



National  
Technical  
University  
of Athens



GLOBAL  
WwERT  
COUNCIL



WORLD BIOGAS  
ASSOCIATION

# THESSALONIKI2021

[www.thessaloniki2021.uest.gr](http://www.thessaloniki2021.uest.gr)

## 8<sup>th</sup> International Conference on Sustainable Solid Waste Management

23-25 JUNE 2021

# Welcome

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On behalf of the Scientific and Organising Committee, I am pleased to welcome you to the **VIRTUAL THESSALONIKI 2021 8<sup>th</sup> International Conference on Sustainable Solid Waste Management**.

As in the cases of the previous international conferences, the **THESSALONIKI 8<sup>th</sup> International Conference** aims to make a step forward in the field of solid 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. This year we have almost 600 participants from 80 countries and 11 collaborating journals.

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. It is wonderful to announce that more than 200 papers have been published from the last HERAKLION2019 7<sup>th</sup> International Conference on Sustainable Solid Waste Management (e.g. 25 papers in RENEWABLE & SUSTAINABLE ENERGY REVIEWS, 45 papers in SCIENCE OF THE TOTAL ENVIRONMENT, 30 papers in WASTE & BIOMASS VALORIZATION, 47 papers in ENVIRONMENTAL SCIENCE & POLLUTION CONTROL, 42 papers in BIOMASS CONVERSION & BIOREFINERY, 16 papers in DESALINATION & WATER TREATMENT).

Quality is always our first and main criterion and that is why we are also establishing collaboration with new journals, e.g. this year we have for the first time:

**BIORESOURCE TECHNOLOGY (ELSEVIER, Impact Factor: 7.539)**. Prof. Ashok Pandey, the Editor-in-Chief is one of our keynote speakers this year.

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 introduction for the third time of the summer school prior to the conference. We had more than 50 participants this year and our aim is also to continue it and keep it in all our future conferences giving emphasis to different research fields every year.

The **THESSALONIKI 2021 Conference** aims to stimulate the interest of scientific community, competent authorities of public and private sector and inform them about the latest developments and achievements in the field of solid waste management with special emphasis on municipal solid waste. Waste prevention, separation at source & recycling, biological Treatment (composting & anaerobic digestion), the treatment at central facilities constitute priority subjects of the conference agenda.

Attention is drawn to bioprocesses, biorefineries in waste management and of course Waste to Energy (WTE) with the contribution of the Waste-to-Energy Research and Technology Council, a co-organiser of this conference, and the active involvement of Prof. Nickolas Themelis, Chair of Global WtERT Council (GWC) and Prof. Marco Castaldi, Chair of WtERT-U.S.A. I would also like to

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thank World Biogas Association and its President David Newman for his active support and the collaboration for the organization of this conference event.

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).

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 all areas of solid 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.

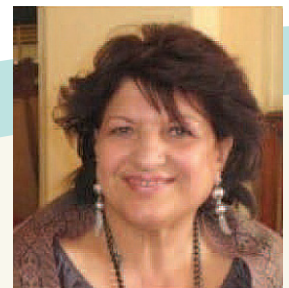
The Conference agenda is rich and dense, offering a considerable variety of topics presented through more than 400 presentations within the twenty-seven different oral sessions and an extensive poster session with about 200 posters throughout the conference duration.

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 every year.

Also, I would like to thank the sponsors for the support to the conference.

We hope you will find the **THESSALONIKI 2021 Conference** useful and up to your expectations. Although it is a bit strange for us that the conference is taking place virtually, we are confident that we will meet in person in the next conference in a beautiful Greek Island in June 2022.

Maria Loizidou, Professor NTUA  
*Chair of the Scientific Committee*



# Committees

## Scientific Committee

### **Maria Loizidou, National Technical University of Athens, Chair**

AAbdul-Sattar Nizami, King Abdulaziz University  
Adam Smoliński, Central Mining Institute  
Adela Galvin, University of Cordoba  
Agapios Agapiou, University of Cyprus  
Ahmed El-Gendy, American University in Cairo  
Aleksandra Djukic-Vukovic, University of Belgrade  
Alexandra Ribeiro, Universidade Nova de Lisboa  
Amane Jada, IS2M-CNRS  
Anastasia Zabaniotou, Aristotle University of Thessaloniki  
Anastasios Zouboulis, Aristotle University of Thessaloniki  
Andrea Capodaglio, University of Pavia  
Ange Nzihou, Ecole des Mines d'Albi  
Antonis Mavropoulos, International Solid Waste Association  
Antonis Zorpas, Open University of Cyprus  
Apostolos Koutinas, Agricultural University of Athens  
Apostolos Vlyssides, National Technical University of Athens  
Barbara Ruffino, Politecnico di Torino  
Carlos Ariel Cardona Alzate, Universidad Nacional de Colombia sede Manizales  
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Celia Dias-Ferreira, Universidade Aberta & CERNAS  
Chew-Tin Lee, University Technology of Malaysia  
Chi-Hwa Wang, National University of Singapore  
Christopher Cheeseman, Imperial College  
Claudio Dilaconi, Consiglio Nazionale delle Ricerche (CNR)  
Costas Costa, Cyprus University of Technology  
Costas Velis, University of Leeds  
Daniel Tsang, The Hong Kong Polytechnic University  
David Bolzonella, University of Verona  
David Newman, World Biogas Association  
Dimitrios Kaliampakos, National Technical University of Athens  
Dimitrios Komilis, Democritus University of Thrace  
Dimitrios Malamis, National Technical University of Athens  
Dimosthenis Sarigiannis, Aristotle University of Thessaloniki  
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  
Francisco Agrela, University of Cordoba  
Francisco Omil, Universidad de Santiago de Compostela  
Florian Amlinger, European Compost Network  
Georgia Labuto, Universidade Federal de Sao Paulo  
Gerasimos Lyberatos, National Technical University of Athens  
Giuseppe Mancini, University of Catania  
Gregorio Antolín, University of Valladolid  
Heribert Insam, University of Innsbruck  
H.J.H. (Jos) Brouwer, Eindhoven University of Technology  
Ioannis Skiadas, Technical University of Denmark  
Irina Angelidaki, Technical University of Denmark  
Isam Janajreh, Khalifa University of Science and Technology  
Jader Busato, Universidade de Brasilia  
Jae-Chun Lee, Korea Institute of Geoscience and Mineral Resources (KIGAM)  
Jale Yanik, Ege University  
Jian Li Hao, Xi'an Jiaotong-Liverpool University  
Joan Dosta, University of Barcelona  
Jonathan Woon Chung WONG, Hong Kong Baptist University  
Joseph Patrick Hettiaratchi, University of Calgary  
Juan Antonio Baeza Labat, Universitat Autònoma de Barcelona  
Jun Wang, Jiangsu University of Science and Technology  
Justo García-Navarro, Universidad Politécnica de Madrid  
Katarzyna Chojnacka, Wrocław University of Technology  
Katherine-Joanne Haralambous, National Technical University of Athens  
Katia Lasaridi, Harokopio University  
Konstantinos Aravosis, National Technical University of Athens  
Konstantinos Moustakas, National Technical University of Athens  
Laurent Lemee, Université de Poitiers  
Lidia Lombardi, Università degli Studi Niccolò Cusano - Telematica Roma  
Lionel Limousy, Université de Haute-Alsace  
Luben Tzankov, Technical University of Sofia  
Luciano Matos Queiroz, University of Bahia  
Majid Sartaj, University of Ottawa  
Marc Deshusses, Duke University  
Marco Baratieri, Free University of Bolzano  
Maria Teresa L. Santos, Instituto Superior de Engenharia de Lisboa  
Maria Zachariou-Dodou, Institute of Environment & Sustainable Development  
Mauro Majone, Sapienza University of Rome  
Mejdi Jeguirim, Université de Haute-Alsace  
Michalis Kornaros, University of Patras  
Mohammad Rehan, King Abdulaziz University  
Nathalie Gontard, French National Institute for Agricultural Research  
Nick Voulvoulis, Imperial College  
Nickolas Themelis, Columbia University

# Committees

Nikolaos Mousiopoulos, Aristotle University of Thessaloniki  
Nikolaos Tzortzakis, Cyprus University of Technology  
Omar Assobhei, University of Fez  
Panagiotis Kougias, Hellenic Agricultural Organisation- DEMETER  
Pascale Champagne, Queen's University  
Paul Chen, National University of Singapore  
Paul Christakopoulos, Lulea University of Technology  
Petros Gikas, Technical University of Crete  
Rafael Luque, University of Cordoba  
Rémy Bayard, DEEP - INSA Lyon - Université de Lyon  
Ronghou Liu, Shanghai Jiao Tong University  
Rui Cunha Marques, University of Lisbon  
Siegfried Vlaeminck, University of Antwerp  
Simos Malamis, National Technical University of Athens  
Simona Bennici, Institut de Science des Matériaux de Mulhouse – IS2M  
Spyros Pavlostathis, Georgia Tech  
Stephen Smith, Imperial College  
Stergios Vakalis, University of the Aegean  
Stijn Van Hulle, Ghent University  
Sunil Kumar, CSIR-NEERI  
Su Shiung Lam, Universiti Malaysia Terengganu  
Ta Yeong Wu, Monash University  
Thierry Ribeiro, UniLaSalle  
Thomas Pretz, RWTH Aachen University  
Thrassyvoulos Manios, Technological Educational Institute of Crete  
Ulku Yetis, Middle East Technical University  
Vassilis Inglezakis, Nazarbayev University  
Zorana Naunovic, University of Belgrade

## Organizing Committee

**Konstantinos Moustakas, National Technical University of Athens, Head**

Anastasios Zouboulis, Aristotle University of Thessaloniki  
Andreas Christofi, National Technical University of Athens  
Dimitrios Malamis, National Technical University of Athens  
Elli-Maria Barampouti, National Technical University of Athens  
Konstantinos Passadis, National Technical University of Athens  
Maria Kyriazi, National Technical University of Athens  
Nikoleta Kontogianni, National Technical University of Athens  
Sophia Mai, National Technical University of Athens  
Stergios Vakalis, University of the Aegean  
Thalia Valkouma, Egnatia Odos SA



# Publishing in Journals

The high quality THESSALONIKI 2021 papers will be published after evaluation in:



a Special Issue of  
**BIRESOURCE TECHNOLOGY**  
(ELSEVIER, Impact Factor: 7.539)



a Special Issue of  
**CHEMOSPHERE**  
(ELSEVIER, Impact Factor: 5.778)



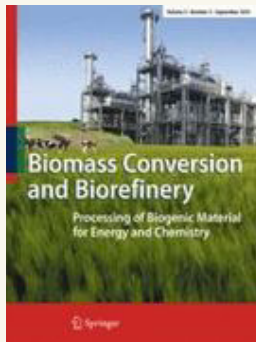
a Special Issue of  
**WASTE AND BIOMASS  
VALORIZATION** (SPRINGER,  
Impact Factor: 2.851)



a Special Issue of  
**ENVIRONMENTAL SCIENCE and  
POLLUTION RESEARCH**  
(Springer, Impact Factor: 3.056)



a Special Issue of  
**SUSTAINABLE CHEMISTRY &  
PHARMACY** (Elsevier, Impact  
Factor: 2.404)



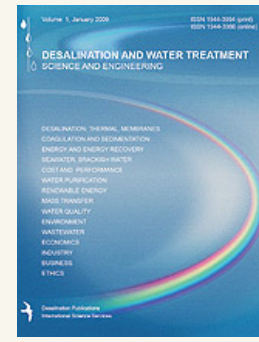
a Special Issue of  
**BIOMASS CONVERSION AND  
BIOREFINERY**  
(Springer, Impact Factor: 2.602)



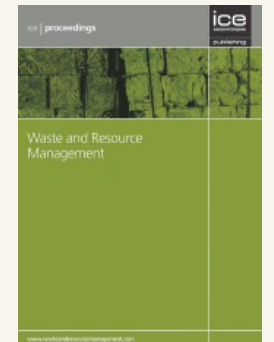
a Special Issue of  
**WASTE MANAGEMENT &  
RESEARCH** (SAGE, Impact  
Factor: 2.771)



a Special Issue of  
**BIOFUEL RESEARCH JOURNAL**



a Special Issue of  
**DESALINATION & WATER  
TREATMENT**  
(Impact Factor: 1.320)



a Special Issue of  
**WASTE AND RESOURCE  
MANAGEMENT** of the Institute  
of Civil Engineers

# Summer School



## 3<sup>rd</sup> Virtual PhD Summer School and Executive Training on Solid Waste Management, 21 & 22 June 2021

The summer school will include 16 teaching hours in total on 21<sup>st</sup> & 22<sup>nd</sup> of June 2021.

On June 23<sup>rd</sup>, 2021, the participants will attend the Virtual Poster Session of the "**Virtual THESSALONIKI 2021 8<sup>th</sup> International Conference on Sustainable Solid Waste Management**" and a final session roundtable with the main topic being the "**State-of-the-art and future directions of Sustainable Solid Waste treatment: the pathway to Circular Economy**". Individual final assignments will be assigned to the participants and the grading of the course will be done on a Pass/Fail basis. All the attendees will be given a certificate of attendance.

PhD and Executive Training Summer School final assignment -until July 20<sup>th</sup>, 2021: 10 hours

The certificate of attendance will be given immediately after the completion of the 3<sup>rd</sup> PhD and Executive Training Summer School on Solid Waste Management. The final assignment should be implemented by 20<sup>th</sup> of July, 2021 and the results will be communicated individually to every attendee by July 31<sup>st</sup>, 2021.

All times are in Central European Summer Time (CEST)

Wednesday, 23 June 2021

8.00-9.15

Registration

**ROOM 1**

**Welcome Speeches**

9.15-9.45

**Welcome Speeches**

9.45-11.30

**Keynote Speakers**

**Chair: M. Loizidou, G. Kremlis**

Stephen Smith, Imperial College London

"The significance of chemical use and transfer to recycling and recovery systems"

Ashok Pandey, Centre for Innovation and Translational Research, CSIR-Indian Institute of Toxicology Research, Lucknow, India

"Solid waste management: Do biorefineries offer sustainability for crop wastes management?"

Daniel Tsang, Hong Kong Polytechnic University

"Sustainable biorefinery of urban food waste"

Meisam Tabatabaei, Universiti Malaysia Terengganu (UMT)

"The 2020 report of The Lancet Countdown on health and climate change: responding to converging crises"

Patricia Osseweijer, Delft University of Technology

"How to create value for society in designing sustainable waste solutions"

Spyros Pavlostathis, Georgia Institute of Technology, Atlanta

"Advances in Anaerobic Biotechnology, a Core Technology for the Production of Carbon-Neutral, Sustainable and Renewable Biofuels and Bioenergy from Waste"

11.30-11.45



Coffee Break

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

11.45-12.00	R. Marini, Dep. Director of Prevention, Research & Communication (acting Managing Director) Alternative Waste Management in Greece & the role of Hellenic Recycling Agency
12.00-12.15	M. Geranis, President Fodsa of Central Macedonia, President of the Municipality of Pylaia Chortiatis Integrated waste management in Central Macedonia
12.15-12.30	I. Segkos, President of Voreia Pediada FODSA & Mayor of Hersonisos Waste management in Voreia Pediada (Crete)
12.30-12.45	D. Malamis, E.M. Barampouti, S. Mai, M. Loizidou Valorisation of waste biomass under the concept of a biorefinery (LIFE CIRCforBIO)
12.45-13.00	C. Gkanetsou, S. Sarris, D. Malamis, M. Loizidou Recycling in remote areas using Green Kiosks – The case of Small Cyclades, Naxos (LIFE PAVetheWAYSTE)
13.00-13.15	E. Tritopoulou Nothing to Waste: A Green Venture Business Model supporting local communities to Circular Economy pathways
13.15-13.30	M.A. Kavrakos Methodology of solid waste producers' identification in the context of the circular economy
13.30-13.45	A. Mavraganis, Vrilissia Vice Mayor, Member of the Administrative Board of the Central Union of Municipalities of Greece Local community and circular economy: The role of Municipalities
13.45-14.00	M. Vitoraki, A. Skordilis Circular Economy and the Tourism Sector in the EU and Greece
14.00-14.15	D. Fytili, A. Zabaniotou Waste to Energy in Circular Economy: Social Acceptance and Perceptions
14.15-14.30	K. Poullos, M. Tsakona, A.M. Kaplani Creative reuse center of Central Macedonia, Greece
14.30-14.45	G. Iliopoulos, A. Bourka, D. Bourkas, N. Chalkias, O. Bourka Circular Economy (CE) Eco Parks: An integrated approach
14.15-15.00	Lunch Break

## ROOM 2

## SESSION II

**Circular Economy & Symbiosis Networks****Chair: G. Mancini, E.M. Barampouti**

- |             |  |
|-------------|--|
| 11.45-12.00 | B. Iñarra, D. San Martin, M. Orive, S. Ramos, A. Estévez, R. Fenollosa, J.M. Martinez, A.M. De Smet, J. Zufia<br>Ecodesign of new circular economy scheme for Brewer's side streams  |
| 12.00-12.15 | R.P. Ipiates, E. Diaz, A.F. Mohedano, M.A. de la Rubia<br>Energy recovery from urban pruning waste by hydrothermal carbonization and anaerobic digestion:<br>A circular economy concept  |
| 12.15-12.30 | T. Klammersteiner, A. Walter, C.D. Heussler, M. Gassner, H. Insam<br>A citizen science-based approach to promote circular economy in the context of a fast-growing<br>insect industry  |
| 12.30-12.45 | G. Mancini, L. Lombardi A. Luciano, D. Bolzonella, D. Fino<br>Energy, CO <sub>2</sub> emissions and costs saving through the industrial symbiosis of the waste and wastewater<br>treatment in a large metropolitan area                      |
| 12.45-13.00 | M. Montorsi, S. Barbi<br>From food processing leftovers to bioplastic: a Design of Experiments approach in a circular<br>economy perspective   |
| 13.00-13.15 | C.G. Samanides, I. Vyrides<br>CO <sub>2</sub> utilization in a system of solid metal waste and anaerobic granular sludge for acetic acid production<br>based in a circular economy concept   |
| 13.15-13.30 | A. Piemonti, L. Cominoli, A. Conforti, A. Luciano, G. Plizzari, S. Sorlini<br>Evaluations through Mass Flow Analysis of the production and management of steel slags in the<br>province of Brescia (Italy)                                   |
| 13.30-13.45 | J. Urquizo, D. Narváez, L. Triviño<br>Eco-parks: A proposal for the collection, reuse, recycling and disposal of waste in emerging<br>cities, using a circular economy framework   |
| 13.45-14.00 | M. Bernardo, D. Dores, N. Lapa, F. Pinto, I. Matos, M. Ventura, I. Fonseca<br>Valorisation of spent tire rubber as carbon adsorbents for Pb <sup>2+</sup> and WO <sub>4</sub> <sup>2-</sup> recovery in the<br>framework of circular economy |

## ROOM 3

## SESSION III

**Marine Litter, Plastics & Bioplastics**  
**Chair: C. Velis, M. Tsakona, F. Battista**

11.45-12.00	K. Maragkogiannis , V. Liogkas , A. Gryllia, A. Bourka, M. Politi, G. Iliopoulos National Action Plan for Single Use Plastics (SUP)
12.00-12.15	M. Tsakona, I. Rucevska, L. Westerveld, P. Rivière Plastic Waste Trade & Recycling in Crisis
12.15-12.30	A. Kumi-Larbi Jnr, R. Galpin, S. Manjula, Z. Lenkiewicz, C. Cheeseman Recycling plastics in developing countries: Properties of novel polymer-sand composites produced from waste plastics
12.30-12.45	G.S. Garbounis, D. Komilis The generation of empty wasted plastic pesticide container in Greece and influencing parameters
12.45-13.00	A. Gkika, F. Petrakli, N. Sieti, A. Vlysidis, E. Koumoulos LCA as a support decision-making tool in nanocomposite material additive manufacturing sector
13.00-13.15	A. Sholokhova, G. Denafas Separation and quantification of microplastics in green waste compost
13.15-13.30	J. Salinas, M.R. Martínez-Gallardo, J.A. López-González, M.M. Jurado, F. Suárez-Estrella, M.J. Lopez Screening and selection of microorganisms for oil-based plastics biodegradation
13.30-13.45	Y.D. Hernandez-Charpak, T.A. Trabold, C. A. Diaz Biochar filled plastics: effect of feedstock on thermal and mechanical properties
13.45-14.00	N. I. Tsongidis, C. A. Poravou, V. A. Zacharopoulou, D. A. Dimitrakis, A. Zygogianni, A. G. Konstandopoulos Valorization of plastic waste with the aid of solar hydrothermal liquefaction
14.00-14.15	S. Kakadellis, J. Woods, Z. M. Harris Biodegradable plastics: challenges and opportunities in food waste anaerobic digestion – a stakeholder analysis
14.15-14.30	S.M. Ioannidou, D. Ladakis, A. Koutinas Techno-economic and environmental sustainability assessment of Poly (butylene succinate) production process from sugar beet pulp through biorefinery development

**ROOM 4**  
**SESSION IV**

**Waste from Electrical & Electronic Equipment, End-of-Life Vehicles,  
Construction & Demolition Waste & other specific waste streams**  
**Chair: K. Lasaridi, X. Gamisans**

11.45-12.00	K. Boikou, C. Chroni, K. Abeliotis, K. Lasaridi WEEE repair behaviour of consumers in Greece
12.00-12.15	M.A. Charitopoulou, A.A. Lappas, D.S. Achilias Thermal and catalytic pyrolysis of polymer blends having composition similar to that originating in WEEE
12.15-12.30	I. Ince, E. Kucuk, U. Yetis Wastes from Recycling of Spent Batteries
12.30-12.45	A. Borthakur, P. Singh European Union's Directive on Waste Electrical and Electronic Equipments (WEEE) and its Influence on E-waste Policymaking in India
12.45-13.00	M. Theocharis, C. Pavlopoulos, P. Kousi, A. Hatzikioseyan, K. Papadopoulou, A. Tremouli, S. Kavouri, P.E. Tsakiridis, E. Remoundaki, L. Zoumpoulakis, G. Lyberatos An integrated thermal and hydrometallurgical process for the recovery of Silicon and Silver from end-of-life crystalline Si photovoltaic panels
13.00-13.15	B. Ruffino, M. Zanetti Thermal valorization of end-of-life vehicle waste: characterization and reuse solutions of the ashes from selected ASR components
13.15-13.30	C. Pavlopoulos, D. Michopoulos, K. Papadopoulou, Th. Lymperopoulou, A. Skaropoulou, S. Tsvilis, G. Lyberatos Stabilization / Solidification of first generation End-of-Life Photovoltaic Panel waste in cement mortar
13.30-13.45	T. Kamperidis, A. Tremouli, P. K. Pandis, P. Tsakiridis, E. Remoundaki, G. Lyberatos Silver removal and recovery in a microbial fuel cell
13.45-14.00	P.V. Freitas, D.E.S. Souza, R.V.C. Ramalho, J.H. Ishihara, E.R. Moraes End-of-life tire reuse in the construction of an individual domestic sewage treatment system
14.00-14.15	H. Hoang, T. Ishigaki, R. Kubota, M. Yamada, K. Tong, G. Nguyen, K. Kawamoto Evaluation of economic feasibility of construction and demolition waste recycling plants in Vietnam

**ROOM 1**  
**SESSION V**

**MSW management -  
Experience of local authorities in waste management II**  
**Chair: A. Katsiaboulas, G. Iliopoulos**

15.00-15.15	K. Tsimaras EU's Green Deal
15.15-15.30	A. Marino, P. Pariso Qualitative and quantitative comparison of Italian regions' performances in the waste management
15.30-15.45	A. Fernández-Braña, I. Vázquez-Rowe, G. Feijoo-Costa, C. Dias-Ferreira Consequential life cycle assessment as a governance tool for waste management
15.45-16.00	T. Prastitou Merdi No more time to waste for complying with the WFD 2020 targets in Greece and Cyprus: A legal perspective
16.00-16.15	E. Chioatto, A. Fedele, P. Sospiro Waste Municipal Waste in the EU: A DEA and convergence analysis at regional level
16.15-16.30	S. Ozturk Municipal solid waste management in Turkey
16.30-16.45	T. Lolos, C. Tsompanidis, E. Ieremiadi, G. Tavoularis Evaluation of Carbon footprint in Wastewater treatment plants
16.45-17.00	G. Mancini, A. Luciano, L. Petta, M. Ferraris, G. Cirelli, S. Consoli, S. Barbagallo Comparison of strategies for exploitation of wastewater production in south Mediterranean Regions: The role of the reclaimed water storage
17.00-17.15	V. Sousa, I. Meireles, J. Vaz, C. Dias-Ferreira Fuel consumption of segregated waste collection services
17.15-17.30	I. Vardopoulos, A.A. Zorpas Key Performed Indicators to assess sustainability level in cities
17.30-17.45	P. Loizia, V. Inglezakis, A. Zorpas Measuring Environmental Performance in Local Level in the framework of the targets set on Waste Framework Directive
17.45-18.00	G. Giannakis, D. Bourkas, A. Bourka, G. Iliopoulos Source Separation of Biowaste in Attica: Key success factors for Design & Implementation

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18.00-18.15	I.P. Brás, S. Maia, L.M. Simões, M.E. Silva Selective collection of biowaste in a scatter rural region – producers’ characterization
18.15-18.30	C. Karkanias, D. Tsiftelidis, H. Vassiliadis, E. Feleki, G. Perkoulidis, A. Malamakis, E. Zevgara, T. Hagipanagiotou, E. Kladouri, I. Sarigiannis, N. Moussiopoulos Optimisation of local waste management systems by promoting waste sorting at source and rationalising waste collection routes
18.30-18.45	M. Struk, E. Vasileva What motivates people to separate waste and how to improve it – comparison of Taiwan and the Czech Republic
18.45-19.00	A. Fernández-Braña, C. Sousa, J. Vaz, C. Dias-Ferreira Analysis on waste collection in the periphery of São Tomé city: lessons to be applied in African cities

**ROOM 2**  
**SESSION VI**

**Anaerobic Digestion I**

**Chair: S. Smith, A. Zabaniotou, B. Ruffino**

15.00-15.15	C. Maloney De-Risking Biogas Project Financing & Implementation
15.15-15.30	M. Donner, K. Kayser, M. Köttner, H. De Vries Which business model adaption or innovation in the German biogas sector?
15.30-15.45	P.E. Jensen, S. Heiske, M.W. Jørgensen, I. Angelidaki Anaerobic digestion of seafood processing residues, sludge and algae from Greenland
15.45-16.00	G. Cazaudehore, R. Guyoneaud C. Vasmara, R. Marchetti, A. Lallement, F. Monlau Anaerobic digestion of the main biodegradable polymers and thermo-chemical pretreatment of poly(lactic acid)
16.00-16.15	C.B. Frias Flores, T.A. Trabold Food waste, manure and digestate derived biochar to enhance biomethane potential in mesophilic anaerobic digestion of food waste
16.15-16.30	M. Dewiandratika, S. Grimes, S. Smith Pretreatment of lignocellulosic agricultural residues using coal fly ash to enhance methane production by anaerobic digestion
16.30-16.45	J. Liu, S.R. Smith A practical operator model of biogas yield from full-scale sewage sludge anaerobic digestion
16.45-17.00	L. Cristiani, M. Zeppilli, C. Porcu, M. Majone Anodic vs cathodic potentiostatic control of a tubular pilot scale MEC for biogas upgrading
17.00-17.15	A.Eftaxias, C. Michailidis, M.D. Koskinari, V. Diamantis, A. Aivasidis Comparison of a CSTR and a cascade of CSTR – PFR for anaerobic digestion of diluted poultry manure
17.15-17.30	A. Chang, P. Champagne Microbial Activity Monitoring to Optimize Biogas Production during Anaerobic Digestion Processes
17.30-17.45	C. Daoutis, A. Eftaxias, A. A. Khan, V. Diamantis Production of forest residues from fire safety zones (FSZ) and their potential for biogas production
17.45-18.00	S. O'Connor, E. Ehimen, S.C. Pillai, G. Lyons, C. Johnson, M. Wills, J. Bartlett Cost-effectiveness of the integration of novel pre-treatments on a farm-scale anaerobic digestion plant

18.00-18.15	A. A. Mazioti, I. Vyrides Anaerobic digestion of high strength bilgewater with granular sludge: confronting salinity and investigating biomass adaptation
18.15-18.30	I. Rocamora, S.T. Wagland, R. Villa, Y. Bajón-Fernández Operational parameters affecting dry batch anaerobic digestion of the organic fraction of municipal solid waste
18.30-18.45	P.V. Almeida, R.P. Rodrigues, M.C. Gaspar, M.E.M. Braga, M.J. Quina Biorefinery after the harvesting season of tomato: recovery of value-added compounds and biogas production
18.45-19.00	A.G. Chioti, G. Dimitropoulou, A. Kopteropoulos, S. Patsatzis, T. Sfetsas, P. Falaras, G.Em. Romanos Implementation of Photocatalytic Membrane Reactor for Liquid Digestate Sanitation
19.00-19.15	M. Baghbanzadeh, L. Khan, N. Nadimi Farokh, M. Sartaj, N. Abdehagh, H. Balde, A. VanderZaag Anaerobic Digestion of Biological and Enzymatic Hydrolysed Dry Manure
19.15-19.30	A.H. Ezieke, A. Serrano, W. Clarke, D.K. Villa-Gomez Closing the loop in agricultural waste management: co-smouldered digestate ash as alkalinity and trace element supplement for anaerobic digestion
19.30-19.45	B. Mayans, M. Guirado, N. Carreras, M. Lominchar, R. Camacho-Arévalo, R. Antón-Herrero, C. Alcántara, N. Nägele, L. Delgado, C. García-Delgado, R. Millan, E. Eymar Effect of sulfonamides and tetracyclines in biomethanization processes and on methanogenic bacterial communities

## ROOM 3

## SESSION VII

## Waste Valorization I

Chair: K. Chojnacka, M. Ramírez, M. Kumar Awasthi

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|-------------|---|
| 15.00-15.15 | K. Dermentzis, K. Karakosta, N. Kokkinos, S. Mitkidou, M. Stylianos, A. Agapiou<br>Photovoltaic driven electrochemical remediation of drilling fluid wastewater with simultaneous Hydrogen production |
| 15.15-15.30 | I. González-García, V. Oliveira, B. Molinuevo-Salces, B. Riaño, M.C. García-González, C. Dias-Ferreira<br>Two-phase nutrient recovery from swine manure using membrane technology                     |
| 15.30-15.45 | J.P. López-Gómez, R. Schneider, P. Unger, J. Venus<br>Lactic acid bioprocess development: experiences using hydrolysates from the organic fraction of municipal solid wastes                          |
| 15.45-16.00 | A. Hejna, K. Formela, M. Barczewski<br>Valorisation of brewers' spent grain for manufacturing of wood polymer composites  |
| 16.00-16.15 | E.E. Golia, M. A. Chartodiplomenou, S. Papadimou, O.D. Kantzou, N. Tsiropoulos<br>Soil inorganic amendments to enhance Cu and Zn uptake by spinach and lettuce cultivated on metal contaminated soil  |
| 16.15-16.30 | J.J. González-Cortés, F. Almenglo, M. Ramírez, D. Cantero<br>Simultaneous removal of ammonium from landfill leachate and hydrogen sulphide from biogas using a two-stage oxic-anoxic system           |
| 16.30-16.45 | Z. Zhang, P. Tsapekos, M. Alvarado-Morales, I. Angelidaki<br>Direct production of lactic acid from source-sorted organic household waste: focusing on bio-augmentation application                    |
| 16.45-17.00 | G. Izydorczyk, D. Skrzypczak, K. Chojnacka, K. Mikula, A. Witek-Krowiak<br>Sprouts enriched with microelements: application of hydrogel fertilizers with controlled release of micronutrients         |
| 17.00-17.15 | P. Stipsitz, M. Mandl<br>Ethyl lactate production by reactive distillation using bio-based lactic acid and ethanol  |
| 17.15-17.30 | A. Sarrión, E. Diaz, S. Rodríguez, A. de la Rubia, A. F. Mohedano<br>Nutrient recovery by hydrothermal treatment of food waste  |
| 17.30-17.45 | S.Y. Kim, H.B. Kim, K. Baek<br>Utilization of biochar derived from waste railway sleeper  |

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| 17.45-18.00 | B. Başer, U. Yetis, C. Polat, E. Kucuk, T. Pilevneli, M.M. Ata, I.Sesenoglu, A. Nuray, A. Durak, Y. Kesimal, M. Ecer, M.E. Birpınar<br>A Study of Waste Management Strategies and Waste Generation Factors for Vegetable Oil Refining Sector |
| 18.00-18.15 | M. Montorsi, S. Barbi, F. Barbieri, L. Barbieri, A. Bertacchini<br>Development of a controlled release NPK fertilizer – coating optimization and LED modules system for smart gardening  |
| 18.15-18.30 | V. Benedetti, M. Scatto, M. Baratieri, P. Riello<br>Char residues from biomass gasification as low-cost and environmental friendly fillers in polymers   |
| 18.30-18.45 | L.P. Chrysikou, V. Dagonikou, S. Bezergianni, A. Kokkalis, L. Doufas<br>From animal wastes towards green fuels: a sustainability assessment  |
| 18.45-19.00 | N.I. Kallikazarou, L. Koutsokeras, D.A. Kokkinidou, E. Constantinide, G. Constantinides, A.S. Anayiotos, M.G. Antoniou<br>New insights into phosphorus recovery from mixed waste through struvite crystallization                            |

**ROOM 4**  
**SESSION VIII**

**Bioprocesses, Biorefineries in waste management I**

**Chair: C.A Cardona Alzate, K. S. Triantafyllidis, A. Djukic-Vukovic**

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|-------------|---|
| 15.00-15.15 | S. Serna-Loaiza, J. Adamcyk, A. Friedl<br>Valorization of Agroindustrial Residues: Extraction of Bioactive Compounds for Sustainable Biorefineries  |
| 15.15-15.30 | C.N. Aguilar, M.L. Chávez-Gonzalez, J.A. Ascacio-Valdés, A.C. Flores-Gallegos, L. Sepúlveda, J. Sandoval, J.L. Martínez-Hernández<br>Cutting-edge research on solid state fermentation as sustainable biotechnology for solid agroindustrial waste management |
| 15.30-15.45 | R. A. Ospina Varón, F. E. López Suárez, V. Aristizábal-Marulanda<br>Nanocellulose production from lignocellulosic biomass in a Colombian context  |
| 15.45-16.00 | P. Karanicola, M. Patsalou, R. Costa, N. Evripidou, M. Yiannakou, C. Drouza, P. Christou, G. Panagiotou, C. Damianou, M. Koutinas<br>Valorisation of Citrus Processing Waste for Bacterial Cellulose Production through an Integrated Biorefinery Approach    |
| 16.00-16.15 | J. Paini, V. Benedetti, M. Baratieri, F. Patuzzi<br>Towards a food waste integrated biorefinery: Downstream valorization of apple pomace  |
| 16.15-16.30 | S.G.C. Almedia, G.F. Mello, T.K. Kovacs, D.D.V. Silva, M.A.M. Costa, K.J. Dussán<br>Furfural production through two bioconversion routes: experimental optimization and process simulation  |
| 16.30-16.45 | M. Ghasemi, M. Tsianou, P. Alexandridis<br>Valorization of Cellulosic Biomass via Solvent Processing  |
| 16.45-17.00 | S. P. Ioannidou, A. G. Margellou, K. S. Triantafyllidis<br>Winery wastes valorization based on the "integrated biorefinery" concept   |
| 17.00-17.15 | C. Vidal-Antich, N. Pérez-Esteban, S. Astals, J. Dosta, J. Mata-Álvarez<br>Food waste and waste activated sludge co-fermentation to enhance VFA production  |
| 17.15-17.30 | S. Piedrahita-Rodríguez, C.A. Cardona-Alzate<br>Analysis of a biorefinery with multiple raw materials in the context of post-conflict zones in Colombia: Plantain and Avocado integration in Los Montes de María  |
| 17.30-17.45 | J.C Solarte-Toro, C.A Cardona Alzate<br>Integral economic, environmental, and social analysis of an avocado-based biorefinery in the Colombian context  |

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17.45-18.00	F. Valentino, G. Moretto, L. Lorini, P. Pavan, D. Bolzonella, M. Majone The conversion of food waste and biological sludge into bio-based products: a pilot scale platform for urban waste management
18.00-18.15	L. D. Allegue, M. Ventura, J. Antonio Melero, D. Puyol A cost-effective integrated process for PHA production from lignocellulosic waste: A new anaerobic biorefinery
18.15-18.30	Jin-Zheng Wang, Chen-Hai Yan, Huan Chen, Sheng Sheng, Jun Wang, Fu-An Wu Microfluidic production of structural lipids from silkworm pupa oil prepared by low-temperature enzymatic extraction
18.30-18.45	P. Vergara, F. Mangone, J.P.F. Del Pintor, M. Ladero, J.C. Villar, F. García-Ochoa, S. Gutiérrez A techno-economic comparison between technologies for biomass fractionation including liquor re-use
18.45-19.00	D. L Restrepo-Serna, J.C Solarte-Toro, C.A Cardona Alzate A biorefinery for integral valorisation of avocado peel and seeds through supercritical fluids
19.00-19.15	E.T. Quintanar, C.A. Lucho, R.I. Beltrán, C. Coronel, G.A. Vázquez Opuntia like a feedstock in a biorefinery to arid and semi-arid zones
19.15-19.30	M. Alexandri, O. Psaki, H. Papapostolou, A. Koutinas Simultaneous production of carotenoids and microbial lipids using fruit wastes from open markets

## Poster session

1. B. O'Regan, R. Moles, S. Byrne, R. Shawe, W. Horan, Rooftop Decarbonisation Potential of Irish Industrial and Commercial Zoned Buildings
2. C. Pentari, A. Zerva, D. Zouraris, A. Karantonis, E. Topakas Discovery of two low redox potential, novel laccases PcLac1 and PcLac2 from *Pleurotus citrinopileatus*
3. M. Ayesb Rabea, A. J. R. Al-Heety, T. A Zaidan, M. Elhag, A. Subhi Al-Rawi Impact of Municipal Wastewater and Sulfur Springs on The Physico-chemical Properties of The Euphrates River, Western Iraq
4. M. Henrique Albuquerque Portela, H. N. Fuzer Lira, S. Duvoisin Júnior, R. Lopes e Oliveira, A. Monteiro Pontes Study of a conjugated process for Biodiesel production from seed oil obtained from Tucumã waste (*Astrocaryum aculeatum*)
5. K.J. Krajewski, M. Niedek, M. Świątkowska, R. Zabrocki Ethical reflections on the impact of consumer behaviour on food waste - PROM Projects
6. E. Pagona, K. Kalaitzidou, E. Tzamos, K. Simeonidis, A. Zouboulis, M. Mitrakas Estimation of MgO dose for upgrading the refractory characteristics of magnesite ore mining by-products of Gerakini mines (Chalkidiki, N. Greece)
7. J. Žaltauskaite, R. Dagiliute, G. Sujetoviene, I. Kniuipytė Qualitative and quantitative analysis of medical waste management in Lithuania
8. J. Žaltauskaitė, I. Kniuipytė, M. Praspaliauskas, N. Pedišius Sewage sludge and sewage sludge char soil application: response of earthworm *Eisenia fetida*
9. P. Postacchini, F. Patuzzi, M. Baratieri Superstructure-based process synthesis and optimization of hydrogen production via biomass gasification
10. K. Lasaridi, C. Chroni, K. Abeliotis, C. Giordano, C. Cicatiello LOWINFOOD -Multi-actor design of low-waste food value chains through the demonstration of innovative solutions to reduce food loss and waste
11. S. Abedrabbo, I. Janajreh, I. Adeyemi, H. Zhang Indirection Freeze Desalination: Experimental and Theoretical Analysis of influencing parameters: Toward Zero Brine Discharge
12. A. Dimitriadis, D. Liakos, U. Pfisterer, M. Moustaka-Gouni, S. Bezergianni Impact of hydrogenation on miscibility of fast pyrolysis bio-oil with refinery fractions towards bio-oil refinery integration
13. A. Mokhati, O. Benturki, M. Bernardo, I. Matos, I. Fonseca Acetalization of Furfuraldehyde with argan nut shells carbon catalyts
14. C. Padilla-Rascón, E. Ruiz, E. Castro, L.B. Roseiro, L. C. Duarte, F. Carvalheiro Improvement of the enzymatic hydrolysis of olive stones by two-stage pretreatment of acid hydrolysis and organosolv
15. M. Aikas, A. Tamošiūnas, D. Gimžauskaitė, R. Uscila, J. Eimontas The application of thermal plasma for the treatment of soil polluted by bitumen
16. A. Nicodemou, M. Kallis, M. Koutinas Polyunsaturated fatty acids production utilizing five algae strains grown under autotrophic and mixotrophic conditions
17. A. Banti, O. Grammenos, E. Kokkinos, A. Zouboulis, S. Sotiropoulos Electrochemical conversion of chromium from tannery effluents for recycle in industrial applications
18. N. El Houda Chaher, N. Engler, A. Nassour, M. Nelles, M. Hamdi Biochar effects on combined biological processes: Anaerobic and aerobic co-digestion of food waste and wheat straw
19. J. Y.Mendez-Carmona, J.A. Ascacio-Valdés, C. N. Aguilar González Evaluation of tomato waste for the recovery of carotenoids by solid state fermentation as an extraction bioprocess.
20. M. M. Fortes, A. T. Do Vale, I. R. A. M. Nery Characterization of forest residues of commercial timber used for energetic purposes

## Poster session

21. L.Tarraran, A.A. Azim, N. Vasile, A. Re, B. Menin, T. Tommasi, F. Pirri, D. Fino  
Fermentation at high-pressure of CO<sub>2</sub> and H<sub>2</sub> for acetone production by modified *Acetobacterium woodii*
22. M.A.M. Costa, G. Donato, B.M. Silva, S.G. Coelho, A.F. M. Costa, K.J. Dussan, A. A. Cardoso  
Influence of Agricultural and Industrial Biomass Burning on Atmospheric Aerosol Size Distribution and Chemical Species
23. Jianfeng Yang, Huike Li  
Connecting soil dissolved organic matter to soil bacteria community structure in long-term grass mulching apple orchard
24. B.S. Mello, B.C.G. Rodrigues, A. Sarti  
Treatment of soybean molasses by a combined anaerobic/aerobic biological system
25. A. Paz, A. Zerva, E. Topakas  
Could biotechnology promote circular economy? Lipolytic enzymes from waste
26. T. Mumladze, G. Denafas  
Development of Waste Multilayer Composites (WMC) Separation Technologies for Materials Recovering
27. D. Hidalgo, J. M. Martín-Marroquín, F. Corona, F. López  
The effect of a dynamic waste management system in remote rural areas
28. I. Szmigiel, A. Kraska, M. Łukaszewicz, A. Krasowska  
Influence of plant hemicellulose on surfactin synthesis by *Bacillus subtilis* 87Y in SSF fermentation
29. K. Takahashi, A. Saffarzadeh, T. Shimaoka  
Stabilization of lead in municipal solid waste incineration fly ash using a combined treatment of hydroxyapatite from fishbone and a chelating agent
30. M.Domżał-Kędzia, A. Grabowski, A. Lewińska, R. Pluskota, P. Rodowicz, M. Łukaszewicz  
Life-Cycle Assessment and Economic Analysis of Biorefinery based rapeseed meal for the production of the cosmetic components and fodder
31. A. Garcia-Rández, M.D. Pérez-Murcia, M.T. Fernández-Suarez, F. Sánchez-García, E. Agulló, M.A. Bustamante, J. Andreu-Rodríguez, X. Barber, J. Roselló, M.T. Cháfer, R. Moral  
Developing an integrated approach to enhance soil fertility and favour recarbonization of Mediterranean agricultural soils: a case study from Valencian Region in Spain
32. M.A. Bustamante, M.D. Pérez-Murcia, J. Andreu-Rodríguez, E. Agullo, E. Martínez-Sabater, A. Pérez-Espinosa, C. Paredes, J.A. Pascual, M. Ros, C. Egea, J.A. Fernández, R. Moral  
Obtaining of added-value organic materials by composting of agri-food waste
33. N. Đuričić-Mladenović, M. Tomić, M. Rankov Šicar, Radoslav Mičić,  
Winery waste as an alternative source of additives for enhancement of biodiesel stability
34. L. Santamaría, M.A. Vicente, S.A. Korili, A. Gil  
Removal of pharmaceutical contaminants by hydrotalcite-like compounds synthesized from aluminium saline slag wastes
35. Su-Min Lee, Jong-Gook Kim, Won-Gune Jeong, Kitae Baek  
Evaluation of reactive-mat containing low-grade charcoal to control leaching of organic pollutants
36. L. Javier Gallego, S. Cardona, E. Martínez, L. Alberto Rios  
Valorization of Palm-Oil Residues: Integrated Production of a Good Quality Bio-coal and Electricity via Torrefaction
37. J.A. Sáez, M.D. Pérez-Murcia, A. Vico, M.R. Martínez-Gallardo, J. Andreu-Rodríguez, M.J. López, M.A. Bustamante, J. Moreno, R. Moral  
Olive mill wastewater stored in evaporation ponds: Integral assessment of in situ bioremediation strategies (composting vs vermicomposting)
38. P. Tzora, A. Papadaki, V. Kachrimanidou, I. Lappa, E. Eriotou, N. Kopsahelis  
Circular valorization of cheese whey and spent coffee grounds for the development of edible films

## Poster session

39. F. Masino, G. Mezzadri, A. Nanni, G. Montevecchi, U. Cancelli, M. Messori, A. Antonelli  
Spent coffee ground tested as filler for biodegradable composites
40. Q. Zhang, P. Bao, Y.Z. Peng, W. Zeng  
Achieving one-stage sludge reduction by adding chironomid larvae in wastewater treatment systems
41. B.K.Shaimardanova, Zh.K.Shaimardanov, N.A.Kulenova, N.A.Charykov, V.A.Keskinov  
Production of carbon nanostructures from the wastes of Electrolytic Processing of Alkali Metals
42. N.A.Kulenova, Zh.K.Shaimardanov, B.K.Shaimardanova, N.A.Charykov, V.A.Keskinov  
Production of carbon nanostructures from the wastes of fullerene production industry
43. M. G. Antoniou, N. Kallikazarou, E. Constantinide, L. Koutsokeras, G. Constantinides, G. Armenis  
RE-LIVE WASTE project: Advancing pilot-scale nutrient recovery from livestock wastewater by struvite crystallization
44. D. Ozturk, E. Ayisigi, G.E. Zengin, D. Guven, D. Okutman Tas, G. Ozyildiz, G. Insel, E. Cokgor  
The effect of loading rate on biopolymer production potential from pickle fermentation broth by mixed microbial cultures
45. A. Jančauskas, K. Buinevičius  
SO<sub>2</sub> and NO<sub>x</sub> emissions by combustion of biomass wastes
46. Z. Uldinskas  
Experimental model of biomass flue gas low grade heat utilization
47. U. Cancelli, A. Nanni, G. Montevecchi, F. Masino, M. Messori, A. Antonelli  
Grape-wine chain biowaste tested as filler for biodegradable composites
48. N. Pérez-Esteban, C. Vidal-Antich, S. Vinardell, D. Fernández-Domínguez, J. Mata-Álvarez, J. Dosta  
Start-up of a sequencing batch reactor for the selection of polyhydroxyalkanoates accumulating cultures by means of a carbon and nitrogen decoupling strategy
49. E. Nikolaivits, J. Nikodinovic-Runic, E. Topakas  
Discovery of a novel PETase-like enzyme for the degradation of plastic waste
50. Dezhi Wang , Hao Li, Yuyao Yu, Jian Wang  
Freezing-thawing resistance of concrete containing silica fume and air void content against sulfate attack
51. Á. Szilágyi, A. Bodor, N. Tolvai, V. Tripolszki, B. Hódi, Z. Deim, B. Kakuk, K. L. Kovács, G. Rákhely  
Usage slaughterhouse waste for biogas production
52. U. Cancelli, X. Rouau, G. Montevecchi, F. Masino, C. Mayer-Laigle, A. Antonelli  
Electrostatic separation of grape stalk powder obtained from grape-wine chain waste
53. A.-M. Theodosi-Kapsampeli, A. Papadaki, M. Triantafyllou, I. Lappa, E. Magdalino, V. Kachrimanidou, Z. Gonou-Zagou, N. Kopsahelis  
Cheese whey valorization by *Trametes versicolor* through submerged cultivation
54. E.C. Vouvoudi, D.S. Achilias  
Products of catalytic pyrolysis of widely-known polymers found in packaging materials waste, as part of their recycling process
55. P.E. Regalado-Infante, N.G. Rojas-Avelizapa, O.R. Leyva, R. Serna, G.L. Cuatra, L.I. Rojas-Avelizapa  
A novel microbial-chemical process to obtain chitin, chitosan and chito-oligosaccharides from shrimp waste
56. J. S. Komatsu, L. M. Torres, G. F. Ramos, D. Mandelli, G. C. Labuto, W.A. Carvalho  
Synthesis, characterization and application of biochar from dyeing sludge in the removal of dyes

## Poster session

57. S. Piedrahita-Rodríguez, A.C. Lasso-Silva, S. Arango-Manrique, M. Ortiz-Sánchez, L.G. Matallana-Pérez, C.E. Orrego-Alzate, C.A. Cardona-Alzate, Analysis of biorefinery platforms based on technical characteristics of the raw materials: Orange peel waste and Plantain peel waste comparison
58. D. G. Vela-Aparicio, D. F. Forero, C. Fisco, M. Fernanda Paternina, P. Acevedo, P. F. B. Brandão, I. O. Cabeza  
Microbiological and operational monitoring in the biofiltration of H<sub>2</sub>S and NH<sub>3</sub> under transient conditions of gas load and moisture content
59. D.A. Calvo, N.G. Rojas, M. De Donato  
Assessment of the toxicity of cadmium sulfide quantum dots microbiologically synthesized from a sulfur residue
60. Y.M. Yun, M. Sposob, D. Lee, H.S. Moon  
Seasonal monitoring of bacterial community in full-scale anaerobic digestion treating food waste
61. L. Stabili, M.I. Acquaviva, G. Alabiso, R.A. Cavallo, E. Cecere, C. Gerardi, M. Narracci, G. Portacci, P. Ricci, A. Petrocilli  
The REMEDIA-Life project and the cultivation of macroalga *Chaetomorpha linum* (Chlorophyta, Cladophorales) as bioremediator: potential biotechnological exploitation of the algal biomass
62. J.C Solarte-Toro, J. A Poveda Giraldo, D. L Restrepo-Serna, C.A Cardona Alzate  
Influence of the products distribution and conversion technologies in the techno-economic performance of a biorefinery: The avocado case
63. J. Martínez Urreaga, F.R. Beltrán, G. Gaspar, J. A. Oliet Palá, M.U. de la Orden  
Plastics for tree shelters: characterization of polypropylene tube residues after up to 20 years in the reforestation area
64. E. Kurtulbaş Şahin, M. Bilgin, S. Şahin  
Automatic Solvent Extraction of Polyphenols from Peach Peels (*Prunus Persica*) and Investigation of Storage Stability
65. S. Bouazizi, G. Montevecchi, F. Masino, A. Antonelli, M. Hamdi  
Peel of prickly pear (*Opuntia cus-indica*) fruit as an innovative ingredient for processed food
66. C. Garcia, M.D. Coll, T. Hernandez  
Organic wastes for building organic matter in semiarid degraded soils. Driving factors
67. T. Hernandez, C. Garcia  
Melon yield and soil microbial community response to the use of algal biomass from the waste-water microalgae-bacteria treatment process as alternative to inorganic fertilizers
68. E.J. Méndez, A. Durán  
Anaerobic co-digestion of organic fraction of municipal solid waste (OFMSW) and sewage sludge. Modelling and microbial species identification
69. K. Rekos, A. Margellou, G. Dedes, A. Karnaouri, E. Topakas, K.S. Triantafyllidis  
Valorization of waste lignocellulosic biomass towards furanics and organic acids
70. S.H. Daniel, L.M.G. Souza, B.S. Moraes  
Potential for energy use from food waste generated at the university restaurant of UNICAMP
71. E. Adem, J. Bahrawi, M. Elhag  
Estimation of Evapotranspiration based on METRIC and SEBAL model using Remote sensing, near Al-Jouf, Saudi Arabia
72. A. Hidayatulloh, J. Bahrawi, J. Budiman, M. Elhag  
Understanding of Soil Erosion Based on Wadies Morphometric Parameter Inconsistencies
73. Yu-Rong Bian, Wen-Jing Li, Sheng Sheng, Jun Wang, Fu-An Wu  
Improving sericulture waste value using silkworm pupae as a partial replacement of protein source in *Carassius auratus gibelio* diets
74. Shuai You, Chen Xie, Ziqian Zha, Wenxin Zhang, Zhiyuan Bai, Jun Wang  
Modification of thermophilic xylanase XYL10C-ΔN activity at animal body temperature and its application in mulberry bark degradation

## Poster session

75. Ting Huang, Wei-Dong Hao, Huan Chen, Shuai You, Fu-An Wu, Jun Wang  
Mulberry red pigment with high purity produced by whole-cell bioconversion in an aqueous two-phase system
76. I. Ben Atillah, I. Ntaikou, G. Antonopoulou, C. Bredai, G. Lyberatos, T. Mechichi  
Bioethanol production from date palm fibers: Effect of alkaline hydrogen peroxide pretreatment and fermentation conditions
77. Sheng Sheng, Jiao Wang, Yi Jiang-cheng Li, Ying-ying Shao, Fu-An Wu, Jun Wang  
Comparisons of pupae oil fatty acids composition in mulberry invertebrates
78. Qing-Bo Tu, Peng-Yuan Wang, Sheng Sheng, Jin-Zheng Wang, Jun Wang, Fu-An Wu, Synthesis and bioactivity of natural ferulic acid derivatives against *Ralstonia solanacearum* isolated from mulberry tree
79. Peng-Yuan Wang, Qing-Bo Tu, Sheng Sheng, Fu-An Wu, Jun Wang, Antifeedant activity of five plant ingredients against the general cutworm, *Spodoptera litura* (Lepidoptera: Noctuidae)
80. Yan Ge, Shuai You, Wenxin Zhang, Zhiyuan Bai, Fuan Wu, Jun Wang  
Improve the catalytic activity of GH10 xylanase at low temperatures based on structure rational design
81. D. L Restrepo-Serna, C.A Cardona Alzate  
Economic feasibility of supercritical fluid extraction of antioxidants from fruit residues
82. A. López-Uceda, A. P. Galvin, J. Ayuso, A. Hayas López, L. Contreras Álvarez, A. Barbudo  
Performance of recycled concrete made with precast concrete rejects. Optimisation of mix proportions based on mechanical properties
83. G. Ochoa, G. Fernandez, M.S. Córdova  
Use of *Opuntia* sp. mucilage as an alternative for the treatment of wastewater from hemodialysis and dialysis
84. Zong-Nan Li, Sheng Sheng, Shuai You, Fu-An Wu, Jun Wang, Antibacterial activities of water extract from *Camellia oleifera* cake against *Ralstonia solanacearum* and *Spodoptera litura*
85. Xiao-Meng Xun, Cheng-Hai Yan, Jin-Zheng Wang, Lu-Chan Gong, Shuai You, Jun Wang  
Digestion characteristics of structural lipid monomers rich in  $\alpha$ -linolenic acid from silkworm pupae oil
86. F. Sereti, A. Papadaki, V. Kachrimanidou, I. Lappa, E. Eriotou, N. Kopsahelis  
Evaluation of carotenoids and lipids production by two isolated *Rhodospiridium kratochvilovae* strains using galactose-based media
87. Ł. Zedler, M. Przybysz-Romatowska, J. Haponiuk, K. Formela,  
Environmental issues related to waste tires reclaiming technology
88. R. Dagiliute, K. Pilžis, J. Žaltauskaite, S. Sujetoviene, I. Kniuipytė  
Plastics and its waste: trends and attitudes
89. Zhiyuan Bai, Shuai You, R. Anshah Herman, Wenxin Zhang, Ziqian Zha, Yan Ge, Jun Wang  
Improvement of the thermostability of a highly active GH16 glucanase without losing catalytic performance via alanine substitution
90. F. Valentino, M. Gottardo, P. Pavan, M. Majone, D. Bolzonella  
A pilot-scale multi-purposes approach for volatile fatty acid, hydrogen and methane production from an automatic controlled two-phases anaerobic process for food waste valorisation
91. Á. Nemcsics  
Twenty-five years experiences with domestic compost-toilet and its perspective
92. U. Ryszko, B. Mazurek, J. Ostrowski, A. Drozd, A. Watros  
Application of microwave-assisted extraction (MAE) of Cr(VI) from the fertilizer products and determination by ion chromatography
93. D. Rodríguez, A.E. Silva, A.C. Chavez, M.T. Orta  
Accumulation by Pb and Cd in *Arundo donax* L. during the start of an artificial wetland for residue management
94. P. Rusek, K. Borowik, S. Schab  
Obtaining ash-based granular fertilizers with the use of microbiological solubilization

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95. Jiao Li, Fuyong Wu  
Effects of AM fungi on selenium accumulation and selenium utilization efficiency of winter wheat (*Triticum aestivum* L.) under different fertilization time
96. Can-Yang Shi, Yan Hu, Jin-Zheng Wang, Shuai You, Lu-Chan Gong, Jun Wang  
Biodiesel production using lipase-polymer conjugates developed by ATRP "grafting-from" method
97. P. Bogusz, P. Rusek, M.S. Brodowska  
Alternative sources of phosphorus for the fertilizer industry: from waste to valuable raw material
98. G. Guzmán Pedro, F. Villagómez Georgina, M. T. Alarcón Herrera  
Use of glass waste for the encapsulation of metals and metalloids present in mining waste
99. M. Alvarado-Morales, P. Tsapekos, A. Kovalovszki, P.G. Kougias, A. Rudatis, R. Raga, I. Angelidaki  
Effect of high salinity conditions on anaerobic co-digestion of macroalgal biomass with cattle manure
100. B. Molinuevo-Salces, B. Riaño, D. Hernández, I. González-García, M. B. Vanotti, M. C. García-González  
NH<sub>3</sub> recovery from digestate using gas-permeable membranes: Effect of wastewater pH
101. M. Alexandropoulou, E. Lenakaki, G. Lyberatos, G. Antonopoulou  
Continuous fermentative hydrogen production from cheese whey in an attached growth biomass system: The influence of operational parameters
102. K. Lasaridi, C. Chroni, K. Abeliotis, G. Protopapas, P. Kirkitos, A. Dalamaga, R. Charitopoulou, K. Kalafata, Ch. Angelakopoulos  
Preliminary results from the operation of the first WEEE sorting centres in Greece.
103. T. Ioannou, K. Bazigou, A. Katsigianni, M. Fotiadis, C. Chroni, T. Manios, I. Daliakopoulos, C. Tsompanidis, E. Michalodimitraki, K. Lasaridi  
Dealing with food waste through participatory workshops: a community engagement approach
104. J.E. Rodriguez Gamero, C. Bastianelli, G. Pesante, D. Bolzonella, C. Zaccone, N. Frison  
Valorisation of the downstream effluents from the PHAs extraction and purification processes
105. S.W. Yu, J.L. Hao, X. Tang, F. Guo, L. De Sarno  
Unlocking the influencing factors of the construction workers' behaviours when managing construction waste
106. J. L. Ramos, J. O. F. Monteiro, G. Labuto, E. N. V. M. Carrilho  
Yeast residues activated carbon: nanomodification with magnetite for adsorption of pesticides
107. D. Arapoglou, C. Iliopoulos, M. Metafa, E. Kondyli, E. Pappa, E. Eleftheriadis, W. MacNaughtan, S. Harding, E. Lahouvaris, C. Israilides  
Utilization and management of mushroom production wastes into high value food and feed nutraceuticals
108. I. Kellartzis, T. Asimakidou, K. Simeonidis, C. Martinez-Boubeta, Ll. Balcells, G. Stavropoulos, P. Kougias  
Solar-assisted development of nanoadsorbents for the H<sub>2</sub>S/SO<sub>2</sub> capture from biogas
109. A. Zdunek, K. Borowik, D. Kołodyńska  
Removal of Fluoride from Ammonium Sulphate Solutions Using Bentonite
110. S. Schab, M. Wyzińska, M. Mikos-Szymańska, P. Rusek  
Impact of brown coal and biochar fertilizers on spring wheat productivity in the pot experiment
111. C. A. Castillo, J. D. Mosquera, P. A. Acevedo P., C. Augusto Quiñones, I. Orlando Cabeza  
Generation of biogas and biofertilizer by anaerobic co-digestion of sugarcane bagasse residues, rice husks, pruning residues and poultry litter
112. F. Piergiacomo, M. Bellucci, G. Gatta, L. Beneduce  
Addition of soluble bio-based substances select for Archaeal communities with higher performances in thermophilic Anaerobic digestion processes

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113. K. Borowik, P. Rusek S. Schab, A. Rutkowska  
Development of technology for the production of microbial enriched mineral fertilizers
114. M.A. Gómez-Casero, L. Pérez-Villarejo, E. Castro, D. Eliche-Quesada  
Geopolymer-based on biomass bottom ash with addition of different slags
115. R. Daassi, P. Betu Kasangana, D. P. Khasa, T. Stevanovic  
Structural variation of organosolv lignins from tropical ramial chipped wood after their soil incorporation for sustainable agriculture
116. D. Fila, Z. Hubicki, D. Kołodyńska  
Assessment of the possibility of using macroporous ion exchangers with various functional groups in the recovery process of La(III) ions from waste nickel-metal hydride batteries
117. P. Rybowicz, A. Kowalczyk, A. Łagosz, M. Michalik, B. Gil, W. Roth, A. Adamski  
Functional engineering of ashes towards their catalytic applications
118. B. C. Soares, T. E. Abilio, L. Gabriel, J. C. José, F. C. Sala, E. N. V. M. Carrilho  
The potential of in natura and magnetic nanomodified hydroponic lettuce roots for Cr(VI) removal in aqueous medium
119. M.A. Gómez-Casero, C. De Dios-Arana, L. Pérez-Villarejo, D. Eliche-Quesada  
Replacement of metakaolin with fly ash in metakaolin-based geopolymers
120. O. S. Arvaniti, G. Antonopoulou, A. S. Stasinakis  
Investigating the sorption of selected pharmaceuticals, personal care products and endocrine-disrupting compounds to different types of microplastics
121. H.M. Yoo, E.S. Lee, S.Y. Lee, M.G. Choi, H. N. Jang  
Gasification and Melting Process for the Recycling of Automobile Shredder Residues
122. A.P.Q. Rodrigues, P.M.O. Silva, K.J.D. Medina, M.A.M. Costa, L.O. Pires  
Evaluation of wastewater biodegradation containing surfactant in a batch reactor – COD and LAS removal
123. T.-Y. Mun, S.M. Yoon, M.W. Seo, D.Y. Lee, J.S. Kim  
Air gasification characteristics of wastes plastics and dried sewage sludge
124. M. Andronikou, I. Vyrides  
Bioconversion of CO<sub>2</sub> to CH<sub>4</sub> and biogas upgrading using anaerobic granular sludge and Zero Valent Iron.
125. D. Vamvuka, A. Teftiki  
Exploitation of Refused Derived Fuel for energetic uses via gasification and recycling of CO<sub>2</sub> streams
126. P. Florek, P. Rožek, M. Król, W. Mozgawa  
Alkali-activated coal fly ash as a matrix for heavy metals immobilization
127. P. Loizia, I. Voukkali, I. Vardopoulos, A.A. Zorpas  
Boosting Environmental Management Systems in the Framework of Green Deal Strategy
128. E. Ruiz-López, A.F. Jahromi, A. Rodríguez, E.A. Baranova, F. Dorado, A. de Lucas-Consuegra  
Electrochemical activation of catalytic ethanol valorisation into hydrogen
129. C. Kaikiti, M. Stylianou, A. Agapiou  
Determination of VOCs and PMs in the indoor air of hair saloons
130. S. Elia, M. Stylianou, A. Agapiou  
Electrochemical treatment of whey wastewater
131. M. Sofokleous, A. Christofi, E.M. Barampouti, S. Mai, D. Malamis  
Bioethanol and biogas production from an alternative valorisation pathway for green waste
132. A. Nemmour, C. Ghenai, A. Inayat, I. Janajreh  
Response Surface Methodology Approach for Optimizing the Gasification of Spent Pot Lining (SPL) Waste Materials
133. M. Grigoropoulou, P. Parcharidou, Z. Ioannou  
Adsorption of methylene blue dye onto chemically activated olive stones and zeolites
134. A. Ionce, N. N. Ardeleanu  
Waste management, an important element in ensuring a conservative management of Natura 2000 sites along the Siret River

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135. A. Papadopoulos, M. K. Doula, S. Kosmidis, A. Assimakopoulou, A. A. Zorpas, C. Kolovos  
Pepper cultivation on a substrate consisting of soil, natural zeolite and olive mill waste sludge-Changes in soil properties
136. K. Chorozián, A. Zerva, A.S. Kritikou, N.S. Thomaidis, E. Topakas,  
Transglycosylation of steviol glycosides mediated by two novel thermophilic hydrolases, TtbGal1 and MtBgl3a, and valorization of industrial byproducts as sugar donors
137. C. Nunes, C. Nunes, R. Pontes, A. L. Santos, R. Morrão, C. Reis, F. Pavão, A. Bento, J. Nunes  
Cascade use of olive solid waste towards a competitive olive sector integrating byproducts and advanced biofuels valorisation: Portuguese case study
138. I.A. Vasiliadou, A. Kalogiannis, A. Spyridonidis, A. Katsaounis, K. Stamatelatou  
Bioelectrochemical biogas upgrade: A novel technology for reduction of carbon dioxide (CO<sub>2</sub>) into methane
139. N. S. Alamri, A. S. Alamry, M. Elhag  
Impact Assessment of landfills on Soil and Groundwater Quality in the Southeast of Rabigh city, Kingdom of Saudi Arabia
140. P. Parcharidou, Z. Ioannou  
Removal of cationic dyes using chemically activated tangerine (*Citrus reticulata*) by-products and zeolites
141. Vinay Kumar Tyagi, Abid Ali Khan, C.J. Álvarez-Gallego, L.I. Romero García  
Optimization of process parameters for enhanced bio-hydrogen yield from thermophilic dark fermentation of sewage sludge- OFMSW mix
142. Li-Tian Geng, Xiao-Yi Xu, Xue-Jun Yang, Sheng Sheng, Fu-An Wu, Jun Wang  
Effect of PLGA targeted nanoparticles on expression of pathogenicity-related genes of *Rastonia solanacearum*
143. A. Ionce, R. Ionce  
The Life Cycle Analysis of Local Products- a means to support the development of a durable, circular bioeconomy in the mountain area of the Suceava County
144. M. Stylianou, C. Samanides, A. Agapiou, N. Evripidou, C. Damianou, I. Vyrides  
Biodesulfurization of DBT in an integrated system of ultrasonication and biodesulfurization
145. M. Stylianou, M. Etienne, A. Zissimos, I. Christoforou, K. Dermentzis, A. Agapiou  
Electrocoagulation as a method to treat high metal content in acid mine drainage
146. I. Gómez-Cruz, I. Romero, M. d. M. Contreras, L.B. Roseiro, L.C. Duarte, E. Castro, F. Carvalheiro  
Effect of organosolv pretreatment on delignification and enzymatic hydrolysis of exhausted olive pomace
147. K. Synani, K. Abeliotis, E. Terzis, T. Manios, K. Lasaridi  
Life cycle Impacts of food waste: the case study of Hotels in Heraklion Crete.
148. G. Zagklis, M. K. Doula, Ch. Kolovos, A. V. Papadopoulos, S. Kavasilis, P. Kostopoulos, E. Roukounaki  
Carbon footprint of crops cultivated in the Mediterranean region
149. M. Ramalho, T. Jovanović, A. Afonso, A. Baía, A. Lopes, A. Fernandes, A. Almeida, F. Carvalho  
Landfill leachate treatment by chemical precipitation, carbonation, and phytoremediation fine-tuning
150. D. Liakos, A. Dimitriadis, V. Dagonikou, K. Triantafyllidis, A. Kokkalis, S. Bezergianni  
Hydrothermal liquefaction of Thessaly's agricultural wastes targeting high quality bio-crude production
151. Xin-Hao Liang, Meng-Wen Yan, Zhi-Xiang Liu, Jian-Hao Ding, De-Lei Jiang, Yi-jiangcheng Li, Jun Wang, Fu-an Wu, Sheng Sheng  
Identification of UDP-glycosyltransferases genes in *Glyphodes pyloalis* (Lepidoptera:Pyralidae) and their expression patterns under stress of Chlorfenapyr
152. Wenxin Zhang, Shuai You, Zhiyuan Bai, Ziqian Zha, Fuan Wu, Jun Wang  
Improvement in thermostability and low-temperature catalytic efficiency of *Bispora* sp.  $\beta$ -glucanase through surface charge optimization

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153. Yangyang Zhang, Huan Li  
Enhancing biogas production from septic tank sludge via hydrothermal pre-treatment and codigestion with food waste
154. J. O. F. Monteiro, J. L. Ramos, G. Z. Beretta, G. Labuto, E. N. V. M. Carrilho  
Nanomodified activated carbon produced from yeast residues: application in the removal of hormones in water
155. J. Horák, F. Hopan, J. Kremer, L. Kuboňová, L. Polcar, J. Ryšavý, O. Molchanov, K. Krpec, P. Kubesa, M. Dej, M. Garba  
Real measurement of selected biomass boilers in households
156. M. Aikas, A. Tamošiūnas, D. Gimžauskaitė, R. Uscila, J. Eimontas  
The application of thermal plasma for the treatment of soil polluted by bitumen
157. A. Wilińska - Lisowska, K. Czerwionka  
Effect of co-digestion of agricultural substrates on the energy balance of the Wastewater Treatment plant
158. I. Velopoulos, N. Solomakou, K. Kaderides, A.M. Goula  
Holistic utilization of oregano: optimization of essential oil distillation and valorisation of distilled oregano waste
159. A. Duque, I. Ballesteros, M.J. Negro, C. Coll, M. Latorre-Sánchez, J. Hereza, R. Iglesias  
Evaluation of the sugar production from cellulosic rejections from wastewater treatment plants as valorisation strategy
160. A. Alfonso-Cardero, J. Pagés-Díaz, C. S. Psomopoulos, E. Kalogirou, J. Lorenzo-Llanes  
To dream or not to dream in Havana: multicriteria decision making for material and energy recovery from municipal solid waste
161. A. Garlicka, M. Zubrowska-Sudol  
The efficiency of the anaerobic hydrolysis process of thickened excess sludge
162. S. Carlos-Pinedo, Z. Wang  
Assessment of a full-scale anaerobic co-digestion: a multi-component substrates analysis by using ORWARE
163. G. Cristina, E. Camelin, S. Fraterrigo Garofalo, F. Salomone, M. Pugliese, M.L. Gullino, T. Tommasi, D.Fino  
Time-based evaluation of bioavailable phosphorus in a calcareous soil after the application of anaerobically digested sewage sludge
164. Lili Li, Kun Wang, Liangliang Wei, Qingliang Zhao, Huimin Zhou, Junqiu Jiang  
CFD simulation and evaluation of the mixing efficiency of gas and non-Newtonian fluid during high solid anaerobic digestion
165. Huimin Zhou, Qingliang Zhao, Liangliang Wei, Lili Li, Junqiu Jiang, Kun Wang  
Effect of TOC/TN ratio and degradability of substrates on the performance of high-solid anaerobic digestion: gas and methane production
166. A. G. Margellou, C. P. Pappa, D. Moutousidis, E. Athanasiadou, K. S. Triantafyllidis  
Hydrothermal pretreatment and fractionation of agricultural lignocellulosic waste biomass towards furanics and lignin based chemicals
167. P. Manzanares, I. Ballesteros, A. Duque, P. Doménech, I. Higuera, I. Romero, J.M. Oliva  
Different pretreatment strategies to enhance fermentable sugar production from olive stone in the context of an olive-derived biomass biorefinery
168. M.D. Pérez-Murcia, M.A. Bustamante, E. Agullo, C. Bauxauli, A. Giner, A. Ferrer, J. Andreu-Rodríguez, R. Moral  
Composts derived from agri-food sludge and pruning wastes from Mediterranean orchards: obtaining and agronomic valorisation in organic farming production
169. B. Mayans, M. Guirado, N. Carreras, M. Lominchar, R. Camacho-Arévalo, R. Antón-Herrero, C. Alcántara, N. Nägele, L. Delgado, C. García-Delgado, R. Millan, E. Eymar  
Influence of cow dung storage on methane production by anaerobic digestion and enhancement using the ligninolytic fungus *Postreatus*
170. M.A.M. Costa, B.M. Silva, S.G. Coelho, G. Donato, A.F. M. Costa, A. A. Cardoso, K. J. Dussán  
Evaluation of the efficiency of a scrubber Venturi in the collection of particulate matter smaller than 2.5µm emitted by biomass burning

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171. A. Christofi, V. Stoumpou, E.M. Barampouti, S. Mai, K. Moustakas, M. Loizidou  
Effect of storage and drying on the composition of two-phase pomace
173. Yan Chen, Liangliang Wei, Qingliang Zhao, Kun Wang, Junqiu Jiang  
Effects of sulfate and ammonia concentrations of the high solid food waste on the performance of the anaerobic digestion for methane generation
175. C. Lubongo, T. Congdon, J. McWhinnie, P. Alexandridis  
Chemical Recycling of Plastic Waste in Practice: Assessment of Technologies and Economics
177. Meng-Wen Yan, Lu-Xin Zheng, Cai-Ye Li, Xia Song, Jun Wang, Fu-An Wu, Sheng Sheng  
UDP-glucosyltransferases potentially contribute to the pesticide detoxification of insect parasitoids
179. M. Mierzwa-Hersztek, R. Jarosz, K. Gondek, M. Juda, K. Wolny-Koładka, J. Mokrzycki, L. Marcińska-Mazur  
The geometric mean of enzyme activities in soil contaminated with heavy metals after the application of the mineral-organic mixture
181. K. Wolny-Koładka, R. Jarosz, L. Marcińska-Mazur, K. Gondek, M. Mierzwa-Hersztek  
Effect of mineral and organic additions on the microbiocenotic composition of soil contaminated with heavy metals
183. D. Gkiliopoulos, K. Simeonidis, K. Rekos, D. Efstathiadis, J. Raska, I. Polychroniadis, K. Triantafyllidis  
Valorisation of waste marble powder as additive of epoxy polymers for the protection of commercial marbles
185. E.E. Golia, O.D. Kantzou, S. Papadimou, M.A. Chartodiplomenou, N. Tsiropoulos  
Immobilization of potentially toxic metals in acid and alkaline soil using charcoal, activated carbon and biochar
187. Xiao-Rong Xing, Meng-Wen Yan, Fu-An Wu, Jun Wang, Sheng Sheng  
Identification of cytochrome P450s genes in an endoparasitoid wasp and their expression patterns under stress of insecticides
172. K. Lasaridi, C. Chroni, K. Abeliotis, G. Protopapas, P. Kirkitos, A. Dalamaga, R. Charitopoulou, K. Kalafata, Ch. Angelakopoulos  
Preliminary results from the operation of the first WEEE sorting centres in Greece.
174. F. Contillo, M. Marone, P. Marasco, M. Monteleone, M. Albenzio, M Caroprese, M. Francavilla  
Valorization of tomato pomace byproduct from agro-industrial processing through a “one-pot” simultaneous extraction with a biphasic system.
176. A. Šleiniūtė, T. Mumladze, I. Pitak, G. Denafas  
Recyclability of separate collected municipal solid waste fractions: a case study for Kaunas, Lithuania
178. A. Hashem, M.S. Al-Qahtani, S.A. Alamri, Y.S. Moustafa, G. Lyberatos, I. Ntaikou  
Assessment of novel yeasts for the production of single cell protein from wasted dates molasses
180. R. Jarosz, L. Marcińska-Mazur, J. Szerement, M. Juda, J. Mokrzycki, K. Gondek, M. Mierzwa-Hersztek  
Influence of mineral-organic fertilizers on soil microbial respiration and nitrifying bacteria activity
182. S. Bottausci, G. A. Tuci, A. Bonoli  
Environmental evaluation of a composting plant facility: bioplastics analysis, environmental and economic life cycle assessment
184. J. Pagés-Díaz, C. Huiliñir  
Methane production from process water of the hydrothermal carbonization of food waste and sewage sludge: Impact of substrate to inoculum ratio and hydrochar addition
186. P. Papavasileiou, S. Koutras, T. Tarsanis, E. Koutra, M. Kornaros  
Chemical pretreatment and biotechnological exploitation of rice hull with microalgae towards the production of natural phenolic compounds
188. Qing-Bo Tu, Peng-Yuan Wang, Sheng Sheng, Shuai You, Jin-Zheng Wang, Jun Wang, Fuan Wu  
Antibacterial activity of cinnamic acid derivatives against *Ralstonia solanacearum*

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189. A. Telou, A.A. Zorpas  
Social Behaviour and attitude in the use of GMO
190. Shashikant Yadav  
Carbon dioxide capture, its status and associated technologies: A review
191. P. Rožek, M. Król  
Synthetic zeolite granules for the removal of hazardous waste
192. A.A. Tsoumani, N.-M. Barkoula, T.E. Matikas  
Pretreatment for the improvement of recycled aggregate concrete
193. M.A. Sadenova, Yu.M. Fedorchuk  
Hydrofluoric acid waste recycling
194. P. Betu Kasangana, S. Bhatta, T. Stevanovic  
Carbohydrate products from organosolv pulping of sugar maple bark
195. U. Ryszko, P. Rusek  
New generation mineral fertilizers promoted by biologically active additives
196. M. Gallego-García, A.D. Moreno, J.L. Fernández, I. Ballesteros, M.J. Negro  
Lipid production by oleaginous yeast using vegetable waste from sorting process
197. M. Tsangas, M. Jequirim, A.A. Zorpas  
Indication Of Cyprus Energy Strategy, Realities And Future Options
198. D. Hidalgo, F. Corona, J. M. Martín-Marroquín  
Manure biostabilization as a way to improve its agronomic value
199. S. Díaz, G. Fernández, L. Ramírez, F. Pérez  
Degradation of plastic toys without electronic devices
200. M. Dehbashi, M. Aghaei, A. Shahnazari  
BioNanoCoil, a Novel Technology to Treat Mining-influenced Water
201. W. Mikucka, M. Zielinska, K. Bulkowska  
Extraction of phenolic acids from distillery stillage
202. P. Gautam, D. Salunke, S. Lokhandwala  
PlastoAsh Block: A sustainable solution to plastic pollution
203. A. Dimou, S. Vakalis  
Modelling the green transition of Ag. Efstratios - Energy and emission analysis
204. I. Samara, S. Vakalis  
Assessing the present and future landfill emissions in Greek cities under the implementation of Circular Economy targets
205. I. Azeez Adeyemi, I. AlKhader, I. Janajreh  
Sparing Crude Oil Rejection: Technical and Economic Feasibility Evaluation
206. Shashikant Yadav  
Carbon storage by mineral carbonation and industrial applications of CO<sub>2</sub>
207. W.W. Wu, L.H. Xie, J.L. Hao  
A trading platform for construction and demolition waste; an integrated and effective strategy for resource recovery for circular economy
208. M. Zubrowska-Sudol, A. Garlicka, K. Sytek-Szmeichel, K. Umiejewska, J. Walczak  
Impact of hydrodynamic disintegration on the methane potential of selected biowaste
209. M. Andrunik, M. Skalny, T. Bajda  
HDTMA-modified carbon-zeolite composites as adsorbents of 2,4-D and MCPA pesticides
210. J. C. José, G. Z. Beretta, E. N. V. M. Carrilho  
Competitive adsorption of Cr(VI) and Zn(II) ions in aqueous medium applying a biosorbent
211. S.A. Simões, M.T. Santos, T. Trindade  
Analysis of climate change on Portuguese watersheds
212. P. Fella, M. Stylianou, A. Agapiou  
Assessing indoor air quality in olive mills
213. Yutong Guan, Xiaonan Tang  
A Review of LID (Sponge City) Development in China
214. M. Kavalopoulos, E.M. Barampouti, S. Mai, D. Malamis, K. Moustakas  
Effect of storage time on the drying process of restaurant food waste
215. G. Gatidou, I.Vyrides  
Identification of organic compounds from bilge water and their biodegradation from isolated strains
216. M. Stylianou, C. Samanides, R. Constantinou, C. Kallis, A. Agapiou, I. Vyrides  
Isolation of microorganisms for the biodesulfurization of organosulfur compounds

All times are in Central European Summer Time (CEST)

Thursday, 24 June 2021

8.00-8.45

Registration

8.45-11.00

ROOM 1

### Keynote Speakers

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

Evina Katsou, Brunel University London, "The role data in Circular Economy: from data to Circular Smart Systems"

Kunio Yoshikawa, Tokyo Institute of Technology, "Economically feasible mass treatment of municipal solid waste alternative to landfilling/incineration"

Costas Velis, University of Leeds, "Global overview of plastics pollution"

Rafael Luque, University of Cordova, "Waste to wealth, the valorisation concept: present and future"

David Bolzonella, University of Verona, "A biorefinery approach for the conversion of urban organic wastes into biobased products"

Marco Castaldi, City University of New York, "The role of waste to energy (WTE) as a renewable, sustainable, clean energy solution in the US: A review of the health impacts of WTE facilities"

David Newman, World Biogas Association, "Everything is connected: climate change, pollution, biodiversity and public health"

Alok Dhawan, Centre of Biomedical Research, Lucknow, UP, India, "Environmental Toxicology: Challenges and Future Perspective"

Abdul-Sattar Nizami, Government College University, Pakistan, "Role of Waste Biorefineries in Future Energy and Green Products"

11.00-11.15



Coffee Break

**ROOM 1**  
**SESSION IX**
**Anaerobic Digestion II**  
**Chair: K. Lasaridi, D. Bolzonella**

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|-------------|---|
| 11.15-11.30 | F. Piergiacomo, M. Bellucci, L. Borruso, L. Brusetti, L. Beneduce<br>Effect of a partial substitution of energy crop with agricultural waste on the dynamics of bacterial communities in a two stage anaerobic digester   |
| 11.30-11.45 | M. Peprah, P. Tsapekos, P.G. Kougias, I. Angelidaki<br>Ex-situ biomethanation at up-flow reactors   |
| 11.45-12.00 | T. Sarmah, D. Chandra Baruah<br>Biogas as a preferred choice for cooking fuel: An analysis based on some case studies in Rural Assam (India)  |
| 12.00-12.15 | S. Papirio, G. Esposito, F.G. Feroso, L. Frunzo, A. Kalogiannis, G. Kassab, S. Khoufi, E. Scotto di Perta, K. Stamatelatu, Á. Trujillo Reyes<br>Exploring the biochemical methane potential of open market waste from Jordan and Tunisia for a future scale up of anaerobic digestion in Amman and Sfax |
| 12.15-12.30 | V.P. Aravani, K. Tsigkou, M. Kornaros, V.G. Papadakis<br>Biochemical methane potential of various promising agricultural residues in Southern and Northern Greece   |
| 12.30-12.45 | K. Chandrasekhar, Jong-Hun Park, Gopalakrishnan Kumar, Sang-Hyoun Kim<br>Current status and the prospect of anaerobic digestion of Korean food waste  |
| 12.45-13.00 | R. Fragoso, J. M. Ochando-Pulido, J. Gominho, E. Duarte<br>Anaerobic co-digestion of olive oil pomace as a strategy for bioenergy production in the MED region  |
| 13.00-13.15 | F. Sánchez-Soberón, I. Bragança, N. Ratola<br>Occurrence and behaviour of volatile methyl siloxanes (VMSs) in biogas from wastewater treatment plants   |
| 13.15-13.30 | J. Mosquera, D. Rojas, A. Garcia, P. Acevedo, A. Paola Becerra, I. Cabeza<br>Pre-treatments effect on enhance biogas production from anaerobic digestion of rice straw  |
| 13.30-13.45 | J.C. Siqueira, L.A.B. Siniscalchi, P.P. Assemany<br>Specific Methanogenic Activity of anaerobic sludge from different wastewater treatment systems  |
| 13.45-14.00 | E. Suárez, M. Tobajas, A.F. Mohedano, M.A. de la Rubia<br>Anaerobic co-digestion of biowaste and pruning waste under mesophilic range   |

14.00-14.15	C. Koutsiantzi, E. Kikkinides, M. Mitrakas, A. Zouboulis, I. Kellartzis, G. Stavropoulos Evaluation of the polymeric membranes' performance in terms of laboratory-scale CO <sub>2</sub> removal from biogas
14.15-15.00	Lunch Break

**ROOM 2****SESSION X**

### Recycling & Resources Recovery

**Chair: E. M. Barampouti, A. Luciano, Di Wang**

11.15-11.30	J. Faitli, S. Nagy, A. Racz, M. Vitanyi Fundamental Experiments for the Development of an Aero-suspension Dense Media Separator for Aluminium-Copper Scrap Recycling
11.30-11.45	C. Righi, I. Lancellotti, L. Barbieri, G.M. Kirkelund Benefits of pre-treatments on MSWI fly ash before the alkali-activation
11.45-12.00	L.M. Ottosen, A. Becci, F. Beolchini, A.T. Lima, G.M. Kirkelund, P.E. Jensen, A.B. Ribeiro Extraction of Co, Sb, Sr, and V from MSWI fly ash by electrodialysis – a screening of experimental setups
12.00-12.15	D. Gupta, S. M. Mahajani, A. Garg Hydrothermal Carbonization of Household Wet Waste – Characterization of Hydrochar and Process Wastewater Stream
12.15-12.30	N. Garg, S. Mukherji Recovery of heavy metals from Indian LD slag using acidophilic and heterotrophic bacteria: A comparative study
12.30-12.45	M. Dosa, M. Cavallo, N. G. Porcaro, F. C. Bonino, V. Crocellà, M. Piumetti, D. Fino CO <sub>2</sub> capture and storage by natural zeolites
12.45-13.00	M. Kahl, S. Pavón, M. Bertau Recycling of production residues from primary lithium batteries

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13.00-13.15	F.R. Beltrán, M. Fraile, G. Gaspar, M.U. de la Orden, J. Martínez Urreaga Valorization of a post-consumer poly(lactic acid) residue by mechanical recycling
13.15-13.30	M. Nogueira, I. Matos, M. Bernardo, F. Pinto, L. Tarelho, I. Fonseca, N. Lapa Recovery of Rare Earth Elements (Nd <sup>3+</sup> and Dy <sup>3+</sup> ) by Using Waste-Derived Carbon Adsorbents
13.30-13.45	Di Wang, B. Jafari, A. Cannone Falchetto, C. Riccardi, M. P. Wistuba Investigation on the performance properties of asphalt mixtures prepared with RAP and WMA additives at binder and mixture levels
13.45-14.00	K. Kaikiti, M. Stylianou, A. Agapiou Use of biochars for the removal of Volatile Organic Compounds (VOCs)

**ROOM 3****SESSION XI****Waste Valorisation II****Chair: R. Luque, D. Cantero, D. Hidalgo**

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|-------------|--|
| 11.15-11.30 | Xue-Jiao Zhou, Wang-Sheng Ye, Shuai You, Sheng Sheng, Fu-An Wu, Jun Wang<br>A novel water-in-water microfluidic droplet system enhances cyanidin-3-O-glucoside content in red pigments from defective mulberry fruits    |
| 11.30-11.45 | R. Pan, J. Vitor Duque, M. Martins, G. Debenest<br>Investigating of waste plastic co-pyrolysis with char by ANFIS coupled with ant colony algorithm  |
| 11.45-12.00 | F. Corona, M. Gómez, D. Hidalgo, J.M. Martín-Marroquín<br>Innovative low-cost technology for leachate treatment and valorisation   |
| 12.00-12.15 | H. Unver, M. Altinbas<br>Utilization of landfill leachate for the production of oleaginous yeast <i>Y. lipolytica</i>  |
| 12.15-12.30 | G. Pataro, E. Eslami, D. Carullo, G. Ferrari<br>Pulsed electric field-assisted green solvent extraction of valuable compounds from agro-food by-products   |
| 12.30-12.45 | M. Amado, J. Carrasco, L. Ochoa, C.J. Rangel, A.P. Becerra, I. O. Cabeza, P. A. Acevedo<br>Technical and environmental analysis of large-scale pig manure digestion through process simulation and life cycle assessment |
| 12.45-13.00 | M.A. Gómez-Casero, L. Pérez-Villarejo, P. J. Sánchez-Soto, D. Eliche-Quesada<br>Geopolymers based on different types of slags. Comparison in terms of reactivity and mechanical properties developed                     |
| 13.00-13.15 | K. M. Sakkas, N. Vagiokas<br>Utilization of slag for the development of fire resistant geopolymers   |
| 13.15-13.30 | P. Rybowicz, A. Kowalczyk, A. Łagosz, M. Michalik, A. Adamski<br>Crucial parameters determining efficient use of fly ashes from energy sector as raw materials for dedicated advanced applications                       |
| 13.30-13.45 | Bo Wang, Libo Yan, Di Wang, Bohumil Kasal<br>Experimental study on recycled aggregate concrete with fly ash as replacement of cement   |
| 13.45-14.00 | A. P. Galvín, A. López-Uceda, J. Ayuso, A. Lozano-Lunar, L. Contreras, A. Peña<br>Leaching behaviour based on diffusion test performed at long-term on recycled concrete made with precast concrete rejects              |

14.00-14.15	V. Sousa, J.A. Bogas, S. Real, I. Meireles Carbon dioxide emissions of recycled cement production
14.15-14.30	X. Gamisans, I. Chaguaceda, D. Cantero, M. Ramírez, K. Moustakas, D. Malamis, J.J. Ortega, O. Prado, C. Ramírez Bioprocess for simultaneous biogas landfill desulfurization and nitrogen removal from leachate in a pilot plant
14.30-14.45	B. Redondo, L. Martí, P. Basin, E. Silcoff, S. Daren, I. De Vilder, J. Bruneel Next-Generation Halogen Free Flame Retardants Based on Organic Waste
14.45-15.00	M.J. Marin-Figueredo, C. Cocuzza, S. Bensaid, D. Fino, M. Piumetti, N. Russo Catalytic abatement of volatile organic compounds and carbon soot over manganese oxide catalysts

**ROOM 4**  
**SESSION XII**

**LIFE – HORIZON EUROPE**  
**Master-class on Horizon Europe: How to win funds for your project?**  
**H2020 WaysTUP! Project Workshop**  
**Chair: G. Protopapas, P. Papazoglou**

11.15-11.30	G. Protopapas LIFE Programme - Call 2021
11.30-12.30	P. Papazoglou Horizon Europe: General Introduction & Structure, Funding Mechanisms & Partner Search, Proposal Preparation & Support
12.30-12.45	M. Schiza The WaysTUP! project: Transforming urban waste into valuable bio-based products
12.45-13.00	K. Passadis, S. Mai, E. M. Barampouti, D. Malamis, M. Loizidou The Regional Pilot: Bioethanol from biowaste
13.00-13.30	Discussion



**WaysTUP!**

VALUE CHAINS FOR DISRUPTIVE TRANSFORMATION OF URBAN BIOWASTE INTO BIOBASED PRODUCTS IN THE CITY CONTEXT



## ROOM 1

## SESSION XIII

**Waste-to-Energy****Chair: M. Castaldi, N. Themelis, M. Loizidou**

15.00-15.15	N. Themelis The answer to the global problem of plastic wastes: Plastics to Energy (PTE) and Pyrolysis to Oil (PTO)
15.15-15.30	A. Bourtsalas The role of Waste-to-Energy (WTE) in a circular economy society
15.30-15.45	S. Vakalis, K. Moustakas, M. Loizidou Developing the first commercial MSW gasification facility in Greece - Challenges and opportunities
15.45-16.00	R. M. Kabbaj How Waste to Energy (WTE) may help Morocco to reduce landfill greenhouse gas emissions and increase renewable energy
16.00-16.15	A. Dal Pozzo, G. Antonioni, V. Cozzani Furnace injection of dolomitic sorbent as retrofitting option for HCl and SO <sub>2</sub> removal in waste-to-energy plants
16.15-16.30	A. Dimitriadis, G. Meletidis, G.C. Fausson, D. Karonis, A. Odjo, S. Bezergianni Plastic wastes to green transportation fuels
16.30-16.45	F. Patuzzi, D. Antolini, S. Vakalis, M. Baratieri Effect of char recirculation in fixed bed gasifiers: experimental and modelling analysis
16.45-17.00	J. Růžičková, H. Raclavská, D. Juchelková, M. Šafář, M. Kucbel, B. Švédová, K. Slámová The use of polymer composites in the deposit from the combustion of briquettes in local heating as an identifier of fuel quality
17.00-17.15	I. Cisse, T. A. Trabold Biochar derived from pyrolysis of common agricultural waste feedstocks and co-pyrolysis with low-density polyethylene mulch film
17.15-17.30	O. Sosa Sabogal, S. Valin, S. Thiery, S. Salvador Co-pyrolysis of biomass and plastics from waste in an induction heated reactor
17.30-17.45	S. Patsatzis, A. Kopteropoulos, G. Dimitropoulou, A.G. Chioti, T. Sfetsas, S. Stefanidis, A. Lappas Solid Fibrous Digestate Pyrolysis
17.45-18.00	O. de Priall, V. Gogulancea, C. Brandoni, N. Hewitt, C. Johnston, G. Onofrei, Y. Huang Heat and Electricity Production from Poultry Litter Waste: Downdraft Gasification of Biowaste based on Validated Computational Simulations

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18.00-18.15	D. Antolini, F. Patuzzi, M. Baratieri Fuel flexibility of an open top pilot plant gasifier
18.15-18.30	A.C. Cruz, M.E. Ramalho, R.M. Pilão Catalytic co-gasification of glycerol/fat mixtures: A preliminary study
18.30-18.45	I. Janajreh, I. Adeyemi, S. Abedrabbo Feasibility study of the gasification of glycerol: CFD Modeling based on Lagrangian-Eulerian Approach
18.45-19.00	A. Nemmour, C. Ghenai, A. Inayat, I. Janajreh Optimization and Performance Correlations of Municipal Solid Waste Gasification for Sustainable Syngas Fuel Production

**ROOM 2****SESSION XIV****Anaerobic Digestion III****Chair: S. Pavlostathis, M. Tabatabaei, P. Kougias**

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|-------------|--|
| 15.00-15.15 | F. Demichelis, T. Tommasi, F. Deorsola, D. Marchisio, G. Mancini, D. Fino<br>Optimisation of anaerobic digestion of organic fraction municipal solid waste   |
| 15.15-15.30 | M. De Sanctis, V.G. Altieri, C. Di Iaconi<br>An innovative low-temperature anaerobic system for high quality biogas production from municipal sewage   |
| 15.30-15.45 | D. Hidalgo, J. M. Martín-Marroquín, J. Castro, M. Gómez, L. Garrote, G. Antolín<br>Influence of cavitation, pelleting, extrusion and torrefaction pretreatments on anaerobic biodegradability of barley straw and vine shoots                          |
| 15.45-16.00 | J. C. B. F. Bijos, R.W. S. Pessoa, L.M. Queiroz, K. Oliveira-Esquerre<br>Investigation of methane concentration distribution during anaerobic sludge digestion: a thermodynamic approach   |
| 16.00-16.15 | J. Gracia, J. Mosquera, C. Montenegro, P. Acevedo, I. Cabeza<br>Significant Volatile fatty acids production by using primary and digested sludge as raw materials in anaerobic fermentation  |
| 16.15-16.30 | A. Oliva, L.C. Tan, S. Papirio, G. Esposito, P.N.L. Lens<br>Effect of Methanol-Organosolv pretreatment on anaerobic digestion of lignocellulosic materials   |
| 16.30-16.45 | J. A. Villamil, L. D. Allegue, S. Pérez-Elvira, F. Martinez, J. Antonio Melero, D. Puyol<br>New concept for valorization of OFMSW: coupling steam explosion pre-treatment with PHA production by purple phototrophic bacteria, and anaerobic digestion |
| 16.45-17.00 | X. Liu, Y. Tang, S. G. Pavlostathis<br>Performance of Anaerobic Digestion with Hydrothermally Pretreated Municipal Sludge  |
| 17.00-17.15 | A.B. Yazid, S. Grimes, S.R. Smith<br>Pretreatment of Lignocellulosic Biomass with Tannery Wastewater for Solid-State Anaerobic Digestion   |
| 17.15-17.30 | G. Z. Frugoli, M. E. Dias, G. Tommaso<br>Anaerobic digestion of hydrothermal liquefaction wastewater and biochar from spent coffee grounds   |
| 17.30-17.45 | M Adghim, M. Sartaj, N. Abdehagh<br>Post-hydrolysis ammonia-stripping to improve methane potential of poultry manure   |

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17.45-18.00	R.J. Ashraf, J.D. Nixon, J. Brusey Optimising feedstock flowrate to improve the performance of an existing anaerobic digestion system
18.00-18.15	A. Cerutti, G. Campo, M.C. Zanetti, G. Scibilia, E. Lorenzi, B. Ruffino Biogas enhancement through a TPAD carried out on primary sludge
18.15-18.30	C. Delmon, A. Prorot, C. Maftah, M. Casellas-Français Thermal and acidic pre-treatments applied to cow manure: effects on pathogenic bacteria persistence and on biogas production during thermophilic anaerobic digestion
18.30-18.45	M. Gaspari, L. Treu, N. Duan, T. Kotsopoulos, I. Angelidaki, S. Campanaro, P. G. Kougias Exploring the anaerobic digestion microbiome during ammonia incidents via genome-centric metagenomics
18.45-19.00	Guangze Guo, Yemei Li, Shitong Zhou, Yu-You Li Effect of thermal pretreatment on anaerobic digestion of sewage sludge by anaerobic membrane bioreactor
19.00-19.15	J.D. Marín-Batista, R.P. Ipiales, U. Cadaval, J.J. Rodríguez, A.F. Mohedano, M.A de la Rubia Anaerobic digestion of lignocellulosic wastes pre-treated with ionic liquids
19.15-19.30	L. Zaccariello, D. Battaglia, N. Marino, M.L. Mastellone Hydrothermal Carbonization of Digestate in a Pre-Pilot Scale Batch Reactor
19.30-19.45	J.R. Bastidas-Oyanedel, J.E. Schmidt Alternatives to increase economic profit in anaerobic digestion

**ROOM 3**  
**SESSION XV**

**Food Waste Management**  
**Chair: A. Pandey, V.S. Agrawal, D. Malamis**

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|-------------|---|
| 15.00-15.15 | V. S. Agrawal, V. K. Mathur<br>The legislative landscape of food waste  |
| 15.15-15.30 | K. Lasaridi, K. Abeliotis, C. Chroni<br>Assessing the baseline of food waste production in Greece-LIFE IP CEI GREECE  |
| 15.30-15.45 | D. Pantelidou, K. Gerogiannis, C. Gonas, A. M. Goula<br>Vegetables supplemented with phenolics from unused chokeberries by ultrasoundassisted osmotic treatment   |
| 15.45-16.00 | M. Zacharia, V. Stoumpou, E.M. Barampouti, S. Mai, D. Malamis<br>Bioethanol production from municipal source-separated biowaste   |
| 16.00-16.15 | C. Chroni, K. Abeliotis, E. Sigala, S. Piperis, A. Sapounaki, A. Macheras, D. Dionysopoulos, K. Lasaridi<br>Retail food waste: Quantification and potential to change through the analysis of in-store data |
| 16.15-16.30 | P. Tzatsi, P.A. Petraki, I. Tsitsiplamis, A.M. Goula<br>Valorization unused chokeberries: encapsulation and storage stability of their phenolic extract   |
| 16.30-16.45 | D. San Martin, M. Orive, B. Iñarra, M. Gutiérrez, J. Ibarruri, A. Garcia, J. Urkiza, J. Zufía<br>Grape stems as a functional ingredient for rabbit feed   |
| 16.45-17.00 | K. Synani, K. Abeliotis, K. Lasaridi<br>Food waste in the catering and hospitality sector: generation factors and innovative practices  |
| 17.00-17.15 | D. Ott, S. Goyal, H.O. Gutzeit, J. Liebscher, J. Dautz, Th. Monin, H. de Steur, X. Gellynck, E. Zannini<br>LCA as Decision Support Tool in the Food & Feed Sector: R&D Case Studies                         |
| 17.15-17.30 | F. Liberti, E. Gul, S. Massoli, P. Bartocci, G. Bidini, F. Fantozzi<br>Development of a tool to optimize economic and environmental feasibility of waste food chains  |
| 17.30-17.45 | D. San Martin, B. Iñarra, M. Orive, A. Garcia, J. Urkiza, I. Rekondo, I. Alberdi, J. Zufía<br>Potatoes by-products as second generation feedstuff for pig feed  |
| 17.45-18.00 | M. Gutiérrez, B. Iñarra, D. San Martin, C. Bald, M. Orive, J. Zufía<br>Recovery of biomolecules from liquid side-streams from mussel processing   |

- 18.00-18.15 F.R. Beltrán, S. S. Abarca, M.P. Arrieta, G. Gaspar, M.U. de la Orden, J. Martínez Urreaga  
Yerba mate residue: an example of food waste utilization in the improvement of the properties of recycled plastics
- 18.15-18.30 N. Humaidah, S. Nakai, W. Nishijima, T. Gotoh  
Treatment of High Salinity Food-Processing Waste and Lipid Production Using a Thraustochytrid
- 18.30-18.45 A. Mokhati, O. Benturki, Z. Kecira, M. Bernardo, I. Matos, I. Fonseca  
Assessment of Argan Shell Wastes as precursors of Nanoporous Carbon Materials
- 18.45-19.00 D. Christianides, K. Passadis, E.M. Barampouti, S. Mai, D. Malamis  
Pilot-scale investigation of bioethanol production from source-separated food waste

**ROOM 4****SESSION XVI****Waste Valorisation III****Chair: P. Champagne, K. Moustakas, N. Frison**

- 15.00-15.15 S. Papadaki, M. Panagiotopoulou, T. Missirli, M. Krokida  
Exploring the valorisation potential of Tomato cultivation by-products under the frame of Circular Economy
- 15.15-15.30 G. Pesante, A. Zuliani, M. Andreolli, D. Bolzonella, S. Lampis, N. Frison  
Aquaculture feed from Thauera sp. cells obtained from the acidogenic fermentation of agricultural wastes
- 15.30-15.45 K. Filippi, M. Alexandri, H. Papapostolou, A. A Koutinas  
Conversion of winery wastes into a sugar-rich hydrolysate for the biotechnological production of succinic acid
- 15.45-16.00 A. Loukri, N. Solomakou, P. Tsafrakidou, A-M. Michaelidou, I. Mourtzinis, A.M. Goula  
Recovery of spent coffee grounds phenolic compounds through optimized extraction processes
- 16.00-16.15 E. Kurtulbaş Şahin, M. Bilgin, S. Şahin  
Ultrasound Assisted Extraction of Bioactive Substances from Waste By-Products of Sour Cherry Juice
- 16.15-16.30 J.S. Komatsu, B.M. Motta, P.W. dePape, D. Mandelli, G. C. Labuto, W.A. Carvalho  
Fabric Waste Valorisation: a neglected material for application as dye adsorbent and magnetic mesoporous carbon precursor

16.30-16.45	S. Fraterrigo Garofalo, F. Demichelis, G. Mancini, T. Tommasi, D. Fino Conventional and ultrasound-assisted extraction of rice bran oil with isopropanol as solvent
16.45-17.00	M.N. Efthymiou, C. Pateraki, E. Tsouko, E. Psilogiannopoulou, C. Argiti, P. Loukopoulos, D. Selianitis, A. Papagiannopoulos, P. Tzamalís, S. Pispas, K. Bethanis, I. Mantala, A. Koutinas Bacterial cellulose synthesis through circular oriented bioprocesses using confectionary wastes and production of nanocellulose materials
17.00-17.15	A. Sala, T. Echegaray, G. Palomas, J. Boggione, G. Tubio, R. Barrena, A. Artola Insights of fungal solid-state fermentation for waste valorisation: spore and chitinase production in different reactor configurations
17.15-17.30	C. Padilla-Rascón, J.M. Romero-García, I. Romero, E. Ruiz, E. Castro Maximization of xylose production from olive stones by acid pretreatment
17.30-17.45	F. Battista, R. Leal Binati, D. Bertasini, N. Frison, D. Bolzonella Single Cell Proteins production from effluents of candies production
17.45-18.00	H. Pérez-Aguilar, F. Arán-Ais Towards a bio-circular economy: high added value protein recovery and recycling from animal processing by-products
18.00-18.15	E. Scuiller, S. Bennici, P. Dutournié, F. Principaud Industrial waste heat recovery based on thermochemical heat storage: the case of a district heating network
18.15-18.30	A. F. Santos, T. E. Vaz, M. J. Quina Valorization of industrial wastes with complementary properties for producing organic amendments
18.30-18.45	C. Pappa, K.S. Triantafyllidis Utilization of pulp and paper industry waste (Kraft lignin) for the production of bio-based epoxy composites
18.45-19.00	J. Pesonen, S. Tuomikoski, J. Näppä, H. Prokkola, T. Hu, U. Lassi, H. Runtti Ammonium uptake over analcime and its soil enhancer potential
19.00-19.15	G. Pietricola, M. Dosa, A. Bergamelli, C. Ottone, D. Fino, M. Piumetti, T. Tommasi Enzymatic production of alcohols by valorisation of volatile fatty acids embedded in anaerobic digestate
19.15-19.30	A. Lanfranchi, G. Tassinato, F. Valentino, C. Cavinato Co-fermentation of organic waste and sewage sludge after cavitation for VFAs production and subsequent biomethanization
19.30-19.45	A. Lago, M. Sanz, J.M. Gordón, I. Moreno, J. Feroso, D.P. Serrano, P. Pizarro Evaluating the suitability of co-processing gardening residues and the organic fraction of municipal solid wastes via thermal and catalytic pyrolysis

All times are in Central European Summer Time (CEST)

Friday, 25 June 2021

**ROOM 1**  
**SESSION XVII**

**Energy from Waste I / Management of Construction & Demolition Waste**  
**Chair: M. Loizidou, F. Patucci**

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|-------------|---|
| 9.00-9.15   | G. Policastro, A. Ferraro, V. Mazzurco Miritana, G. Massini, A. Signorini, M. Fabbricino<br>Fermentative hydrogen production enhancement by microbial community selection and enrichment through biostimulation |
| 9.15-9.30   | P.V. Almeida, R.P. Rodrigues, R. Ślęzak, M.J. Quina<br>Agro-industrial wastes as a substrate for phenolic compounds extraction followed by pyrolysis  |
| 9.30-9.45   | L. di Bitonto, G. Antonopoulou, C. Braguglia, C. Campanale, A. Gallipoli, G. Lyberatos, I. Ntaikou, C. Pastore<br>Lewis-Brønsted acid catalysed ethanolysis of food waste for the synthesis of ethyl levulinate |
| 9.45-10.00  | Ju-Hyeong Jung, Young-Bo Sim, Jong-Hun Park, Sang-Hyoun Kim<br>Continuous biohydrogen production from food waste using dynamic membrane bioreactor  |
| 10.00-10.15 | J. Eimontas, N. Striūgas, K. Zakarauskas, I. Kiminaitė<br>Catalytical thermal conversion of marine biomass and plastic wastes for a higher added value energy products generation                               |
| 10.15-10.30 | A. Rodríguez, F. Dorado, A de Lucas-Consuegra, A.R. de la Osa<br>Ethanol revalorization through electrocatalytic reforming: influence of the particle size of PtRu/C catalysts in the product distribution      |
| 10.30-10.45 | P. Velásquez, P. Acevedo, A. Santis<br>The effects of the inoculum, organic load, and temperature on biohydrogen production by dark fermentation with Colombian biomass   |
| 10.45-11.00 | P. Nowakowski, M. Wala<br>The evaluation of energy consumption in transportation and processing of municipal waste for recovery in a waste-to-energy plant  |
| 11.00-11.15 | R. Paulauskas, K. Zakarauskas, N. Striugas, R. Skvorcinskiene, J. Eimontas<br>Effect of Ozone on Combustion Performance of BioMethane and Low Calorific Gas   |
| 11.15-11.30 | M. Nasrullah<br>Chlorine flow analysis of solid recovered fuel production in a mechanical treatment plant   |
| 11.30-11.45 | M. Christou, K. Tsiotas, C. Zafiris, K. Panopoulos, T. Kraia, G. Kardaras<br>Residual biomass mobilization strategies for intermediate bioenergy carriers   |

11.45-12.00	 Coffee Break
12.00-12.15	C. Spirchez, A. Lunguleasa, C. Croitoru The importance of the physical and energetic properties of straw briquettes
12.15-12.30	G. Campo, A. Cerutti, M.C. Zanetti, G. Scibilia, E. Lorenzi, B. Ruffino Ammonia release during the Anaerobic Digestion of Thermo-Alkali pre-treated WAS. Preliminary assessment of the increase of electrical energy and GHG emissions in the water line of Castiglione Torinese WWTP
12.30-12.45	A. Rolfe, Ye Huang, N. Hewitt Technical and Environmental Analysis of Methanol Synthesis from Solid Recovered Fuel and Lignite
12.45-13.00	A.A. Tsoumani, N.-M. Barkoula, T.E. Matikas Chemical and mineralogical properties of recycled aggregates
13.00-13.15	A. Luciano, L. Cutaia, P. Altamura, A. Drago, E. Penalvo Critical issues hindering a widespread CDW recycling practice in EU countries and actions to undertake: The stakeholder's perspective
13.15-13.30	W.T. Ma, J.L. Hao, C. Zhang, F.Y. Guo, L.D. Sarno Empirical approach for evaluating the carbon emission of waste from building refurbishment projects for circular economy
13.30-13.45	A. Galderisi, G. Iezzi, G. Bianchini, E. Paris, J. de Brito Petrography of Construction and Demolition Waste (CDW) from Abruzzo Region (Central Italy)
13.45-14.00	C. Gutiérrez Palacios Leachate characterization of a construction waste disposal site
14.00-14.15	N. Ferronato, L. Moresco, G.E. Guisbert Lizarazu, M.A Gorrity Portillo, F. Conti, V. Torretta Comparison of environmental impacts related to municipal solid waste (MSW) and construction and demolition waste (CDW) management and recycling
14.15-14.30	M. Maraqa, T. Fishman, R. Sacks, S. Spatari Reducing construction and demolition waste through lean production: Observations from Tel-Aviv, Israel
14.30-14.45	S. Gulcimen, T. Varışlı, M.G. Khidrah, N. Uzal Comparative Life Cycle Assessment of Single-Family House and Multi-Storey Apartment Building in Turkey
14.45-15.00	Lunch Break

**ROOM 2**  
**SESSION XVIII**

**SESSION XVIII: Waste Valorisation IV**  
**Chair: K. Moustakas, J.L. Hao, A. Zorpas**

9.00-9.15	F. Battista, L. Zuliani, F. Rizzioli, S. Fusco, D. Bolzonella The sequential biorefinery approach for biodiesel and glucose production from Spent Coffee Grounds
9.15-9.30	S.K. Tnah, T.Y. Wu, C.B.T.L. Lee, V.Z. Ong Oil palm frond as a sustainable feedstock in a biorefinery to produce biochemical product and biofuel
9.30-9.45	A. Hanc, T. Hrebeckova, T. Cajthaml Conversion of spent coffee grounds into a valuable product
9.45-10.00	B.S. Campbell, R.B. Thorpe, D. Peus, J. Lee Hydrothermal Carbonisation of Spent Coffee Grounds and Subsequent Anaerobic Digestion of Process Water
10.00-10.15	N. Solomakou, A.M. Goula Holistic exploitation of spent coffee grounds: recovery of phenolic compounds and use as biosorbent
10.15-10.30	P. Tsapekos, E. Papadopoulou, J.A. Madsen, N. Ahrensberg, I. Angelidaki Upgrading municipal biowaste to high value feedstuff
10.30-10.45	M. Panagiotopoulou, C. Boukouvalas, K. Kritsotakis, S. Papadaki, M. Krokida Environmental footprint analysis of valuable compounds recovery and formulation from olive mills' waste
10.45-11.00	A. Lunguleasa, C. Spirchez Energetic aspects of oak and larch pellets obtained from sawdust waste improved by torrefaction
11.00-11.15	S. Greses, E. Tomás-Pejó, C. González-Fernández Volatile fatty acids production from agroindustrial waste: impact of process pH
11.15-11.30	M. Panagiotopoulou, S. Papadaki, M. Krokida, H. Bagia Valorisation of olive processing waste for the development of value-added products
11.30-11.45	Zengqiang Zhang, M. Kumar Awasthi Livestock waste treatment systems of the future: A challenge to environmental quality, food safety and sustainability
11.45-12.00	 Coffee Break

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12.00-12.15	S. Pradhan, H. R. Mackey, T. A. Al-Ansari, G. McKay Biochar: A Sustainable Approach for Food Waste Management to Reduce Water Stress and Enhance Plant Growth
12.15-12.30	D.D.V. Silva, E. Machado, O. Danelussi, S.S. Silva, K. Dussan Repeated-batch fermentation of sugarcane bagasse hemicellulosic hydrolysate to ethanol using two xylose-fermenting yeasts
12.30-12.45	C. Pastore, L. di Bitonto, F. Valentino, G. Moretto, M. Gottardo, G.A. Martinez, S. Notarfrancesco, E. Morselli, L. Bertin, P. Pavan, D. Bolzonella, M. Majone Production of ethyl esters of volatile fatty acids from food waste
12.45-13.00	G. Mannarino, M. A. de la Rubia, E. Diaz, R. Gori, A. F. Mohedano Valorisation of the organic fraction of municipal solid waste by hydrothermal carbonization and anaerobic digestion
13.00-13.15	E. Stylianou, D. Ladakis, C. Pateraki, H. Papapostolou, A. Koutinas Valorisation of the organic fraction of Municipal Solid Waste: Improving succinic acid production efficiency by immobilized continuous fermentation
13.15-13.30	P. Dutournié, M.L. Goddard, A.A. Zorpas, S. Jellali, B. Khiari, M. Jeguirim Olive Mill WasteWater: From a major environmental issue to an eco-responsible valorization
13.30-13.45	M. Donner, T. Yatribi, Y. Erraach, F. López-i-Gelats, J. Manuel, I. Radic, S. Costa, F. El Hadad-Gauthier Valorising olive waste and by-products in the Mediterranean region: a socio-economic perspective
13.45-14.00	G. Z. Beretta, J. C José, J. O. F. Monteiro, E. N. V. M. Carrilho Hormone adsorption by sugarcane bagasse magnetic nanocomposite in water matrix

## ROOM 3

## SESSION XIX

**Bioprocesses, Biorefineries in waste management II****Chair: A. Koutinas, S. Mai**

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|-------------|---|
| 9.00-9.15   | J.J. González-Cortés, A. Valle, M. Ramírez, D. Cantero<br>Characterization of eubacterial communities by DGGE and Next Generation Sequencing (NGS) of nitrification bioreactors using two different intermediate landfill leachates as ammonium substrate |
| 9.15-9.30   | V. Benedetti, M. Pecchi, S. Celletti, D. Basso, F. Patuzzi, T. Mimmo, S. Cesco, M. Baratieri<br>Valorisation of digestate through hydrothermal carbonization (HTC): a preliminary characterization of derived gaseous, liquid and solid products          |
| 9.30-9.45   | A. Djukic-Vukovic, D. Mladenovic, S. Lazovic, L. Mojovic<br>Non-thermal plasma and lignocellulose substrates in biorefinery processes   |
| 9.45-10.00  | D. Alimpoumpa, V. Kachrimanidou, A. Papadaki, I.K. Lappa, E. Eriotou, N. Kopsahelis<br>Evaluation of diversified bioprocessing schemes for biosurfactants production from Lactobacillus strains using cheese whey   |
| 10.00-10.15 | F. Rizzioli, F. Battista, D. Bolzonella<br>VFA recovery from anaerobic fermentate: focusing on adsorption and desorption performances   |
| 10.15-10.30 | E. Morral, A. D. Dorado, X. Gamisans<br>A novel bioscrubber for the treatment of high loads of ammonia from polluted gas  |
| 10.30-10.45 | Xiao-Yi Xu, Xue-Jun Yang, Jin-Zheng Wang, Xiang-Yu Shen, Fu-An Wu, Jun Wang<br>Targeted PLGA Nano-agents preparation and antibacterial activity evaluation against <i>Rastonia solanacearum</i>   |
| 10.45-11.00 | Shuai You, Wenxin Zhang, Ziqian Zha, Zhiyuan Bai, Fuan Wu, Jun Wang<br>Loop engineering of a thermostable GH10 xylanase to improve low-temperature catalytic performance for better synergistic biomass-degrading abilities                               |
| 11.00-11.15 | D. L. Restrepo-Serna, A. Cacia-Silva, A. G. Vejar-Gereda, J. Corredor-Acuña<br>Analysis of the feasibility for obtaining gaseous and liquid biofuels using rice husks as raw material   |
| 11.15-11.30 | I. Ntaikou, M. Alexandropoulou, F. Mentzou, O. Papadopoulos, G., Antonopoulou, A. Hashem, G. Lyberatos<br>Effect of chemical and enzymatic pretreatment on bioethanol production from starchy food wastes via novel yeast strains                         |
| 11.30-11.45 | A. Karnaouri, K. Kalogiannis, A. Chalima, G. Asimakopoulou, A. Lappas, E. Topakas<br>An integrated process for the valorization of sugar streams after organosolv pretreatment of lignocelluloses towards the production of nutraceuticals and polymer    |
| 11.45-12.00 |  Coffee Break  |

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12.00-12.15	G. Cristina, E. Camelin, C. Ottone, L.V. Jorquera, T. Tommasi, M.C. Schiappacasse, D. Fino Alginate beads with humic acids extracted from anaerobic digestate of sewage sludge
12.15-12.30	O. Psaki, D. Ladakis, M. Alexandri, A. Koutinas Valorisation of fruit wastes for the production of poly(3-hydroxybutyrate) and value-added co-products
12.30-12.45	P. Scarponi, A. Bonetto, F. Scattolini C. Cavinato Testing <i>Chlorella vulgaris</i> strain adapted to winery waste digestate in lab scale semi-continuous system
12.45-13.00	K. Kocaman, U. Yetiş, F. B. Dilek Biological Removal of Selected Pesticides from Wastewaters
13.00-13.15	C. Rueda-Duran, M. Ortiz-Sanchez, C.A. Cardona-Alzate Potential of residues to biotechnological conversion. Case study: Detailed Economic Assessment of polylactic acid production used glucose platform from sugarcane bagasse, coffee cut steams and plantain
13.15-13.30	M. Menini, N. S. Lupinelli, P. Critelli, G. Pesante, F. Battista, P. Girelli, N. Frison, D. Bolzonella Production of bio-based VFAs by acidogenic fermentation of protein hydrolysates from agriculture and tannery wastes
13.30-13.45	D. Tsipiras, A. Christofi, E.M. Barampouti, S. Mai, D. Malamis Valorization of industrial orange waste towards biofuel production

**ROOM 4**  
**SESSION XX**

**Aerobic Treatment & Tools for waste management**

**Chair: D. Malamis, M. Doula, P. Rusek**

9.00-9.15	A. Lieto, F. Lombardi, R. Gavasci, I. Verginelli, D. Zingaretti How the wastes composition can influence the setup and the management of a mechanical-biological treatment plant
9.15-9.30	M.R. Martínez-Gallardo, M.J. Lopez, F. Suárez-Estrella, M.M. Jurado, J.A. López-González, J. Salinas, J.A. Sáez, R. Moral, M. García-Muñoz, J. Moreno High-quality compost from pollutant OMW sludge stored in evaporation ponds
9.30-9.45	M. Kumar Awasthi Performance of black soldier fly inoculation on succession of bacteria and organic matter transformation during organic manure composting
9.45-10.00	Yumin Duan, M. Kumar Awasthi Emerging applications of biochar: A way forward to improve the pig manure composting and attenuate toxic metals mobility in mature compost
10.00-10.15	G. Insel, E. Ubay Cokgor, D. Guven, G.E. Zengin, D. Okutman Tas Efficient organic carbon utilization for combined nutrient removal and biogas production in hybrid biofilm activated sludge process
10.15-10.30	J.P. Lantin, M.A.B. Promentilla Applicability of soft systems modelling of food waste management in the Philippines in the context of circular economy
10.30-10.45	S. Kavasilis, M.K. Doula, A.A. Zorpas, D. Ioannou Compost N-mineralization emanated from natural Xerophytic Mediterranean Vegetation debris, soil application and the effects of zeolite
10.45-11.00	N. Mourgkogiannis, I. Nikolopoulos, E. Kordouli, C. Kordulis, A. Lycourghiotis, H. K. Karapanagioti The influence of agro-waste type on the characteristics of biochar produced
11.00-11.15	H. Raclavská, K. Raclavský, J. Růžičková, D. Juchelková, M. Kucbel, B. Švédová, K. Slámová Effect of addition of biochar on improvement the quality parameters of compost used for land reclamation
11.15-11.30	M.J. López, F. Suárez-Estrella, M.M. Jurado, J.A. López-González, J. Moreno Integrating composting within the biorefinery concept: closing the loop

11.30-11.45	H. Raclavská, J. Růžičková, D. Juchelková, M. Šafář, H. Brťková, K. Slamová The quality of composts prepared in automatic composters from fruit waste generated by the production of beverages
11.45-12.00	 Coffee Break
12.00-12.15	H. Coarita Fernandez, P. Buffiere, R. Bayard Agricultural waste extensive mechanical pretreatment at lab-scale before anaerobic digestion: An integral approach
12.15-12.30	D. Ziouzios, N. Baras, M. Dasygenis, C. Tsanaktsidis A dynamic real time scheduling algorithm for optimum garbage collection in a city using IoT smart bins
12.30-12.45	P. Llanquileo-Melgarejo, M. Molinos-Senante Assessing eco-productivity change in Chilean municipal solid waste services
12.45-13.00	F.Ş. Fidan, E.K. Aydoğan, N. Uzal A Comparative Life Cycle Assessment of Conventional and Organic Cotton in Denim Fabric
13.00-13.15	S. Kavalis, M.K. Doula, A.A. Zorpas, L. Cambanis Composting of animal mortalities - Procedure and preconditions
13.15-13.30	A. Campitelli, L. Saadoun, J. Kannengießer, D. Stanjokovski, L. Mandi, N. Ouazzani, L. Schebek Implementation of a biotechnology in the Global South: A case study
13.30-13.45	V. Kouloumpis, X. Yan Constrained areas renewable energy planning and their end-of-life waste legacy
13.45-14.00	Xin He, Dingding Yao, Chi-Hwa Wang Carbon Footprint of Plastic and Sludge Waste Streams in Singapore
14.00-14.15	I. Korytár, L. Mravcová, J. Racek, K. Velikovská, P. Hlavínek Characteristics of wastewater from tunnel washing: case study from Brno

**ROOM 1****SESSION XXI****Energy from Waste II****Chair: M. Baratieri, S. Vakalis**

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| 15.00-15.15 | A. Manali, N. Mavrakis, P. Gikas<br>Environmental Impact Assessment for an integrated microsieving-drying-gasification pilot plant for biosolids to electric energy, in Rethymno, Greece      |
| 15.15-15.30 | C. J. Rangel, M.L. Amado, M.A. Hernández, S.I. Villamizar, J.D. Mosquera, I. O. Cabeza, P.A. Acevedo<br>Life cycle analysis based on dark fermentation modeling in Colombian scenarios        |
| 15.30-15.45 | P. Velásquez, P. Acevedo, A. Santis<br>The effects of the inoculum, organic load, and temperature on biohydrogen production by dark fermentation with Colombian biomass                       |
| 15.45-16.00 | L. Lombardi, S. Fabrizi, T. Foschi, B. Mendecka<br>Preliminary energy balance of hydrothermal carbonization of mechanically separated organic fraction from mixed MSW on industrial scale     |
| 16.00-16.15 | K. Asimakopoulos, H.N. Gavala, I.V. Skiadas<br>Syngas Biomethanation in Trickle Bed Bioreactors by Mixed Microbial Consortia  |
| 16.15-16.30 | S. Bezergianni, A. Dimitriadis, G. Meletidis, U. Pfisterer<br>Straw-based bio-oil to hybrid fuels production  |
| 16.30-16.45 | M. Pinzón, P. Sánchez, A. Lucas Consuegra, A.R. Osa, A. Romero<br>Ammonia as a carrier for hydrogen production by using Perovskites   |
| 16.45-17.00 | S. Salimi Khaligh, M. Altınbaş<br>Evaluate the effect of COD/TKN ratio on lipid storage and biomass generation of <i>Yarrowia lipolytica</i> growing on fermented food waste                  |
| 17.00-17.15 | H. Nouali, A. Ryzhikov, J. Patarin, T.J. Daou<br>Effect of LiCl aqueous solutions on the energetic performances of Silicalite-1   |
| 17.15-17.30 | B. Shekher Giri, A. Pandey, V. Katiyar<br>Bioenergy utilization and Bioeconomy  |
| 17.30-17.45 | P. Papavasileiou, M. Zervou, K. Tsigkou, M. Kornaros<br>Chemical pretreatment of <i>Hippophae rhamnoides</i> prunings towards their biotechnological exploitation through anaerobic digestion |

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17.45-18.00	M. Menini, G. Pesante, J.E. Rodriguez Gamero, D. Bolzonella, N. Frison Dissolved CO <sub>2</sub> valorization by means of microbial electrolysis cell (MES) using anaerobic sludge from an agricultural digestate
18.00-18.15	E. Intzidi, B. Paris, V. Zourna, M. Koumoutsakou, C. Christopoulou, M. Angelidou, I. Papagiannopoulos Kafsimio: recycling coffee waste into bioenergy: Implementing a circular waste management system: a case study of SCG
18.15-18.30	Shengyong Lu, Minghui Tang, Xinlei Huang, Yaqi Peng Hierarchical porous carbon derived from biomass as super adsorbent for Dioxin removal
18.30-18.45	G. Melitos, X. M. Voulkopoulos. A. Zabaniotou Waste utilization for biohydrogen production through photobiological methods
19.00-19.30	<b>Closing Session with the active participation of chair persons – Poster award ceremony – Announcement of the place for the 2022 9<sup>th</sup> International Conference on Sustainable Solid Waste Management</b>

**ROOM 2**  
**SESSION XXII**

**Hazardous Waste**  
**Chair: U. Yetis, B. K. Lee, G.M. Kirkelund**

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| 15.00-15.15 | G.M. Kirkelund, B.A.R. Ebert, L.M. Ottosen<br>Improving metal extraction from MSWI fly ash through different experimental conditions for the electro-dialytic treatment method                         |
| 15.15-15.30 | J. Almeida, J.M. Paz-Garcia, J.M. Rodríguez-Maroto, E.P. Mateus, A.B. Ribeiro<br>Modelling the extraction of elements from secondary mining resources in electro-dialytic systems                      |
| 15.30-15.45 | G. Mancini, A. Luciano, F. Palmeri, P. Viotti, D. Fino<br>An approach to the economic and environmental sustainable management in hazardous waste stabilization and disposal                           |
| 15.45-16.00 | Byeong-Kyu Lee, Ryeo Gyeong Youn, Byeo Riy Shin<br>Proposed Secondary Treatments of Chemicals/Wastes from Chemical Accidents   |
| 16.00-16.15 | E. Lester-Card, G Smith, J. Widdowson, C. Tizaoui<br>Application of Moringa Oleifera Seed Cake as a Natural Coagulant for the Removal of Oil from Model Oil-Water Emulsions                            |
| 16.15-16.30 | J.J. González-Cortés, F. Almenglo, M. Ramírez, D. Cantero<br>Effect of two different intermediate landfill leachates on ammonium oxidation rate of nitrification bioreactors                           |
| 16.30-16.45 | J. E. Brinco, T. Martins, J. Cardoso, E. P. Mateus, A. B. Ribeiro, M. D. da Silva<br>Pesticide Used Packaging Management in Portugal: An Analytical Method for the Determination of Contaminant Levels |
| 16.45-17.00 | S. Dudek, D. Kołodyńska<br>The iron oxide sorbent modified with lanthanum(III) ions in the context of arsenic removal  |
| 17.00-17.15 | N. Ates, N. Uzal, U. Yetis, F.B. Dilek<br>Removal of Pesticides from Wastewater by Membrane Process  |
| 17.15-17.30 | S. Rodin, P. Champagne<br>Pilot-scale feasibility study for remediation of coal tailings via microbial-induced calcite precipitation   |
| 17.30-17.45 | L. Tomassetti, V. Paolini, M. Torre, E. Guerriero, F. Petracchini, A. F. Gualtieri<br>Emissions of thermal treatment of asbestos containing waste (ACW)  |

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17.45-18.00	P. Gautam, S. Kumar Characterization of hazardous waste landfill leachate and its treatment through electrocoagulation
18.00-18.15	D. Urbancl, D. Goricanec, M. Simonc Heavy metals removal from contaminated soil by EDTA
18.15-18.30	A. Tsipa, I. Vyrides, K. Andreou, G. Kazamias, M. Chatzicharalampous, C. Varavvas, M. Koutinas Application of ozonation and bioremediation for integrated treatment and valorization of drilling waste: Technology development and monitoring of microbial dynamics
18.30-18.45	L. El Hanache, B. Lebeau, H. Nouali, J. Toufaily, T. Hamieh, T.J. Daou Surfactant-Modified Hierarchical Nanozeolites: Super-adsorbents for nitrate removal from contaminated water
18.45-19.00	C. Polat, H. Yildirim, U. Yetis, Y.D. Yilmazel, F.B. Dilek, B. Başer, I. Ince, S.B. Yanar, M. Tanrıkulu, E. Kucuk, T. Pilevneli, N. Ulgudur, S.U. Yurtseven, O. Yılmaz, A. Durak, Y. Kesimal, M. Ecer, M.E. Birpınar Investigation of Waste Management Practices in Turkey with a Particular Focus on Interim Waste Storage Facilities

**ROOM 3**  
**SESSION XXIII**

**Socioeconomic Issues, Treatment technologies, Characterisation of Waste Residues**  
**Chair: A. Witek-Krowiak, C. Dias-Ferreira**

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|-------------|---|
| 15.00-15.15 | A. Maalouf, A. Mavropoulos<br>A Waste Management Market Snapshot 2014-2019: A Global Analysis of Infrastructure Delivery Progress and The Closure of Dumpsites  |
| 15.15-15.30 | E. Chioatto, P. Sospiro, M. Attiq Khan<br>Sustainable Solid Waste Management in the European Union: Four Countries Regional Analysis  |
| 15.30-15.45 | F. Piergiacomo, P.P. Limoni, L.E. Zuffianò, M.Polemio, L. Beneduce<br>Microbial and chemical monitoring integrated approach applied to a potential landfill leachate contamination of groundwater                                       |
| 15.45-16.00 | G. Montevecchi, L. I. Macavei, F. Masino, S. D'Arco, U. Cancelli, M. Gammaitoni, T. Marchesini, L. Maistrello, A. Antonelli<br>Black soldier fly ( <i>Hermetia illucens</i> ) larvae processing as a strategy for solid waste reduction |
| 16.00-16.15 | A. Kunszabó, D. Szakos, A. Dorkó, C. Farkas, G. Kasza<br>Household food waste composting habits and behaviours in Hungary: a segmentation study   |
| 16.15-16.30 | A.C. Mitsikas, K.G. Aravossis, V.C. Kapsalis<br>Techno-economic evaluation of solid waste treatment technologies- An implementation in the region of Attica (Greece)  |
| 16.30-16.45 | V. Valinčius, R. Uscila, R. Kėželis, V. Grigaitienė, D. Gimžauskaitė, P. Valatkevičius<br>Distribution of energy characteristics in plasma chemical reactor for waste processing  |
| 16.45-17.00 | M. Moreira de Oliveira, C. Malinowski, P. Moretti, R. Bayard, P. Buffière, A. Borges de Castilhos Jr, J. Morais de Araujo, R. Gourdon<br>Urban bio-waste valorization – Pretreatment and energy recovery by anaerobic digestion         |
| 17.00-17.15 | J. Horák, L. Kuboňová, M. Dej, S. Bajer, F. Hopan, K. Krpec, J. Ryšavý, O. Molchanov, P. Kubesa, M. Jaroč, J. Kremer<br>Method for indication of municipal waste combustion in households by ash analysis                               |
| 17.15-17.30 | H.B. Kim, K. Baek<br>Improving biochar stability against natural abiotic aging in the environment   |

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17.30-17.45	S. Paliya, M. Suresh Kumar, S. Kumar Polybrominated diphenyl ethers (PBDEs) in soil from municipal solid waste dumping sites of India
17.45-18.00	K. Mikula, G. Izydorczyk, D. Skrzypczak, K. Chojnacka, A. Witek-Krowiak Preparation of hydrogel capsules as macro and microelements carriers
18.00-18.15	A. Balidakis, G. Giannopoulos, D. Kalderis, I. Ipsilantis, Th. Matsi Sewage sludge stabilization with clay minerals and biochar
18.15-18.30	A. F. Santos, M. J. Quina Analysis of biological stability of dried sewage sludge from anaerobic digestion mixed with inorganic by-products
18.30-18.45	S. Jabłoński, M. Łukaszewicz Manure anaerobic digestion and fertilizer production - assessment of technology energy demand

**ROOM 4**  
**SESSION XXIV**

**Recovery of materials from wastewater & sludge - Sludge Management**  
**Chair: A. Zouboulis, K.-J. Haralambous, F. Dilek**

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| 15.00-15.15 | G. Samiotis, S.A. Theofanidis, K. Stamatakis, E. Amanatidou<br>Cultivation of cyanobacterium <i>Synechococcus elongatus</i> PCC 7942 in wastewater substrate – A challenge to be addressed  |
| 15.15-15.30 | A. Kainulainen, L. Rossi<br>Nutrient recovery and subsequent sludge pyrolysis – a future solution for municipal waste water management?   |
| 15.30-15.45 | B. Galey, B. Kim, D. Blanc-Biscarat, E. André, G. Ducom, V. Chatain, N. Rousset, N. Dumont, J. Zurcher, R. Gourdon, C. Guyot, M. Gautier<br>Effect of chlorination during sewage sludge thermochemical treatment: phosphorus recovery and trace metal elements vaporization |
| 15.45-16.00 | J. M. Martín-Marroquín, L. Garrote, D. Hidalgo, F. Corona<br>Heterotrophic microalgae cultivation to couple wastewater treatment with feed and fertilizer production  |
| 16.00-16.15 | A. Balidakis, T. Matsi<br>Boron adsorption by steelmaking slag for boron removal excess from irrigation (natural and waste) waters  |
| 16.15-16.30 | M.T. Santos, P. Lopes<br>Sludge recovery from industrial wastewater treatment   |
| 16.30-16.45 | M. Smol, D. Szoldrowska<br>Inventory of waste generated in water and wastewater sector that can be utilized for the fertilizers production  |
| 16.45-17.00 | A. Sarrión, E. Diaz, M.A. de la Rubia, J.J. Rodriguez, A.F. Mohedano<br>Hydrothermal Treatment of Digested Sludge for Nutrient Recovery   |
| 17.00-17.15 | M. Constantinou, A.A. Mazioti, C. Varavvas, G. Vyrides, G. Constantinides<br>Electrocoagulation of real bilge wastewater: effect of electrode type (Al, Fe), spacing and voltage  |
| 17.15-17.30 | N. Yilmaz, C.H. Yardimci, R.E. Yardimci, M. Elhag<br>Relationship between phytoplankton composition and bacterial load dynamics in Buyukcekmece Dam Lake (Istanbul, Turkey), a drinking water resource  |
| 17.30-17.45 | M. Smol<br>Comprehensive analysis of Polish sewage sludge ash (SSA) and its possible disposal practices   |

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17.45-18.00	M. Baghbanzadeh, N. Nadimi Farokh, M. Sartaj, N. Abdehagh, J. Savage, A. VanderZaag, M. Aghaei Nutrient Recovery from Anaerobic Digestate Using a Natural Polymer and Mechanical Separation
18.00-18.15	Xiang-Ying Chuang, Tsung-Yu Wu, Chihpin Huang Ammonium removal by biochar produced from co-pyrolysis sewage sludge and agriculture biomass
18.15-18.30	P.E. Jensen, G.M. Kirkelund, J. Fritt-Rasmussen, L.M. Ottosen Recovery of Toxic Elements from Sediments of Eutrophic Fresh-Waters
18.30-18.45	L. Lorini, C. Marzo, M. Villano, M. Majone, F. Valentino Effects of the applied organic loading rate on the selection of a PHA-storing biomass in a Sequencing Batch Reactor with uncoupled Carbon and Nitrogen feeding
18.45-19.00	S. Jerez, M. Ventura, R. Molina, F. Martínez, M.I. Pariente, J.A. Melero Application of an autocatalytic fenton process for the pre-treatment of an oily sludge: A sustainable management for refinery wastes

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