospitality Industry to the transition to Circular Economy
- 14.00-14.15 S. Hussain Tumrani, Chenghong Feng
Aging mechanism of PBS microplastic with UV irradiation and its effects on the adsorption of tetracycline

ROOM 1
SESSION XIII

Anaerobic Digestion

Chair: D. Bolzonella, I. Angelidaki, A. Gross, B. Ruffino

- 15.00-15.15 A. G. Capodaglio
Role of bioelectrochemical systems in anaerobic methanation yield improvement
- 15.15-15.30 S. Colantoni, D. Molognoni, P. Sánchez-Cueto, C. De Soto, M. Gonzalez, P. Bosch, R. Ghemis, E. Borras
Pre-pilot bioelectrochemically improved anaerobic digestion of fish processing industrial wastewater
- 15.30-15.45 C. Zafiris, L. Gavriil, M. Christou
An overview of the feedstock supply for biomethane production in EU

- 15.45-16.00 B. Tartakovsky, V. Singh, H. Li, B. Ormeci, A. Hussain
Enhanced biomethane production from food waste in a bio-electrochemical anaerobic digester (BEAD)
- 16.00-16.15 R. Arnal-Sierra, D. Molognoni, S. Colantoni, I. Boateng, A. Awopone, K. Agyapong, F. Kwaku Sarfo, E. Borrás
Assessment of the biological methane potential of different food residues from a market in Ghana for local residues valorization and biogas production
- 16.15-16.30 B. Hülsemann, M. Baumgart, G. Sailer, H. Oechsner
Coupled biogas and fibre production from biowaste and agricultural residuals
- 16.30-16.45 M. Olaya-Rincon, J. Serra, M. Casallas-Ojeda, J. Dosta, R. Torres, M. Martinez, S. Astals
Impact of temperature and particle size on polylactic acid anaerobic biodegradability
- 16.45-17.00 E. Fersini, M. Occhinegro, A. Giuliano, F. Todaro, M. Notarnicola
Evaluation of environmental performance of a material/energy recovery plant from organic fraction of municipal solid waste through life cycle assessment
- 17.00-17.15 I.A. Fotidis, Y. Yan, D. Fu
Bioaugmentation of immobilised inocula coupled with biochar to solve the ammonia problem in continuous biogas reactors
- 17.15-17.30 F. Tuci, V. Buscio, V. López-Grimau, X. Guimerà
Textile sludge valorization: a challenge toward a more sustainable system
- 17.30-17.45 Qingwei Gao, Lili Li, Kun Wang, Qingliang Zhao
Promoting methane production during anaerobic digestion with biochar: Is it influenced by quorum sensing?
- 17.45-18.00 I. Kontodimos, N. Margaritis, P. Grammelis, M. Goula
Integrated management of food waste leachates: Recovery of added value products and biomethane production
- 18.00-18.15 D. Ferraro, A. Jimenez, D. Ringoot, C. Drossos
Reducing the cost of sludge treatment and disposal by implementing thermal hydrolysis for a large wastewater treatment plant
- 18.15-18.30 Z. Ułanowski, J. Rębas, M. Kułczyński, M. Łukaszewicz
Operational problems occurring during the production of biogas and energy in a modern agricultural biogas plants

18.30-18.45	Y.W. Tong Enhanced thermophilic dark fermentation of hydrogen production from food waste by Fe-modified biochar
18.45-19.00	A. Arıç, S. Can Karagöz, T. Ceren Ögüt, S. Tuğçe Dağlıoğlu, G. Duman, J. Yanık, N. Azbar Effect of various thermochemical pretreatment methods on the biomethanisation of hemp (<i>Cannabis sativa</i>) hurd and kinetic analysis
19.00-19.15	A.E. Stougiannou, A. Bourtsalas, N. Kakkoufa Feasibility study and proposal of Anaerobic Digester plant for biogas production in Peloponnisos, Greece using olive tree pruning feedstock
19.15-19.30	G. Balasundaram, P. Gahlot, V. K. Tyagi, A.A. Kazmi, H. Kleiven, A.K. Sahu Thermal Hydrolysis Achieves Asset Optimisation and High Biomethane Yields
19.30-19.45	S. Kesharvani, G. Dwivedi, T. Nath Verma Unveiling the Veiled Potential: Investigating Biohydrogen Production from Biomass via Dark Fermentation

ROOM 2
SESSION XIV

Food Waste Management
Chair: D. Malamis, S. Mai, A.M. Goula, I. Mourtzinis

15.00-15.15	M. Amador-Cervera, B. U. Olano-Oteiza, M. V. Vargas-Viedma, A. Alonso-Vicario Improving food waste quantification at municipal level to assess food waste prevention: A case study in the Basque Country
15.15-15.30	D. Szakos, M. Süth, A. Kunszabó, J. Oláh, J. Popp, Z. Lakner, A. Dorkó, T. Izsó, W.S. Nugraha, G. Kasza Bread and bakery products in household food waste: identifying the main factors behind the decreasing trend
15.30-15.45	S. Fraterrigo Garofalo, V. Mallen, D. Fino Extraction of carotenoids from tomato processing waste using Deep Eutectic Solvent

- 15.45-16.00 N. Solomakou, A. Kyriakoudi, I. Mourtzinou, A.M. Goula
Valorization of olive mill wastewaters: Novel and sustainable adsorption techniques using activated spent coffee grounds
- 16.00-16.15 S. Hupfauf, I. Kleidorfer, I. Whittle, D. Bischof, A. Bockreis, H. Insam, W. Mueller, M. Wehner
Decentralised system for demand-oriented collection of food waste – assessment of biomethane potential, pathogen development and microbial community structure
- 16.15-16.30 A.M. Drosaki, S.C. Axarlis, M.A. Tsekmezoglou, N. Solomakou, I. Mourtzinou, A.M. Goula
Green ultrasound-assisted extraction of carotenoids from peach peels using vegetable oils
- 16.30-16.45 D. Fotiou, E. Tsachouridou, A.M. Goula
Valorization of wastes from lavender distillation through optimized extraction and encapsulation processes
- 16.45-17.00 V. Korkea, C. Margioulas, K. Filippi, E. Stylianou, D. Ladakis, A. Koutinas
Bioprocess development for succinic acid production using organic fractions of municipal solid waste
- 17.00-17.15 K. Chojnacka
Bio-Waste to Organic Fertilizers: Valorization for Sustainability
- 17.15-17.30 P. Rusek, S. Schab, K. Borowik, Ł. Rusek
Technology for producing granulated fertilizers enriched with microbiological components, including the determination of individual process parameters and technical and technological aspects
- 17.30-17.45 S. Schab, M. Borowik
Granulated slow release fertilizer NCaS based on urea and flue gas desulfurization gypsum
- 17.45-18.00 A. Prado, M. Ventura, I. Pariente, J.A. Melero, D. Puyol, F. Martínez
Green Synthesis of Graphitic Carbon Nitride Materials using Pig Solids Waste and Urea: A Novel Artificial Photosynthesis
- 18.00-18.15 K. Borowik, P. Rusek, S.Schab, A. Bińczak
Wet-process phosphoric acid decadmiation using ion-exchange method
- 18.15-18.30 L.X. Wang, Y.M. Li
Ammonia-Oxidizing Bacteria Provide Electron Acceptors for Sulphur Oxidation and Reduce Odour Emission in Composting

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- 18.30-18.45 Yan Yang, Wenjie Chen, Guoxue Li, Jing Yuan
Effect of a semi-permeable membrane covered composting on greenhouse gas emissions and bacterial community succession: A comparative study with biomass materials covering
- 18.45-19.00 Y.L. Kong, J. Yuan
Determining the extraction conditions and phytotoxicity threshold for compost maturity evaluation using the seed germination index method
- 19.00-19.15 Yan Liu, Guannan Zheng, Guoliang Liu, Ruolan Tang, Ying Liu, Guoxue Li, Jing Yuan
Dicyandiamide shifts the production pathway from denitrification to incomplete nitrification dominated by the amoA gene during composting, delaying rather than continuously inhibiting the nitrous oxide emission
- 19.15-19.30 M. Androudi, E.E. Golia, E. Tsaliki, I. Ipsilantis, E. Triantafyllidou
Utilization of hemp (*Cannabis sativa* L.) in a circular economy model: investigating the use of hemp for phytoremediation of Pb-contaminated soils and bioenergy production

ROOM 3**SESSION XV****Waste Valorization III****Chair: K. Moustakas, A. Karamanov, G. Antonopoulou, M. Kumar Awasthi**

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| 15.00-15.15 | A. Dollari, S.K. Antiohos, P.C. Bourazanis, M. Felesakis, J. Marinos, P. Papadeas
Improving cement carbon footprint through increased alternative fuels and raw materials utilization |
| 15.15-15.30 | I. Djobov, N.B. Jordanov, E. Karamanova, A. Karamanov
Study the possibilities for using of clays from coal overburden for bricks production |
| 15.30-15.45 | C. Mulaja Tshakatumba, E. Mwema Mutamba, M.-P. Delplancke
Recycling heavy metal mining waste into fired building and anti-acid bricks |
| 15.45-16.00 | N. B. Jordanov, D. Tatchev, I. Djobov, A. Karamanov
Sintered foams obtained from different iron-rich waste |
| 16.00-16.15 | A. Karamanov, E. Karamanova
Utilization of asbestos waste in the synthesizes of "historical" yellow cobblestones of Sofia |
| 16.15-16.30 | C. Anagnostopoulou, I. Papachristou, A. Kyriakoudi, K.N. Kontogiannopoulos, I. Mourtzinis, P.G. Kougias
Chlorella vulgaris cultivation in food industry wastewater for alginate beads encapsulation |
| 16.30-16.45 | G. Bonifazi, R. Gasbarrone, D. Gattabria, S. Serranti
Near InfraRed Transflectance Spectroscopy for monitoring the reuse of reclaimed Water from Wastewater Treatment process: a preliminary study |
| 16.45-17.00 | R. Annelio, C. De Ceglie, S. Murgolo, M. De Sanctis, G. Mascolo, E. Slavik, S. De Gisi, C. Di Iaconi
Integration of biological and chemical oxidation for PFAS removal from landfill leachate |
| 17.00-17.15 | J.D. Galvis-Nieto, N. Salgado, S.L. Murillo-Franco, I. Alvarez-Lanzarote, C.E. Orrego
A Natural fiber biopolymer foam as potential carrier for enzyme immobilization |
| 17.15-17.30 | M. Martínez-Quintela, P. M. Binder, Joaquin Romero, L. Paredes, N. Guerra-Gorostegui
Nutrients recovery from marine aquaculture sludge through biodrying process |
| 17.30-17.45 | Seung-han Ha, Seung Gu Shin, Johng-Hwa Ahn
Biochemical methane potential of waste activated sludge: Influence of inoculum pre-incubation |

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| 17.45-18.00 | L.G. Olias, G.G. Ismael, R. Molina, I. Pariente, F.M. Castillejo
Facile thermal activation of low-grade fuel coke for electro-reduction of hydrogen peroxide from air and water |
| 18.00-18.15 | E.J. Noh, J.L. Cheon, S.G. Shin, J.H. Ahn
Anaerobic co-digestion of fish waste and primary sludge: Biochemical methane potential and mixing ratio |
| 18.15-18.30 | M. Abdallah, M. Al-Hindi, M.N. Ahmad
Co-treatment of Municipal Wastewater and Food Wastes Using a UASB reactor Coupled to Submerged AnMBR |
| 18.30-18.45 | Ze Zhu, Amit Gross
Anaerobic Solid Waste Treatment in Aquaponics Enhance its Sustainability and Feasibility via Nutrient and Energy Recovery |
| 18.45-19.00 | I.A. Fotidis, Y. Yan, D. Fu
A novel bioaugmentation using long-term stored specialised inocula in ammonia inhibited biomethanation process |
| 19.00-19.15 | G. Mazzanti, F. Demichelis, D. Fino, T. Tommasi
Two-stage anaerobic co-digestion of jam washing water and a mix of fruit and vegetable wastes |
| 19.15-19.30 | Lili Li, Kun Wang, Qingwei Gao, Qingliang Zhao
Characteristics and mechanisms of mass transfer differentiation during high solids anaerobic digestion of food waste |
| 19.30-19.45 | M. Elhag, L. Zhang, S. Boteva, N. Yilmaz, A. Chaabani
Geoinformation Technologies in Risk Assessment of Olive Oil Waste Water Pollution in the Water Stream Network of Western Crete, Greece |

ROOM 4
SESSION XVI

LIFE Session
Chair: N. Psimmenos



15.00-15.15	The Life Programme and the 4 sub-programmes - 2024 LIFE Call N. Psimmenos, Climate Change officer, Greek Life Task Force plus, Green Fund
15.15-15.30	Concluding remarks / questions and answers
15.30-15.50	J. Constantinidou, Senior Environment Officer, Department of Environment, Ministry of Agriculture, Rural Development and Environment of Cyprus, LIFE IP Cyprus, LIFE IP CYZERO WASTE
15.50-16.10	Z. Gaitanarou LIFE IP CEI Greece – Circular Economy Implementation in Greece
16.10-16.30	W. Heikkilä, H. Dahlbo, S. Kauppi The Plastics Responsible Society – Re-thinking plastics in a sustainable circular economy (PlastLIFE)
16.30-16.45	R. Titos-Guillen, A. Mayor, L. Quintana-Gomez, C. M. Castro-Barros, D. Ramoneda LIFE CYCLOPS: Upcycling polyphenols from industrial olive oil waste
16.45-17.00	M. Loizidou Water Circular Economy: LIFE SOL-BRINE & LIFE BRINE-MINING
17.00-17.15	T. Manios LIFE Hippocrates: A Holistic Approach towards onsite hospital wastewater treatment
17.15-17.30	M. Kyriazi Demonstration of an innovative method for the detoxification of pharmaceutical wastewater from pharmaceutical facilities - LIFE PHARMA-DETOX
17.30-17.45	D. Malamis Valorising anaerobic digestates into bio-fertilisers for climate friendly agriculture – LIFE DIMITRA
17.45-18.00	K. Kontogiannopoulos Demonstration of a mobile unit for hybrid energy storage based on CO ₂ capture and renewable energy sources – LIFE CO2toCH4
18.00-18.15	Discussion

ROOM 1**SESSION XVII****Waste-to-Energy & Energy from Waste****Chair: K. Moustakas, S. Consonni, M. Horttanainen, I. Janajreh**

8.30-8.45	Th. Bourtsalas The role of the Global WTERC Council
8.45-9.00	E. De Lena, M. Spinelli, C. Artini, G. Mazzolari, M. Gatti, M.C. Romano, S. Consonni Decarbonized Energy from Waste via Ca-Looping
9.00-9.15	H. Khan, S. Khan, I. Janajreh Experimental and modelling investigation on the gasification of the sludge for Hydrogen production
9.15-9.30	K. Das Numerical simulation of the biomass gasification in an industrial-scale entrained flow reactor for Hydrogen-rich syngas generation
9.30-9.45	S. P. Deore, S. Kumar, S. M. Mahajani Utilizing Gasification for Thermal Energy Production from Menstrual Waste: A Waste-to Energy Approach
9.45-10.00	A. Tamošiūnas, D. Gimžauskaitė, M. Aikas, R. Uscila, K. Zakarauskas, S. Fendt, S. Bastek, H. Spliethoff Gasification of plastic waste to syngas in thermal CO ₂ plasma
10.00-10.15	Tae Hwi An, Chan Young Lee, Ho Won Ra, Sung Min Yoon, Young-Kwon Park, Myung Won Seo Entrained Flow Gasification Characteristics of Plastic Waste Pyrolysis Oil
10.15-10.30	S. Lotfi, E. Galiwango, W. Ma, K. Austin, J. Butler Catalytic hydrothermal gasification of automotive fluff in a continuous system
10.30-10.45	J. Hunicz, P. Woś, D. Szpica, A. Rybak, M.S. Gęca, M. Mikulski Waste plastic pyrolysis oils as diesel fuel components: analysis of emissions sensitivity to engine control parameters
10.45-11.00	E. Pawelczyk, I. Wysocka, A. Gil, J. Karczewski, M. Maciejewski, J. Gębicki Syngas generation via pyrolysis-dry reforming of plastics over Ni-Mo ₂ C/γ-Al ₂ O ₃ catalyst – the effect of amine on structural and catalytic properties
11.00-11.15	U. Basse, M. Collins, G. Beck, S. Narra, M. Nelles, M. Hartmann Exergy and energy analysis of pyrolysis of pretreated single-use waste plastics
11.15-11.30	J. Eimontas, N. Striūgas, K. Zakarauskas The exploration of catalytic pyrolysis of discarded fishing nets aiming to recover energy-based products

- 11.30-11.45 B. Baser, M. Bohme, B. B. Hansen, M. Pedersen, A. D. Jensen, P. A. Jensen
Pyrolysis of waste to synthetic fuels on cement plants
- 11.45-12.00 Longfei Tang, Peipei Gao, Xueli Chen
Pyrolysis of municipal plastic waste: Chlorine distribution and formation of organic chlorinated compounds
- 12.00-12.15 V.E. Messerle, A.B. Ustimenko, O.A. Lavrichshev
Plasma processing of agricultural waste: thermodynamic analysis and experiment
- 12.15-12.30 A.S. Falsafi, A.M. Falsafi, M. Abdulkareem, M. Horttanainen
Transition from landfilling of Municipal Solid Waste to waste-to-energy – Evaluation of the impact on dioxin emissions
- 12.30-12.45 A.M. Falsafi, A.S. Falsafi, A. Zaikova, M. Abdulkareem, M. Horttanainen
Transition to Recycling vs. Energy Recovery in Municipal Solid Waste Management: Evaluating the Speed of GHG Emission Reduction
- 12.45-13.00 P. Kannappan Karthikeyan, H. Chaminda Hemaka Bandulasena, T. Radu
Renewable Energy from Wastes: Enhanced Biogas Generation from High Lignocellulosic Biomass through Plasma-Assisted Microbubble Pre-Treatment
- 13.00-13.15 G. Farnocchia, G. Pipitone, R. Pirone, S. Bensaid
Renewable H₂ production by aqueous phase reforming of ethanol-rich wastewaters
- 13.15-13.30 M.P. Díez, M. Perez-Rangel, E. Villanueva-Galindo, E. Díaz, M.A. de la Rubia, A.F. Mohedano, I. Moreno-Andrade
Optimizing hydrogen and volatile fatty acid production through dark fermentation of food waste: Exploring synergies in microbial consortium, pH modulation, and bioaugmentation strategies
- 13.30-13.45 A. Gomez-Aquino, A. Vargas, I. Moreno-Andrade
Biohydrogen production enhancement from organic fraction of municipal solid waste using intermittent feeding strategies in a discontinuous process
- 13.45-14.00 D. Bertasini, D. Bolzonella, N. Frison, R. Lauri, F. Valentino, F. Battista
Hydrogen production through Dark Fermentation process of Agricultural Residues
- 14.00-14.15 M. Mosca, R. Mosca, M. Braggio
An innovative Methodology to Convert CO₂ into Methanol, to Increase Sustainability of Clinker Production

14.15-14.30	A. Xirostylidou, M. Gaspari, K.N. Kontogiannopoulos, A. Zouboulis, P.G. Kougias Assessing the influence of intermittent hydrogen supply on biological CO ₂ methanation
14.30-14.45	D. Singh, L. Lombardi, P. Sirini An analysis of Aspen simulation of multiple processes for producing hydrogen from biogas and landfill gas
14.45-15.00	J.M. Martín-Marroquín, A. Aguado, D. Hidalgo Optimizing gas separation through mixed matrix membranes and membrane contactors: A comparative study for H ₂ /CO ₂ /CH ₄ mixtures

ROOM 2
SESSION XVIII

The LIFE BRINE-MINING project
Chair: M. Loizidou, M. Kyriazi



9.00-9.15	M. Loizidou Demonstration of an advanced technique for eliminating coal mine wastewater (brines) combined with resource recovery
9.15-9.30	M. Loizidou, D. Malamis, M. Kyriazi, G. Gzyl, A. Skalny, M. Turek, K. Mitko, B. Wawro, N. Linden, D. Diamantidou, K. Panteleakou, D. Ponomarenko, C. Xenogianni Circular Economy Approach in the coal mine sector: Innovative technologies for clean water and high purity salt from coal mine brine
9.30-9.45	K. Mitko, M. Turek Recovery of magnesium hydroxide, calcite and gypsum from coal mine water
9.45-10.00	N. Linden, D. Diamantidou Nanofiltration, electrodialysis and reverse osmosis to produce concentrated brine and fresh water from coal mine brine - Assessment on pilot-scale
10.00-10.15	M. Avramidi, M. Loizidou, D. Malamis, M. Kyriazi, C. Xenogianni Thermal-based technologies for the recovery of high-purity water and marketable salt as part of a ZLD system

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| 10.15-10.30 | K. Panteleaki
The concept of circular water value and its role in the design and implementation of circular desalination projects. The case of coal mines in Poland |
| 10.30-10.45 | C. Spyropoulou, S. Klempetsani, D. Malamis, M. Loizidou, G. Gzyl, A. Skalny
Enablers and barriers identification for the implementation of a wastewater treatment system in the coal mine sector - A multidimensional approach |
| 10.45-11.00 | C. Spyropoulou, M. Kyriazi, D. Malamis, M. Loizidou
Unveiling the Social Impact of an innovative system for coal mine wastewater management – Site specific analysis of Ziemowit mine in Poland |
| 11.00-11.15 | C. Loizou, M. Avramidi, M. Kyriazi, K. Moustakas, D. Malamis, M. Loizidou
Operational parameters on the performance of an installed ZLD system treating reclaimed water from the Wastewater Treatment Plant of Larnaca |
| 11.15-11.30 | M. Avramidi, G. Athanasoulia, M. Kyriazi, J. Novakovic, K. Moustakas, D. Malamis, M. Loizidou
Industrial Symbiosis Platforms for sustainable wastewater management: Closing the loop of nutrients, salts and water |
| 11.30-11:45 | M. Dodou, M. Loizidou, M. Kyriazi
The role of Communities of Practice in the design of brine management plants |
| 11:45-12.00 | M. Kyriazi, M. Loizidou
Replicability and transferability potentials of the ZLD systems |
| 12.00-12.15 | N.S. Vasile, C. Magrini, A. Vizzarro, I. Bassani, R. Bellini, F.C. Pirri, A. Abdel Azim
Integrated approach to brine valorisation and biomethane production using waste streams: techno-economic analysis and challenges |
| 12.15-12.30 | De Paoli Italo Luigi
Treatment and Recovery of Brine waters coming from the agro - alimentary industries |
| 12.30-12.45 | D. Zuljevic, D. Kaiser, M. Kraft, S. Pavón, A. Nickol, M. Bertau
Innovative approach to lithium extraction: Integrating COOL+ process with sustainable solid waste management |
| 12.45-13.00 | M. Kraft, R. Hofmann, M. Bertau
Materials of the future from old mines |

Friday, 21 June 2024

- 13.00-13.15 H. Bellefqih, H. Mazouz, E. Bilal
Unlocking the Potential of Phosphogypsum: Leaching of rare earth elements from phosphogypsum derived from sedimentary and magmatic phosphate ore
- 13.15-13.30 K. N. Maroulas, I. Christodouloupolous, A. D. Meretoudi, S. L. Kouvalakidou, R. I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, A. K. Tolkou, P. Efthymiopoulos, G. Z. Kyzas
Putrescine/graphene oxide and chitosan/graphene oxide derivatives for the removal of paracetamol and ketoprofen from wastewaters
- 13.30-13.45 A. D. Meretoudi, K. N. Maroulas, S. L. Kouvalakidou, R. I. Kosheleva, I. Georgiou, D. A. Gkika, A. Varoutoglou, I. Moschou, A. K. Tolkou, P. Efthymiopoulos, G. Z. Kyzas
Chitosan/graphene oxide/vanillin@TiO₂ for the removal of nonsteroidal anti-inflammatory pharmaceutical compound (Diclofenac) from wastewaters
- 13.45-14.00 M. Amicuzi, A. Capriati, R. Giorgi, S. Lamberti, F. Mangiagli, L. Valluzzi
Case study of a comprehensive analysis aimed at safeguarding and saving water resources in a large manufacturing company in the framework of the sustainable development agenda
- 14.00-14.15 M. T. Santos, M. F. Almeida, T. Trindade
Simulation of the performance of three desalination systems
- 14.15-14.30 P. Stanovský, A. Žitková, P. Izák
Flue gas purification by new nonporous membranes

ROOM 3 SESSION XIX

Recycling & Resource Recovery

Chair: S. Smith, P. Champagne, S. De Meester, I. D'Adamo, A. Žgajnar Gotvajn

- 8.45-9.00 M.A.S. Tehrani, S. De Meester
Validation of COSMO-SAC Thermodynamic model for estimation of activity coefficients for plastic additives and monomers
- 9.00-9.15 J.C. Doolaeghe, R. Denolf, S. De Meester
Modelling the dissolution kinetics of plasticised poly(vinyl chloride)
- 9.15-9.30 D. Manhaeghe, M. Van Melkebeke, R. Denolf, T. Van Laere, Lies Harinck, S. De Meester
Pyro-GC-MS as a strong analytical tool for the identification and quantification of remaining (non-) intentionally added substances in polymer waste

- 9.30-9.45 M. Legan, A. Žgajnar Gotvajn
Green mortar: PET plastic and biochar as partial natural aggregate and cement replacements
- 9.45-10.00 E. Carrieri, M. Roosen, R. Kol, I. Mertens, R. Hoogenboom, S. De Meester
Application of dissolution recycling on agricultural film for recovery of pure LDPE, EVA and TiO₂
- 10.00-10.15 S. Ügdüler, S. De Meester
Understanding the complexity of deinking plastic waste: An assessment of the efficiency of different treatments to remove ink resins from printed plastic film
- 10.15-10.30 E. J. Luna Barrios, S. De Meester, H. Sardon
Towards a better understanding of the cosolvent effect on the low-temperature glycolysis of Polyethylene Terephthalate (PET)
- 10.30-10.45 P.N. Soldatos, A.G. Margellou, A.A. Lemonidou, K.S. Triantafyllidis
Thermochemical recycling of LDPE through fast pyrolysis & catalytic upgrading towards naphtha range hydrocarbons
- 10.45-11.00 W. Zeb, P. Knockaert, J. Suk Coene, J. Hogie, U. Kresovic, K. Van Geem, S. De Meester
Distillation of heavy hydrocarbons from waste plastic pyrolysis oil using ASTM D5236 vacuum Potstill method
- 11.00-11.15 M. Van Melkebeke, T. De Somer, T. Van Laere, T. Nguyen Luu Minh, H. Mohamadzadeh Shirazi, H. Poelman, K. Van Geem, S. De Meester
Removal of Contaminants in the Dissolution Recycling of Plastic by means of Adsorption
- 11.15-11.30 R. Kol, R. Denolf, G. Bernaert, D. Manhaeghe, E. Bar-Ziv, G. W. Huber, N. Niessner, M. Verswyvel, A. Lemonidou, D. S. Achilias, S. De Meester
Towards faster polymer dissolution for dissolution recycling: a case-study for polystyrene foams
- 11.30-11.45 S. Gujar, S. De Meester
Development of an energy efficient and optimized process for extraction of PHB from Biomass using green solvents
- 11.45-12.00 G. Bonifazi, I. D'Adamo, R. Palmieri, S. Serranti
Enhancing waste material recycling from space activities
- 12.00-12.15 S. Mihalyi, F. Quartinello, G. Guebitz
Biotechnological upcycling of blended textile waste

- 12.15-12.30 J.M. Vázquez-Fernández, J.M. Abelleira-Pereira, J.J. Mascarell, A. Díaz-Cárdenas, N. Zapata-Castro, B. García-Jarana, J.R. Portela-Miguélez
Recovering whole carbon fiber cloths by catalytic hydrothermal process: fine-tuning & recycled parts fabrication
- 12.30-12.45 S. Moreno Sayavedra, L. Dockx, Ç. Akyol, I. Sigurnjak, E. Meers
Post-treatment of high-rate activated sludge effluent via zeolite adsorption and recovery of ammonium-nitrogen as alternative fertilising products
- 12.45-13.00 D. Mombelli, S. Scolari, G. Dall'Osto, C. Mapelli
Organic binders for the agglomeration of integrated cycle steel plant by-products
- 13.00-13.15 K. M. Low, X. H. Lin, S. F. Y. Li
A novel method for the removal of chelator EDTA and sequential precipitation of heavy metals from heavy metals-containing extract and wastewater
- 13.15-13.30 A. Serra-Toro, F. Barchello, S. Astals, F. Mas, J. Dosta
Long-term performance of a gas-permeable membrane for nitrogen recovery of acidogenic fermentation effluents
- 13.30-13.45 K. Gorazda, H. Kominko, K. Sawska, A.K.Nowak, Z. Wzorek
The potential of waste from wastewater treatment plants in fertilizer industry
- 13.45-14.00 P. Roccaro, F. Vagliasindi
Guidelines for volcanic ash recovery and valorization
- 14.00-14.15 E. Korotenko, M. Šyc, J. Jadrný, P. Mašín
Resource recovery in MSWI fly ash treatment: technological aspects and environmental perspective
- 14.15-14.30 A. Mandpe, S. Paliya
Optimizing Waste Management Practices: Incorporating Fly Ash in In-Vessel Composting of Agricultural and Municipal Solid Waste
- 14.30-14.45 H. Shen, V.I. Papangelakis
Bioremediation of Mining Tailings with Simultaneous Nickel and Sulfur Recovery
- 14.45-15.00 M. Kokko, T. Hu, U. Lassi, J. Pesonen
Ultrasonic-assisted NH_4VO_3 precipitation from NH_4 -based low-content vanadium solutions

ROOM 4**VIRTUAL
SESSION XX****Waste Valorisation IV, Recycling & Resource Recovery****Chair: A.-S. Nizami, S. Kumar, M. Tabatabaei, V. Kumar Tyagi, S. Varjani**

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| 8.30-8.45 | S. Wuttijan, N. Phongphanich, P. Noparat
Innovative solutions for Waste Bank Development in Surat Thani Rajabhat University |
| 8.45-9.00 | G. Andrikos, T. Baum, M. Vitoraki
Setting a Framework for Zero Waste. The Case of Neue Shule Athen |
| 9.00-9.15 | Nghia Nguyen Van, Thu-Trang T. Nguyen, Ngan-Ha Ha, Kieu Lan Phuong Nguyen, Thanh-Khiet L. Bui
Solid waste generation and characterization in Hai Chau District, Da Nang City for sustainable waste management |
| 9.15-9.30 | V. Jahagirdar, A. Kumar Mishra, A. S. Kalamdhad
Exploring the Fine Fraction from Landfill Mining: A Comprehensive Case Study of the Boragaon Dump Site in Guwahati, India |
| 9.30-9.45 | F. Economou, I. Voukkali, I. Papamichael, P. Loizia, A.A. Zorpas
Understanding Farmers' Perception of Food Loss Drivers: Agricultural Sector stakeholders' perspective |
| 9.45-10.00 | I. Orlandella, M. Cicolin, M. Tuninetti, S. Fiore
Environmental assessment of the wine sector in the territory of Langhe and Roero |
| 10.00-10.15 | P. Petropoulou
Waste and cancer - prevention - management |
| 10.15-10.30 | Y. D. Hernandez-Charpak, H. J. Kansara, T.A Trabold, J. Lodge, C. Lewis, C.A. Diaz
Quantitative methodology for poly (butylene adipate-co-terephthalate) (PBAT) microplastic detection in soil |
| 10.30-10.45 | K. Elif Maçın, O. Atilla Arıkan, A. Damgaard
Food waste management analysis in Istanbul by using a decision-making tool |
| 10.45-11.00 | S. Khamkure, P.G.M., A.R.R., A.Z.G
Evaluating the Potential of Ammonium-Natural Clinoptilolite Zeolite as a Slow-Release Fertilizer: A Study on Preparation, Characterization, and Ammonium Release Kinetics |
| 11.00-11.15 | A. Bressanelli Teixeira, C. Hoffmann Sampaio, J. Oliva Moncunill
Contaminants Removal from Construction and Demolition Waste (CDW) with Water Jigs |

- 11.15-11.30 H.M. Fogarin, S.G.C. Almeida, J. P. Souza, M.C.M. Santos, D.D.V. Silva, K.J. Dussán
Enhanced extraction of oligosaccharides from spent coffee grounds using dilute acid hydrolysis
- 11.30-11.45 N. Vidal, M. Ventura, F. Martínez, J.A. Melero
M/MgO catalysts for delignification of lignocellulosic residue to carboxylic acids
- 11.45-12.00 A. Hejna, M. Barczewski, J. Aniśko, J. Andrzejewski, M. Szostak, A. Piasecki, R. Barczewski, P. Kosmela
Novel composite materials from bulky wastes
- 12.00-12.15 G.A. Ochoa, C. Hoffmann, J. Oliva, J.L. Cortina, A.B Hernández, M. Sevilla
Characterization and valorization of tailings from the Tharsis mine, through hybrid separation techniques.
- 12.15-12.30 A. Chatzipavlidis, L. Łękańska-Andrinopoulou, K. Chatziioannou, G. Tsimiklis, A. Amditis
Unlocking Circular Innovation: Defining Integral Content for Digital Product Passports in the Wood Value Chain for Optimal Upcycling and Valorization of Wood By-products
- 12.30-12.45 M. Nogueira, M. Bernardo, F. Pinto, I. Fonseca, N. Lapa, I. Matos
Recovery of Rare Earth Elements from E-Waste using Tire Rubber-Derived Carbon Adsorbents
- 12.45-13.00 R. S. Nunes, G. T. M. Xavier, A. L. Urzedo, P. S. Fadini, M. Romeiro, W. A. Carvalho
Efficient Phosphorus capture from treated sanitary wastewater using a waste-derived $\text{SiO}_2@FeOOH$ composite: robustness, Ca_2+ interactions, and recovery perspectives
- 13.00-13.15 T. Zhang, L. Asaro, M. Grat, N.A. Hocine
Devulcanization of natural rubber industry waste in supercritical CO_2 : an original experimental development
- 13.15-13.30 A. Lamarca Urzedo, G. Tuono Martins Xavier, R. da Silva Nunes, L. dos Santos Andrade, P. Sérgio Fadini, W. Alves Carvalho
Application of TechPhos® in wastewater treatment for phosphorus removal: a study on toxicity and potential phosphorus release from generated sewage sludge
- 13.30-13.45 K. Syrmakizis, K. Tsakalakis, E. Mylona, I. Sammas
Assessment of Column Flotation Process in the treatment of End- of -Life Printed Circuit Boards fine fractions
- 13.45-14.00 J. Castro, M. Gómez, P.J. Acebes, P. Moretti, M.R. Bermejo, M. Merlo, Y. Belce, J.J. Biendicho
Direct Recycling of End-of-Life Lithium-Ion Batteries Cathode Active Materials by Hydrothermal Route

- 14.00-14.15 J. Darmey, S. Rathilal, E.K. Tetteh, J. C. Ahiekpor, K. E. Tabbicca
Response surface methodology and particle swarm algorithm optimization of donnan analysis for alum recovery
- 14.15-14.30 A. Ahmad, M. Hassan Javed, A.-S. Nizami
Sustainability Assessment of Biodiesel and Bioproducts from Organic Waste Using Transesterification and Liquefaction
- 14.30-14.40 Ting-Ting Li, Xiao-Zhou Zou, Bing-Bing Luo, Lu-Chan Gong, Jun Wang
High efficiency biosynthesis of gamma-aminobutyric acid by a novel GABA- producing strain, *Enterococcus avium*
- 14.40-14.50 Zhan-Peng Zhang, Jia-Le Tian, Jia-Ying Liu, R. A. Herman, Lu-Chan Gong, Jun Wang
Immobilized urease applied in silkworm artificial feeding improves silk production
- 14.50-15.00 Xin-Chen Li, Yu-Lu Yang, Chao Deng, Cheng-Hai Yan, Le-Yun Yang, Lu-Chan Gong, Jun Wang
Efficient preparation of silkworm pupae protein active peptide by protease displayed on the surface of *Bacillus subtilis*

ROOM 1**SESSION XXI****Energy from waste****Chair: S. Vakalis, V.M. Zanta, J. Labidi, L.M. Queiroz, L. Menin**

- 15.00-15.15 T. Kirer, R. Sari
Assessing social acceptance of energy production from food waste in municipal solid waste management
- 15.15-15.30 L. Menin, A. Paolillo, S. Piazzi, D. Antolini, F. Ravazzolo, M. Baratieri
Biomass combined heat and power for renewable power provision in mountain environments: techno-economic assessment of cost factors and competitiveness under different renewable energy market conditions
- 15.30-15.45 L. Melas, S. Skoutida, A. Malamakis, C. Karkanias, D. Geroliolios, M. Batsioula, G.F. Banias
Environmental sustainability assessment of Biomass Feedstock Assessment for Biogas Production in a Regional Context

- 15.45-16.00 F. Briatore, M. Braggio
Transformation of Undifferentiated Urban Solid Waste (USW) into Secondary Solid Fuel (SSF) for Environmental Sustainability
- 16.00-16.15 N. Morfopoulos, M. C. Samolada
Effect of waste derived fuels (SRF/RDF) composition on the cement industry environmental footprint
- 16.15-16.30 B.J.A. Sousa, F.S. Novaes, L.M. Queiroz, V.M. Zanta
Production and co-processing of Refused Derived Fuel (RDF) in the Brazilian Portland cement industry: technical, economic and environmental aspects
- 16.30-16.45 D. Urbancl, D. Goricanec, M. Simonic
The adsorption properties of torrefied waste materials
- 16.45-17.00 Xueli Chen, Zichao Hu
Investigation of pyrolysis characteristics and gasification activity of municipal solid waste briquettes: A comparative study
- 17.00-17.15 A. Valsami, V. Karamplia, E.M. Barampouti, S. Mai, M. Loizidou
Utilizing Cotton Pulp from Baby Diapers for Bioethanol Production
- 17.15-17.30 R. Hrichi, M. Seffen, A. Kesraoui
Elaboration of hybrid materials Posidonia Oceanica-Zinc using precipitation and alternating current for wastewater purification
- 17.30-17.45 S. Bouzaabia, R. Touati, A. Kesraoui
Functionalizing pure *Luffa cylindrica* with quaternary ammonium salts and examining the biosorption of industrial dyes
- 17.45-18.00 G. Lisak, A.W.K. Law, W.P. Chan, L.Y. Ge, A. Veksha, W.Q. Chen, X. Yang, S.C. Wong, Z. Tsakadze, C.W. Low, R. Aryal, C.J.L. Foo, K. Zhao, C.W. Mao, J.L. Guo, G. Soon, H.L. Trinh, R. Silva, H.M. Ong,
Thermo-Disintegration Waste to Resource (TDWR) system as a decentralised, flexible, and value-adding waste management strategy for a zero waste sustainable city
- 18.00-18.15 A. M. Tusset, G. Gonçalves, R. A. da Rosa, D. I. Andrade, M. E. K. Fuziki
Temperature control of a bioreactor subject to external temperature oscillations
- 18.15-18.30 R.P. Ipiates, M.A. de la Rubia, E. Díaz, A.F. Mohedano
Improving hydrochar properties from hydrothermal carbonization of swine manure by recirculation of process water

Friday, 21 June 2024

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| 18.30-18.45 | F. Baraka, X. Erdocia, F. Hernández Ramos, I. Dávila-Rodríguez, J. Labidi
Sustainable extraction of cellulose nanofibers using deep eutectic solvent |
| 18.45-19.00 | N. Striūgas, R. Skvorčinskienė, A. Tamošiūnas
Sustainable glass production with hybrid plasma-assisted combustion technology |
| 19.00-19.15 | G. Prajapati, S. Kumar
Oxy-steam gasification of biomass for hydrogen-rich syngas production |
| 19.15-19.30 | Anuradha A, M. Kumar Sampath
Synergistic Co-culture of Bacillus subtilis and Clostridium sporogenes for Enhanced Biobutanol Production: A Sustainable Approach to Biofuel Synthesis |
| 19.30-20.00 | Closing Session with the active participation of chair persons – Poster award ceremony –
Announcement of the place for the 2025 12 th International Conference on
Sustainable Solid Waste Management |

ROOM 2**SESSION XXII****Waste Valorisation V****Chair: K. Lasaridi, G. Banias, E. Barampouti, D. Ladakis**

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| 15.00-15.15 | E. Sigala, K. Abeliotis, C. Chroni, S. Fortatos, K.E. Lasaridi
Assessing Food Waste generation and prevention in passenger ships in the Aegean sea |
| 15.15-15.30 | M. Fiore, F. Demichelis, T. Tommasi, M. Pugliese, D. Fino
Preliminary results on food waste valorization into soil organic amendments and their agronomic effects |
| 15.30-15.45 | M. Samoraj, D. Skrzypczak, M. Mironiuk, K. Chojnacka
Innovative complex and ecological fertilizers based on waste biomass |
| 15.45-16.00 | D. Skrzypczak, K. Trzaska, F. Gil, K. Chojnacka
Field demonstration of fertilizers derived from anaerobic digestates: applicative properties on plants |
| 16.00-16.15 | G. Izydorczyk, D. Skrzypczak, K. Trzaska, M. Mironiuk, K. Chojnacka
Impact of feeding animals with corn grain from anaerobic digestate-based fertilizer trials on egg, milk, and cheese quality |
| 16.15-16.30 | C. Papageorgiou, A. Kyriazis, A. Zentelis, V. Ioannidis, V. Sygouni, A. Lianou, C.A. Paraskeva, G. Aggelis
Isolation of phenolic substances from pomegranate residues |
| 16.30-16.45 | N. Lyczko
Bio-based sustainable nanocomposite for pollutants removal |
| 16.45-17.00 | T. Nguyen Luu Minh, D. Manhaeghe, G. Bernaert, J. Hogie, M. Clarembeau, K. M. Van Geem, S. De Meester
Competitive and cooperative adsorption of heteroatom components from pyrolysis oil |
| 17.00-17.15 | R.P. Ipiates, M.A. de la Rubia, E. Díaz-Portuondo, E. Díaz, A.F. Mohedano
Valorization of swine manure by hydrothermal carbonization |
| 17.15-17.30 | M.J. Lozano-Polo, J.G. Salcedo-Mendoza, D. Otero-Meza, J.C. Solarte-Toro, C.A. Cardona-Alzate
Residual biomass and bio-oil generation potential based on prediction models: the case of 'The pyrolysis of cassava waste in Colombia' |
| 17.30-17.45 | E. Koutsaftis, P. F. Chatzimaliakas, E.M. Barampouti, S. Mai, D. Malamis
Pretreatment methods for the production of fermentable sugars from algal dried biomass |

- 17.45-18.00 Y. Gökçe, H. Duman, A.E. Kök, S. Yaglikci, E. Yagmur
Evaluation of EVA foam wastes from solar panel manufacturing processes in energy
- 18.00-18.15 J. C. Solarte-Toro, J. Salcedo Mendoza, C. A. Cardona Alzate
Assessing biomass gasification as a pillar for decentralized energy generation and potential soil quality enhancement
- 18.15-18.30 Y. Yaque, L. Quintana, P. Álvarez, U. Sierra, Z. González, M. Granda, B. Ruiz, A. Mercado, R. Menéndez
On the sustainable synthesis of graphene-like materials from wastes for electrochemical sensing
- 18.30-18.45 M. Portilla-Sangabriel, R.-M. Ramírez-Zamora
Copper slag as a source of iron for the synthesis of a magnetically recoverable catalyst used to degrade organic pollutants in water
- 18.45-19.00 K. Valencia García, R. M. Ramírez Zamora
Copper metallurgical slag as a sustainable precursor of iron oxide photocatalysts to remove indigo carmine dye from water using the Photo-Fenton process
- 19.00-19.15 N. Waris, M. Coletta, M. Monticelli, G. Caprioli, M. Cespi, E. Vittadini, A. La Terza
Valorization of *Nannochloropsis* spp. biomass residues grown on brewery wastewater as a fertilizer and its phytotoxicity assessment on plants
- 19.15-19.30 J. Menkeliūnienė, R. Jonynas
Research on improving the technological parameters of industrial heat tube boilers by intensifying heat transfer by radiation

ROOM 3
SESSION XXIII
Waste from electrical & electronic equipment, Hazardous Waste
Chair: G. Mancini, A. Luciano, N. Frison, S. De Gisi

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| 15.00-15.15 | J. Snyman, J. Snyman, C. Stander
Circular Economy Model for e-waste in South Africa |
| 15.15-15.30 | A. Fiorente, G. D'Agostino, F. Todaro, S. De Gisi, M. Notarnicola
Innovative techniques for plastics recovery from WEEE |
| 15.30-15.45 | L. Nastasi, S. Fiore
Remanufacturing of electronic control units for off-road vehicles: process analysis and sustainability assessment |
| 15.45-16.00 | H. Muñiz Sierra, M. Šyc, A. Šperlich, J. McCulloch
Selective recovery of plastics from WEEE treatment residue using LARCODEMS Dense Media Separator |
| 16.00-16.15 | M. Šyc, H. Muniz, E. Korotenko, V. Gruber, A. Šperlich
Possibilities for the concentration of silver in the recycling of photovoltaic panels |
| 16.15-16.30 | S. Khan, H. Khan, I. Janajreh
Co-gasification of E-waste with Sewage Sludge for Hydrogen Production |
| 16.30-16.45 | Zhiqin Ni, Hing Kai Chai, Yang Cheng, Zhen Tan
Using a hierarchical optimisation model for WEEE recovery under independent producer responsibility: evidence from multiple functional copier recovery operation |
| 16.45-17.00 | L. Lalropuia, K. Meriläinen, K. Kremser, G.M. Guebitz
Bio-extraction of critical raw materials (CRMs) from spent lithium-ion batteries |
| 17.00-17.15 | P. Guedes, N. Couto, E. P. Mateus, A. N. Alshwabkeh, S. Pamukcu, A. B. Ribeiro
Electrochemically based processes for critical raw materials recovery: the case of Co and REEs |
| 17.15-17.30 | M. Bruno, A. Zanoletti, E. Bontempi, S. Fiore
Hydrometallurgical recycling of cobalt, manganese and nickel from lithium-ion batteries black mass through ascorbic acid leaching and chemical precipitation |

- 17.30-17.45 H. I. Gomes, L. Vitale, V. Funari
Recovering Platinum group elements from spent car catalysts by combining bioleaching and electro dialysis
- 17.45-18.00 J. Alijagić, R. Šajn
Mine waste and mineral potential of REE in the West Balkan countries
- 18.00-18.15 G. Bonifazi, G. Capobianco, R. Gasbarrone, I. Lonigro, S. Malinconico, S. Bellagamba, S. Serranti
Short-Wave InfraRed Spectroscopy techniques for in-situ discrimination of hazardous mineral fibers in natural and anthropic matrices
- 18.15-18.30 S. Ozgen, A. Marquez, M. Leon, G. Barba Orsato, F. Ruiz
Data-driven approaches for flue gas treatment enhancement in waste to energy plants: modelling hydrochloric acid abatement
- 18.30-18.45 Yi Fu Chen, Minh Man Trinh, Pao-Chen, Hung, Moo Been Chang
Catalytic Pyrolysis for Reducing Dioxin Content in Fly Ash Generated from Municipal Waste Incinerators
- 18.45-19.00 B. Ratz, K. P. Sedlazeck, S. Raič, F. R. Steindl, O. Rudic, C. Grengg
Characterization of mineral waste as potential precursors for alkali-activated materials
- 19.00-19.15 Mandeep Singh, Muntjeer Ali, V. Kumar Tyagi, A. Ahmad Kazmi
Characterization of legacy waste, screened fractions and performance efficiency of screening machines at three landfill mining sites
- 19.15-19.30 S. Paliya, A. Mandpe, S. Kumar
Environmental Assessment of Polybrominated Diphenyl Ethers (PBDEs) Contamination in Indian Municipal Waste Sites and Potential Remediation Using Indigenously Isolated Bacteria

ROOM 4**VIRTUAL
SESSION XXIV****Energy from Waste II & Anaerobic Digestion, WEEE****Chair: D. Juchelková, F. Battista, G. Labuto, T.Y. Wu, C.T. Lee**

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| 15.00-15.15 | K. Kalkanis, A. Bourtsalas, N.J. Themelis, C.S. Psomopoulos
Waste-to-Energy global status. Technologies and perspectives in times of transition and climate crisis |
| 15.15-15.25 | T. Qureshi, M. Farooq, A. Nizami, U. Ali, M.H. Siddiqi
Enhancing Sustainability: Structural Evaluation of Biomass Cellulosic Matrix for Optimized Conversion |
| 15.25-15.35 | M. Farooq, T. Qureshi, A. S. Nizami, A. Pettaniu, U. Ali, M.H. Siddiqi, J. M. Andersen
Analysing Acidified Biomass Cracking through Thermal Degradation for Sustainable Development |
| 15.35-15.45 | Xiao-Meng Xun, Zi-Xuan Yuan, Yang Liu, Yan Xu, Le-YunYang, Jun Wang
Immobilized enzymatic preparation of antioxidant peptides from silk fibroin protein and development of edible products |
| 15.45-16.00 | M.A.M. Costa, G. Albin, A.J.D. Souza, E.A. Oliveira, L.F. Oliveira, A. Sarti, K.J. Dussan
Waste for energy production: monitoring and controlling pollutant emissions for sustainable economy |
| 16.00-16.15 | J. Gracia, I. Cabeza
Assessing the potential for industrial-scale production of polyhydroxybutyrate -PHB - using mixed cultures from renewable sources through simulation |
| 16.15-16.30 | Yi-Bo Sun, Min Lin, Wei Qiao
Process Stability and Organic Matter Conversion Performance of a Semi-dry Anaerobic Digestion of Pig Manure |
| 16.30-16.45 | R. Amiri, V. Benedetti, M. Baratieri
Integration of anaerobic digestion with hydrothermal carbonization and gasification for the valorization of organic waste |
| 16.45-17.00 | A. Shabruhi Mishamandani, F. Asfand, G. Javanbakht, J. Allport, G. Campbell
Techno-economic analysis and optimization of the integrated system of anaerobic digestion and pyrolysis |

- 17.00-17.15 A. Malamakis, D. Geroliolios, L. Melas, C. Karkanias, G. Baniias
The environmental impact of increased traceability in the value chain of beef within the area of Central Macedonia
- 17.15-17.30 O. Zboon, J. Martín-Pascual, M. Zamorano-Toro, L.M. Ruiz-Hernández
Bibliometric analysis of the use of black soldier fly larvae (BSFL) for organic waste treatment
- 17.30-17.45 Ankur Rajpal, V. Kumar Tyagi, P. Kumar Mutiyar, A. Ahmad Kazmi
Evaluation of sewage sludge quality and sludge treatment technologies for the reutilization potential in India
- 17.45-18.00 A. Eljoudiani, C. Hoffmann Sampaio, J. Oliva Moncunill
Systematic characterization of a mining waste of a Greek ore deposit, for critical metals recovery
- 18.00-18.15 H. Raclavská, J. Růžičková, M. Kucbel, M. Šafář, D. Juchelková, B. Švédová, K. Slamová
Quality of fibres obtained from waste paper from the perspective of the circular economy
- 18.15-18.30 M. Pourmohammad, J. Oliva, H. Anticoi, P. Alfonso, C. Hoffmann, C. Valderrama
Physical beneficiation approach of Graphite, Lithium and other metals from Electrical and Electronic Equipment Waste (WEEE) by Mineral processing techniques
- 18.30-18.45 M. S. Ahossouhe, H. A. Andrianisa, D. D. Damba, K. Dongo, S. Narra
The WEEE Value Chain in Low-Income Countries in West Africa: State of the Art and Future Perspectives
- 18.45-19.00 H. Raclavská, J. Růžičková, M. Kucbel, D. Juchelková, B. Švédová, K. Slamová
Identification of the extent of traffic pollution near the main transport corridor TEN-T route Ústí nad Labem – Mělník – Zdiby, Czech Republic
- 19.00-19.15 Cheng-Hai Yan, Yu-Fan Zhan, Xiao-Meng Xun, Lu-Chan Gong, Shuai You, Jun Wang
Roles of CsgD in transcription regulation of the stress responses in the Escherichia coli
- 19.15-19.30 H. A. Andrianisa, S. K. Sossou, M. Zorom, L. Nare, S. M. Ahossouhe, A. Sanou
An alternative classification approach for waste electronic and electrical equipment (WEEE) valorization in low-income countries: case study in Burkina Faso



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Contact

**National Technical University of Athens
School of Chemical Engineering
Unit of Environmental Science & Technology**

9, Heroon Polytechniou Street
157 73 Zographou Campus, Athens, Greece
Website: www.uest.gr

Prof. Maria Loizidou
email: mloiz@chemeng.ntua.gr

Dr. Konstantinos Moustakas
email: konmoust@central.ntua.gr



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