the international water association

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Fueling Sustainability

AD19

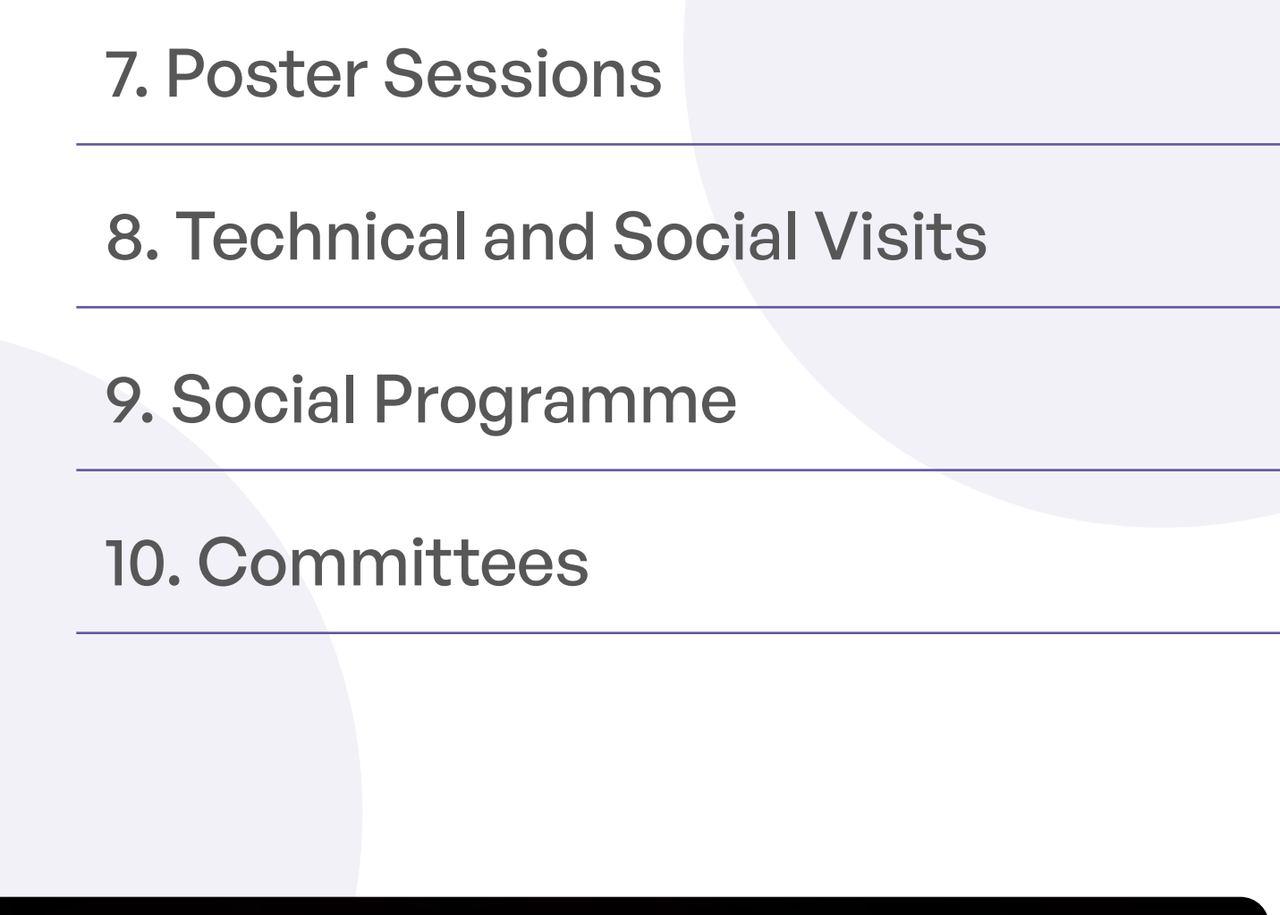
19th IWA World Conference on Anaerobic Digestion

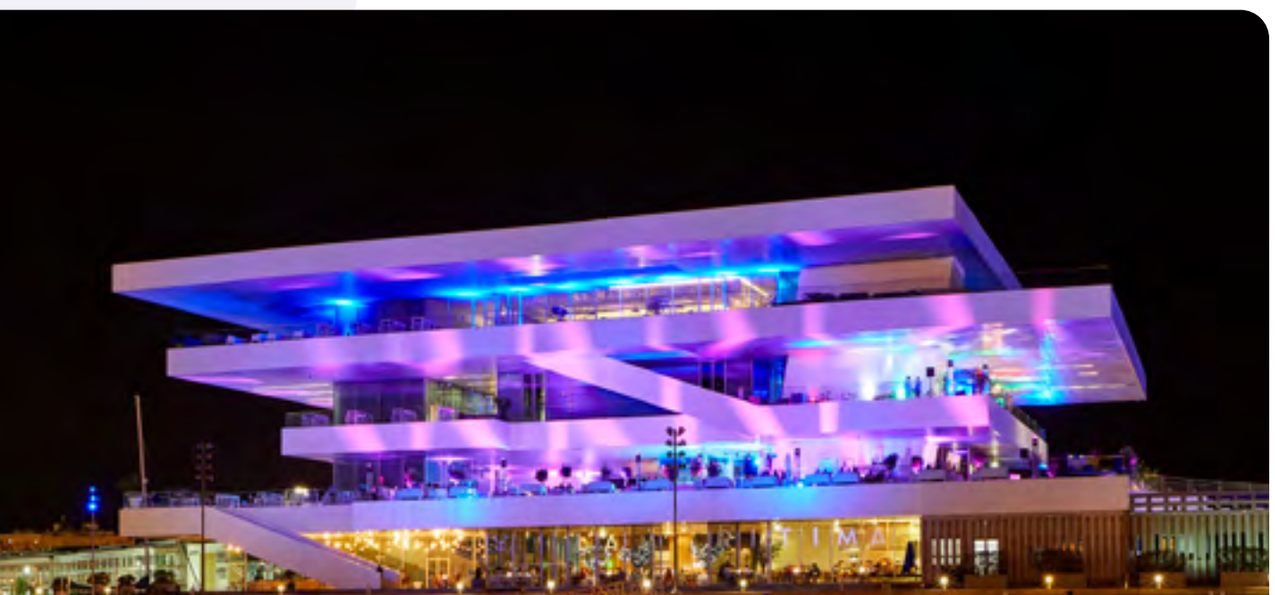
València, June 9—13 2026

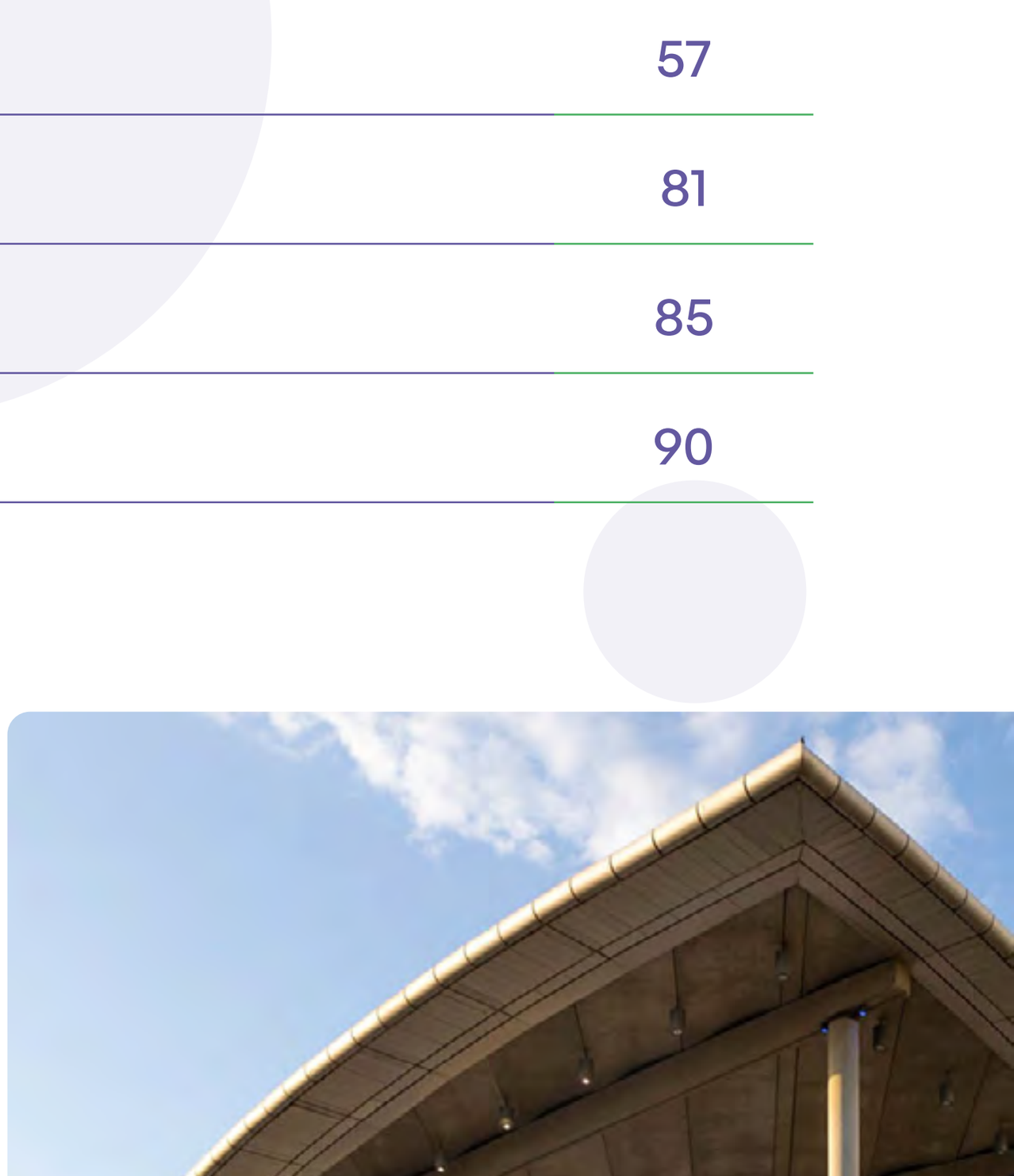
Index

19th IWA World Conference on Anaerobic Digestion

València 9—13 June 2026







Fueling Sustainability

19th IWA World Conference on Anaerobic Digestion

1. Welcome message

1. Welcome message

→ 4

We are delighted to welcome you to the 19th IWA World Conference on Anaerobic Digestion (IWA AD19), taking place in València, Spain, from June 9 to 13, 2026. It is our great pleasure to host you in this vibrant Mediterranean city, where history, culture, and innovation come together to create an inspiring environment for scientific exchange and collaboration.

This conference is part of the IWA Anaerobic Digestion Specialist Group series and represents one of the premier international platforms dedicated to anaerobic technologies. We sincerely thank you for the outstanding response to our call: this year, we are delighted to bring together around 750 participants from over 50 countries. The scientific program reflects the strength and diversity of the field, built upon 715 contributions carefully reviewed by the Scientific Committee.

The congress structure has been designed to foster interaction, discussion, and knowledge exchange at multiple levels. It includes 2 opening plenary speeches, 5 parallel full-day tracks (comprising a total of 10 half-day workshops), 3 plenary sessions and 27 oral platform presentation sessions (including 8 keynote lectures), 6 flash presentation sessions, and 2 dedicated poster sessions, complemented by 6 poster sessions during coffee breaks. These sessions aim to highlight both cutting-edge scientific advances and practical applications, while also providing space for discussion and critical reflection.

Under the theme “Fueling Sustainability,” the IWA AD19 conference highlights the crucial role of anaerobic digestion in advancing low-carbon and resource-efficient systems. We firmly believe that continued progress in this field is essential for building a more sustainable and resilient future.

IWA AD19 brings together a diverse and multidisciplinary community of academics, researchers, engineers, practitioners, policymakers, and industry representatives. We have placed particular emphasis on strengthening the connection between science and industry, as reflected in the strong participation of companies in the program.

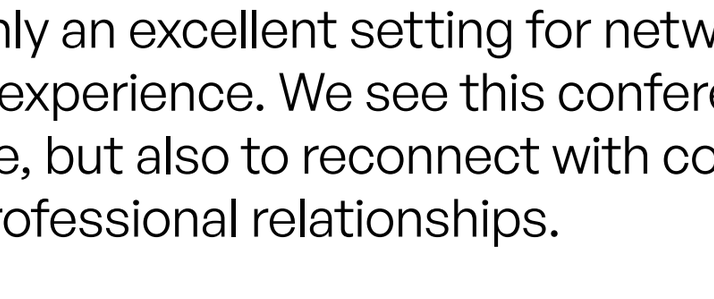
We would also like to sincerely acknowledge the support of our sponsors and collaborators. We are especially grateful to Veolia and FACSA-SITRA as Platinum Sponsors; Global Omnium, Ingelia, and Aqualia as Silver Sponsors; and Anaero Technology, NS Instruments, BPC Instruments, Aqlara, Ciclagua, and Genia Bioenergy as Bronze Sponsors. We also wish to highlight the valuable collaboration of the Office of the Third Vice-Presidency and the Regional Ministry for the Environment, Infrastructure, Territory and Recovery of the Generalitat Valenciana, together with the Regional Ministry of Education, Culture and Universities of the Generalitat Valenciana.

Beyond the scientific program, we encourage you to take full advantage of your time in València—a city that offers not only an excellent setting for networking and discussion, but also a rich cultural and social experience. We see this conference as a place not only to learn and share knowledge, but also to reconnect with colleagues, meet new collaborators, and build lasting professional relationships.

We have worked with great dedication to deliver a high-quality conference, both scientifically and socially. We sincerely hope that your experience at IWA AD19 and your stay in València will be both memorable and rewarding.

Welcome to IWA AD19! Welcome to València!

AD19
19th IWA World Conference on Anaerobic Digestion
Fueling Sustainability



June 9—13, 2026
Valencia

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19

19th IWA World Conference on Anaerobic Digestion

2. Sponsors

2.Sponsors

→ 6

Platinum

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Bronze

Anaero Technology

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BPC INSTRUMENTS

aqlara ciclo integral del agua

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Featured Collaborations

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Vicepresidencia Tercera y Conselleria de Medio Ambiente, Infraestructuras, Territorio y de la Recuperación

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Platinum

Veolia

Along with its international expertise, Veolia has a strong local presence in Spain. Thanks to its more than 17,000 employees, it is positioned as a benchmark company in decarbonisation, circular economy and optimised resource management. In the field of water, through innovation and technology, it develops solutions for the sustainable and efficient management of water resources, promoting the reclamation and reuse of water for new uses in cities, agriculture and industry.

veolia.es

Facsa + Sitra

Facsa and Sitra, companies within the water division of Nealis, combine decades of experience in environmental infrastructure and integrated water cycle management with a strong commitment to developing sustainable bioenergy solutions. Together, both companies provide a comprehensive approach to anaerobic digestion, covering the full project lifecycle: from engineering and plant development to operation, optimisation, and resource valorisation.

With extensive expertise in the treatment of wastewater sludge and complex organic waste, both companies have built a solid track record in anaerobic digestion projects across Spain. This experience is supported by extensive operational know-how, innovation capabilities, and a firm commitment to circular economy models applied to water treatment and waste valorisation. It is a shared approach focused on water stewardship, energy recovery, and environmental sustainability.

Driving Innovation in Resource Valorisation

Innovation plays a central role in this strategy. Facsa and Sitra actively promote technologies and operational approaches aimed at enhancing anaerobic digestion efficiency and maximising resource recovery. This commitment is underpinned by a solid in-house laboratory infrastructure, where specialised analytical methods are applied to assess the methane generation potential of a wide range of substrates.

At the same time, both companies develop and operate modular pilot and demonstration-scale plants that enable the validation of technologies under real operating conditions prior to full-scale implementation. This practical approach facilitates the acceleration of innovation while minimising uncertainties and operational risks.

Beyond the anaerobic digestion process, Facsa and Sitra are also advancing in key areas including biogas upgrading, biomethane injection into the natural gas grid, and advanced digestate treatment solutions, thereby enabling the valorisation of by-products into high-value resources such as agricultural fertilisers and reclaimed water.

Through this integrated approach, both companies contribute to the development of more circular, resource-efficient, and sustainable environmental solutions.

facsa.com sitra.es

Silver

Global Omnium

Global Omnium group manages 308 wastewater treatment facilities, processing 315 Hm^3 of effluent annually. The company is a leader in resource recovery, generating over 112,000 tonnes of agricultural sludge, 19 MWh of cogenerated energy, and 35,000 tonnes of compost per year. Beyond wastewater treatment, Global Omnium specializes in irrigation management, hydraulic engineering, and nature-based solutions.

With extensive experience in EU-funded programs (H2020, Horizon, LIFE, ERDF), in the last 5 years GO has executed 27 projects totaling €4.1M.

globalomnium.com

Ingelia

Ingelia delivers industrial plants that transform organic waste and wet biomass into hydrochar using a proprietary and patented process called Hydrothermal Carbonization (HTC), which uses moderate temperature and pressure (20bar – 200ºC) to convert organic matter into stable solid carbon in a few hours. Ingelia is a worldwide leader in the HTC sector, its process shows an excellent energy balance, is flexible in feedstock, including solids, and produces similar zero-emission biocarbon which meet technical industry requirements. Ingelia´s HTC process is modular, robust and easy to operate with low O&M costs. The HTC plants are certified, preassembled and easily scalable.

ingelia.com

Aqualia

Aqualia manages the complete water cycle for 45 million inhabitants in 19 countries, including sustainable solutions for the circular economy. The company has innovated in the anaerobic digestion of sludge and organic waste, from the Anammox ELAN process to the ELSAR electrostimulated reactor, or the Anaerobic MBR to optimize resource recovery in wastewater treatment plants and industrial installations. Aqualia is a pioneer in biogas valorization, its upgrading to biomethane, and hydrogen generation, contributing to decarbonization with renewable energies. Its approach combines creative collaborations to provide and increase environmental and social value.

aqualia.com

2.Sponsors

→ 9

Silver

Anaero Technology

With 27 years of industrial and academic experience in the AD we design and develop research and testing equipment for anaerobic digestion. Our range include established BMP test systems, manual feeding digesters, our patented automatic feeding research digesters, and our patented automatic biogas analyser for 15 low-flow channels.

anaerotech.com

NS Instruments

NS Instruments is a global leader in analytical instrumentation for renewable energy, environmental, and agricultural industries. Our flagship products — MultiTalent (Automated biomethane potential analyzer), VIPPEN (gas flow meter), and SIGTUNA (bioreactor) — deliver precision and automation across the anaerobic digestion value chain. Trusted by over 300 clients worldwide, NS Instruments drives innovation at the forefront of biogas research and industry.

novaskantek.com

BPC Instruments

BPC Instruments is a publicly listed Swedish company with customers in more than 90 countries. We design and manufacture analytical instruments and software that help labs run advanced experiments with less manual work and more reliable results across biogas, biodegradability, animal nutrition, wastewater analysis, and related fields.

bpcinstruments.com

aqlara

We are a company dedicated to managing drinking water supply services and operating sanitation systems. AQLARA provides an essential public service, integrating engineering solutions, modeling, and data analysis to optimize efficiency, resilience, and quality, promoting collaborative management with public administrations and communities.

aqlara.com

Ciclagua

Ciclagua is a company specialized in water and waste management, backed by extensive professional experience. Its approach combines quality, customer proximity, and environmental responsibility, supported by continuous training, innovation, and safe working practices. It also operates in areas such as the water cycle, construction, and waste management and valorization.

ciclagua.com

genia bioenergy

Genia Bioenergy is a Spanish company integrating the biogas and biomethane value chain, from technology development and engineering to construction and operation. Through its Circular Bioenergy Centers model, it delivers traceable, controlled and verifiable renewable energy solutions that create shared value, support ecosystems and ensure environmental, social and operational excellence.

geniabioenergy.com

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19th IWA World Conference on Anaerobic Digestion

3. Invited Speakers

3.Invited speakers

→11

Opening, Plenary and Keynote speeches

Opening speech

PhD Jean-Philippe Steyer

INRAE-LBE (France)

Speech:

Anaerobic Digestion, an old story for today and tomorrow

Bio:

Jean-Philippe Steyer is Director of Research at INRAE-LBE in Narbonne (https://narbonne.montpellier.hub.inrae.fr/). His areas of research include modeling and optimizing biological processes for waste and wastewater treatment and recovery. Over the years, the doctoral students he has supervised have worked on modeling microbial diversity, integrating thermodynamics into mass balance models, developing metabolic models in conjunction with innovative real-time instrumentation systems to obtain more accurate information on the dynamics of ecosystems in bioprocesses, as well as life cycle analysis to take environmental impacts into account. He has also broadened his areas of application, focusing on anaerobic digestion as a core bioprocess, but integrating it with innovative processes such as microalgae cultivation for sustainable bioenergy and bioproduct production.

Jean-Philippe Steyer is currently co-director of the INRAE metaprogram on "The bioeconomy for urban areas" (https://better.hub.inrae.fr/) and scientific director of the Explor'AE program on "accelerating high-risk research in agriculture, food, and the environment," (https://explorae.inrae.fr/fr).

Prof. Kala Vairavamoorthy

Executive Director International Water Association

Speech:

IWA Vision on Anaerobic Digestion

Bio:

Kala Vairavamoorthy is an internationally recognised water resource management expert, with particular expertise in urban water issues. He combines a strong engineering background with practical international experience. He has published extensively and has a strong international profile working closely with the World Bank, UN-Habitat, UNESCO, GWP, SIWI and the EU. This includes leading several urban water management projects for the World Bank, African Development Bank, Asian Development Bank and DFID.

Prior to joining the International Water Association, he was the Deputy Director General for Research at the International Water Management Institute. Kala was also the Founding Dean of the Patel College of Global Sustainability and a tenured Professor in the Department of Civil and Environmental Engineering, at the University of South Florida (USA). Prior to that he was a full professor and Chair of Water Engineering at the University of Birmingham (UK), and Professor and Head of Core of Sustainable Urban Water Infrastructure Systems at UNESCO-IHE (Netherlands). He is currently Professor (adjunct) at the Indian Institute of Technology, Madras (IITM).

Kala has a PhD and MSc in Environmental Engineering from Imperial College, University of London, UK and a BSc (Hons) from King's College, London.

3.Invited speakers

→ 12

Plenary Speech

Prof. Lutgarde Raskin

Yale University (USA)

Speech:

Nature-inspired microbiome engineering to retool anaerobic digestion

Bio:

Dr. Lutgarde Raskin is a Professor in the Department of Chemical and Environmental Engineering at Yale University. Before this, she was a Professor of Environmental Engineering at the University of Michigan and the University of Illinois at Urbana-Champaign. Dr. Raskin is a pioneer in molecular microbial ecology applied to engineered water systems. She and her team are developing anaerobic bioprocesses for resource recovery from waste streams and studying microbial aspects of urban water systems to assist water utilities. She has a strong interest in graduate education and mentoring and has advised approximately 20 postdocs and 100 graduate students, including about 30 Ph.D. students. She is an elected Fellow of the American Academy of Microbiology, the International Water Association, the Water Environment Federation, and the Association of Environmental Engineering and Science Professors. She was elected to the U.S. National Academy of Engineering in 2021.

Prof. Raúl Muñoz

Universidad de Valladolid (Spain)

Speech:

Broadening the bioproduct portfolio of anaerobic digestion via biogas and digestate bioconversion

Bio:

Raúl Muñoz holds a Master–Bachelor Degree in Chemical Engineering from Universidad de Valladolid (2001) and a PhD in Environmental Biotechnology from Lunds Universitet (2005). Since 2005 he has developed his academic career at Universidad de Valladolid, where he became Full Professor in 2020. His research has focused on biogas upgrading and valorization, photosynthetic wastewater treatment, bioplastic valorisation and biohydrogen production.

He has published more than 420 international publications, 33 book chapters and edited two books. He has led 30 competitive European and National projects, and 41 industrial R&D contracts. He has supervised 34 PhDs and 32 postdocs, delivered 35 keynote lectures in international conferences, and received national awards for technology transfer from the Spanish Royal Academy of Engineering.

Prof. Chang Chen

Beijing University of Chemical Technology (China)

Speech:

Fate of Biodegradable Plastics in Anaerobic Digestion: Potential Resources vs. Hidden Risks

Bio:

Dr. Chang Chen is a Professor at College of Chemical Engineering, Beijing University of Chemical Technology, China. With over 15 years of dedicated research in anaerobic digestion, Dr. Chen has led more than 30 research projects and published 150+ papers in peer-reviewed academic journals. His work mainly focuses on three interconnected themes: 1. Microbial transformation mechanisms of biodegradable plastics (BPs): Unveiling specific microbial pathways and transformation processes of BPs under anaerobic conditions; 2. Process optimization: Developing pretreatment strategies (e.g., chemical/biological activation) and system-level engineering to enhance anaerobic degradation efficiency; 3. Environmental risk assessment: Evaluating the generation, persistence, and ecological impact of biodegradable microplastics (BMPs) in anaerobic environment.

Beyond BPs, Dr. Chen integrates microbial community engineering, metabolic engineering, and machine learning to improve methane production and resource recovery from organic wastes (e.g., agricultural residues, kitchen waste). His research bridges fundamental microbial ecology with applied bioprocess engineering, aiming to balance resource valorization and environmental sustainability.

3.Invited speakers

→ 13

Keynote speech

Assoc. Prof. Marta Carballa

University of Santiago de Compostela (Spain)

Speech:

Bioprocess Engineering for Carboxylate Production: bridging experiments and mechanistic modeling

Bio:

Marta Carballa is Associate Professor at the Department of Chemical Engineering of the University of Santiago de Compostela (Spain) and researcher of CRETUS (Cross-disciplinary Research Center in Environmental Technologies). She holds a PhD in Chemical and Environmental Engineering by the University of Santiago de Compostela and completed two postdocs at Pontificia Universidad Católica de Valparaíso (Chile) and at Ghent University (Belgium). Her research has focused on advancing anaerobic digestion technologies and the removal of emerging contaminants in wastewater and sludge treatment processes. Over the past decade, she has been leading a research line aimed at the selective production of volatile fatty acids from waste streams -reframing waste as a valuable feedstock within the circular bioeconomy.

Prof. Jeremy Guest

University of Illinois Urbana-Champaign (USA)

Speech:

Finding the opportunity space for anaerobic technologies in industrial wastewater valorization

Bio:

Dr. Jeremy Guest is the Levenick Professor and Director of the Levenick Center for a Climate-Smart Circular Bioeconomy at the University of Illinois Urbana-Champaign. He holds appointments in the Departments of Civil and Environmental Engineering and, by courtesy, Chemical and Biomolecular Engineering. The core goal of Professor Guest's research group is to advance circular bioeconomies for a more sustainable and just future. His team supports this vision by developing computational models to prioritize research, development, and deployment pathways for new technologies that achieve resource recovery from wastewaters and the conversion of plants to products, food, and fuels. Professor Guest's formal training includes a B.S. and M.S. in civil engineering from Bucknell University and Virginia Tech, respectively, and a Ph.D. in environmental engineering from the University of Michigan.

PhD Javier Climent

HYDRENS (Spain)

Speech:

Diagnosis of full-scale Anaerobic digesters using Advanced Modelling and experimental techniques

Bio:

Javier Climent is PhD in Industrial Technologies by Universitat Jaume I. Previously, he studied Chemical Engineering and Masters in Energy efficiency and Sustainability. Currently, he is the Managing Director at HYDRENS. He has been working in the water industry for optimization projects since 2011. He worked as a researcher at UJI in the Department of Mechanical Engineering and Construction, Area Fluid Mechanics, for 6 years, and he was Assistant Professor in Chem Eng. Dep for 2 years. He developed his PhD in Water Treatment modelling processes using Computational Fluid Dynamics (CFD). He is a member of the Multiphase Flow Research Group of UJI, and the CFD WWT modelling at the International Water Association (IWA). Moreover, he is the coordinator of the DAQUAS Task Group in Odour Management, member of the Chair UJI-FACSA integral water cycle, and professor of some of its courses.

3.Invited speakers

→ 14

Keynote speech

Prof. Irini Angelidaki

Technical University of Denmark (Denmark)

Speech:

Microbes assisting technologies for CO_2 capture and recycle

Bio:

Professor at the Chemical and Biochemical department. Technical university of Denmark. She is leading the bioconversions center at the dept. Central to Irini Angelidaki´s (IA) research is the use of microorganisms for upcycling waste into valuable products, advancing both fundamental knowledge and applied technologies. She has been working with AD processes both for process optimization and developing novel concepts for moving beyond biogas. She has several hundred publications and an h index of 135 and is holding 5 patents on Biotech processes.

Prof. Jorge Rodriguez

Khalifa University (UAE)

Speech:

Models for Learning, Models for Control in Anaerobic Digestion Systems

Bio:

Professor Jorge Rodríguez is Professor of Chemical and Process Engineering at Khalifa University (UAE). His research focuses on mechanistic modelling and control of biological and environmental systems, with particular emphasis on anaerobic digestion and bioenergy processes. His work has contributed to the development of bioenergetic and metabolic modelling frameworks to describe microbial processes, as well as to the design of advanced control strategies for energy management in biological treatment systems. In addition to his work in microbial processes, he maintains a research line in the modelling of epidemiological systems, applying process systems engineering tools to the analysis of infectious disease dynamics. Professor Rodríguez serves currently as Chair of the IWA Anaerobic Digestion Specialist Group and has been named an IWA Fellow. He is also Editor in the journals Water Research and Chemical Engineering Science.

Prof. Jeonghwan Kim

Inha University (Republic of Korea)

Speech:

Innovations toward sustainable anaerobic membrane bioreactor centered process for resource recovery, permeate quality and fouling controls

Bio:

Dr. Jeonghwan Kim is a full professor in Department of Environmental Engineering at Inha University, Republic of Korea. He received his Ph.D. in Department of Environmental Sciences and Engineering from the University of North Carolina at Chapel Hill (2005). Before joining Inha University in 2008, he worked as Post-doctoral Research Associate in Department of Civil and Environmental Engineering at Michigan State University. His research interests are anaerobic membrane bioreactor (AnMBR) and its centered processes for wastewater treatment and resource recovery. Specifically, his research areas on the AnMBR technology include fouling control and modelling tailored for reactor configuration, process intensification for methane production and permeate quality control as well as developing hybrid AnMBR system for high valued products and sustainable wastewater management.

3.Invited speakers

→ 15

Keynote speech

Prof. Lourdinha Florencio

Federal University of Pernambuco (Brazil)

Speech:

Challenges of Anaerobic Wastewater Treatment in Tropical Countries

Bio:

Professor Lourdinha Florencio holds a degree in Civil Engineering from the Federal University of Pernambuco (UFPE) and a master's degree in Hydraulic and Sanitary Engineering from the University of São Paulo. She completed her doctorate in Environmental Technology at Wageningen University in the Netherlands, under the supervision of Professor Gatze Lettinga.

She is a full professor of Environmental Technology at UFPE. Her work includes numerous national research projects and international collaborations with countries such as Germany, China, Spain, and the United States. She has served as the national coordinator of Brazilian wastewater treatment and nutrient removal networks and participates in organizing and scientific committees of important congresses.

As an engineer, she has contributed to infrastructure projects and environmental assessment plans. She is a member of the Pernambuco Academy of Sciences and the Pernambuco Academy of Engineering and was awarded the National Order of Scientific Merit in 2010.

Mateo Pastur Romay

Cetaqua, Veolia (Spain)

Speech:

From Sludge Treatment to Energy-Positive Utilities: Advancing Biogas Production in Wastewater Infrastructure

Bio:

Mateo Pastur Romay leads Technical Innovation Strategy at Cetaqua, Veolia's water technology centre in Spain, where he drives the development and deployment of innovative solutions to transform water and wastewater infrastructure into circular and energy-efficient systems. He brings experience across the full water sector value chain, spanning R&D, industrial applications and utility operations. Mateo has worked internationally with organisations such as West Basin Municipal Water District (USA) as well as Cetaqua Chile and Aguas Andinas, contributing to advanced water reuse and treatment initiatives. His work focuses on translating technological innovation into scalable solutions for utilities and industry.

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19

19th IWA World Conference on Anaerobic Digestion

4. Conference Programme at a Glance

4. Conference Programme at a Glance

→ 17

Tuesday 09

+Expanded Info

08:15—09:00	Registration (*ETSE-UV*)
09:00—17:00	Workshops & Trainings
18:30—19:15	Registration (*Palau de Les Arts*)
19:30—21:00	Welcome Address ***Vicente Martínez Mus*** *– Vice President and Minister of Environment, Infrastructure, Territorial Planning, and Recovery of the Valencian Community* **Opening speech:** Valencian Biogas Roadmap 2030 ***PhD Juan Francisco Mora*** *– Head of IPPC Section at Generalitat Valenciana (Spain)* **Opening speech:** IWA Vision on Anaerobic Digestion ***Prof. Kala Vairavamoorthy*** *– Executive Director International Water Association (UK)* **Opening speech:** Anaerobic Digestion, an old story for today and tomorrow ***PhD Jean-Philippe Steyer*** *– Director of Research at INRAE-LBE (France)*
21:00—22:30	Welcome Reception

Wednesday 10

+Expanded Info

08:00—08:45	Registration (*Palau de Congressos de València*)		
08:45—09:15	Opening Address - *Auditorium 1* Isabel Fariñas Gómez, Vice-Rector for Research and Scientific Policies at Universitat de València Rafael Sebastián Aguilar, Director General for Science and Research – Ministry of Education, Culture, and Universities of the Valencian Community		
09:15—10:00	Broadening the bioproduct portfolio of anaerobic digestion via biogas and digestate bioconversion *Prof. Raúl Muñoz – Universidad de Valladolid (Spain)*		
10:00—11:00	Building biorefinery platforms: thermal processes	Sustainability assessment and beyond	Decentralized systems
11:00—11:30	Coffee & Poster Session		
11:30—13:00	Building biorefinery platforms: protein production	Adding value to liquid streams and digestate	Industrial waste(water) valorization #1
13:00—14:00	Lunch		
14:00—14:30	Conference Photograph & Coffee Poster Session		

4. Conference Programme at a Glance

→ 18

14:30—16:30	Adding value to (bio)gas: CO_2 and H_2 Microbes assisting technologies for CO_2 capture and recycle ***Prof. Irini Angelidaki*** – *Technical University of Denmark (Denmark)*	Industrial waste(water) valorization #2 Finding the opportunity space for anaerobic technologies in industrial wastewater valorization ***Prof. Jeremy Guest*** – *University of Illinois Urbana-Champaign (USA)*	Modelling, control and beyond #1 Models for Learning, Models for Control in Anaerobic Digestion Systems ***Prof. Jorge Rodriguez*** – *Khalifa University (UAE)*
16:30—16:40	Refresh Break		
16:40—17:20	*Flash:* Industrial waste(water) and complex substrates	*Flash:* Adding value to (bio)gas	*Flash:* Sustainability, Microbial Science, and Emerging Contaminants
17:20—18:20	Orxata Poster Session		

Thursday 11

+ Expanded Info

08:00—08:30	Registration (*Palau de Congressos de València*)		
08:30—09:15	Fate of Biodegradable Plastics in Anaerobic Digestion: Potential Resources vs. Hidden Risks ***Prof. Chang Chen*** – *Beijing University of Chemical Technology (China)*		
09:15—11:00	Industrial waste(water) valorization #3	Adding value to (bio)gas: biogas and bioCH_4	Novel technologies and processes
11:00—11:30	Coffee & Poster Session		
11:30—13:00	Adding value to (bio)gas	Building biorefinery platforms: bioplastics	Modelling, control and beyond #2
13:00—14:00	Lunch		
14:00—14:30	Coffee & Poster Session		
14:30—16:30	Toward Enhanced Process Sustainability From Sludge Treatment to Energy-Positive Utilities: Advancing Biogas Production in Wastewater Infrastructure ***Mateo Pastur Romay*** – *Cetaqua, Veolia (Spain)*	Building biorefinery platforms: carboxylates Bioprocess Engineering for Carboxylate Production: bridging experiments and mechanistic modeling ***Assoc. Prof. Marta Carballa*** – *University of Santiago de Compostela (Spain)*	Anaerobic membrane bioreactors Innovations toward sustainable anaerobic membrane bioreactor centered process for resource recovery, permeate quality and fouling controls ***Prof. Jeonghwan Kim*** – *Inha University (Republic of Korea)*
16:30—16:40	Refresh Break		

4. Conference Programme at a Glance

→ 19

16:40—17:20	*Flash:* Adding value to liquid streams and digestate	*Flash:* Innovative processes	*Flash:* Modelling and monitoring
17:20—18:20	Beer&Tapas Poster Session		

Friday 12

+Expanded Info

08:00—08:30	Registration (*Palau de Congressos de València*)		
08:30—09:15	Nature-inspired microbiome engineering to retool anaerobic digestion ***Prof. Lutgarde Raskin*** *– Yale University (USA)*		
09:15—11:00	Microbial dynamics and interactions #1	Building biorefinery platforms: phototrophs	Tracking contaminants of special concern
11:00—11:30	Coffee & Poster Session		
11:30—13:00	Building biorefinery platforms	Innovative processes	Microbial dynamics and interactions #2
13:00—14:00	Lunch & Meet Your Mentors		
14:00—14:30	Coffee & Poster Session		
14:30—16:30	The Valencian Ecosystem ***Welcome from Jorge Miguel Mocholí,*** *Deputy Director General for Science and Research* The bioeconomy in the Valencian Community: circular economy, bioenergy, and new products ***Jesús Agüero*** *(Head of the biocluster of the Comunitat Valenciana)* ***Enrique Bayonne*** *(Head of the Energy Cluster from Comunitat Valenciana)*	Ambient temperature treatment Challenges of Anaerobic Wastewater Treatment in Tropical Countries ***Prof. Lourdinha Florencio*** *– Federal University of Pernambuco (Brazil)*	Modelling, control and beyond #3 Diagnosis of full-scale Anaerobic digesters using Advanced Modelling and experimental techniques ***PhD Javier Climent*** *– HYDRENS (Spain)*
16:30—16:40	Refresh Break		
16:40—17:30	Closing Ceremony		
19:30—02:00	Gala Event (*Veles e Vents*)		

Saturday 13

+Expanded Info

10:30—17:30	Technical and social tours

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19th IWA World Conference on Anaerobic Digestion

5. Workshops

5.Workshops

→ 21

Workshops will take place on 09 June 2026

ETSE-UV – Escuela Técnica Superior de Ingeniería

Avinguda de l'Universitat, S/N
46100 Burjassot, Valencia

Track 1: The AD Modelling Toolbox

9:00–12:30
The AD modelling toolbox: Part 1 – Towards AD model harmonization

13:30–17:00
The AD modelling toolbox: Part 2 – Level up your skills for monitoring and control

Track 2: Exploring Potential Tests

9:00–12:30
Better BMP and BHP: How to accurately measure biochemical methane and hydrogen potential

13:30–17:00
Finding the biological carboxylate potential test

Track 3: From Research to Full Scale Practice

9:00–12:30
Utilities for the future: towards circular and energy-positive water utilities

13:30–17:15
Bridging research and full-scale practices in sewage sludge anaerobic digestion

Track 4: New Approaches and Applications

9:00–12:30
Micro-aeration in anaerobic digestion processes: lab-to-full-scale testing

13:30–17:00
Vacuum technologies for climate-neutral anaerobic digestion: emissions control, intensification and resource recovery

Track 5: Widening AD Applications

9:00–12:30
Unlock the potential of under-utilized waste streams

13:30–17:00
Mainstream anaerobic treatment in transition: lessons learned and opportunities ahead

Track 1: The AD Modelling Toolbox

Tuesday 09/06

09:00—12:30 The AD Modelling Toolbox Part 1 – Towards AD model harmonization

Chairs

G. Capson-Tojo (*INRAE*), S. Hellmann (*DBFZ*)

Lecturers

E. Ficara (*Politecnico di Milano*), S. Weinrich (*Münster University of Applied Sciences*), G. Wells (*Northwestern University*), J.-P. Steyer (*INRAE*), A. Catenacci (*Politecnico di Milano*), T. Lippert *(Northwestern University, Norwegian University for Science and Technology*), D. Carecci (*Politecnico di Milano*), H. Nielsen (*Northwestern University*), A. Meola (*DBFZ*), L. Raskin (*Yale University*), D. Batstone (*The University of Queensland*), J. Rodríguez (*Khalifa University*), R. Kleerebezem (*Delft University of Technology*), K. Gernaey (*Technical University of Denmark*)

Description

Anaerobic digestion (AD) has evolved from sludge treatment to a versatile technology processing diverse organic waste streams, while its objectives now include both biomethane production and ensuring digestate quality as a key fertilizer product. Growing diversity in substrates and goals has driven new modeling efforts, integrating additional metabolic pathways and multi-criteria tools for system optimization. As AD applications expand—addressing climate impacts, resource recovery, and high-value bioproducts — future models must reflect this complexity. Building on the success of ADM1, this workshop will explore pathways toward harmonized modeling frameworks, model integration, and the potential development of a generalized ADM2 or interoperable model suite.

Outcomes

1. Present and discuss recent advances and needs in AD modeling, including model diversity (e.g., ADM1 adaptations), fermentative process modeling, state-of-the-art tools such as hybrid mechanistic–data-driven and gene-centric models, and emerging strategies for advanced simulation and control.
2. Conduct a round-table discussion on the current state of AD modeling, aiming to define future directions for harmonization and integration. A key expected outcome is the establishment of a collaborative group committed to developing a position paper on standardization and coordinated model development.

Time	Topics	Presenter/Moderator
09:00—09:10	Introduction and objectives	G. Capson-Tojo
09:10—10:30	**Section 1: Individual presentations**	G. Capson-Tojo & S. Hellmann
	AD model diversity and state-of-the-art	D. Batstone
	Modelling fermentative processes	R. Kleerebezem
	Data-driven modeling and hybrid modeling	S. Weinrich
	AD automation, control and digital twins	J.-P. Steyer
10:30—11:00	Coffee break	
11:00—12:00	**Section 2: Round table and discussion**	G. Capson-Tojo & S. Hellmann
	Expert round table	All workshop lecturers
12:00—12:30	Consolidation of ideas and final discussion	All attendees

13:30—17:00 The AD Modelling Toolbox Part 2 – Level up your skills for monitoring and control

Chairs

A. Meola (*DBFZ*), A. Catenacci (*Politecnico di Milano*)

Lecturers

S. Hellmann (*DBFZ*), T. Lippert (*Northwestern University, Norwegian University for Science and Technology*), D. Carecci (*Politecnico di Milano*), H. Nielsen (*Northwestern University*), G. Capson-Tojo (*INRAE*), J.-P. Steyer (*INRAE*), S. Weinrich (*Münster University of Applied Sciences*), L. Raskin (*Yale University*), E. Ficara (*Politecnico di Milano*), G. Wells (*Northwestern University*), D. Batstone (*The University of Queensland*), E. Fioribello (*YWP*) (*INRAE*), T. Segura (*YWP*) (*INRAE*)

Description

This second part of the workshop builds on the modeling concepts introduced in the morning session and focuses on making anaerobic digestion (AD) models operationally effective. As AD applications diversify, models must be both comprehensive and practically applicable at laboratory and full scale. Operational usefulness requires appropriate monitoring and automation, high-quality process data, and uncertainty-aware calibration of mechanistic and data-driven models. Addressing these interlinked elements is essential yet challenging due to hardware and data limitations. The workshop offers two parallel tracks: a hands-on introduction to AD modeling and a practice-oriented track on implementation, using real plant data and scenarios.

Outcomes

1. Provide newcomers with foundational and hands-on skills in AD modeling through “Track A – Basics of AD Modeling,” demonstrating the accessibility and practical value of modeling, with sessions led primarily by Young Water Professionals.
2. Deliver “Track B – Model Implementation,” equipping participants with practical competencies in microcontroller-based monitoring and control, data repair and preprocessing, and sensitivity analysis, calibration, and uncertainty quantification, combining theory, parallel practical work, and synthesis.
3. Gather participants’ experiences on modeling, calibration, and automation challenges to inform a tutorial paper proposing unified best practices for the AD modeling community.

Time	Topics	Presenter/Moderator
13:30—13:45	**Motivation & introduction: workshop objectives, overview and link to previous part (15 min)**	A. Meola & A. Catenacci
13:45—15:00	**Track A -** Overview of the ADM1: Why modeling and key concepts	YWP team
	Track A - Hands-on introduction to AD modelling: example of bioprocess model implementation and modification; simulations using the ADM1	YWP team, S. Weinrich, J.-P. Steyer & D. Batstone
	Track B - Joint theoretical introduction: overview of monitoring/control hardware, data quality, and calibration (45 min)	All Track B lecturers
	Track B - Parallel session 1 - Simple monitoring and control: Monitoring and control using microcontrollers (data acquisition, simple control loops, automation examples; part 1)	H. Nielsen T. Lippert
	Track B - Parallel session 2 - Data quality and dataset repair: AI-based methods for incomplete and noisy data; implications for data-driven and hybrid models (part 1)	A. Meola

5.Workshops

→24

Time	Topics	Presenter/Moderator
13:45—15:00	Track B - Parallel session 3 - Sensitivity analysis & model: calibration: parameter subset selection and calibration of a reduced-order ADM1 using local and global sensitivity analyses (part 1)	D. Carecci S. Hellmann
15:00—15:30	Coffee break	
15:30—16:30	Track A - Hands-on introduction to AD modelling: example of bioprocess model implementation and modification; simulations using the ADM1 (Firts part)	YWP team, S. Weinrich, J.-P. Steyer & D. Batstone
	Track B - Parallel session 1 - Simple monitoring and control: Monitoring and control using microcontrollers (data acquisition, simple control loops, automation examples; part 2)	H. Nielsen & T. Lippert
	Track B - Parallel session 2 - Data quality and dataset repair: AI-based methods for incomplete and noisy data; implications for data-driven and hybrid models (part 2)	A. Meola
	Track B - Parallel session 3 - Sensitivity analysis & model: calibration: parameter subset selection and calibration of a reduced-order ADM1 using local and global sensitivity analyses (part 2)	D. Carecci & S. Hellmann
16:30—16:50	Final synthesis and discussion: take-home messages from parallel sessions, identification of methodological gaps, cross-cutting insights (Second part, 20 min)	T. Lippert & A. Catenacci
16:50—17:00	Next steps: gathering partners and defining scope for a best-practice / post-workshop tutorial paper (10 min)	All

Track 2: Exploring Potential Tests

Tuesday 09/06

9:00—12:30 Better BMP and BHP: How to accurately measure biochemical methane and hydrogen potential

Chairs

K. Koch (*Technical University of Munich*), S. Astals (*University of Barcelona*), S. Weinrich (*Münster University of Applied Sciences*), J. Carrillo-Reyes (*Universidad Nacional Autónoma de México*), S.D. Hafner (*Aarhus University*)

Lecturers

K. Koch (*Technical University of Munich*), S. Astals (*University of Barcelona*), S. Weinrich (*Münster University of Applied Sciences*), J. Carrillo-Reyes (*Universidad Nacional Autónoma de México*), S.D. Hafner (*Aarhus University*)

Description

This workshop addresses the persistent variability in biochemical methane potential (BMP) measurements, which limits comparability and hinders effective anaerobic digestion (AD) research and implementation. Participants will gain the knowledge and practical competencies required to conduct accurate, repro-

Outcomes

1. Understand the scientific foundations of BMP testing and justify the role of each experimental component.
2. Explain BMP measurement principles and choose suitable methods based on accuracy, precision, equipment, and budget.

Description

ducible BMP tests through theory, hands-on guidance, and critical data evaluation. The program covers core BMP principles, experimental design, high-quality data collection, data processing, and rigorous interpretation. Emphasis is placed on best practices consistent with the Standard BMP Methods (SBM) platform. Attendees will also be introduced to digital tools such as the Online Biogas App to support planning and data analysis.

Outcomes

3. Design robust BMP protocols aligned with current Standard BMP Methods, including test duration, inoculum, loading, and controls.
4. Process data correctly, calculate BMP values, apply validation criteria, and identify essential reporting elements.
5. Critically assess results, recognize common errors, and develop troubleshooting strategies.
6. Apply BMP outcomes to evaluate substrates and understand the capabilities and limits of BMP testing in AD research.

Time	Topics	Presenter/Moderator
09:00—09:20	Introduction to BMP tests	S. Astals
09:20—10:30	Test setup and measurements	S. Astals
	Data processing and validation	S.D. Hafner
	Estimation of kinetic parameters	S. Weinrich
10:30—11:00	Coffee break	
11:00—12:10	Power and limitations of BMP testing	K. Koch
	Specific methane production curves	K. Koch
	Introduction to BHP tests	J. Carrillo-Reyes
12:10—12:30	Troubleshooting and evaluation	All

13:30—17:00 Finding the biological carboxylate potential test

Chairs

M. Mauricio-Iglesias (*Universidade de Santiago de Compostela*), A. Regueira (*Universidade de Santiago de Compostela*), C. Gonzalez-Fernandez (*University of Valladolid*)

Lecturers

Z. Cetecioglu (*KTH Royal Institute of Technology*), C. Chen (*Beijing University of Chemical Technology*), S. Greses (*Universitat de València*), A. Regueira (*Universidade de Santiago de Compostela*)

Description

Anaerobic mixed cultures are highly sensitive to environmental conditions, making it difficult to predict the conversion and selectivity of carbon-rich substrates into specific carboxylates. This uncertainty remains a major barrier to advancing technologies based on the carboxylate platform. In contrast, anaerobic digestion has progressed significantly through the widespread use of the biomethane potential (BMP) test, a robust method for estimating methane yields.

Outcomes

1. Initiate the first coordinated effort toward establishing a widely accepted carboxylate potential test.
2. Increase participants' awareness of the key hurdles in valorizing organic carbon through carboxylates, particularly those arising from early-stage process uncertainty.
3. Strengthen understanding of the substrate–carboxylate–application relationship, enabling translation

Description

This workshop aims to consolidate ongoing initiatives toward developing an analogous carboxylate potential test, fostering discussion, coordination, and identification of concrete steps needed to advance its standardization, validation, and broader implementation.

Outcomes

of expected carboxylate profiles into viable end-use pathways.

4. Foster early networking and collaboration among AD19 attendees through team-based activities designed to facilitate interaction and exchange.

Time	Topics	Presenter/Moderator
13:30—13:40	Welcome and introduction by chairs	Chairs
13:40—15:00	Team activity - The attendants are divided into teams and will establish what are the requirements for such a test (what should be the results?) and give ideas on how they could be fulfilled. These requirements will be submitted via online polling (e.g. Mentimeter or similar)	Guided by the chairs
	Carboxylate potential by experimental tests and microbiology impact	S. Greses
	Experimental protocol to evaluate carboxylate potential	Z. Cetecioglu
	Carboxylate potential by mechanistic mathematical models	A. Regueira
	Carboxylate potential by machine learning	C. Chen
15:00—15:30	Coffee break	
15:30—16:45	Section 2: The teams assess how the methods fulfil the needs for a carboxylate potential test and prepare a short 5 min presentation on pros and cons of each method	Guided by the chairs
	Short pitches by the teams presenting to the rest their conclusions	Each team speakerperson
16:45—17:00	Conclusions and wrap-up	Chairs

Track 3: From Research to Full Scale Practice

Tuesday 09/06

9:00—12:30 Utilities for the future: towards circular and energy-positive water utilities

Chairs

Marina Arnaldos (*Cetaqua, Veolia*), Celia M. Castro-Barros (*Cetaqua, Veolia*)

Lecturers

Marina Arnaldos (*Cetaqua*), Celia M. Castro-Barros (*Cetaqua*), Javier Santos (*Veolia*), Mario Ruiz (*Aigües de Barcelona*), D. Parry (*Jacobs*), S. McClelland (*Encina Wastewater Authority*)

Description

Water and wastewater utilities are undergoing a transition toward climate-neutral, circular resource platforms integrating energy production, water reuse, and nutrient recovery. Anaerobic digestion (AD) is central to this shift, transforming sewage sludge into renewable energy and recoverable resources, yet scaling advanced circular digestion models faces technical, regulatory, and social barriers. This workshop examines AD as a backbone technology for future utilities through flagship full-scale case studies in Spain and the USA, complemented by innovation perspectives and multi-stakeholder dialogue. Key questions address pathways for WWTPs to become circular, energy-positive systems and the most promising utility-scale innovations under current frameworks.

Outcomes

1. Gain insight into the transition of water utilities towards circular, energy-positive models, drawing lessons from flagship full-scale projects in Spain and USA.
2. Exchange perspectives on technological, regulatory and economic enablers for large-scale sludge valorization and energy recovery.

Time	Topics	Presenter/Moderator
09:00—09:10	Welcoming and introduction	Cetaqua
09:20—10:30	Paradigm shift: from WWTP to circular utility	Veolia
	Flagship case: Copero Complex WWTP (Spain) (TBC)	Hidralia (TBC)
	Sludge innovative management strategies from Aigües de Barcelona (Spain)	Aigües de Barcelona
10:30—11:00	Coffee break	
11:00—11:40	Advanced codigestion and implementacion strategy at Rincón de León WWTP (Spain)	Aguas de Alicante
	Advancing High-Performance Anaerobic Digestion at San José–Santa Clara Regional WWTP (USA)	Jacobs, Encina Wastewater Authority
	Introduction to BHP tests	J. Carrillo-Reyes
11:40—12:30	Round table and open discussion	**Moderator:** Cetaqua. **Participants:** Veolia, Public administration and others

13:30—17:00 Bridging research and full-scale practices in sewage sludge anaerobic digestion

Chairs

J.A. Magdalena (*FACSA*), G. Silvestre(*FACSA*), E. Zuriaga(*FACSA*), S. Alonso (*FACSA*)

Lecturers

J. Lema (*CRETUS*), H. Carrere (*INRAE*), S.I. Pérez-Elvira (*Institute of Sustainable Processes, University of Valladolid*), D. Miguel (*FACSA*), D. Polanco (*teCH*$_4^+$), D. Parry (*Jacobs*), S. McClelland (*Encina Wastewater Authority*), D. Bolzonella (*University of Verona*), I. Pastor (*FACSA*), JB. Van Lier (*Delft University of Technology*)

Description

This workshop addresses the persistent gap between research advances and full-scale implementation in sewage sludge anaerobic digestion (AD). It begins by outlining sector-wide barriers to technology transfer

Outcomes

1. Improved understanding of the performance of sewage sludge AD technologies at full scale.
2. Identification of key operational bottlenecks.

Description

before focusing on pretreatment technologies, including thermal hydrolysis, supported by real success cases from full-scale WWTPs. The second part examines innovative AD configurations beyond conventional CSTRs, highlighting dual-temperature phased and cascade digestion systems that can enhance performance and reduce solids retention time. A final round table will gather researchers, technology providers, and operators to discuss operational lessons, remaining challenges, and priority innovation pathways, integrating fundamental research with full-scale experience.

Outcomes

3. Discussion between researchers, technology providers and plant operators.
4. Specific examples of how AD contributes to sustainable sewage sludge and renewable energy production in WWTP.

Time	Topics	Presenter/Moderator
13:30—13:40	Welcome and introduction	S. Alonso, J.A. Magdalena & E. Zuriaga
13:40—15:00	From Science to Ecoinnovation	J. Lema
	Sewage Sludge Pretreatment Strategies: Enhancing hydrolysis and process stability in AD	H. Carrere
	Sewage Sludge Pretreatment Strategies: Thermal hydrolysis	S.I. Pérez-Elvira
	Success case 1: Sewage Sludge Thermal Hydrolysis: Performance and operational experience at full scale	D. Miguel , D. Polanco
15:00—15:30	Coffee break	
15:30—16:45	AD systems designed for exceptional dewatering (high solids cake)	D. Parry, S. McClelland
	Advances in Sewage Sludge Double-Stage Anaerobic Digestion	D. Bolzonella
	Success case 2: Sewage sludge Double-Stage Anaerobic Digestion: Process benefits and biogas enhancement at full scale	I. Pastor
	Success case 3: Cascade sewage sludge digestion: application of ultra short SRTs	JB. Van Lier
16:45—17:15	Round table - Beyond Theory: What full-scale anaerobic digestion is teaching us	G. Silvestre, J. Lema, H. Carrere, S.I. Pérez-Elvira, D. Polanco, D. Bolzonella, JB. Van Lier

Track 4: New Approaches and Applications

Tuesday 09/06

9:00—12:30 Micro-aeration in anaerobic digestion processes: lab-to-full-scale testing

Chairs

Samir Kumar Khanal (*The Hong Kong University of Science & Technology*), Ana Júlia Viana Cavaleiro (*Universidade do Minho*), & Lutgarde Raskin (*Yale University*)

Lecturers

S.K. Khanal (*The Hong Kong University of Science & Technology*), A.J.V. Cavaleiro (*Universidade do Minho*), L. Raskin (*Yale University*), P.H. Lee (*Imperial College*), L.T. Angenent (*University of Tübingen*), G.Y.A. Tan (*City University of Hong Kong*), M. Kreuk (*Delft University of Technology*), J.B. Lier (*Delft University of Technology*), R. Lindeboom (*Delft University of Technology*), B. Kraakman (*Jacobs Engineering*), K.C. Surendra (*The Hong Kong University of Science & Technology*), Z. Wu (*Imperial College*), M. Ho (*Imperial College*), T.Y.C. Lam (*City University of Hong Kong*), A. Pereira (*Universidade do Minho*), S. Duarte (*Universidade do Minho*), M. Zhou (*The Hong Kong University of Science & Technology*), K. Gemeinhardt (*University of Tübingen*), R. Karki (*University of Michigan*), S. Skerlos (*University of Michigan*), M. Picavet (*Colsen*)

Description

Anaerobic digestion (AD) faces persistent challenges including process instability, slow hydrolysis, limited long-chain fatty acid degradation, reduced biogas quality, and hydrogen sulfide emissions. Micro-aeration — dosing small amounts of air or oxygen into the digester—has emerged as a promising strategy to overcome these bottlenecks. It enhances stability by reducing VFAs, accelerates hydrolysis, supports LCFA degradation, and effectively suppresses sulfide in both liquid and gas phases. Micro-aeration may also promote chain elongation and improve digestate dewaterability, enabling higher loading rates and methane yields. This workshop brings together leading researchers to explore the emerging field of micro-aerated AD and its technological potential.

Outcomes

1. Gain an understanding of various pathways and enzymes involved in micro-aeration-based AD systems.
2. Learn how to develop processes for aeration dosing control from lab to full-scale AD system.
3. Identify niche applications of micro-aeration in AD systems.
4. Gain insights into the bioenergetics of micro-aeration-based AD systems.

Time	Topics	Presenter/Moderator
09:00—09:05	General Introduction	S.K. Khanal A.J.V. Cavaleiro L. Raskin
09:05—10:30	Anaerobic digestion with micro-aeration and oxygen dosing control	S.K. Khanal Surendra K.C.
	Microbial community characterization in a micro-aeration-based AD system	L. Raskin R. Karki S. Skerlos
	Nanaerobic digestion – A new pathway and its energetics and kinetics in AD	P.H. Lee Z. Wu M. Ho
	Micro-aeration for enhanced LCFA degradation	A.J.V. Cavaleiro A. Pereira S. Duarte
	Discussions	S.K. Khanal A.J.V. Cavaleiro L. Raskin

Time	Topics	Presenter/Moderator
10:30—11:00	Coffee break	
11:00—12:10	Micro-aeration for hydrothermal liquefaction wastewater treatment	L.T. Angenent M. Zhou
	Micro-aeration in chain elongation	L.T. Angenent K. Gemeinhardt
	Sulfide control and full-scale testing	G.Y.A. Tan T.Y.C. Lam B. Kraakman
	Effects of low oxygen dosages on anaerobic membrane bioreactors	M. de Kreuk R. Lindeboom M. Picavet J. van Lier
12:10—12:30	Discussions and conclusions	S.K. Khanal A.J.V. Cavaleiro L. Raskin

13:30—17:00 Vacuum technologies for climate-neutral anaerobic digestion: emissions control, intensification and resource recovery

Chairs

D. Batstone (*University of Queensland*), E. Jang (*USP/Trojan Technologies (Veralto)*), E. Elbeshbishy (*Toronto Metropolitan University*)

Lecturers

Y. Bajón Fernández (*Cranfield University*), R. Pfeufer (*Eliquo Technologies*), M. Haddad (*Suez*), C. Sheculski (*USP/Trojan Technologies (Veralto)*), G. Nakhla (*Western University*), D. Batstone (*University of Queensland*), P. Berna (*IWE Industrial Water Evaporator*), T. Chapman (*Brown and Caldwell*)

Description

Anaerobic digestion (AD) is central to resource recovery and supports carbon-neutral, circular-economy objectives in WRRFs. However, post-digestion methane emissions, hydraulic constraints, and ammonia inhibition still limit climate-neutral and intensified operation. Emerging vacuum-based technologies—vacuum degassing, evaporation, and heat recovery—offer integrated, economically viable solutions. Operating under reduced pressure enables capture of dissolved methane and CO_2, nutrient recovery, and improved digestion performance. Vacuum degassing mitigates methane leakage, while vacuum-driven evaporation concentrates solids and removes ammonia, increasing digester capacity. This workshop presents advances in vacuum-enhanced AD, covering climate impacts, resource recovery, process intensification, modeling, and pathways toward policy and commercial adoption.

Outcomes

1. Improved climate performance through reduced methane leakage via recovery of dissolved and trapped biogas.
2. Enhanced energy and resource recovery, including heat, methane, CO_2, and nutrient capture for valorization.
3. Practical knowledge on process intensification using vacuum-enabled thickening to increase digester throughput and stability.
4. Insights into modeling tools and policy trends guiding optimization and real-world adoption.

Time	Topics	Presenter/Moderator
13:30 - 13:40	Workshop Session, Part I – Vacuum Technologies for Anaerobic Digestion Intensification and Enhancement	E. Elbeshbishy (Chair) E. Jang (Co-Chair)
13:40—15:00	Intensification of Fermentation and AD via Vacuum Evaporation (IntensiCarb): performance gains and ammonia recovery in high-rate digesters	E. Elbeshbishy G. Nakhla C. Sheculski T. Chapman
	Modeling Vacuum and Thermal Effects: integrating vacuum processes into AD models and digital twins for optimization	D. Batstone
	Vacuum-Based Heat Recovery for Thermophilic AD: innovative steam-energy recycle and case study results	M. Haddad
15:00—15:30	Coffee break	
15:30— 16:45	Workshop Session, Part II - Vacuum Technologies to Mitigate GHG Emissions in Wastewater Treatment	D. Batstone (Chair) & E. Jang (Co-Chair)
	Post-AD Methane Emissions and Biomethane Sustainability: the role of vacuum degassing	Y. Bajón Fernández
	Biogas Harvester: vacuum recovery of dissolved gases from sewage & digestate	T. Chapman
	Vacuum Degassing in Practice (ELOVAC): preventing GHG emissions, improving dewatering, and enabling struvite control	R. Pfeufer
16:45— 17:00	High-Efficiency Vacuum Advanced Evaporators & Concentrators	P. Berna

Track 5: Widening AD Applications

Tuesday 09/06

9:00—12:30 Unlock the potential of under-utilized waste streams

Chairs

Zeynep Cetecioglu Gurol (*KTH Royal Institute of Technology*), Sebastian Schwede (*Mälardalen University*)

Lecturers

Cigdem Eskicioglu (*Polytechnic University of Catalonia-BarcelonaTech*), Isaac Owusu-Agyeman (*KTH Royal Institute of Technology*), Raquel Lebrero Fernandez (*University of Valladolid*), Raúl Muñoz Torre (*University of Valladolid*), Sergi Astals Garcia (*University of Barcelona*), Yadira Bajón Fernández (*Cranfield University*), Graham Aid (*Ragns Sells*)

Description

Anaerobic bioprocesses are established for methane production and increasingly explored for generating value-added biochemicals, yet many waste streams remain underutilized. This workshop examines the potential of such streams within circular biorefinery concepts. Municipal wastewater and food waste hold significant recoverable resources, but large-scale im-

Outcomes

1. Identify system-level barriers using state-of-the-art knowledge and current research to inform potential solutions.
2. Develop a structured overview of under-utilized waste streams for anaerobic digestion and agree on prioritized constraints such as feedstock variability,

Description

plementation is limited by collection, separation, and anaerobic processing constraints. Source-separated fractions—such as blackwater or food waste—enable higher recovery efficiencies due to their concentrated carbon and nutrient content. Given the environmental burden and scale of global food waste, the workshop will explore anaerobic pathways and products that can unlock the untapped potential of these waste resources.

Outcomes

contaminants, pretreatment needs, logistics, and regulatory barriers.

3. Critically assess alternative valorization routes for waste and products, including biogas, biomethane, and high-value bioproducts.
4. Synthesize case-based insights into recommendations for feedstock characterization, handling, co-digestion, and operational risk mitigation.
5. Clarify key considerations for scaling anaerobic processes from lab or pilot scale to full-scale systems, including stability, monitoring, techno-economics, and compliance.

Time	Topics	Presenter/Moderator
09:00—09:10	Welcome and general introduction	Z.C. Gurol S. Schwede
09:10—10:30	Availability, Waste Sorting/Separation, and Collection and Pretreatment	G. Aid
	Digestion with co-fermentation options/AF	Z.C. Gurol
	VFA separation	I. Owusu-Agyeman
	Biogas upgrading	R. Lebrero
	Biogas upcycling to added value bioproducts	R. Muñoz
	Digestate handling via hydrothermal carbonisation	S. Schwede
10:30—11:00	Coffee break	
11:00—11:45	Synergistic hydrothermal liquefaction–anaerobic digestion pathways for sustainable aviation fuel and biogas generation	C. Eskicioglu
	Nutrient recovery from fermentation liquors and digestates	S. Astals
	Sustainability of recovered resources: translating anaerobic digestion emissions science into biomethane policy	Y. Bajon
11:45—12:30	Workshop and Final Discussion	All participants

13:30—17:00 **Mainstream anaerobic treatment in transition: lessons learned and opportunities ahead**

Chairs

Z. Arbib (*Aqualia*), J. Serralta (*Universitat Politècnica de València*)

5.Workshops

→33

Lecturers

M. Elvira (*Aqualia*), C. Holohan (*Radboud University*), F. J. C. Magalhães (*University of Rio Grande do Sul*), M. A. Boncz (*Federal University of Mato Grosso do Sul*), J. Carrillo (*University of Valencia*), R. Muñoz (*University of Valladolid*)

Description

Mainstream anaerobic wastewater treatment offers a pathway to efficient water resource recovery-oriented systems aligned with EU 2030 goals. Technologies such as UASB and AnMBR enable high-rate treatment, solids retention, energy recovery as biomethane, and production of high-quality effluents for reuse. However, large scale adoption remains constrained by challenges including cold climate performance, dissolved methane emissions, nutrient removal and recovery requirements, and operational limitations. This workshop will examine state of the art solutions, parallel processes for water and nutrient recovery, and biogas upgrading strategies. Key open questions include mitigating dissolved methane, ensuring effluent quality for reuse, and addressing nutrient management when fertigation is not feasible.

Outcomes

1. Better understanding of the effects of low temperatures and low-strength wastewater on anaerobic process performance, stability, and methane generation potential.
2. Identification of feasible technological pathways to overcome dissolved methane challenges and reduce GHG emissions.
3. Clear guidance on how to achieve compliant water quality for various reuse scenarios using anaerobic-based treatment trains.
4. Evaluation of practical strategies for nutrient removal and/or recovery, considering local conditions and reuse opportunities.
5. Road mapping of future research and implementation needs to support mainstream anaerobic treatment adoption.

Time	Topics	Presenter/Moderator
13:30—13:45	Welcome and presentation of the workshop	Z. Arbib J. Serralta
13:45—15:30	AnMBR: An integrated solution for treating urban wastewater and the organic fraction of municipal solid waste.	M. Elvira
	Anaerobic treatment under extreme weather conditions and low-strength wastewater	C. Holohan
	UASB reactors in municipal wastewater treatment plants under tropical climate conditions: Insights from Brazil	F. J. C. Magalhães M. A. Boncz
	What about nutrients if there is no irrigation? Recovery versus removal	J. Carrillo
	Upgrading biogas or burning it? Pathways to energy self-sufficiency in 2045	R. Muñoz
15:00—15:30	Coffee break	
15:30—16:45	Discussion • Low Temperature and low strength • Current technologies vs new technologies • Membrane fouling mitigation • Dissolved sulfide and methane emissions • Water for fertigation • Nutrient removal and/or recovery • Biogas upgrading • Size matter for the implementation: decentralized	All lecturers
16:50—17:00	Workshop conclusions and take-home messages	Z. Arbib J. Serralta

Fueling Sustainability

19th IWA World Conference on Anaerobic Digestion

6. Conference Programme

6.Conference Programme

→35

València Conference Centre

Av. de les Corts Valencianes, 60
Pobles de l'Oest, 46015 València

6.Conference Programme

→36

Tuesday 09

València Conference Centre

08:15—09:00	**Registration (*ETSE-UV*)**
09:00—17:00	**Workshops**
18:30—19:15	**Registration (*Palau de Les Arts*)**
19:30—21:00	**Welcome Ceremony** **Welcome Address** ***Vicente Martínez Mus*** *– Vice President and Minister of Environment, Infrastructure, Territorial Planning, and Recovery of the Valencian Community* Opening speech: Valencian Biogas Roadmap 2030 ***PhD Juan Francisco Mora -*** *Head of IPPC Section at Generalitat Valenciana (Spain)* Opening speech: IWA Vision on Anaerobic Digestion ***Prof. Kala Vairavamoorthy -*** *Executive Director International Water Association (UK)* Opening speech: Anaerobic Digestion, an old story for today and tomorrow ***PhD Jean-Philippe Steyer*** *– Director of Research at INRAE-LBE (France)*
21:00—22:30	**Welcome Reception**

Wednesday 10

València Conference Centre

08:00—08:45	**Registration** *(Palau de Congressos de València)*
08:45—09:15	**Opening Address** *(auditorium 1)* ***Isabel Fariñas Gómez,*** *Vice-Rector for Research and Scientific Policies at Universitat de València* ***Rafael Sebastián Aguilar,*** *Director General for Science and Research - Ministry of Education, Culture, and Universities of the Valencian Community*
09:15—10:00	***Chairs:*** *Juan Lema & Marta Carballa* **Plenary speech:** Broadening the bioproduct portfolio of anaerobic digestion via biogas and digestate bioconversion *(auditorium 1)* ***Prof. Raúl Muñoz -*** *Universidad de Valladolid (Spain)*
10:00—11:00	Auditorium 1 - **Building biorefinery platforms: thermal processes** **Chairs:** *Francesco Fatone & Jhosané Payés* Transforming Advanced Biological Treatment Plant Sludges Into Energy: Hydrothermal Liquefaction-Anaerobic Digestion ***Alizad Oghyanous, Farid; Eskicioglu, Cigdem*** *(The University of British Columbia - Universitat Politècnica de Catalunya, Canada)* Hydrothermal Carbonisation Of Sewage Sludge Digestate: A Post-Treatment Approach For Energy And Nutrient Recovery ***Shahnawazi, Ali Ahmad; Tibbetts, Harry; Carvalho, Lara; Schwede, Sebastian*** *(Mälardalen University, Sweden)* When Does Microaeration Enhance The Valorization And Stabilization Of Hydrothermal Liquefaction (HTL) Process Water? ***Zhou, Mei; Khanal, Samir Kumar; Angenent, Largus Theodoran*** *(The Hong Kong University of Science and Technology, Hong Kong, China)*

Wednesday 10/06

10:00—11:00

Optimising Thermal Hydrolysis Process (THP)-AD Through Strategic Targeting Of Hydrolysis Blind Spots-Batch & Pilot Study

Nasar, Nasreen; Pizzagalli, Giulia; Coulon, Frederic; Bajón Fernández, Yadira (Cranfield University, United Kingdom)

Auditorium 2 - Sustainability assessment and beyond
Chairs: *Ilse Smets & Renisha Karki*

Managing Methane Emissions From Anaerobic Digestion: National Science-based Policy For Biomethane Sustainability

Bajon Fernandez, Yadira (Cranfield University, United Kingdom)

LCA And TEA Of The Production Of RNG From Organic Waste In A Novel Integrated Biochemical And Electrochemical System

Puente, Pedro; Fairley-Wax, Tim; Lippert, Thomas; Nielsen, Heather; Zhu, Kuang; Wells, George; Lin, Yupo; Urgun-Demirtas, Meltem; Raskin, Lutgarde; Skerlos, Steve (James Madison University, United States)

Advanced Monitoring Of Fugitive Methane From Full-scale Wastewater Treatment Plants Using Multi-level Sensing Techniques

Elsayed, Ahmed; Abdelrahman, Omar; Ismail, Amr; Kakar, Farokh; Le, Trung; Cavanaugh, Shannon; Willis, John; Da Silva, Allegra; Santoro, Domenico; Alsayed, Ahmed; Elbeshbishy, Elsayed (Toronto Metropolitan University, Canada)

GasAbate Treatment Reduces Gaseous Emissions And Retains The Biogas And Fertiliser Potential Of Pig And Cattle Manure

O'Flaherty, Vincent; Hughes, Dermot; Thorn, Camilla; Friel, Ruairi; O'Neill, William; Chin, Jason; McGrath, John; Williams, Paul; McDonagh, Michael; Nolan, Stephen (University of Galway, Ireland)

Auditorium 3 - Decentralized systems
Chairs: *Zouhayr Arbib & Yuchen Liu*

Determinants Of Microbial Community Structure And Process Performance In Manure-fed Farm-scale Biogas Plants

Perman, Ebba; Ahlberg Eliasson, Karin; Schnürer, Anna (Swedish University of Agricultural Sciences, Sweden)

Modular Anaerobic Bioelectrochemical Reactor Coupled With Biofilm Based-processes For Decentralized Wastewater Treatment

Estrada-Arriaga, Edson; García-Sánchez, Liliana; Falcón-Rojas, Axel; Gómez-Lázaro, Belén; Carranza-Almanza, Paola; Esquivel-Sotelo, Alberto (Mexican Institute of Water Technology, Mexico)

Decentralized Photobiorefineries For Municipal Wastewater Treatment: Demonstration Of ANPHORA® Technology

Marín, Eugenio; Monsalvo, Victor; Zamora Bonachella, Patricia; Encinas, Ángel; Tena, Miriam; Rogalla, Frank (FCC Aqualia, Spain)

Assessment Of A Multi-stage Treatment Of Wastewater From Individual Systems: Removal Of CECs, Path And AMR

Salgado, Adrián; Garrido Fernández, Juan Manuel; Omil Prieto, Francisco; Suárez, Sonia; Lois, Marta; Carreira, Carla; Takeda, Paula Yumi; López Romalde, Jesús (University of Santiago de Compostela, Spain)

11:00—11:30 **Coffee Poster Session**

Wednesday 10/06

11:30—13:00

Auditorium 1 - Building biorefinery platforms: protein production
Chairs: *Gabriel Capson-Tojo & Luis Diaz Allegue*

Two-step Single Cell Protein Production From Biological Gases Through homoacetogenesis: An Initial Assessment

Gallardo-Mejías, Juan Pablo; Capson-Tojo, Gabriel; Álvarez-Fraga, Laura; Steyer, Jean-Philippe; Pastor, Laura; Ruano, María Victoria; Robles, Ángel (Universitat de València, Spain)

Maximized Microbial Protein Production With Hydrogen Oxidizing Bacteria For Simultaneous CO_2 Mitigation And Nr Recover

Wang, Wen (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China)

Biogas Valorization Into Single-cell Protein By Mixed Methanotrophic-Hydrogenotrophic Culture

Gesicka, Aleksandra; Kvaran, Helga; Angelidaki, Irini (Technical University of Denmark, Denmark)

Efficient Conversion Of Volatile Fatty Acids Into High-value Lipids And Proteins By A Lichen Like System

Levío Raimán, Marcela; González-Fernández, Cristina (University of Valladolid, Spain)

Carbon-efficient Microbial Protein Production Via Continuous Co-cultivation Of Methane- And Hydrogen-oxidizing Bacteria

Diaz Allegue, Luis; Farabegoli, Federica; Regueiro, Leticia; Fajardo, Paula; Vlaeminck, Siegfried (Antwerp University, Belgium)

From Lab To Pilot Scale: Bioconversion Of Digestate And CO_2 From AD Into Microbial Protein

Di Benedetto, Francesca; Di Venosa, Luna; Cantera, Sara; Turolla, Andrea; Ficara, Elena (Politecnico di Milano, Italy)

Auditorium 2 - Adding value to liquid streams and digestate
Chairs: *Beatriz Molinuevo & Airton Kunz*

Spectral Approaches To Predict C And N Mineralisation During Anaerobic Digestion And After Digestate Soil Application

Do Souto Soeiro, Jessica; Latrille, Eric; Servien, Rémi; Zennaro, Bastien; Thoisy, Jeanne Chantal; Houot, Sabine; Steyer, Jean-Philippe; Jimenez, Julie (INRAE, France)

Nitrogen Recovery From Anaerobic Reject Water Via An Open–closed Loop Hydrophobic Membrane Contactor

Lo Coco, Riccardo; Pezzuto, Marco; Frison, Nicola (University of Verona, Italy)

Bioelectrochemically Assisted Anaerobic Co-digestion Of Agri-food Residues At Pilot Scale

Arnal Sierra, Raquel; López Martí, Pau; Molognoni, Daniele; Borràs, Eduard (Leitat - Acondicionamiento Tarrassense, Spain)

Ultra-low-voltage Strategy For Efficient Energy Recovery From Sewage

Chen, Sijia; Meng, Xinran; Liu, Ziwei; Huang, Xia (Tsinghua University, China)

Start-up Of A Microbial Electrolysis Cell Pilot Plant For Ammonia Recovery From Agri-food Anaerobic Digestates

Gorchs, Maria; Cerrillo, Miriam; Bonmatí, August; Ruiz, Noelia; Moreno, Miguel; Riau Arenas, Victor (Institute of Agrifood Research and Technology (IRTA), Spain)

Electro-chemical Strategy For P Recovery From Municipal Wastewater

Meng, Xinran; Chen, Sijia; Liu, Ziwei; Huang, Xia (Tsinghua University, China)

Wednesday 10/06

11:30—13:00 **Auditorium 3 - Industrial waste(water) valorization #1**
Chairs: *Jules van Lier & Dainis Sudmalis*

Are We Positive About Cellulose? Better Substrates For Quality Control In Biochemical Methane Potential Measurement

Hafner, Sasha; Leca, Estelle; Astals, Sergi; Koch, Konrad; Liu, Jing; Nistor, Mihaela; Olaya-Rincon, Mario; Sambusiti, Cecelia; Monlau, Florian *(Hafner Consulting LLC, United States)*

Intermittent Microaeration: A Comparison Between Lignocellulosic Digestion And Food Waste–Sewage Sludge Co-Digestion

Surendra, K C; Chuenchart, Wachiranon; Nguyen, Duc; Wu, Zhuoying; Sawaya, Christelle; Shrestha, Shilva; Smith, Adam L.; Lee, Po Heng; Raskin, Lutgarde; Khanal, Samir *(The Hong Kong University of Science and Technology, Hong Kong, China)*

Sustainable Acid Rock Drainage Remediation Using Locally Available Organic Wastes In The Global South

Ochoa-Herrera, Valeria; Zambrano-Romero, Aracely; Trueba, Gabriel; Field, Jim *(Universidad San Francisco de Quito (USFQ), Ecuador)*

Exploring The Potential Of Hydroxyapatite Nanoparticles In Enhancing Anaerobic Digestion Yields Of Lipid-rich Wastewater

Russo, Annalisa; Oliva, Armando; Cesaro, Alessandra (*University of Naples "Federico II", Italy****)***

Multiscale Hydrodynamic Features Drive Anaerobic Granule's Characteristics In Calcium-rich Wastewater

Eslami, Hooman; Bruning, Harry; Krug, Julia; Rijnaarts, Huub H.M.; Sudmalis, Dainis *(Wageningen University & Research, Netherlands)*

How Much Salt Can Thermophilic Digesters Take? Mapping Ammonium And Sodium Inhibition Across Multiple Inocula

Ruggiero, Luca; Moscoviz, Roman *(SUEZ CIRSEE, France)*

13:00—14:00 **Lunch**

14:00—14:30 **Conference Photograph & Coffee Poster Session**

14:30—16:30 **Auditorium 1 - Adding value to (bio)gas: CO_2 and H_2**
Chairs: *Sergi Astals & Xavier Fonoll*

Keynote: Microbes assisting technologies for CO_2 capture and recycle

Prof. Irini Angelidaki *(Technical University of Denmark (Denmark))*

In-situ CO_2 Conversion To Biomethane In Electrode-assisted Anaerobic Digesters Using Digestate-derived Biochar Cathodes

Ning, Xue; Ni, Jun; Sachan, Deepa; Bose, Archishman; Wall, David; Furst, Ariel; Murphy, Jerry *(University College Dublin, United States)*

Techno-economic Assessment Of Biomethanation For Ex Situ Biogas Upgrading In A WWTP

Ferrari, Federico; Arribas, Luis; Fiffe, Pablo; Diaz, Israel; Morais Junior, Wilson Galvao; Iglesias, Raquel; Micó, Maria del Mar *(ACCIONA Agua, Spain)*

Succinic Acid Production From Biogenic CO_2 Using A Novel Hybrid Fermentation System In SEMPRE-BIO Project

Llimós Turet, Jordi; González-Camejo, Josué; Benítez Téllez, Ana Belén *(BETA Tech. Center. University of Vic - Central University of Catalonia (UVic-UCC), Spain)*

Optimising H_2 Mass Transfer In Membrane Biofilm Reactors: A Pilot-scale Assessment Of Periodic Venting

Reena Krishna, Keerthy; Bonato, Irene; Catenacci, Arianna; Malpei, Francesca *(Politecnico di Milano, Italy)*

Wednesday 10/06

14:30—16:30

Hydrogen Utilization And Methanation Efficiency In Sewage Sludge Digestion: Effects Of Temperature And Feeding Modes

Kwang, Ching Yi; Hidaka, Taira; Fujiwara, Taku; Akimoto, Shinya; Tsubota, Jun (Kyoto University, Japan)

Succinate Production From Acid Whey In Mixed Culture Fermentation: Effects Of CO_2 Supplementation

Prusak, Hanna; Brodowski, Filip; Gutowska, Natalia; Duber, Anna; Zagrodnik, Roman; Lezyk, Mateusz; Oleskowicz-Popiel, Piotr (Poznan University of Technology, Poland)

Auditorium 2 - Industrial waste(water) valorization #2
Chairs: *Ana Júlia Cavaleiro & Michael Ho*

Keynote: Finding the opportunity space for anaerobic technologies in industrial wastewater valorization

Prof. Jeremy Guest - *University of Illinois Urbana-Champaign (USA)*

Optimization Of Recirculation Ratio In Two-phase Anaerobic Co-digestion Of Food Waste And Paper Waste

Zeng, Qingkang; Ha, Juntong; Li, Yu-You; Qin, Yu (Tohoku University, Japan)

Synergistic Co-digestion Of Sugarcane Bagasse And Swine Manure For Enhanced Methane Production

Galdino, Geovanna; Rabelo, Camila; Lourenço, Vitor; Rodrigues, Caroline; Varesche, Maria Bernadete (University of São Paulo, Brazil)

Effect Of Carbon Materials On Palm Oil Mill Effluent Digestion During A Gradual Mesophilic-to-Thermophilic Transition

Abdillah, Ayik; Hidaka, Taira; Fujiwara, Taku; Yoshida, Naoko; Hidayatullah, Ibnu Maulana; Maulidiany, Nopa Dwi (Kyoto University, Japan)

Understanding Olive Pomace Valorisation Through Anaerobic (co)digestion And Fermentation

Correa, Sandra; Astals, Sergi; Forns, Nuria; Vila, Joaquim; Zahedi, Soraya; Fermoso, Fernando; Ferrer, Ivet; Passos, Fabiana (Universitat Politècnica de Catalunya, Spain)

Coupling Fish Waste Anaerobic Digestion, Ammonia Extraction, And Microbial Protein Production

Postacchini, Pietro; Bertelsen, Sofie; Valverde-Pérez, Borja (Technical University of Denmark, Denmark)

Kinetic Evidence Of Substrate Inhibition And Lack Of Short-term Nano-magnetite Effect In Anaerobic Phenol Degradation

Kurnianto, Rifki Wahyu; Muñoz Sierra, Julian; Spanjers, Henri; Kleerebezem, Robbert; Van Lier, Jules (Delft University of Technology, Netherlands)

Auditorium 3 - Modelling, control and beyond #1
Chairs: *Damien Batstone & Davide Carecci*

Keynote: Models for Learning, Models for Control in Anaerobic Digestion Systems

Prof. Jorge Rodriguez - *Khalifa University (UAE)*

AD Automation And Experimental Validation In Lab-scale: A Software Architecture For Monitoring And Control Using An ADM1

Hellmann, Simon; Lerch, Leander; Stors, Daniel; Athanasopoulos, Panagiotis; Petzke, Felix; Sauerteig, Philipp; Wilms, Terrance; Knorn, Steffi; Streif, Stefan; Weinrich, Sören (DBFZ Deutsches Biomasseforschungszentrum, Germany)

Wednesday 10/06

14:30—16:30

Development And Validation Of A Scalable Digital Twin For Anaerobic Reactors In The Agri-Food Industry

Gomez, Antonio; Gimeno, Eduardo; Pardo, Leyre; Royo, Lucía; Labarías, Alejandro; Molina, Daniel; Roche, Enric; Marín, José Manuel; Renzi, Danielle; Greggio, Ellen; Frison, Nicola *(Nabladot, S.L., Spain)*

Optimal Utilisation Of Anaerobic Digestion In Integrated Energy-wastewater Systems

Aghdam Tabar, Saba; Safder, Usman; Casey, Eoin; Cotterill, Sarah; Dereli, Recep Kaan (University College Dublin, Ireland)

Towards Energy-autonomous Anaerobic Digestion: Adaptive Model Predictive Control For Mesophilic-Thermophilic Transition

Moradvandi, Ali; Carvajal-Arroyo, José; Picavet, Merijn; De Kreuk, Merle; Lindeboom, Ralph (Delft University of Technology, Netherlands)

From Process Monitoring To Predictive Insight In Multi-tank Anaerobic Digestion

De Bernardini, Nicola; Francescato, Luca; Zampieri, Guido; Pastor-Poquet, Vicente; Fabbri, Claudio; Campanaro, Stefano; Treu, Laura *(University of Padova, Italy)*

Control-oriented Modelling And Parameter Estimation Of Anaerobic Co-digestion For Full-scale Applications

Ficara, Elena; Carecci, Davide; Catenacci, Arianna; Rossi, Simone; Ferretti, Gianni (Politecnico di Milano, Italy)

16:30—16:40 **Refresh break**

16:40—17:20 **Auditorium 1 - Flash: Industrial waste(water) and complex substrates**
Chairs: *Fernando G. Fermoso & Alberte Regueira*

Anaerobic Bioconversion Of Volatile Tar Compounds To Methane During Syngas Biomethanation

Amiri, Roonak; Angelidaki, Irini; Postacchini, P.; Grimalt Alemany, Antonio; Ghofrani-Isfahani, Parisa; Benedetti, Vittoria; Baratieri, Marco *(Faculty of Engineering, Free University of Bolzano, Denmark)*

Potentials Of Anaerobic Membrane Bioreactor For Lipid-rich Dairy Wastewater Treatment And Permeate Reuse In Agriculture

Szabo Corbacho, Maria ; Miguez, Diana; Hooijmans, Christine; Garcia, Hector; Van Lier, Jules (UTEC - Universidad Tecnologica del Uruguay, Uruguay)

Assessing The Biodegradability Of PET: Barriers And Early Approaches For its Valorisation In WWTP Anaerobic Digesters

Santonja Coloma, Marina; Lera Modino, Maria; Martí Ortega, Nuria; Serralta Servilla, Joaquín (Universitat Politècnica de València, Spain)

Enhanced Biogas From Mezcal Vinasses Via Two-Stage Co-Digestion Stimulating DIET With Non-Conventional Wastes

Vargas-Gómez, Erika; García-Sánchez, Liliana; Barragán-Trinidad, Martin; Sebastian-Pathiyamattom, Joseph; Garzón-Zúñiga, Marco Antonio; Arias-Lizárraga, Dulce María; Estrada-Arriaga, Edson Baltazar *(Mexican Institute of Water Technology, Mexico)*

Three-phase Flow Regimes And Bed Expansion In Upflow Anaerobic Granular Reactors

Garcia Tirado, Ruben; Trifi, Delia; Monrós-Andreu, Guillem; Torro, Salvador; Chiva, Sergio; Martinez-Cuenca, Raul *(FACSA, Spain)*

Synergistic Thermochemical And Enzymatic Pretreatment To Enhance Anaerobic Digestion Of Canadian Hardwood Residues

Azizi, Armineh; Koupaie, Ehssan *(Queen's University, Canada)*

16:40—17:20

High-load Methanogenesis In Fixed-bed Reactors Fed With Sulfate-depleted Fermented Vinasse Supported By Carryover Buffer

Borges, André; Fuess, Lucas; Oliveira Filho, Leonardo; Mendes, Julia; Rogeri, Renan; Nogueira, Elis; Damianovic, Marcia Helena; Zaiat, Marcelo *(Universidade de São Paulo, Brazil)*

Mesophilic AD Of Municipal Sewage Sludge Under High Sodium Propionate Concentrations In Semi-continuous Conditions

Agumah, Joel Awinzure; Liu, Xiaojun; Andre, Laura; Auneau, Camille; Thibault, Sophie; Bureau, Chrystelle; Guerin, Sabrina; Rocher, Vincent; Lacroix, Carlyne; Chapleur, Olivier; Bize, Ariane; Roose-Amsaleg, Céline; Pauss, André; Ribeiro, Thierry *(Université de Technologie de Compiègne, France)*

Auditorium 2 - Flash:Adding value to (bio)gas

Chairs: *Konrad Koch & Sebastian Schwede*

Enhanced Biogas Yield And Stability In A Pilot-Scale Anaerobic Digestion-Microbial Electrolysis Cell (AD-MEC) System

Timmers, Rudolphus Antonius; Sanchéz Gatón, Miguel; Pérez Zapatero, Enrique; Ballesteros Amor, Maximo Pablo; Alonso De Larrea, Lucas; Hidalgo Barrio, Dolores *(CARTIF Foundation, Spain)*

Full-scale Anaerobic Co-digestion And Renewable Energy Integration At Riu Ripoll WWTP: Towards Carbon Neutrality

Jordan, Lluís; Pino, Adolfo; Izquierdo, Antonio; Rodero, Àlex; Santacruz, Elisabeth *(Aigües Sabadell (Veolia), Spain)*

A Comparative Study Of Thermophilic H_2-assisted Ex-situ Biogas Upgrading In A Biotrickling Filter Under Different PH

Garrido Rodríguez, David; Cantera Ruiz de Pellón, Sara; Muñoz Torre, Raul *(Institute of Sustainable Processes (ISP), Spain)*

Extremely High Organic Loading Treatment of Liquified PLA-Containing Wastewater via Electrical Voltage Application and Prolonged Microbial Exposure

Ashraf Joolaei, Ali; Makian, Masoud; Mohit, Mohamad Ali; Kim, Gyeongcheol; Parvez, Md Rakib; Yoon, Sun; Ra, Hyeong jun; Kang, Sungmo; Lee, Yujin; Kim, Dong-Hoon *(Inha University, Republic of Korea)*

MethAlgae Co-cultures For The Valorization Of Biogas Towards Ectoine: A Bottom-up Approach

De Smet, Kenzie *(KU Leuven, Belgium)*

Neutral Water Electrolysis - A Novel Power-to-gas System Combining Green Hydrogen And Renewable Natural Gas Production

Lippert, Thomas; Lin, Yupo; Nielsen, Heather; Wells, George *(Northwestern University, United States)*

Insight Into Selection And Modeling Of Purple Sulfur Bacteria For Biogas Treatment

Carrier, Morgane; Ružić, Todor; Peyre-Lavigne, Matthieu; Lepercq, Pascale; Mercade, Myriam; Dumas, Claire; Sperandio, Mathieu *(INSA Toulouse, France)*

A Broader Perspective On Metabolic Interactions In Syngas Biomethanation

Goonesekera, Estelle; Grimalt-Alemany, Antonio; Angelidaki, Irini *(Technical University Of Denmark, Denmark)*

Auditorium 3 - Flash:Sustainability, Microbial Science, and Emerging Contaminants

Chairs: *Moustapha Harb & Juan Cubero*

High-solids Versus Conventional Anaerobic Digestion: Life Cycle Assessment And Economic Analysis As Comparison Tools

Mainardis, Matia; Gievers, Fabian; Di Costanzo, Nicola; Moretti, Alessandro; Di Capua, Francesco *(University of Udine, Italy)*

Wednesday 10/06

Economic Efficiency In Wastewater Treatment Plants: The Role Of Scale, Biogas Production And Technologies

Leroy-Freitas, Deborah; Torres-Franco, Andrés Felipe; Molinos-Senante, María *(University of Valladolid, Institute of Sustainable Processes, Spain)*

Methane Leakage Thresholds Determine The Climate Impact And Economics Of Wastewater Biogas Recovery

Li, Xiatong; Ren, Z. Jason; Zhu, Junjie; Yan, Yuqing; Li, Trung *(Princeton University, United States)*

Meta-analysis Of Chemical And Microbial Constraints On Chain Elongation

Zhang, Xinran; Martinez, Daniela; Skerlos, Steve; Raskin, Lutgarde *(University of Michigan Ann Arbor, United States)*

Metagenomic Profiling Of Carbohydrate-active Enzymes In A Rumen-inspired AnDMBR During Food Waste Mono- And Co-digestion

Karki, Renisha; Skerlos, Steven; Raskin, Lutgarde *(University of Michigan, United States)*

Unravelling Differential Impacts Of Multiple Biodegradable Plastics On Anaerobic Digestion Systems

Luo, Xiaoliang; Jin, Yan; Liu, Guangqing; Chen, Chang *(College of Chemical Engineering, Beijing University of Chemical Technology, China)*

Strategy Balances Bio-resource Recovery And Antimicrobial Resistance Mitigation In Lincomycin-laden Anaerobic Digestion

Xie, Li; Xie, Jing; Zhu, Wenzhe; Yin, Daqiang; Wnag, Wen *(College of environmental science and engineering, Tongji University , China)*

Integrating Anaerobic Co-digestion In Rural Systems: Dual Control Of Biogas Dynamics And Fertilizer Quality

Hidaka, Taira; Nakamura, Masato; Oritate, Fumiko; Fujita, Mutsumi; Ihara, Hitotaka; Matsuda, Shuh; Miyamoto, Toyohisa *(Kyoto University, Japan)*

17:20—18:20 **Orxata Poster Session**

Thursday 11

08:00—08:30 **Registration** *(Palau de Congressos de València)*

08:30—09:15 ***Chairs:*** *Jules van Lier & Hale Ozgun*

Plenary speech: Fate of Biodegradable Plastics in Anaerobic Digestion: Potential Resources vs. Hidden Risks *(auditorium 1)*

Prof. Chang Chen *- Beijing University of Chemical Technology (China)*

09:15—11:00 **Auditorium 1 - Industrial waste(water) valorization #3**

Chairs: *Andre Dos Santos & Julian Muñoz Sierra*

Anaerobic Lignin Degradation Under Sulfate-Reducing Conditions

Franco Vieira, Bárbara; Abreu B. Silva Rabelo, Camila; M. Ramos-Muñoz, Víctor; Zaiat, Marcelo; G. Fermoso, Fernando *(University of Sao Paulo, Brazil)*

Anaerobic Digestion Of Dairy UF Permeate: Efficiency And Energy Recovery Potential

Yepez, Oscar; Casey, Eoin; Dereli, Kaan; Browne, James *(University College Dublin, Ireland)*

Thursday 11/06

09:15—11:00

Anaerobic Digestion And Carbon Recovery In Industrial Wastewater Systems: Balancing Energy Recovery And Net-Zero Targets

Lei, Tianyu; Whale-Obrero, Jaime; Larsen, Sille B.; Cai, Siying; Kjellberg, Kasper; Gernaey, Krist; Flores-Alsina, Xavier *(Technical University of Denmark, Denmark)*

Turning Winery Waste Into Profit: Medium-chain Fatty Acids Production

Quintana Álvarez, Hugo; Reino Sánchez, Clara; Castro Barros, Celia María; Carballa Arcos, Marta *(Cetaqua, Spain)*

Anaerobic Co-digestion Of Fat, Oil And Grease At A Pilot Demonstration Plant: Reward, Risk And Readiness

Bai, Xue; Al-Gertan, Estabraq; Du, Bolong; Li, Huijuan; Dwyer, Jason; Jensen, Paul *(The University of Queensland, Australia)*

Bioaugmentation Of Salt-resistant Biofilm To Enhance Stability In AHR Treating High Salinity Industrial Wastewaters

Hudayah, Nasrul; Suksong, Wantanasak; Boonapatcharoen, Nimaradee; Ainthaklay, Janphen; Kongduan, Varunee; Laopitinun, Onamon; Waewsak, Chaiwat; Suraraksa, Benjaphon *(King Mongkut's University of Technology Thonburi, Thailand)*

Anaerobic Digestion As Pretreatment For Dairy Waste Composting: Operational Strategies And Microbial Dynamics

Gutiérrez, Lucía; Callejas, Cecilia; Passeggi, Mauricio; Borzacconi, Liliana; López, Iván *(Facultad de Ingeniería (Universidad de la República), Uruguay)*

Auditorium 2 - Adding value to (bio)gas: biogas and bioCH_4
Chairs: *Piotr Oleskowicz-Popiel & Antón Rial*

Biological Methane Oxidation: Quantifying the metabolic heat from aerobic methanotrophs

Herzyk, Tymon; Gómez-Borraz, Tania; Gonzalez-Cabaleiro, Rebeca; Sloan, William *(University of Glasgow, United Kingdom)*

Sustainable Biogas Upgrading Via A Novel Photocatalyst-Microbial Hybrid System

Xia, Tianzhuo; Zhang, Yingdi; Zhang, Lei; Han, Ershuan; Xu, Jingsan; Liu, Yang *(Queensland University of Technology, Australia)*

Evaluating Impact Of Co- Vs. Counter-diffusional Substrate Delivery In A Hollow-fiber Membrane Biofilm Reactor For Ex-situ Biomethanation

Nielsen, Heather; Lippert, Thomas; Nannapuraju, Pranava; Freiburger, Andrew; Lin, Yupo; Raskin, Lutgarde; Wells, George *(Northwestern University, United States)*

Biogas Upgrading Via Ex-situ Biological Methanation In A WWTP: Analysis Of Biomethane Commercialisation Models

Bobillo Alvarez, Jaime; Checa Sanchez, David; Castro Barros, Celia Maria; Pastur Romay, Mateo; Poch Palou, Maurici; Arnaldos Orts, Marina; Córdova Valencia, Alejandra *(CETAQUA, Spain)*

Simultaneously Biogas Upgrading And Value-added Chemical Production In A Membrane Biofilm Reactor

Zhou, Linjie; Wu, Mengxiong; Lai, Chunyu; Guo, Jianhua *(Technical University of Denmark, Denmark)*

Enhancing Biogas Upgrading With Carbon-Coated Iron Nanoparticles In *Arthrospira Platensis* Cultures At Pilot-Scale

Anagnostopoulou, Chrysa; Vargas-Estrada, Laura; Kougias, Panagiotis; Muñoz, Raúl *(Hellenic Agricultural Organization - DIMITRA, Greece)*

Application Of Alkaliphilic *Desmodesmus Armatus* For Integrated Algal Biomethane Biorefineries In Termpate Climates

Haider, Muhammad Nabeel; O'Higgins, Linda; Wall, David; Murphy, Jerry D.; Bose, Archishman *(University College Cork, Ireland)*

Thursday 11/06

09:15—11:00 **Auditorium 3 - Novel technologies and processes**
Chairs: *Antonella Marone & Lucia Braga-Nan*

Ocean-Deployed Dark Fermentation: Converting Marine Organic Matter To Energy Intermediates For Ocean Applications

Hackula, Anga; Rafian, Aziz; Lansing, Stephanie *(University of Maryland, United States)*

Valorization Of Waste Methane Through Synergistic Optimization Of Gas-Liquid Mass Transfer To Enhance SCP Production

Mahmoud, Khaled A; Rasool, Kashif; Shahzad, Hafiz Muhammad Aamir *(Qatar Environment and Energy Research Institute (QEERI)/Hamad Bin Khalifa University/Qatar Foundation, Qatar)*

Iron And Carbon-Based Conductive Materials For Enhanced Anaerobic Digestion Of OFMSW

Sánchez, David; Villamil, John A.; Fermoso, Javier; Tomás, Elia *(IMDEA energy, Spain)*

Iron-doped Protein Nanofiber Additives Improve Anaerobic Digestion Performance

Shirazi, Romina; Koupaie, Ehssan; De France, Kevin *(Queen's University, Canada)*

Electromethanogenesis In Wastewater Treatment: How Far Have We Come?

Silvestre, Gracia; Zuriaga, Elena; Vega, Maria; Molognoni, Daniele; Borras, Eduard *(FACSA, Spain)*

Bioelectroactive Co-Culture For Simultaneous Ammonium And Methane Removal

Holohan, Conall; Sanz-Mendoza, Pablo; Groza, Adrienn; Welte, Cornelia *(Radboud University, Netherlands)*

ELSAR® Reactor: Passive Electro-Stimulation For Brewery Wastewater Treatment

Fernández-Domínguez, David; Mora-Cabrera, Karen; Duro, Sergio; Martín, Raul; Zamora, Patricia; Monsalvo, Victor Manuel; Rogalla, Frank *(FCC Aqualia, Spain)*

11:00—11:30 **Coffee Poster Session**

11:30—13:00 **Auditorium 1 - Adding value to (bio)gas**
Chairs: *Ryan Ziels & Shaoyu Ye*

Novel Compact Multichannel Reactor For Biogas Valorisation Via Ectoine Production

Torres-Franco, Andrés; Sampaio de Mello, Bruna; Vargas-Estrada, Laura; Botana, Nicolás; Alcántara, Daniel; Carmody, Miguel; Muñoz, Raúl *(University of Valladolid, Spain)*

Ectoines And Carotenoids Production From Biogas Using An Algal-methanotrophic Consortium: Process Performance And Metagenomic Analysis

Serna García, Rebecca; Lanzoni, Ysis; Garcia-Depraect, Octavio; Muñoz, Raul; Cantera, Sara *(Universitat de València, Spain)*

Optimisation Of A Monolith Multichannel Bioreactor For Methane Bioconversion Into Ectoine

Sampaio De Mello, Bruna; Zamora, Patricia; Monsalvo, Víctor; Rogalla, Frank; Tores-Franco, Andres Felipe; Muñoz, Raúl (*Institute of Sustainable Processes/University of Valladolid, Spain****)***

Pressurized Thermophilic CO_2 Biomethanation Using Exogenous H_2 And Anaerobic Centrate In A Biotrickling Filter

Morais Junior, Wilson G; Torrecilla Del Rey, Alberto; Ferrari, Federico; Micó, María Del Mar; Fdz-Polanco, María; Diaz, Israel (*Institute of Sustainable Processes - Universidad de Valladolid, Spain****)***

Pilot-scale Biological Methanation Of Raw Biogas In An Integrated CSTR-TBR System With H_2 Supplied By A PEM Electrolyzer

Xirostylidou, Aikaterini; Mitraka, Georgia-Christina; Gaspari, Maria; Kontogiannopoulos, Konstantinos. N.; Zouboulis, Anastasios I.; Kougias, Panagiotis G. *(Hellenic Agricultural Organization - DIMITRA, Greece)*

Thursday 11/06

11:30—13:00

Overcoming H_2 Mass Transfer Limitations In Ex-situ CO_2 Biomethanation With Custom - designed Membrane Biofilm Reactors

Lin, Shih-Hsuan; Kuntke, Philipp; De Smit, Sanne; Hamelers, Hubertus V.M.; Gagliano, Maria Cristina (Wetsus, Netherlands)

Auditorium 2 - Building biorefinery platforms: bioplastics
Chairs: *Vincent O'Flaherty & Luís Moreira Costa*

Evaluating The Anaerobic Digestion Of PLA And PHB For Volatile Fatty Acid Generation From Bioplastic Waste

Francis, Lydia; Nzeteu, Corine; O'Flaherty, Vincent (University of Galway, Ireland)

No Time To Waste: Biorefining Of Bioplastic Waste Via Chemical And Microbial Recycling

Angelini, Stefania; Gallipoli, Agata; Gianico, Andrea; Angelini, Francesca; Sbicego, Michela; Montecchio, Daniele; Piemonte, Vincenzo; Braguglia, Camilla Maria (Water Research Institute - National Council of Research, Italy)

Development Of Bio-based Plastic Films And Assessment Of Their Biodegradability Under Anaerobic Digestion

André, Laura; Lefèvre, Cassandra; Sommerer, Alexandre; Léonard, Estelle; Fayeulle, Antoine; Ribeiro, Thierry; Kadri, Rana; Meenakshisundaram, Shruthi; Gallois, Nicolas; Jeux, Victorien (Institut Polytechnique Unilasalle, France)

PBAT-based Compostable Bags Valorisation Via Anaerobic Co-Digestion: Reinforcing WWTPs As Energy Recovery Facilities

Lera Modino, María; Santonja Coloma, Marina; Ferrer Crespo, Juan Francisco; Serralta Sevilla, Joaquín; Martí Ortega, Nuria (Universitat de València, Spain)

Microbial Recycling Of Biodegradable Plastics (TPS, PLA, PHA) Into Carboxylates Via Methane Arrested Anaerobic Digestion

Zeng, Weishen; Jin, Yong; Beckmans, Ralf; De Leeuw, Kasper; Strik, David (Wageningen University & Research, Netherlands)

Enhanced Polyhydroxyalkanoate Production Through Process Optimization In Sequencing Batch Reactors

Ríos Mejía, Alejandro; Robles Martínez, Ángel; Borrás Falomir, Luis; Ruano García, María Victoria (Universitat de València, Spain)

Auditorium 3 - Modelling, control and beyond #2
Chairs: *Jorge Rodríguez & Tatiana Segura-Monroy*

Unravelling Chemical And Microbial Features During Digester Foaming With FTIR Spectroscopy

Upoma, Bushra Parvin; Tait, Stephan; Krohn, Christian; Batstone, Damien (The University of Queensland, Australia)

Estimating The Active Biomass In Anaerobic Reactors Through A Mass Balance Approach

Da Silva Álvarez, Cristopher; Peces, Miriam; Perez-Esteban, Noemí; Volcke, Eveline I. P.; Dosta, Joan; Astals, Sergi (Ghent University, Belgium)

Anaerobic Digestion Modelling Upgrades For A Better VFA Prediction; Process Inhibitions And Thermodynamics Integration

Rovira Cal, Eric; Jaray-Valdehierro, Sofía; Sancho, Luis; Aymerich, Enrique; Fernández-Arévalo, Tamara (CEIT, Spain)

Microbial Hydrolysis Process Model Development And Calibration

Johnson, Thomas; Funk, Claire; Ohemeng-Ntiamoah, Juliet; Fairley-Wax, Maddy; Parry, Dave (Jacobs Engineering Group, United States)

Thursday 11/06

11:30—13:00

Predictive Modelling Of Pathogen Inactivation In Anaerobic Digesters

Fernández-Arévalo, Tamara; Jaray-Valdehierro, Sofia; Gomez, Jairo; Lopez, Andrea; Mosteo, Rosa; Aymerich, Enrique *(CEIT, Spain)*

Reliable VSR Prediction For Anaerobic Digestion: Leveraging 32 Years Of Full-scale Data

Picard, Antoine; Trap, Danielle; Batstone, Damien; Moscoviz, Roman; Haddad, Mathieu *(SUEZ, France)*

13:00—14:00 **Lunch**

14:00—14:30 **Coffee Poster Session**

14:30—16:30

Auditorium 1 - Toward Enhanced Process Sustainability
Chairs: *Yadira Bajon Fernandez & Rashmi Deshpande*

Keynote: From Sludge Treatment to Energy-Positive Utilities: Advancing Biogas Production in Wastewater Infrastructure

Mateo Pastur Romay - *Cetaqua, Veolia (Spain)*

Unlocking The Potential Of Fe Chemically Enhanced Primary Treatment Sludge In Anaerobic Digestion: Cage-Breaking Effect

Yu, Bohan; Solon, Kimberly; Cainglet, Annaliza; Liu, Jianyong; Volcke, Eveline *(Ghent University, Belgium)*

Enhanced Anaerobic Digestion By Coupling Bioelectrochemical Systems: Process Performance And Sludge Dewaterability

Fernández-Domínguez, David; Mora-Cabrera, Karen; Zamora, Patricia; Monsalvo, Victor Manuel; Rogalla, Frank *(FCC Aqualia, Spain)*

Resilience Of IntensiCarb™ Compared To A Conventional Digester Under Increasing Solids Concentration

Nguyen, Van Than; Abdelrahman, Amr; Santoro, Domenico; Sheculski, Chris; Jang, Eunkyung; Kakar, Farokh; Al-Omari, Ahmed; Muller, Chris; Walton, John; Nakhla, George *(University of Western Ontario, Canada)*

ENEDAR: Enhancing The Sustainability Of Wastewater Treatment Plants Through Sludge Valorization

Magdalena, Jose Antonio; Villar, Paula; Bernárdez, Carlos; Muñoz, Raúl; Hoyos, Edwin Gilbert; Escudero, Rubén; Monreal, Iñigo; Mata, Uxía; Blanco, Álex; Zuriaga, Elena *(Fomento Valencia Medioambiente - Nealis, Spain)*

Capture And Digestion: An Integrated Process For Redirecting Mass Flows Toward Energy-positive Sewage Treatment

Rong, Chao; Zhang, Tong; Yuan, Zhiguo *(City University of Hong Kong, Hong Kong, China)*

Comparative Mass, Energy And Economic Balances For Scenarios Combining Thermal Hydrolysis And Anaerobic Digestion

Pérez Elvira, Sara ; Fdz-Polanco, María; Fdz-Polanco, Diego *(University of Valladolid, Spain)*

Auditorium 2 - Building biorefinery platforms: carboxylates
Chairs: *Daniel Puyol & Javier Llama*

Keynote: Bioprocess Engineering for Carboxylate Production: bridging experiments and mechanistic modeling

Assoc. Prof. Marta Carballa - *University of Santiago de Compostela (Spain)*

In Situ Caproic Acid Recovery From Mixed-culture Fermentation: From Synthetic Medium To Real Fermentation Broth

Rouhipour, Seyed Behzad; Gutowska, Natalia; Wint, Nay Yee; Duber, Anna; Zagrodnik, Roman; Lężyk, Mateusz; Oleskowicz-Popiel, Piotr *(Poznan University Of Technology, Poland)*

Thursday 11/06

14:30—16:30

Influence Of Feeding Strategy And Biomass Retention On Medium-chain Carboxylates Production From Lactate-rich Streams

García-Gago, Sara; Mauricio-Iglesias, Miguel; Regueira, Alberte *(CRETUS (Universidade de Santiago de Compostela), Spain)*

Enhanced Carboxylic Acids Conversion From Waste Activated Sludge Fermentation Triggered By Syntrophic Consortia

Zhou, Aijuan; Fan, Yaxin; Liu, Hongyan; Yue, Xiuping *(Taiyuan University of Technology, China)*

Two-stage Fermentation Strategy Led To Efficient And Selective Propionate Production From Food Waste With Mixed Cultures

Bourgeois, Mathilde; Braga-Nan, Lucia; Escudié, Renaud; Bernet, Nicolas; Trably, Eric *(INRAE, France)*

Anaerobic Chain Elongation Upcycles Vinasse From Food-Waste-Derived Ethanol Into Carboxylic Acids In A Biorefinery Cascade

Lima, Fabrício; Almeida, Felipe; Abreu, Íthalo; P. P. Gomes, Devson; Victor, João L.; Santos, Thaise; Florêncio, Lourdinha; T. Kato, Mario; Motteran, Fabrício; Dutra, Emmanuel; Gavazza, Savia; Menezes, Osmar *(Federal University of Pernambuco, Brazil)*

Integrated Anaerobic Biorefinery For Urban Waste: Semi-Continuous Caproate Production, Recovery And Residue Valorization

Sbicego, Michela; Angelini, Francesca; Angelini, Stefania; Gallipoli, Agata; Gianico, Andrea; Braguglia, Camilla M. *(Water Reseach Institute, Italy)*

Auditorium 3 - Anaerobic membrane bioreactors
Chairs: *Mustafa Evren Ersahin & Saba Aghdam Tabar*

Keynote: Innovations toward sustainable anaerobic membrane bioreactor centered process for resource recovery, permeate quality and fouling controls

Prof. Jeonghwan Kim *- Inha University (Republic of Korea)*

Strategic Intermittent Operation For Energy-positive E-AFMBR

Kim, Minseok; Chen, Yue; Gyeongjune, Lee; Wu, Di; Kim, Jeonghwan *(Inha University, Republic of Korea)*

AnMBRs Coupled With Advanced Oxidation For Removal Of Antibiotics And Membrane Fouling Control

Xiao, Roger Yeyuan *(Shantou University, China)*

AnMBR And PN/AMX Demonstration Of Co-treatment Of Urban Wastewater And OFMSW For Resource Recovery

Elvira-Castaño, M.; Ramírez-Martín, D. J.; Encinas, A.; Arbib, Z.; Rogalla, F.; Quero-Gómez, B.; Pedrouso, A.; Mosquera-Corral, A.; Sanchis-Perucho, P.; Ribes, J. *(Aqualia, Spain)*

Biogenic Sulfide Production In An Anaerobic Membrane Bioreactor For Selective Recovery Of Metals From Acid Mine Drainage

Fernández Rojo, Lidia; Ahumada-Vargas, Bárbara; Miró, Roger; Echevarría, Carlos; Pastur, Mateo; Arnaldos, Marina; Castro-Barros, Celia María; Martínez-Santos, Tamara; Sevilla, Manuel *(Cetaqua - Water Technology Centre, Spain)*

Enhancing Energy Recovery in Anaerobic Membrane Bioreactors through Thermal Pretreatment of Waste Activated Sludge during Co-Digestion with Dairy Wastewater

Cicekalan, Busra; Cavdar, Beril; Shitreh, Shayan; Canbulut, Nazlican; Yuksekdag, Ayse; Ozdemir, Ecem; Musluoglu, Ahmet; Guven, Huseyin; Koyuncu, Ismail; Ersahin, Mustafa Evren; Ozgun, Hale *(Istanbul Technical University, Türkiye)*

Anaerobic Membrane Bioreactor For Water, Nutrients And Energy Recovery In An Urban-industrial Symbiotic Context

Christy, Noah; Nyeggen, Anders; Stoumpou, Vasileia; Björkqvist, Sara; Rasmus Anderson, Henrik; Martins Silva, Paulo; Trapp, Stefan; Sereth Larsen, Daniel; Valverde-Pérez, Borja *(Danish Technical University, Denmark)*

Thursday 11/06

14:30—16:40	**Refresh break**
16:40—17:20	**Auditorium 1 - Flash: Adding value to liquid streams and digestate** **Chairs:** *Hale Ozgun & Masatoshi Kishi*

Coupling Of Dark Fermentation And Microbial Electrolysis For Propionate-Enriched Effluent Valorisation From Food Waste

*Braga-Nan, Lucia; Bourgeois, Mathilde; Santa-Catalina, Gaëlle; Escudié, Renaud; Bernet, **Nicolas; Trably, Eric** (INRAE, Univ. Montpellier, LBE, 102 Avenue des Etangs, F-11100, Narbonne, France, France)*

Comparative Performance Of Temperature-phased Anaerobic Digestion And Thermophilic Digestion For Advanced Sludge Treatment

***Tena, Miriam; García Perez, Jorge; Mora, Karen; Rivadulla, Matías; Zamora, Patricia; Marín, Eugenio; Monsalvo, Victor; Rogalla, Frank** (Aqualia, Spain)*

Thermophilic Anaerobic Membrane Bioreactor For Valorisation Of The Liquid Digestate Of The Municipal Solid Waste

***Ramos, Carlos; Sielfeld, Caroline; Farràs, Queralt; Gimenez, Antonio; Riu, Marc; Torrell, Helena; Bosch, Carme; Casas, Sandra; Martinez, Xavier** (Universitat Politècnica de Catalunya - BarcelonaTech (UPC), Spain)*

Adaptation Strategies For Anaerobic Digestion Of Saline Sludge

***Stoumpou, Vasileia; Burchietti, Giulia; Postacchini, Pietro; Tsigkou, Konstantina; Angelidaki, Irini; Valverde-Pérez, Borja** (DTU Sustain, Denmark)*

Nutrient Recovery From Psychrophilic Digestate: Batch And Continuous Operation For Scalable Andean Applications

***Uribe, M.J.; Castro Molano, L.; Escalante Hernández, H., Gonzales Molares, C.** (Universidad Industrial de Santander - Politécnico Colombiano Jaime Isaza Cadavid, Colombia)*

Phosphorus Recovery From Blackwater Via Calcium Addition Under Thermophilic Anaerobic Conditions

***Mativo, Melissa; Hernández, Lucia; Van Eekert, Miriam; Buisman, C.J.N.**(Wetsus/Wageningen university, Netherlands)*

Full-Scale Enhancement Of Anaerobic Digestion With The Microbial Hydrolysis Process

***Fairley-Wax, Madeleine; Parry, Dave; Cope, Stephanie; Nielsen, Per Henrik** (Jacobs Engineering Group, United States)*

The Metabolism Of *Methanosarcina Sp*. Shapes Process Performances In Butyrate-Degrading Anaerobic Digestion Consortia

***Mahieux, Margot; Péguilhan, Raphaëlle; Mark Jensen, Marlene; Angelidaki, Irini** (Denmark Technical University, Denmark)*

Auditorium 2 - Flash: Innovative processes
Chairs: *Shilva Shrestha & Pedro Puente*

Performance Of Novel Biomethanation System For Utilizing Existing Digesters In Wastewater Treatment Plants

***Akimoto, Shinya; Tsubota, Jun; Hidaka, Taira; Fujiwara, Taku** (Osaka Gas Co., Ltd., Japan)*

Effects Of Non-Thermal Microwave Irradiation On Anaerobic Digestion

***Togari, Taketo; Hidaka, Taira; Matsuura, Norihisa; Ishihara, Yoshitake** (Tottori University of Environmental Studies, Japan)*

A Novel Ex-Situ Biomethanation Integrating CO_2 Bubble Dissolution And H_2-Based Membrane Biofilm Reactor.

***Tanaka, Hideharu; Yamada, Yuji; Shoji, Tadashi; Nittami, Tadashi** (Sanki Engineering Co., Ltd., Japan)*

Thursday 11/06

16:40—17:20

Boosting Chain Elongation For Medium-Chain Carboxylic Acids Recovery With Magnetite Through Fungi-Bacteria Synergy

Xu, Xianbao; Cheng, Shuanglan; Li, Xiang; Zhou, Aijuan; Makinia, Jacek *(Taiyuan University of Technology, China)*

Microalgae Biorefinery For Pigments, Biostimulants And Biogas Recovery In A Cascade Approach

Sáenz Ceniceros, Ana; Rueda Hernández, Estel; Bermejo-Román, Ruperto; Gómez-Serrano, Cintia; González-Lopez, Cynthia; Ferrer, Ivet *(Universitat Politècnica de Catalunya-Barcelona-Tech, Spain)*

Temperature-phased Anaerobic Digestion Vs Mesophilic Process For Thermo-hydrolyzed Residual Municipal Solid Waste

Muñoz-Muñoz, Alexander; Hernandez Garcia, Juan Jose; Diaz, Elena; Mohedano, Angel F.; De La Rubia, Angeles *(Universidad Autonoma de Madrid, Spain)*

Deciphering Acetoclastic And Hydrogenotrophic Pathway Shifts In HOLAnD® Process Treating Food Waste And Sewage Sludge

Srinivasan, Hemapriya; Palani, Sankar Ganesh *(BITS Pilani, Hyderabad Campus, India)*

Enhancing Anaerobic Digestion Of Lignocellulosic Biomass Via Natural Deep Eutectic Solvent Pretreatment

Bae, Suye; Ha, Geon-Soo; Lee, Sumin; Jeong, Daeun; Choi, Yunjeong; Baek, Gahyun *(Sungkyunkwan University, Republic of Korea)*

Auditorium 3 - **Flash: Modelling and monitoring**
Chairs: *Alejandro Vargas & Bohan Yu*

Mechanistic Evaluation Of Bioelectrochemical Sulfur Oxidation In Coupled Anaerobic Digestion-Microbial Electrolysis Cell

Park, Chaeyeon; Jeong, Yeonju; Baek, Gahyun *(Sungkyunkwan University, Republic of Korea)*

H_2-enhanced Sugars Fermentation: Insights From Metabolic Bioenergetic Modelling And Experimental Validation

Catenacci, Arianna; Mauricio-Iglesias, Miguel; Balboa, Sabela; Ficara, Elena; Turolla, Andrea; Malpei, Francesca; Lema, Juan Manuel; Regueira, Alberte *(Politecnico di Milano, Italy)*

How Digesters Lose Capacity: Surface Stratification And Fugitive Methane

Willis, John; Dixon, Doug; Fiorino, Dante; Muller, Chris; Schnaars, Ken; Schutt, Andrew *(WEF Member Account, United States)*

Initial Redox Potential As A Key Factor In Cheese Whey Dark Fermentation

El Abyad, Sara; Guez, Jean-Sebastien; Vignigbe, Emeric; Geremy, François; Cotigny, Lionel; Kaplon, Florent; Dischamp, Arnauld; Larroche, Christian; Vial, Christophe; Taha, Samir *(Université Clermont Auvergne, CNRS, France)*

Quantifying Methane Emissions From Open Digestate Storage Tanks Using Laboratory And Full-scale Measurements

Winkler, Manuel; Van Looveren, Lieselotte; Engler, Nils *(DBFZ Deutsches Biomasseforschungszentrum gGmbH, Germany)*

Hybrid Models For The Anaerobic Digestion Process

Wollschläger, Tim; Römer, Tim; Herrmann, Christiane; Focks, Andreas *(Osnabrück University, Germany)*

Multi-objective Optimization Of Anaerobic Digestion: Biogas Production & Digestate Management Under Seasonal Variations

Ahmed, Wasim; Tremier, Anne; Girault, Romain; Thuriès, Laurent; Rakotomalala, Christiane; Jimenez, Julie; Steyer, Jean-Philippe *(INRAE, LBE, France)*

Thursday 11/06

16:40—17:20	Start-up And Operation Of Sulphidogenic Reactor With Methanogenic Seed Material Using COD/SO_4^{2-} Ratio And H_2S As Control ***Lyu, Xingzhou; Lindeboom, Ralph; Shang, Ran; Buijs, Joran; Van Lier, Jules*** *(Delft University of Technology, Netherlands)*
17:20—18:20	**Beer&Tapas Poster Session**

Friday 12

08:00—08:30	**Registration** *(Palau de Congressos de València)*
08:30—09:15	***Chairs:*** *Jean-Philippe Steyer & Gabriel Capson-Tojo* **Plenary speech: Nature-inspired microbiome engineering to retool anaerobic digestion** *(auditorium 1)* ***Prof. Lutgarde Raskin*** *- Yale University (USA)*
09:15—11:00	**Auditorium 1 - Microbial dynamics and interactions #1** **Chairs:** *Anna Trego & B. Conall Holohan* Quorum-Sensing-mediated Biofilm Formation In Anaerobic Microbial Communities ***Grimalt-Alemany, Antonio; Giangeri, Ginevra; Goonesekera, Estelle; Péguilhan, Raphaëlle; Straumøy, Ingvild; Angelidaki, Irini*** *(Technical University of Denmark, Denmark)* Comammox Nitrospira And Quorum-sensing Genes Associated With Nitrification In A Down-flow Hanging Sponge Reactor ***Kabasawa, Sota; Watari, Takahiro; Hirakata, Yuga; Kawakami, Shuji; Okubo, Tsutomu; Hatamoto, Masashi; Yamaguchi, Takashi*** *(Nagaoka University of Technology, Japan)* Chain-length-dependent Degradation Pathways And Microbial Responses During Anaerobic Digestion Of Saturated Fatty Acids ***Qin, Hao-Jie; Qin, Yu; Li, Yu-You*** *(Tohoku University, Japan)* Metatranscriptomics Reveals System-Specific Viral Adaptive Strategies And Prokaryotic Defense Trade-offs Across AD ***Li, Xiang; Gu, Xia; Yu, Pingfeng*** *(Donghua University, China)* Exploring Anaerobic Granules As Model Systems: Homogeneity, Heterogeneity, And Ecological Insights In Microbial Biofilms ***Van Landuyt, Josefien; Machiels, Marie-Laure; Depaz, Lena; Boon, Nico; De Vrieze, Jo*** *(Ghent University, Belgium)* Metabolic Landscape Of Anaerobic Granules Across Distinct Size Fractions: Size Matters ***Tejero, Gabriel; Trego, Anna; O'Flaherty, Vincent; Zeeshan-Ijaz, Umer*** *(National University of Galway, Ireland)* Uncovering The Players Of Acetate Metabolism Within Syngas Biomethanation Processes ***Cheng, George; Gabler, Florian; Bongcam Rudloff, Erik; Schnürer, Anna*** *(Swedish University of Agricultural Sciences, Sweden)*
	Auditorium 2 - Building biorefinery platforms: phototrophs **Chairs:** *Ivet Ferrer & Estel Rueda* Piggery Wastewater Treatment By Purple Phototrophic Bacteria ***Rojas Romero, Leonel; Garcia Depraect, Octavio; González Sánchez, Armando; Muñoz Torre, Raúl*** *(University of Valladolid, Spain)*

Friday 12/06

09:15—11:00

Valorization Of The Liquid Fraction Of Digestate Using Purple Phototrophic Bacteria (PPB) For Biofertilizer Production

Atayupanqui Dueñas, Rosa; Barat, Ramón; González Camejo, Josué *(BETA Technological Center, Central University of Catalunya, Spain)*

Turning Dark Co-fermentation By-products Into Single Cell Protein With Mixed Culture Purple Phototrophic Bacteria

Montoya Rosales, José De Jesús; Muñoz, Raúl; Puyol, Daniel; Rojas Romero, Leonel; García Depraect, Octavio *(Institute of Sustainable Processes, Spain)*

Enhancing Nutritional Value Of Single-cell Protein From Purple Phototrophic Bacteria By Feeding Gaseous Fatty Acids

Pezzuto, Marco; Lo Coco, Riccardo; Frison, Nicola *(University of Verona, Italy)*

Continuous Microbial Protein Production From H2 And CO_2 By Purple Non-sulphur Bacteria

Morya, Raj; Flores-Salgado, Gratia Deii; Steyer, Jean-Philippe; Guizard, Guillaume; Escudié, Renaud; Capson-Tojo, Gabriel *(INRAE, France)*

Biogas Valorisation To Ectoine Using A Marine Methanotroph-Microalgae Co-culture Under Different Operational Modes

Ruiz Ruiz, Patricia; Mohedano Caballero, Patricia; De Vrieze, Jo *(Ghent University, Belgium)*

Green Biorefinery Side Stream Holds Potential For Value-added Products

Frank, Luna; Nzeteu, Corine; O'Flaherty, Vincent *(University of Galway, Ireland)*

Auditorium 3 - Tracking contaminants of special concern
Chairs: *Marta Carballa & Kauanna Devens*

Chloramphenicol-Driven Perturbation Of Methanogenic Metabolism And Microbial Network In Swine Manure Anaerobic Digestion

Lee, Jung Sup; Yun, Yeo Myeong; Ahn, Byung Kyu; Jeon, Yun Ju; Kim, Eun Sol; Ahn, Ji Hye *(Chungbuk National University, Republic of Korea)*

Hidden Risks In Reclaimed Water From Biorefineries: Shotgun Metagenomic Insights Into Antibiotic Resistance And Virulence Genes

Alvarez Fraga, Laura; Bru-Adan, Valérie; Patureau, Dominique *(INRAE-LBE, France)*

Effect Of Thermal Hydrolysis On Target Organic Micropollutants In Waste Activated Sludge

Deiana, Andrea; Van Lier, Jules; De Kreuk, Merle *(Delft University of Technology, Netherlands)*

Enhanced Carbamazepine Degradation By Proline-rich Substrates During Semi-continuous Anaerobic Digestion

Guo, Yutong; Deng, Zhe; Askari, Najmeh; Smets, Ilse; Appels, Lise *(KU Leuven, Belgium)*

Biohydrogen, Pharmaceuticals And ARGs: Temperature Effects During Co-fermentation Of Swine Slurry And Olive Mill Waste

Martín Medrano, Cinta; Espinosa, José Manuel; Cert, Rosa; Egea, Roberto; Ramos, Víctor Manuel; González Fermoso, Fernando; Pintado, Marina; Zahedi, Soraya *(CSIC, Spain)*

Influence Of Type Of Sludge On The Fate Of Pharmaceuticals And Antibiotic Resistance Genes During Anaerobic Digestion

Martín-Medrano, Cinta; Gonzalez-Gil, Lorena; Balboa, Sabela; Lema, Juan; Carballa, Marta *(Defense University Center at the Spanish Naval Academy, Spain)*

Fate Of Veterinary Antibiotics And Metabolites During Anaerobic Digestion Of Manure: Full-Scale And Lab Verification

Uzun, Omer; Ince, Bahar; Ince, Orhan *(Bogazici University, Türkiye)*

Friday 12/06

11:00—11:30 **Coffee Poster Session**

11:30—13:00 **Auditorium 1 - Building biorefinery platforms**
Chairs: *Miguel Mauricio & Filip Brodowski*

Harnessing Biofilm Potential For Medium Chain Carboxylic Acid Production With Innovative Bioreactor And Support Material

Shrestha, Shilva; Nuhu, Mujaheed; Lyu, Xuejiao *(Johns Hopkins University, United States)*

Anaerobic Biorefinery Platform Converting Urban Biowaste Into Marketable Products And Bioenergy: A Techno-economic Study

Angelini, Francesca; Sbicego, Michela; Gallipoli, Agata; Angelini, Stefania; Sagnotti, Giulia; Frugis, Alessandro; Braguglia, Camilla Maria; Gianico, Andrea *(CNR-IRSA, Italy)*

Food Waste Pretreatments Shape Product Profiles And Yields During Anaerobic Fermentation

Prats-Masegosa, Abril; Carrére, Hélène; Capson-Tojo, Gabriel; Trably, Eric; Robles Martínez, Ángel; Ruano García, María Victoria *(Universitat de València, Spain)*

Enhanced Volatile Fatty Acid Production Via Pilot Scale Biorefining Of Blast Furnace Gas Using Membrane Extraction

Jones, Rhys; Fernandez Feito, Rodrigo; Jordan, Jacob; Massanet Nicolau, Jaime; Michie, Iain; Lloyd, Gareth; Dinsdale, Richard; Guwy, Alan *(University of South Wales, United Kingdom)*

A Biorefinery Concept For Wastewater Treatment Infrastructures To Convert CO_2 Into Carboxylic Acids

Gehring, Tito; Babu, Allan; Corbalán, Mario; Rad, Ramineh; Sales, Marcos; Alex, Jens; Ixmann, Christian; Siegmund, Daniel; Schwantes-Chavan, Rebecca; Tischler, Dirk; Lübken, Manfred; Apfel, Ulf-Peter; Wichern, Marc *(Ruhr University Bochum, Germany)*

Native Community And Inoculum Dynamics As Key Drivers Of VFA Selectivity In Green Biorefinery Pressed Cake Processing

-, Pooja; Nzeteu, Corine; Mcauliffe, Olivia; O' Flaherty, Vincent *(University of Galway, Ireland)*

Auditorium 2 - Innovative processes
Chairs: *Juan Lema & Arianna Catenacci*

From Hygienisation To Upgrading: Zero-Valent Iron Improves Methane Recovery During 70 °C Pretreatment Of Food Waste

Vyrides, Ioannis *(Cyprus University Of Technology, Cyprus)*

Insights Into The Effect Of Nitrate Photolysis On Carboxylic Acids Production From Waste Activated Sludge Fermentation

Liu, Zhihong; Guo, Zhengtong; Li, Dengfei; Yue, Xiuping; Zhou, Aijuan *(Taiyuan University of Technology, China)*

A Promising Alternative For The Valorisation Of Permeate Using Two-stage AD And Autochthonous Microorganisms

Villa Montoya, Alejandra; Nzeteu, Corine; O'Connor, Sandra; Bartle, Andrew; O'Flaherty, Vincent *(University of Galway, Ireland)*

Exploring Anaerobic Digestion Using Digestate-derived Biochar: Evaluation As A Biocatalyst And A Biogas H_2S Adsorbent

Demichelis, Francesca; Tommasi, Tonia; Fino, Debora *(Politecnico di Torino Facoltà di Ingegneria: Politecnico di Torino, Italy)*

Friday 12/06

Biochar-enhanced Anaerobic Digestion Of Aquaculture Sludge: Comparing Mono- And Co-digestion In Fresh And Marine Waters

Senol, Abdullah Bugra; Solli, Linn; Morken, John; Kocatürk Schumacher, Nazli Pelin *(Norwegian University of Life Sciences, Norway)*

Hydrogen-adapted Microbial Consortium Stabilizes H_2 And Organic Matter Conversion To CH_4 During In Situ Biomethation

Braga-Nan, Lucia; Mahieux, Margot; Aemig, Quentin; Richard, Charlotte; Delgenes, Jean-Philippe; Juge, Marine; Trably, Eric; Escudié, Renaud *(INRAE, LBE, France)*

Auditorium 3 - Microbial dynamics and interactions #2
Chairs: *Laura Alvarez-Fraga & Margot Mahieux*

Integrating Transcriptomic Data With Metabolic Model Unravels The Electron Transfer Mechanisms Of *Methanosarcina Barkeri*

Tang, Wentao; Chen, Guanghao; Hao, Tianwei *(University of Macau, Macau)*

Continuous Photofermentative Valorization Of HTC Process Water Using An Engineered H?-overproducing *R. Capsulatus* Strain

Valverde-Cañas, Angel; Cuesta-Belvis, Daniel; González-Vilaró, Martina; Cicimov, Viktor; De Nicolás, Amanda P.; Díaz, Mario P.; Díaz, Elena; De La Rubia, María Ángeles; Mohedano, Ángel F.; Melero, Juan. A; Puyol, Daniel; Barahona, Emma *(Rey Juan Carlos University, Spain)*

Uncovering Virus-host Interactions In A Full-scale Anaerobic Digester Using Multi-substrate DNA Stable Isotope Probing

Garcia Roche, Alma; Waring, Kate; Madill, Max; Friedline, Skyler; Ziels, Ryan *(The University of British Columbia, Canada)*

DeepOmics, A Data Platform To Promote FAIR Meta-omics And Process Data In The Field Of Environmental Biotechnology

Bize, Ariane; Gramusset, Aurélie; Fernandez, Emilie; Suarez, Carlos; Corrales, David Camilo; Chapleur, Olivier; Dabert, Patrick; Fayolle, Yannick; Bouchez, Théodore; Le Quéméner, Elie; Raidelet, Nicolas *(INRAE, France)*

Response Mechanisms Of Microbial Communities To Salt Stress In Anaerobic Digestion Of Food Waste

Gao, Qingwei; Li, Lili; Zhao, Qingliang *(Harbin Institute of Technology, China)*

Polyvalent Bacteriophages To Combat Antibiotic Resistance Spread In Anaerobic Membrane Bioreactor (AnMBR) Effluents

Tomlinson, Ashley; Ramadan, Lama; Harb, Moustapha *(New Mexico Institute of Mining and Technology, United States)*

13:00—14:00 **Lunch & Meet Your Mentors**

14:00—14:30 **Coffee Poster Session**

14:30—16:30 **Auditorium 1 - The Valencian Ecosystem –** *Powered by Conselleria Conselleria de Educación, Cultura y Universidades*

Chairs: *Ramón Barat & Josué González*

Welcome from Jorge Miguel Mocholí , *Deputy Director General for Science and Research*

Keynote: The bioeconomy in the Valencian Community: circular economy, bioenergy, and new products

Jesús Agüero *(Head of the biocluster of the Comunitat Valenciana) and* ***Enrique Bayonne*** *(Head of the Energy Cluster from Comunitat Valenciana)*

Friday 12/06

14:30—16:30

Evaluating The Effect Of Thermal Hydrolysis On The Sludge Viscosity And Mixing At Full-scale Anaerobic Digester Tanks

Arnau Notari, Rosario; Mondragón, Rosa; Fernández-Polanco, Diego; Pérez-Elvira, Sara Isabel; Garvi, María Dolores; Peña, Javier; Sánchez, Alejandro; Toro, Enrique; Baquerizo, Enrique; Climent, Javier (HYDRENS, Spain)

Assessing Extended Shutdown On Anoxic Desulphurisation And Start-up Of Intensified Wetland For Centrate Nitrification

Hervás-Martínez, Rubén; Oliver Rajadel, Nuria; Ruiz Forner, Laura; Rubira Fernandez, Raul; Martinez-Soria, Vicente; Sempere Nàcher, Feliu (Global Omnium Medioambiente S.L., Spain)

Effect of Nano Zerovalent Iron on biogas Production by Two-Temperature Phase Anaerobic Co-digestion of Olive Mill Wastewater and Pig Slurry

Silvestre, Gracia; Sigre, Alba; Martín, Maria; Zuriaga, Elena; Negro, Patricia (SITRA, Spain)

Biotechnological Strategies For The Valorisation Of Lignocellulosic Waste Through Pretreatment And Co-Digestion In Advanced Anaerobic Digestion System

Fernández Blanco, Ana; Gómez-Pérez, Paz (GENIA BIOENERGY, Spain)

Sustainability In Action: 3 Years Of Operating Experience With A Full-scale Thermal Hydrolysis Plant At Valencia´s WWTP

Fernandez-Polanco, Diego; Albors, Enrique; López, María; Jimenez, Ángel; Saúco, Lidia; Aagesen, Erik (teCH$_4^+$, Spain)

Hydrothermal Carbonization Of Sewage Sludge And Digestates. Industrial Solution And Market Applications

Hernández Latorre, María Luisa; Hitzl, Martin; Oliver-Tomás, Borja; Navarro-Sirera, Vicente (INGELIA SL, Spain)

Auditorium 2 - Ambient temperature treatment
Chairs: *Liliana del Pilar Castro & Miguel R. Casallas*

Keynote: Challenges of Anaerobic Wastewater Treatment in Tropical Countries

***Prof. Lourdinha Florencio** - Federal University of Pernambuco (Brazil)*

Partial Nitritation-anammox Applied To Simulated Anaerobically Pre-treated Domestic Sewage At 25ºC

Van Lier, Julius (Jules); Giglio, Guilherme; Pavez Jara, Javier; Peng, Zhe; Damianovic, Marcia (Delft University of Technology (TUD), Netherlands)

Performance Gaps And Contractual Risks Associated With Full-scale UASB Reactors In Brazilian Wastewater Treatment Plants

Magalhães, Fernando; Paulo, Paula (IPH/UFRGS, Brazil)

Cold-adapted Volatile Fatty Acids Recovery From Food Waste: Insights From Anaerobic Batch Fermentation Tests

Kendir Cakmak, Ece; Sari, Tugba; Bergsten, Matilda; Owusu-Agyeman, Isaac; Cetecioglu, Zeynep (KTH Royal Institute of Technology, Sweden)

Potential Of Self-forming Dynamic Membranes To Improve Emerging Microbial Contaminant Safety In Anaerobic MBRs (AnMBRs)

Ramadan, Lama; Baloun, Kirk; Harb, Moustapha (New Mexico Institute of Mining and Technology, United States)

Sewer Mining With Anaerobic MBR To Mitigate Drought And Dependence On Industrial Fertilisers

García, Laura; Elvira, Marta; Serna, Rebecca; Morales, Nicolas; Greses, Silvia; Borrás, Luis; Bouzas, Alberto; Rogalla, Frank (University of Valencia, Spain)

Friday 12/06

14:30—16:30

Low Temperature Anaerobic Digestion Of Long Chain Fatty Acids-containing Wastewater With Granulated Activated Carbon

Liu, Yuchen; O'Connor, Sandra; Trego, Anna; Ijaz, Umer; O'Flaherty, Vincent *(University of Galway, Ireland)*

Auditorium 3 - Modelling, control and beyond #3
Chairs: *Jean-Philippe Steyer & Simon Hellmann*

Keynote: Diagnosis of full-scale Anaerobic digesters using Advanced Modelling and experimental techniques

PhD Javier Climent - *HYDRENS (Spain)*

Swine Carcass And Manure Co-digestion: Defining Safe Loading Windows With ANN-based Methane Yield Prediction

Rajagopal, Rajinikanth; Aikeremu, Aimaiti; Goyette, Bernard *(Agriculture and Agri-Food Canada (AAFC), Canada)*

Compartmentalization Strategy For CFD--Kinetic Integration: Effects Of Compartment Number And Dead-Zone Redefinition In Anaerobic Digesters

Zorrilla, Fernando; Donoso-Bravo, Andrés; Sadino-Riquelme, M; Hansen, Felipe *(Modela, Chile)*

Biokinetic Modelling Of Ex-situ Biomethanation In Trickle-bed Reactors

Taha, Ahmed; Ashraf, Muhammad Tahir; Steffensen, Emil De Bekker; Yde, Lars; Rodríguez, Jorge *(Khalifa University, United Arab Emirates)*

Reagent-free Rapid Estimation Of Free Ammonia In Algal Systems Using Chlorophyll Fluorescence Transients

Kishi, Masatoshi; Karachaliou, Panagiota; Fujiki, Tetsuichi; Noguchi Aita, Maki; Muñoz Torre, Raúl *(Institute of Sustainable Processes, Universidad de Valladolid, Spain)*

Biorefinery Modelling Platform For Liquid Biofuel Production

Junicke, Helena; Flores-Alsina, Xavier; Gernaey, Krist *(Technical University of Denmark, Denmark)*

Real-Time Speciated VFA Monitoring Enables Higher Biomethane Yields And Stable Full-Scale Anaerobic Digestion

Fernandez Feito, Rodrigo; Jones, Rhys; Massanet Nicolau, Jaime; Guwy, Alan *(University of South Wales, United Kingdom)*

16:30—16:40 **Refresh Break**

16:40—17:30 **Closing Ceremony**

- Lettinga Award
- Poster and Oral Presentation Awards
- IWA AD Specialist Group Early- and Mid-Career Awards
- AD20 Location Announcement

19:30—02:00 **Gala Event** *(Veles e Vents)*

Saturday 13

10:30—17:30 **Technical and Social Tour**

Fueling Sustainability

19th IWA World Conference on Anaerobic Digestion

7. Poster Sessions

7. Poster Sessions

→58

Wednesday 10

València Conference Centre

Orxata Poster Session — *First semifinal round*

P001	Advanced Energy And Phosphorus Recovery Of Organic Sludge By The Integration Of A High-solid AnMBR And PN/A Process	*Guo, Guangze (Germany)*
P002	Evaluation Of Enzymatic Pretreatment Strategies To Enhance Anaerobic Digestion Of Tomato	*Ramos, Carlos (Spain)*
P003	Biomethane Production From Organic Matter Recovered From Municipal Wastewater Using The High-rate Process With Coagulant	*Sakurai, Kensuke (Japan)*
P004	Combination Of Sludge Pretreatment And Smart Anaerobic Codigestion To Boost WWTPs Electrical Self-sufficiency	*Vilaplana Artigas, Marcel (Spain)*
P005	Biogas From Wet Manure: The Importance Of Prior Storage Time	*Flotats, Xavier (Spain)*
P006	Effects Of Water Pressure And Digestate Viscosity On Hydrogen Conversion Efficiency In In-situ Biomethanation Of Sewage	*Tsubota, Jun (Japan)*
P007	Bioelectrochemical Anaerobic Digestion: Insights Into Electrode Materials, Reactor Configurations, And Process Design	*Jiang, Daqian (United States)*
P008	Integrated Leaching--Hydrochar Strategy To Enhance Anaerobic Digestion Of Chicken Manure	*Alba Reyes, Yasmani (Republic of Korea)*
P009	Decentralized Anaerobic Digestion For Wastewater And Fish-Processing Waste Management In Coastal Bangladesh	*Hossain, Shaikh (Bangladesh)*
P010	Resources Recovery From Piggery Wastewaters	*Cervantes, Francisco J. (Mexico)*
P011	Coupled Anaerobic Fermentation And Rhodopseudomonas Palustris-based CO_2 Utilization For Biogenic Resource Recovery	*Fan, Chihhao (Chinese Taipei)*
P012	Dynamic Two-phase Anaerobic Digestion Biorefineries: An Investigation Of Technical And Economic Feasibility	*Wall, David (Ireland)*
P013	Evaluation And Regression Analysis Of Methane Yield In Anaerobic Digestion Integrated With Microbial Electrolysis Cell	*Aketagawa, Kyohei (Japan)*
P014	Nutrient Concentration And Recovery From AnMBR Effluent Via Electrodialysis, Crystallisation And Membrane Contactors	*Hernández-Cuenca, Silvia (Spain)*
P015	Kinetic Modelling And Optimization Of H_2 Production Under Varying Organic Loads And Cassava Wastewater - Glycerol Ratio	*Devens, Kauanna Uyara (Brazil)*
P016	Maximizing H_2 And CH_4 Via Co-digestion Of Industrial By-products In A Leach-bed Anaerobic Reactor	*Ribeiro, Alexandre Rodrigues (Brazil)*

7. Poster Sessions

→ 59

P017	Hydrothermal Pre-treatment Of PBAT And PBS For Enhanced Anaerobic Digestion And Biogas Production	*Kang, JeongHee (Republic of Korea)*
P018	The Dos And Don'ts Of BMP Tests: A Checklist	*Koch, Konrad (Germany)*
P019	Microwave-assisted Organosolv Pretreatment For Enhanced Lignin And Biogas Recovery From Poplar Wood Residues	*Amini, Ghazaleh (Canada)*
P020	Phosphate Recovery From Anaerobic Digestate Using Magnetite-coated Mobile Carriers	*Mahmood, Maheen (United States)*
P021	Gas Permeable Membranes For Volatile Fatty Acid Recovery: Effect Of pH	*Molinuevo Salces, Beatriz (Spain)*
P022	Use Of Sustainable Iron Containing Materials For Hydrogen Sulphide Control In Anaerobic Digestion Of Food Waste	*Vuori, Vesa (Finland)*
P023	Co-cultivation of Clostridium Beijerinckii with Geobacter Sulfurreducens enhances acetone production in ABE fermentation	*Silvestre, Carlos (Spain)*
P024	Optimizing VFA Production From Vegetable Waste: Effect Of Temperature And Substrate To Biomass Ratio	*Herrero de San Luis, Elisa (Spain)*
P025	Circular Solutions For Waste-to-energy: Biomethane Potential Of Microwave Assisted HTC From Waste Biomass	*Aragon, Christian (Spain)*
P026	Valorisation Of Digestate From Low-tech Digester Treating Coffee Waste	*Jaramillo Hurtado, Juliana (Spain)*
P027	Nitrogen Recovery From Digestate Using Gas-permeable Membranes: Process Performance, Fouling And By-product Quality	*Molinuevo Salces, Beatriz (Spain)*
P028	Carbon Nanomaterials As Drivers Of Enhanced Methanogenesis	*Feijoo, Helena (Netherlands)*
P029	Mechanistic Elucidation Of Anaerobic Digestion Instability Guided By MDIEW-driven Indicator Screening	*Li, Yu-You (Japan)*
P030	Effect Of Caproic-acid Presence On Anaerobic Membrane Bioreactor Treating Sewage Sludge	*Qin, Yu (Japan)*
P031	Metagenomic Study Of A Two-Stage Lactate-Driven Dark Fermentation Process For Food Waste Valorisation	*Martínez Fraile, Cristina (Spain)*
P032	Ammonia As A Selective Force Shaping Microbia Consortia In Organic Waste Anaerobic Digestion	*Francescato, Luca (Italy)*
P033	Anaerobic Co-digestion Of Winery Wastewater And Activated Sludge: Batch And Semi-continuous Operational Performance	*Rodrigues, Pedro (Portugal)*
P034	Granular Activated Carbon In A Hybrid Anaerobic Reactor Is Key To Mitigating Antibiotic Toxicity In Wastewater	*Damianovic, Márcia (Brazil)*
P035	Electrochemical Oxidation To Support Dark Fermentation -- Preliminary Data	*Latowski, Robert (Poland)*

7. Poster Sessions

→60

P036	Techno-economic And Environmental Assessment Of HTC-AD Co-treatment For Sewage Sludge And MSW	*Pagés Díaz, Jhosané (Chile)*
P037	Acidogenic Co-fermentation Of Swine Manure And Seaweed For Biohydrogen And Volatile Fatty Acids (VFAs) Production	*Pagés Díaz, Jhosané (Chile)*
P038	Assessing The Effect Of Storage Conditions On The BioCH$_4$ Production Of Winery By-products Under Mono- And Co-digestion	*Faria, Ana Catarina (Portugal)*
P039	Effectiveness Of Nanoscale Zero Valent Iron In Semi-continuous Anaerobic Digestion Under Dynamic Substrate Conditions	*Moyano Domínguez, David (Spain)*
P040	Mechanistic Insights Into DIET-Driven Methanogenesis Enhanced By Conductive Material Using Machine-Learning Analysis	*Lee, Sang-Hoon (Republic of Korea)*
P041	Performance And Microbial Response Of Granular Magnetite In Direct Interspecies Electron Transfer-Driven Methanogenesis	*Lee, Sang-Hoon (Republic of Korea)*
P042	Enhancing Hydrogen Production From Cheese Whey Through Microbial Synergy And Inoculum Design In Continuous Fermentation	*Barrales-Ordoñez, Denise (Mexico)*
P043	Environmental Filtering Selects Metabolic Modules In Anaerobic Digestion Consortia	*Gu, Wenyu (Switzerland)*
P044	Evaluating Stickland, Syntrophic, And Alternative Amino-acid Degradation Pathways In Enrichment Cultures	*Gu, Wenyu (Switzerland)*
P045	CAMELLIA®: Enhancing Biosolid Safety And Energy Efficiency Via Advanced Anaerobic Digestion	*Rivadulla, Matías (Spain)*
P046	Study Of Dna Sequencing-Based Microorganism Monitoring Techniques In Dark Fermentation Systems	*Chango, Ana (Mexico)*
P047	Semi-continuous Operation Selectively Enriches DIET-active Microbial Communities For High-rate Of Methanogenesis	*Lee, Sang-Hoon (Republic of Korea)*
P048	Enhancing Anaerobic Degradation Process Of Acetone In Wastewater Using 2-propanol-activated Granular Sludge UASB System	*Hong Dao, Nguyen Pham (Japan)*
P049	Turning Sludge Into Opportunity: Safe And Sustainable Valorization	*Garcia Perez, Jorge (Spain)*
P050	Sustainable Valorization Of Organic Wastes: Enhanced Medium-Chain Fatty Acids Production Via Fixed-Bed Biofilm Reactors	*Crognale, Simona (Italy)*
P051	Ectoine Production Through Bioconversion Of Biogenic CH_4 From A Biogas Plant	*Aragon, Christian (Spain)*
P052	Pretreatment Effects On Membrane-based Nutrients Recovery From Agricultural Digestate: TRL7 Validation	*Bolzonella, David (Italy)*
P053	Anaerobic Treatment Efficiency Of Inhibitory Industrial Wastewater In Bench-scale SGBR System	*Ellis, Timothy (United States)*

P054	Machine Learning Modelling Of Biogas Production And Methane Yield Prediction In Anaerobic Co-digestion Process	*Elsayed, Ahmed (Canada)*
P055	Pre-treatment Influence On Biogas Production From Aerobic Granular And Waste Activated Sludge	*Elbeshbishy, Elsayed (Canada)*
P056	The Secret Recipe Of Machine Learning In Anaerobic Digestion: A Framework For Process Prediction And Optimization	*Elsayed, Ahmed (Canada)*
P057	Challenging The Retention Time Of Mesophilic Anaerobic Digestion Of Municipal Sludge With Thermal Hydrolysis	*Barber, William (United States)*
P058	Cost-effective High-rate Anaerobic Treatment With External Printed Separators	*Hendrickx, Tim (Netherlands)*
P059	The Carbon Footprint Of Making And Using Biogas From Municipal Sludge Anaerobic Digestion	*Barber, William (United States)*
P060	Exploring Energy And Resource Recovery Potentials From Waste Cattle Paunch	*Rebosura, Mario Jr (Australia)*
P061	High-rate Thermophilic Caproate Production In A Continuous Reactor System	*Vandenberghe, Simon (Belgium)*
P062	Impact Of Zero-Valent Iron Concentration On Methane Purity And Stability In Anaerobic Digestion Of OFMSW	*Villamil, John (Spain)*
P063	Enhancing Lignocellulosic Anaerobic Digestion And Humic Substances Formation Via Intermittent Microaeration	*Jin, Zhen (China)*
P064	Suitability Of Sludge Dewatering Effluent As A Liquid Medium In A Trickle-bed Reactor For Mesophilic Bio-Methanation	*Kobsik, Kara (Austria)*
P065	Energetic Assessment Of Anaerobic Co-digestion Of Vinasse And Alternative Substrates For Year-round Biogas In Sugarcane	*Volpi, Maria Paula Cardeal (Brazil)*
P066	Effect Of Char Addition On Inhibition Resilience And Stability In Anaerobic Digestion Of Sewage Sludge	*Eaysmine, Shamima (Australia)*
P067	Study Of The Degradation Of Synthetic And Natural Microfibres During The Anaerobic Digestion Process	*Domínguez-Rodríguez, Ana (Spain)*
P068	Long-term Study Of Volatile Fatty Acid Production From Pulp And Paper Sludge And Food Waste	*Cetecioglu, Zeynep (Sweden)*
P069	Towards Stable Microaerated Anaerobic Digestion: Adaptive Multivariable Predictive Control For Biogas And VFA Management	*Lindeboom, Ralph (Netherlands)*
P070	The Effect Of Anaerobic Digestion On Concentrations Of Herbicides Clopyralid, Aminopyralid And Glyphosate	*Tampio, Elina (Finland)*
P071	Can Photosynthetic Biogas Upgrading Be Upgraded? Olive-mill-wastewater Based Biostimulants To Increase Biogas Value	*Vargas-Estrada, Laura (Spain)*

7. Poster Sessions

→ 62

P072	Metabolic Modelling Of The Syntrophic Propionate Oxidation Community	*Yeghiazaryan, Sahak (France)*
P073	Directing The OFMSW Water-soluble Fraction Toward Ethanol For Enhanced Methane Production	*Morgado-León, Fabiany (Mexico)*
P074	Hydrolysis Of Organic Solid Waste Through Temperatu-re-varied Fermentation To Boost Methane Production	*Jojoa-Unigarro, German-Dimitriv (Mexico)*
P075	Calcium Oxide Increases Methane Yield Of Straw And Manure In Leach-bed Reactors	*Alves Lourenço, Vitor (Brazil)*
P076	Valorization Of Ammonia In Digestate Via Ion Exchange Coupled With Electrochemical Hydrogen Production	*Kang, Sungwon (Republic of Korea)*
P077	Metabolic Constraints In Psychrophilic Anaerobic Digestion: Insights Into VFAs Degradation And Butyrate Inhibition	*Zhou, Hui (Spain)*
P078	Small-scale Cryogenic Biogas Upgrading: Performance Assessment And Operational Challenges	*Akyol, Çagri (Belgium)*
P079	Quantifying Coagulant Effects On Sludge Digestion: From BMP Tests To A Calibration-driven ADM1 Approach	*Yu, Bohan (Belgium)*
P080	Modelling Tools To Understand The Enhanced Biomethane Production With Hydrogen Addition	*López, Iván (Uruguay)*
P081	Evaluation Of The Inhibitory Effect Of Limonene On Hydrogen And Methane Production From Fruit And Vegetable Waste	*Sanchez Valeriano, Nohemí (Mexico)*
P082	A Novel Vernadite-doped Xerogel Enhances The Anaerobic Treatment Of Slaughterhouse Wastewater	*Diaz-Muñiz, Christopher Alejandro (Mexi-co)*
P083	Valorizing OFMSW For Biohydrogen Production: A Comparative Assessment Of Microwave And Ozone Pretreatment Efficacies	*Gull, Umair (India)*
P084	Synergistic Effect Of Microwave Pretreatment And Microbial Electrolysis Cell On Anaerobic Digestion	*Choi, Da Hee (Republic of Korea)*
P085	The Inhibitory Effects Of Volatile Tar Compounds In Syngas Co-digestion: Insights Into Acidogenic Glucose Fermentation	*Amiri, Roonak (Italy)*
P086	Techno-economic Assessment And Scenario Analysis Of Biological Hydrogen Methanation In An Italian WWTP	*Giuliano, Antonio (Italy)*
P087	Two Stage Anaerobic Digestion For Enhanced Methane Production In WWTP	*Lafita, Carlos (Spain)*
P088	Fertiliser Product Recovery From Secondary Raw Mate-rials Using Best Available Techniques	*Tampio, Elina (Finland)*
P089	Methane Production Potential Of The Liquid Fraction From Hydrothermal Carbonization Of A Food Industry Side-stream	*Vainio, Markku (Finland)*

7. Poster Sessions

→63

P090	Optimization Of Bio-hydrogen Production By Dark Fermentation Of Hydrothermally Hydrolysed Brewer's Spent Grain	*dos Santos, Andre (Brazil)*
P091	Enhancing Biohydrogen Production From Dark Fermentation Of Fruit And Vegetable Waste Through Ultrasonic Pre-treatment	*Santos, Andre (Brazil)*
P092	Optimizing Dark Fermentation Of Residual Glycerol For Biohydrogen Production Using Response Surface Methodology	*Santos, Andre (Brazil)*
P093	Ex-situ Biomethanation In The Trickle Bed Reactor: A Robust System As A Component For An Energy-self-sufficient Wastewater	*Wenzel, Christian (Germany)*
P094	Application Of Transfer Learning To Full-scale Anaerobic Reactor Dataset	*Kim, Min-sang (Republic of Korea)*
P095	Unravelling Adhesive And Planktonic Microbial Contributions To Anaerobic Digestion Of Lignocellulosic Biomass	*Liu, Guangqing (China)*
P096	Scalable Biorefinery Platforms For Biowaste Valorisation: Insights From The CircSyst Demonstrators	*Serra, Elvira (United Kingdom)*
P097	Determination Of Kinetics Parameters For Biomethanation Using A Pressurised Reactor	*Kosaki, Yasunori (Japan)*
P098	New Insights On Micro-aeration For Anaerobic Digestion: The Role Of Metals On Biogas Desulfurization	*Romero, Adrian (United States)*
P099	Two-Stage Fermentation Of Food Waste For Single Cell Oil Production By Oleaginous Yeasts	*Duber, Anna (Poland)*
P100	Fuels-C: Accelerating Advanced Biofuels From Biogenic Residues For A Cleaner Transport Future	*Serra, Elvira (United Kingdom)*
P101	Co-digesting Waste Sludge With Microalgae Grown Of Digestate To Boost Biomethane Production	*Ficara, Elena (Italy)*
P102	Analysis Of LAS Removal And Microbial Dynamics In Microaerated Anaerobic Systems With Different Co-substrates	*Santos, Andre (Brazil)*
P103	Performance Of A Hybrid Upflow Anaerobic Sludge Blanket Reactor Treating Coffee Wastewater In Colombia	*Diaz Peñuela, Karen Daniela (Colombia)*
P104	Advancing In Situ Biomethanation Via Combined Hydrogen Feeding And Targeted Methanogenic Bioaugmentation	*Dzofou Ngoumelah, Daniel (Germany)*
P105	Use Of Metallic Catalysts For Amoxicillin Degradation In Anaerobic Reactors	*Mares, Javier (Mexico)*
P106	Solid State Fermentation Combined With Bioelectrochemically Enhanced Anaerobic Digestion For Methane From Food Waste	*Hussain, Abid (Canada)*
P107	Production Of Medium-chain Carboxylic Acids From Waste Activated Sludge In Co-digestion With Food Waste	*Carrillo-Machado, Ena (Mexico)*

P108	Magnetic Biochar Combined With Digestate Bioaugmentation Synergistically Accelerates Recovery Of Collapsed AD System	*Xing, Bao-Shan (China)*
P109	Fundamental Assessment Of Application Opportunities For Biological Methanation At Municipal Wastewater Treatment Plants	*Wenzel, Christian (Germany)*
P110	Utilising Pine Bark In Acid Fermentation	*Vainio, Markku (Finland)*
P111	Stimulation Of Diuron Anaerobic Biodegradation Under Long-term Cultivation And Stressful Conditions	*Bucci, Luca (Belgium)*
P112	Closing The Loop Of Organic Waste Valorisation By Integrating Anaerobic Digestion And Pyrolysis Products	*García-Prats, Marta (Spain)*
P113	Energy Recovery In The Chemical Process Industry	*Schreiber, Lara (Germany)*
P114	Impacts Of Direct Digestate Recirculation And Microaeration On Full-scale Biogas Plant	*Liu, Yuchen (Ireland)*
P115	Pilot-scale Test Plant For Coupling Anaerobic Digestion And Catalytic Methanation Of CO_2 From Biogas And Green Hydrogen	*Uellendahl, Hinrich (Germany)*
P116	Carbon Felt-Induced Direct Interspecies Electron Transfer (DIET) In AnMBR: Effects On Methane Production And Fouling	*Castilho, Thalita (Brazil)*
P117	Conductive Materials In Anaerobic Digestion: A Promising Strategy For Emerging Pollutant Removal	*Castilho, Thalita (Brazil)*
P118	Effects Of Pretreatments On Low-Temperature Anaerobic Digestion Of Apple Pomace	*Rajagopal, Rajinikanth (Canada)*
P119	Characteristics Of Decentralized Sanitation Wastes And Their Potential As A Biogas Feedstock	*Ervasti, Satu (Finland)*
P120	Enrichment And Isolation Of An Uncultured Taxonomic Group Within The Phylum Synergistota From Anaerobic Sludge	*Arai, Yuma (Japan)*
P121	Integrated Anaerobic Digestion Of Microalgal Biomass Coupled With A Photobioreactor For Biogas Upgrading	*Fuentes-Zamorano, Jesús Marcelo (Bolivia)*
P122	Waste To Energy: Enhancing Biomethane Yields Of Raw And Secondary Seafood Process Residues In A Biorefinery Approach	*Fatone, Francesco (Italy)*
P123	Downflow Hanging Sponge-Immobilized Bamboo Biochar (DHS-IBC) System: A Potential Enhanced Nutrient Removal System For Aquaculture Wastewater Treatment	*samadhi, wandana (Japan)*
P124	Anaerobic Degradation Of Organics Over Time In A Deep Geological Waste Repository	*Warthmann, Rolf (Switzerland)*
P125	Dark Fermentation Of Hydrolyzed Residual Fraction Of Municipal Solid Waste: Insights From Batch And Semicontinuous Trial	*Muñoz Muñoz, Alexander (Spain)*

7. Poster Sessions

→65

P126	From Sewage Sludge To High-Value VFAs: Acidogenic Fermentation With Ethanol, Lactic Acid And Food Industry Residues	*Martínez, Lydia (Spain)*
P127	Exploring The Potential Of High-Rate Thermophilic Anaerobic Co-Digestion For Achieving Energy-Neutral Sewage Treatment	*Stránský, Dominik (Czech Republic)*
P128	Phosphorus Recovery From Wastewater: A Lumped-kinetic Approach Using UV/H_2O_2	*Santiviago, Claudia (Uruguay)*
P129	Assessing Microplastic Stability And Temperature-Dependent Methane Generation In Anaerobic Treatment Of Domestic Sludge	*Herrera León, Elvira (Spain)*
P130	Energy Recovery From Microalgae Grown On Anaerobic Membrane Bioreactor Permeate: A Life Cycle Assessment	*Cengiz, Ali Izzet (Türkiye)*
P131	In-situ Biogas Upgrading By Biochar Addition: Potential And Limitation Of Increasing Biochar Concentration	*Marone, Antonella (Italy)*
P132	Optimal ADM1 Calibration For Predicting Anaerobic Co-digestion Of Food And Agro-zootechnical Wastes	*Catenacci, Arianna (Italy)*
P133	Mechanisms Of Amino Acids Conversion To Volatile Fatty Acids In Anaerobic Digestion	*Chen, Chang (China)*
P134	Nitrogen Valorization In Anaerobic Digestion Systems Via NH_3 Fermentation	*Mohit, Mohamadali (Republic of Korea)*
P135	Anaerobic Digestion Of Sewage Sludge And Food Waste At Low Temperature: Kinetics And Fluorescence Properties	*Alcaraz-Ibarra, Sergio (Mexico)*
P136	Operational Performance Of A Full-Scale Mesophilic Dry Anaerobic Digestion Plant Treating OFMSW	*Övez, Serra Selin (Türkiye)*
P137	Impact Of Pressure On Key Parameters For In-situ Biomethanation	*Torrecilla del Rey, Alberto (Spain)*
P138	Natural Sediment Inocula Enhance Anaerobic Co-digestion Of Sewage Sludge And Landfill Leachate	*Azarmanesh, Reza (Canada)*
P139	Boosting Biomethanation Under Pressurized Conditions For High-efficiency In-situ Biogas Upgrading	*Torrecilla del Rey, Alberto (Spain)*
P140	Aniline Recalcitrance To Anaerobic Degradation In A Phenol-degrading Membrane Bioreactor Under Saline Conditions	*Garcia Rea, Victor Servando (Netherlands)*
P141	Digestate Valorization In Swine Production: An Uncertainty Based Life Cycle Assessment Of Solid And Liquid Pathways	*Kunz, Airton (Brazil)*
P142	Unlocking High-Rate Anaerobic Digestion: Overcoming Free Ammonia Inhibition Through Osmoprotectant Supplementation	*Chukwuekezie, Nnenna (United Kingdom)*
P143	Waste Valorization From Recovered Food Processing Solids For Anaerobic Digestion	*Aziz, Rafian (United States)*

7. Poster Sessions

→66

P144	Froth-filled Reactor: A Novel Biomethanation Reactor For Achieving Higher-loading Operation	*Ding, Hanhan (Japan)*
P145	Towards Carbon-Neutral WWTPs: Optimizing THP-Enhanced Anaerobic Co-digestion	*Ahn, Sunghoon (Republic of Korea)*
P146	Lysozyme-based Thermo-enzymatic Pretreatment Improves Sludge Solubilization And Anaerobic Digestion Performance	*Shirazi, Romina (Canada)*
P147	Beyond Conductive Materials: Advancing High-rate Anaerobic Digestion Through Microbial Hydrogel Immobilization	*Chan, Stella (Japan)*
P148	Magnetite Breaks The Propionate Bottleneck And Drives Methane Production Under Changing Butyrate And Propionate Ratios	*Jeon, Yun-Ju (Republic of Korea)*
P149	Anaerobic Digestate Derived Biochar As Conductive Material For Enhanced Biomethane	*R, Ghurupreya (India)*
P150	Biogas Transitions In East Africa Low-income Settlements: From Feedstock To Finance	*Adam, wini (France)*
P151	Electric Field Generated By Open-circuit Physically Promotes Proton-coupled Electron Transfer To Enhance Methanogenesis	*Yu, Qilin (China)*
P152	Benchmarking Of 12 Anaerobic Digestion Models For A Selection Framework Based On Accuracy And Computational Cost	*Tarrega, María Jose (Spain)*
P153	Controlling Sewer Methane Via Hydraulic Retention Time In Sewers Receiving Food Waste	*Mohit, Mohamadali (Republic of Korea)*
P154	Influence Of Sponge Microenvironments On Nitrification In Down-flow Hanging Sponge Reactor	*Watari, Takahiro (Japan)*
P155	Fe@C Drives Ferredoxin Dependent Electron Bifurcation And Microbial Interaction To Promote Carbon And Sulfur Metabolism	*Xie, Li (China)*
P156	Polyhydroxyalkanoates Production Using Biowaste Fermentation Liquids With Controlled Nitrogen Content	*Dosta, Joan (Spain)*
P157	Metagenomic Insights On Microbial Adaptation And Syntrophic Restructuring During Sludge And Pig Manure Co-digestion	*Tarrega, María Jose (Spain)*
P158	Bioaugmentation For Targeted Volatile Fatty Acid Production In Anaerobic Fermentation Of Household Waste Streams	*Q. Lobo, Leonor (Sweden)*
P159	Modelling Biopolymer PHBV Biodegradation And Particle Size Evolution During Mesophilic Anaerobic Digestion	*Olaya-Rincon, Mario (Spain)*
P160	Nitrogen Removal Of Anammox Biofilter Treating Low-Ammonia Wastewater At Low Hydraulic Retention Time And Temperature	*Zhou, Xiaohua (China)*

P161	Revisiting System Boundary Definitions In Tier 2 Methane Emission Estimation For Korean Wastewater Treatment Plants	*Kim, Dong-Hoon (Republic of Korea)*
P162	Integration Of Gas-permeable Membranes In Acidogenic Fermenters For Ammonia Recovery And Volatile Fatty Acids Production	*Serra i Toro, Andreu (Spain)*
P163	Anaerobic Co-digestion Of Fat, Oil, And Grease And Wastewater Algae From Three Wastewater Treatment Configurations	*Bai, Xue (Australia)*
P164	Evaluation Of Trace Element Deprivation Effects On Process Performance In Trickle Bed Reactors For Biomethanation	*Niebauer, Xaver (Germany)*
P165	A Comparative Life Cycle Assessment Of Anaerobic Mono-and Co-digestion Of Chicken Manure	*Lay, Chyi-How (Chinese Taipei)*
P166	Enhanced Continuous Bio-H_2 Production By The Bioaugmentation Of Electroactive Hydrogen-producing Bacteria	*KIM, Sang-Hyoun (Republic of Korea)*
P167	Optimizing Energy Valorization Of Primary Sludge	*Jenícek, Pavel (Czech Republic)*
P168	Prospective Life Cycle Inventory Modelling Approaches For Carboxylic Acid Production From Organic Wastes	*Cerdán-Morillo, José Manuel Alejandro (Brazil)*
P169	Continuous Hydrogen Production In A DMBR Using Clostridium Pasteurianum	*Joo, Hwan-Hong (Republic of Korea)*
P170	Continuous Bio-H_2 Production And Granule Formation Using Biochar And Clostridium Pasteurianum Augmentation	*Kim, Sang-Hyoun (Republic of Korea)*
P171	High-Rate Contact Stabilization For Enhanced Carbon Recovery: Influence On Biogas Production And Plant Emissions	*Pesenti, Marco (Italy)*
P172	Integrated Process For The Management And Valorization Of Slaughterhouse Wastewater Via Anaerobic Digestion	*Castro, Liliana (Colombia)*
P173	Rumen Peristalsis-Inspired Biomimetic Mixing Technology For Lab-Scale Anaerobic Digestion: A Soft-Robot-Driven Approach	*Wang, Yanqi (China)*
P174	Two-Stage Cheese Whey Biorefinery With Anaerobic Granular Sludge: K. Marxianus Ethanol And Micro-ZVI--Enhanced Caproate	*Vyrides, Ioannis (Cyprus)*
P175	Food Waste Anaerobic Digestion In The Circular Economy: Bibliometric Analysis And Topic Modelling	*José M. A. Cerdán-Morillo (Brazil)*
P176	Psychrophilic Digestate-driven Soil Recovery: Linking Digestate Composition To Organic Matter And Microbes	*Castro, Liliana (Italy)*
P177	Biogenic CO_2 Valorization Through Biological Methanation From Enriched Anaerobic Digestion Sludges	*Cimon, Marc-Antoine (Canada)*
P178	Enhanced Deep Learning Prediction Models For Anaerobic Treatment In Municipal Wastewater	*Ji, Jiayuan (Japan)*

7. Poster Sessions

→68

P179	Converting Acid Whey Into Medium-Chain Carboxylic Acids: Insights From A Pilot-Scale UASB Reactor Trial	*Danielewski, Bartosz (Poland)*
P180	Boosting In Situ Biogas To Biomethane Conversion Via Microbial Electrolysis Cells: Comparative Strategies And Insights	*Marone, Antonella (Italy)*
P181	Combined Acidification-Drying Process To Enhance Digestate Agronomic Valorization	*Jimenez, Julie (France)*
P182	Co-Evolution Of Bacteria And Archeaea Communities During In-situ Biomethanation Process	*Lembo, Giuseppe (Italy)*
P183	Pretreatment Of Waste Activated Sludge By A Rotational Generator Of Hydraulic Shock	*Kolbl Repinc, Sabina (Slovenia)*
P184	Improving Hydrogen Production From Primary Sludge Via Enzymatic Treatment In Dark Fermentation	*Voßschmidt, David (Germany)*
P185	AD Of Lipid-rich WW At Small-scale: Use Of Saponification As Pre-treatment Upstream Of An Anaerobic Baffled Reactor	*boutros, théo (Belgium)*
P186	Towards Sustainable Fertilizer Production: PN--Anammox And Struvite-Based Resource Recovery In WWTPs	*Rivadulla, Matías (Spain)*
P187	Anaerobic Technologies For High-Strength Biofuel Production Wastewater Treatment And Biogas Upgrading: A Case Study	*Shang, Ran (Netherlands)*
P188	Quantifying Biochemical Methane Potential And On-Farm Methane Emissions From Québec Dairy Farms	*Pillai, Resmi (Canada)*
P189	Performance Of TiO_2-incorporated Polysulfone Membrane In AnMBR Treating Thermally Pretreated Sludge And Dairy Wastewater	*Ersahin, Mustafa Evren (Türkiye)*
P190	Separation Of Nutrients From Liquid Digestates With Final Potassium Recovery By Ion Exchange Resins	*Mendoza Roca, José Antonio (Spain)*
P191	Converting Agricultural Waste Into Bioenergy Products Through Hyperthermophilic Hydrolysis	*Gilroyed, Brandon (Canada)*
P192	Steering Acidogenic Fermentation Using Conductivity Control	*González-Fernández, Cristina (Spain)*
P193	Optimization In Biogas Production For The Valorization Of Chicken litter And Citrus Wastewater	*Maintinguer, Sandra Imaculada (Brazil)*
P194	Microbiota Dynamics In Anaerobic Systems: Focus On Substrate And System Configuration	*Callejas, Cecilia (Uruguay)*
P195	Effects Of Microbial Consortium Obtained From Fruit Waste After Bioaugmentation With Carbon Sources On H_2 Production	*Janas, Ana (Brazil)*
P196	Valorisation Of Leachates From Municipal Solid Wastes Within An Industrial-urban Symbiosis Framework: United Circles Project	*Rodriguez, Yadira (Spain)*

P197	Valorization Of Food Waste Reject Stream Via Acidogenic Fermentation And Adsorptive Fractionation	*Basereh, Negar (Sweden)*
P198	Scaling-up Bioelectrochemical Methanation: Experiences At Leitat	*Borràs, Eduard (Spain)*
P199	Environmental Assessment Of Different Post-treatment Technologies For Nutrient Recovery From AnMBR Effluents	*Jiménez-Benítez, Antonio (Spain)*
P200	Environmental Life Cycle Assessment Of Three Degassing Membranes For Methane Recovery From AnMBR Effluent	*Jiménez-Benítez, Antonio (Spain)*
P201	Life Cycle Assessment Of Two Management Alternatives For Organic Fraction Of Municipal Solid Waste	*Ribes, Josep (Spain)*
P202	Mesophilic Anaerobic Co-Digestion Of HTC Process Water And WWTP Primary Sludge: A Continuous Laboratory-Scale Assessment	*Revert Vercher, Julio (Spain)*
P203	Feasibility Of Valorizing Citrus Processing By-Products Through Dark Fermentative Biohydrogen Production	*Kim, Do-Hyung (Republic of Korea)*

Thursday 11

València Conference Centre

Tapas Poster Session — *Second semifinal round*

P204	The Implications Of Management Practices On Life Cycle Greenhouse Gas Emissions In Biogas Production	*Lehtoranta, Suvi (Finland)*
P205	Anaerobic Digestion Of Bioplastics In Food Waste	*Demirel, Burak (Türkiye)*
P206	Intelligent Sludge Dewatering: Real-Time Adaptive Control Delivering Measurable Operational And Environmental Gains	*Gehani, Dinesh (Germany)*
P207	Effect Of Thermophilic Anaerobic Digestion On The Microbiological Quality Of Treated Urban Sludge	*López, Andrea (Spain)*
P208	Operation Of A Pilot-Scale Hyperthermophilic Hydrolysis Reactor Pretreating Wheat Straw For Enhanced Biogas Production	*Gilroyed, Brandon (Canada)*
P209	Methanization Of Opuntia Ficus-indica At 20°C, 35°C, And 55°C	*Gonzalez-Martinez, Simon (Mexico)*
P210	A Mini Review Of Anaerobic Co-digestion For Enhancing Hydrogen Production	*Shabanizadeh, Hessam (Germany)*
P211	PCA And Cluster Analysis Of Thermal Hydrolysis: Effects On Industrial And Municipal Biosludge Anaerobic Digestion	*Goycoechea Freire, Nicolas (Uruguay)*

P212	Effect Of Modified Biochar In Acidogenic Co-fermentation Of Protein-rich Waste: BioH_2, VFA And Microbial Community	*Hernández Vélez, Leslie (Spain - Chile)*
P213	Effect Of Magnetite On The Anaerobic Degradation Of Purified Terephthalic Acid (PTA) Wastewater In EGSB Reactors	*Kurnianto, Rifki Wahyu (Netherlands)*
P214	Effect Of Winery Wastewater Pretreatment By Anodic Oxidation On Biohydrogen Production Via Dark Fermentation	*Hernández Vélez, Leslie (Spain - Chile)*
P215	In-situ Biogas Upgrading As A Strategy For Improving FW Digestion	*Ribeiro, Mateo (Uruguay)*
P216	Hybrid Bio-electrochemical Biogas Upgrading Into Renewable Natural Gas Via Formic Acid	*Ye, Shaoyu (Canada)*
P217	Impacts Of Organic Loading On Acidification And Methane Production In Anaerobic Co-Digestion Of Coffee Wastes	*Garay Jácome, María Paula (Colombia)*
P218	Recovery And Reuse Of Magnesium And Phosphorus From Struvite For Efficient Ammonium Removal In Wastewater	*Park, Nari (Republic of Korea)*
P219	Suppressing Methane Emissions From Sewage Sludge Digestate	*Hassan, Muna Ibrahim (United Kingdom)*
P220	Methane And Energy Recovery Enhancement By Ultrasonic Pre-treatment Of Landfill Leachate Co-digested With WAS	*Isik, Onur (Türkiye)*
P221	Integrating DF-BES For Mezcal Vinasses Treatment And Energy Production Using CQDs From Organic Waste	*Estrada-Arriaga, Edson Baltazar (Mexico)*
P222	Transformation Of WWTPs Into Ecofactories: Production Of Phosphate Salts With Agronomic Value	*Castro-Barros, Celia M. (Spain)*
P223	Minimizing Internal Resistance In AD-MEC Systems Using Graphite Felt Electrodes	*Timmers, Rudolphus Antonius (Spain)*
P224	Disintegration For Methane Production Causes BPA Leaching From Polycarbonate Microplastics	*Ayca, Ipek (Türkiye)*
P225	Quantifying Methanogenic Pathway Contributions In Syngas Biomethanation Using δ13C and δ2H Stable Isotope Methods	*Bonato, Irene (Italy)*
P226	Techno-Economic Assessment Of An Anaerobic Membrane Bioreactor For Dairy Wastewater Treatment	*Ozgun, Hale (Türkiye)*
P227	Effects Of Transient PH Dynamic Shocks On Anaerobic COD Degradation Under Sewer-like Conditions	*Kim, Dong-Hoon (Republic of Korea)*
P228	Sulfur Source Effect On The Biological Activity Of Microbial Consortia Fed With H_2/CO_2	*Laguillaumie, Léa (France)*
P229	Demonstration Of A Two-step Digestate Processing Strategy For Enhanced Nutrient Availability	*Hagenimana, Eric (United Kingdom)*

P230	Challenging Heating Requirements In Anaerobic Digestion: Room-temperature Performance In Batch And Continuous Reactors	*Bhatia, Pranshu (Japan)*
P231	Beyond Arrhenius: Moderate Thermophilic Temperatures Maximise Hydrolysis In Food Waste Anaerobic Digestion	*Nader, Elie (France)*
P232	Synergistic Role Of Low-Strength Ultrasound And Co-Digestion In Anaerobic Digestion Of Swine Wastewater	*Jo, Hongmok (Republic of Korea)*
P233	Effects Of Inoculum Source And Microbial Community Enrichment On Hydrogenotrophic Methanogenesis Under Different H_2-CO_2	*Bozzelli, Antonio (Italy)*
P234	β-FeOOH Nanorod Catalysts As Non-precious Alternatives For Hydrogen Evolution In Microbial Electrolysis Cells	*LEE, Dokyung (Republic of Korea)*
P235	Improving Municipal Organic Waste Treatment Through Thermal Hydrolysis To Enhance Anaerobic Digestion Performance	*Colin, Juliette (Spain)*
P236	Influence Of Gas-liquid Mass Transfer On The Modelling Of In Situ Biomethanation At Laboratory And Pilot Scales	*Segura, Tatiana (France)*
P237	Energy And Environmental Assessment Of Pretreatments For CBG Production From Rice Straw: A Study In The Indian Context	*Kulkarni, Amey (India)*
P238	Increased Organic Loading Of Marine Aquaculture Sludge In Continuous Biogas Reactors	*Solli, Linn (Norway)*
P239	Biogas Desulfurization Through Sulfide-oxidizing Bacteria Grown On Cow Manure Digestate As A Circular Nutrient Source	*Zhu, Yali (Belgium)*
P240	Mixed Culture Fermentation Of Brown Juice For Carboxylates Production	*Zagorna, Amelia (Poland)*
P241	Magnetite Modulates Sulfate-Stressed Microbial Networks toward SRB-Methanogen Cooperation	*Vayena, Georgia (Denmark)*
P242	Energy And Nutrients Recovery In A Pilot-scale Biogas Plant Treating Agro-aquaculture Waste In The Colombian Orinoquía	*Cadavid-Rodríguez, Luz Stella (Colombia)*
P243	Advanced Anaerobic Co-digestion Of Swine Manure Enhanced by Conductive Materials And Electrochemical Stimulation	*Yun, Yeo-Myeong (Republic of Korea)*
P244	Taxonomy-based Assessment Of Industrial Anaerobic Sludges For Biohydrogen Production	*Hidalgo, Dolores (Spain)*
P245	Wasted Sludge Valorization Via Simultaneous PHA And EPS Recovery	*Mannina, Giorgio (Italy)*
P246	Evaluation Of Graphene Oxide And Reduced Graphene Oxide Impacts On Anaerobic Propionate Degradation Kinetics	*Wan, Jingjing (Australia)*

7. Poster Sessions

→ 72

P247	Bioprocess Strategies To Enhance Microbial Medium-Chain Fatty Acids Production From Carbohydrates-Rich Food Waste	*Gallipoli, Agata (Italy)*
P248	Wastewater Treatment And Energy Recovery Via Microbial Fuel Cells: An Emerging Technology	*Vijay, Ankisha (India)*
P249	Integration Of Electrodialysis And Long-term Acid Fermentation From Olive Mill Solid Waste	*Serrano, Antonio (Spain)*
P250	Why Upscaling Matters: Comparative Anaerobic Digestion Of Soybean Molasses And Crude Glycerol From Lab To Pilot-scale	*Clara Gomes Rodrigues, Brenda (Brazil)*
P251	Valorizing Hydrothermal Carbonization Liquid Streams For Biomethane Recovery	*Hidalgo, Dolores (Spain)*
P252	Biogas Production And Co-digestion Performance Of Biomass Harvested From Membrane Photobioreactors	*Ferrera León, Elvira (Spain)*
P253	Thermophilic Biomethanation With Straw: Effect Of Sparger Size In Gas Recirculation	*Laaksonen, Ilmari (Finland)*
P254	How Ammonia Stress Reshapes Methanogenic Pathways: Insights Into Pathway-specific Inhibition And Recovery	*Wang, Zhongzhong (Spain)*
P255	Transforming Aquaculture Waste Into Volatile Fatty Acids: Designing A Continuous Anaerobic Fermentation Process	*Otterheim, Linnéa (Sweden)*
P256	Thermophilic Fungi Hydrolytic Enzymes To Enhance Bioconversion From Brewers' Spent Grains	*Cubero Cardoso, Juan (Spain)*
P257	Start-Up And Performance Of A Demonstration-Scale Thermophilic Sewage Sludge Anaerobic Reactor: Engineering & Microbiolo	*Astals, Sergi (Spain)*
P258	PFAS-Like Compounds In Digestates From Danish Biogas Plants: Occurrence And Analytical Characterization	*Moutinho, Mariana (Denmark)*
P259	The OBIWAN Project For Transformation Of Biogas Into Advanced Chemicals And Sustainable Aviation Fuel: Dynamic Modeling	*Ribeiro, Thierry (France)*
P260	Study Of The Impact Of Biofilm Formation On The Ex-situ Biological Methanation Process	*Richard, Charlotte (France)*
P261	Mono-Digestion Of Straw Using Novel Anaerobic Digestion Technologies	*Moller, Henrik (Denmark)*
P262	SYMSITES: Urban-industrial Symbiosis For Waste And Wastewater Management In The Alcoy Area	*Tamarit Coronado, Raquel (Spain)*
P263	Start-up Stability And Microbial Dynamics In A Full-Scale Dry Plug-Flow Digester Treating Kitchen Waste	*Li, mingyang (China)*
P264	Estimating ADM1 Prediction Uncertainty Via Inter-laboratory Studies And Experimental Data	*Delory, Félix (Germany)*
P265	Ethanol Production From Agroindustrial Waste: Steering Open-mixed Cultures	*Martorell-Múgica, Alejandra (Spain)*

P266	Assessment Of Anaerobic Digesters' Performances In Finland With A Non-radial Data Envelopment Analysis Model	*Varalta, Federico (Finland)*
P267	Optimizing Acetogenic CO_2 Conversion Via Strategic Selection Of Support Materials Using Multilevel Categorical Design	*Kougias, Panagiotis (Greece)*
P268	GPS-X Simulation-Based Optimization Of Anaerobic Digester Operation For Seasonal Food Waste Leachate	*Yoo, Gamin (Republic of Korea)*
P269	Experimental Evaluation And Advanced Control Strategy For Pig Manure And Crude Glycerol Co-Digestion Optimization	*Khanal, Samir (Hong Kong, China)*
P270	Effect Of Sodium Hypochlorite On Methane Production And Microbial Community In Anaerobic Digestion	*Ni, Jialing (Japan)*
P271	Machine Learning-Driven Optimization Of Pressurized Biomethanation Via Targeted Trace Metal Supplementation	*Kontogiannopoulos, Konstantinos (Greece)*
P272	Dark Fermentation Of Fruit Waste: Effects Of Supplementation Strategies On H_2 Production And Organic Matter Removal	*Janas, Ana (Brazil)*
P273	A Multi-Stage Biological Treatment System For Sustainable Waste Management And Resource Regeneration On Lunar Bases	*Biasiolo, Marco (Italy)*
P274	Machine Learning-based Assessment Of Reactive Species Effects In Cold Plasma Pretreatment For Anaerobic Digestion	*Kim, Boyoung (Republic of Korea)*
P275	Optimization Of Biochar-Digestate Mixtures For Chemical Profile Amelioration Across Three Soil Types	*Nikolaidou, Charitini (Greece)*
P276	From Bottles To Steady-state Anaerobic Digestion Reactors: A Corrected Mass Balance Model For CSTR	*Baquerizo-Crespo, Ricardo (Spain)*
P277	Impact Of Lignocellulose-derived Inhibitors On Continuous Dark-fermentative Hydrogen Production	*Zagrodnik, Roman (Poland)*
P278	Biomimetic Chewing Pretreatment Of Miscanthus For Enhanced Biogas Production: From Batch To Continuous Operation	*Wang, Yanqui (China)*
P279	Environmental Stress As A Driver Of Pigment Modulation In Rhodobacter Capsulatus	*Llama Saus, Javier (Spain)*
P280	Algal Biomass As A Natural Alkalinity Source In The Anaerobic Digestion Of Raw Sugarcane Vinasse	*Siqueira, Juliano (Brazil)*
P281	Antibiotic Removal During Anaerobic Digestion Of Cattle Manure: Does Organic Loading Rate Have An Effect?	*Rial, Antón (Spain)*
P282	Cavitation Based Pretreatment For The Enhancement Of Biohydrogen Production From OFMSW	*Logan, Mohanakrishnan (India)*
P283	Coupling Wet Air Oxidation And PPB Bioelectrochemical Processes for Sustainable Refinery Sludge Treatment	*Galve Santacruz, Victor (Spain)*

7. Poster Sessions

→ 74

P284	Anaerobic Digestion Gases Capture And Bioconversion Into High Value-added Bioproducts	*Colvée Bosch, Carolina (Spain)*
P285	Psychrophilic Digestate As A Substitute For Urea In Dairy Pastures	*Casallas, Miguel & Cabeza, Iván (Colombia)*
P286	Mixed VFA Fermentation Dynamics Through Simplified ADM1	*González-Barceló, Óscar (Mexico)*
P287	Rhodopseudomonas as a promising driver for biogas upgrading and production of food-grade value-added compounds	*García López, María José (Spain)*
P288	Anaerobic-Aerobic Treatment Of Polymer Production Wastewater: Enhanced COD Removal And Energy Recovery	*Shang, Ran (Netherlands)*
P289	Comparing Anaerobic Technologies For The Treatment Of Hydrothermal Liquefaction Aqueous Byproduct In WRRFs	*Wehner, William (United States)*
P290	Anaerobic Fungal Bioaugmentation Alters Structural, Biochemical, And Microbial Dynamics In Straw Anaerobic Digestion	*Meenakshisundaram, Shruthi (France)*
P291	Impact Of Temperature On Solid-State Anaerobic Digestion Of Cow Manure And Co-Digestion With Rice Straw	*Abbas, Muzammil (Japan)*
P292	Starch-Rich Versus Fibre-Rich Diets And Fat Supplementation: Impacts On Methane Yields Of Dairy Cow Manure	*Romio, Cristiane (Denmark)*
P293	A Rumen-inspired Hydrolytic AnDMBR Coupled With A Methanogenic AnDMBR Enables Stable Food Waste And Sludge Co-digestion	*Karki, Renisha (United States)*
P294	Volatile Fatty Acid Production Under Ambient Temperature: The Role Of Granular Activated Carbon And Torrefaction	*Sari, Tugba (Sweden)*
P295	Continuous Acidogenic Fermentation Coupled With Vivianite Formation	*Kweon, Do-Young (Republic of Korea)*
P296	Thermal-alkali Pretreatment Of Poplar Wood For Enhanced Production Of Biogas	*Azizi, Armineh (Canada)*
P297	Stratification And Time Series Analysis Of Trickle Bed Bioreactors For Biogas Upgrading	*Papasakellariou, Konstantinos (Denmark)*
P298	Stratified Bed Of Fluidized Reactors Exhibits Predominance Of Autotrophic Methanogenesis Assisted By Dark Photosynthesis	*Dornelles, Henrique (Brazil)*
P299	Gravimetric Vs Volumetric Calibration: Liquid-Displacement Gas Meter Uncertainty Assessment For High-Throughput BMP Test	*Li, Mingyang (China)*
P300	Process-driven Control Of Carboxylate Production From Acid Whey	*Brodowski, Filip (Poland)*
P301	Environmental Assessment Of Biogas Production Systems Across Five Farm Archetypes In Hauts-de-France	*Mballa Omgba, Bruno (France)*

P302	Enhancing Methane Production From Pig Slurry Using Biochar: Effects Of Dosage And Temperature	*Cerrillo, Míriam (Spain)*
P303	Techno-economic Assessment Of The Bioenergy Potential Of Post-harvest Cocoa And Coffee Biomass Waste In Rural Areas	*Cubero Cardoso, Juan (Spain)*
P304	Comparison Of Host Systems For Production Of Recombinant Carbohydrate Active Enzymes Sourced From Anaerobic Fungi	*Sciascia, Gabriel (Switzerland)*
P305	Low Cost Tubular Digesters In Europe: First Results	*Martí-Herrero, Jaime (Ecuador)*
P306	Residual Methane Potential Of AD Plants Assessing Climate-relevant Emissions	*Ruesch, Florian (Switzerland)*
P307	Coupling Electrochemical CO_2 Reduction To Formate With Purple Phototrophic Bacteria For Single Cell Protein Production	*Pezzuto, Marco (Italy)*
P308	Valorization Of Food Waste Beyond Co-Digestion	*Ramalingam, Krish (United States)*
P309	Dose-response Effects Of Microaeration On Thermophilic Lignocellulose-based Anaerobic Digestion	*Kozera, Marcin (Denmark)*
P310	Unravelling The Function Of Uncultured Chloroflexota In Methanogenic Reactors Through Metatranscriptomics	*Bovio-Winkler, Patricia (Uruguay)*
P311	Temperature-Dependent Ammonia Stress And Loading Limits In Dry AD Of Swine Manure	*Tumbahangphe, Manita (Canada)*
P312	Evaluation Of Anaerobic Digestate From Swine Washwater As A Biofertilizer In Forage Systems Under Field Conditions	*Ariza Parra, Henry (Colombia)*
P313	Hyperspectral Imaging And Machine Learning To Improve Process Control Of Anaerobic Digestion Of Food Waste	*Martin-Ryals, Ana (United States)*
P314	Assessment Of The Biogas Production Potential From A Dairy Farm Located In The Tropical Region Of Costa Rica	*Sanchez Romero, Carlos (Costa Rica)*
P315	Performance And Feasibility Of Micro Biogas Systems Under Swiss Climate Conditions	*Rüsch, Florian (Switzerland)*
P316	Enhancing Anaerobic Digestion Of HTL Aqueous Phase: A Comparative Assessment Of Adsorption Pretreatment And Co-digestion	*Amini, Ghazaleh (Canada)*
P317	Biorefinery Approach For Olive Pomace Conversion Into Bioproducts And Bioenergy: Technical And Sustainability Assessment	*Ferrer, Ivet (Spain)*
P318	Carbon Footprint Assessment Of Biomethane Production From A Centralized Biogas Plant	*Bonmati, August (Spain)*
P319	Modelling The Specific Methane Production Of An Anaerobic Digester With The First Derivative Of The Gompertz Equation	*Esparza-Soto, Mario (Mexico)*

P320	Towards Intensified Volatile Fatty Acids Production And Recovery In Acidogenic Fermentation Of Deproteinated Cheese Whey	*Turolla, Andrea (Italy)*
P321	Optimizing The Selective Odd-chain Carboxylate Production From Cheese Whey In A Two-step Fermentation System	*Carballa, Marta (Spain)*
P322	Energy And Resource Recovery From Municipal Wastewater By A Pilot-scale Sidestream Anaerobic Membrane Bioreactor	*Liu, Ziwei (China)*
P323	Process Optimization Of Sewage Sludge Hydrothermal Carbonization For Integrated Energy And Resource Recovery	*Díaz Pineda, Javier (Spain)*
P324	Bioaugmentation Strategies For Improved Methane Yields During The Anaerobic Digestion Of Coffee Processing Waste	*Tsigkou, Konstantina (Denmark)*
P325	Potential Of Biohythane From Municipal Solid Waste For Sustainable And Low-Carbon Transportation In Colombia	*Valencia-Ortiz, Jhon G (Colombia)*
P326	Effect Of Marine Salinity Stresses On Sewage Sludge Anaerobic Digestion Performance	*Silvestre, Gracia (Spain)*
P327	Fungal Community Promotion Via Microareation For Maximizing Volatile Fatty Acids Production From Olive Mill Solid Waste	*Guirado Mendoza, Luna (Spain)*
P328	Operational Strategies For The Safe Transition From Mesophilic To Thermophilic Sludge Anaerobic Digestion In Wastewater	*Córdova, Alejandra (Spain)*
P329	Microbial And Functional Impacts Of Distinct Ammonia Sources In Anaerobic Digestion	*Medina Santana, Claudia (Ireland)*
P330	Enhancing Energy Recovery In Wastewater Treatment Through Co-digestion: A Case Study From The B-WaterSmart Project	*Casals del Busto, Ignacio (Spain)*
P331	Assessment Of Circularity Potential Of Biogas Produced From Fish Sludge To Fish Feed	*D. Moura, Clara (Portugal)*
P332	Integrated Zeolite-based Metal Recovery To Boost Biogas Production: A Sustainable Approach To PTA Wastewater Treatment	*Duarte, M.Salomé (Portugal)*
P333	Pilot-scale Production Of Microbial Protein From Biogas Using Methanotrophic Cultures	*Carvajal-Arroyo, Jose (Netherlands)*
P334	Model-derived Insights Into Three Full-scale Anaerobic Digestion Systems For Co-digesting Sewage Sludge With FW And FOG	*Puente, Pedro (United States)*
P335	Behaviour Of PFAS In Anaerobic Treatment Systems: PFOA Adsorption And Impacts On Methane Production	*Pereira, Luciana (Portugal)*
P336	Nanotechnology For The Sustainable Production Of Biomethane From Palm Oil Industry Effluents In Tropical Countries	*Agudelo-Morales, Carlos E (Colombia)*

P337	Simultaneous Partial Nitrification-mixotrophic Denitrification Using Chilean Zeolite As Microbial Support	*Guerrero, Lorna (Chile)*
P338	Sustainable Sewage Sludge Management Strategies For Polyhydroxybutyrate-co-Polyhydroxyvalerate Production	*Otero, Ana (Spain)*
P339	Tailoring Olive-mill Wastewater Biostimulants To Boost Arthrospira Platensis Metabolism During Biogas Upgrading	*Vargas-Estrada, Laura (Spain)*
P340	Improving Methane Production/Process Resilience In Anaerobic Digestion Via A Magnetite-doped Powdered Activated Carbon	*Nakano, Reo (Japan)*
P341	From Laboratory To Field: Scalable Bioremediation Strategies For Acid Rock Drainage In The Global South	*Ochoa-Herrera, Valeria (Ecuador)*
P342	Comparative Hydrogen Production In Microbial Electrolysis Cells Treating Brewery Effluents: Effect Of Cathode Material	*Cardeña, René (Uruguay)*
P343	Dynamic Forecasting Of Inhibitory And Hydrodynamic Phaenomena In The AD Process With Transformer-based Architectures	*Meola, Alberto (Germany)*
P344	Temperature And SRT As Key Drivers Of Pharmaceutical Removal During Anaerobic Sludge Digestion	*Crouchett Catalán, Francois (Spain)*
P345	Operational Limits And Temperature Transition Strategies For High-loaded Anaerobic Digestion: Insights From Pilot-scale	*Olsson, Jesper (Sweden)*
P346	Renewable Gas Production At Wastewater Treatment Plants Via Electrochemical-biological CO_2-reduction	*Gehring, Tito (Germany)*
P347	Assessing Dark Fermentation As A Platform Technology For Biorefineries And Carbon Recycling	*Manu, James (United Kingdom)*
P348	Effect Of Thermal Pretreatment On The Anaerobic Digestion And Copper Distribution In Alperujo-olive Leaves Mixtures	*Ramos-Muñoz, Víctor M. (Spain)*
P349	Enrichment Of PHA-Storing Mixed Cultures Using MAAD Food-Waste Leachate In An Automated Reactor	*Carvajal, Andrea (Chile)*
P350	Methane Production From Beeswax Waste: Experimental Evaluation And Kinetic Analysis	*Barahona, Andrea (Chile)*
P351	Sulfate-reducing Consortia Drive Integrated Acid Rock Drainage (ARD) Treatment	*Zambrano-Romero, Aracely (Ecuador)*
P352	Anaerobic Digestion Of Real Cattle Slurry As A Circular Economy Approach For Mitigation Of GHG Emissions	*Costa, Luís (Portugal)*
P353	Anaerobic Decolorization Of Reactive Black 5 Enhanced By Iron-based Additives: Performance And Microbial Response	*Milen Firmino, Paulo Igor (Brazil)*
P354	Carbonaceous Redox Mediators Enhance Anaerobic Removal Of Reactive Black 5	*da Silva, Marcos Erick Rodrigues (Brazil)*

P355	Long-term Anaerobic Digestion Of Livestock Waste And Digestate Valorization By Producing Microalgal Biomass	*Gonzalez Camejo, Josué (Spain)*
P356	Syngas-to-Acetate Platform: Enhancing Acetate Production By Acetobacterium Woodii Enriched Culture	*Lebrero, Raquel (Spain)*
P357	Saline-Resilient Anaerobic Granules: Inoculum-Independent Formation And Cobalt Biorecovery Potential In UASB Reactors	*Gagliano, Maria Cristina (Netherlands)*
P358	Enhancement Of Methane Production: Comparative Evaluation Of Carbon-based Additives In The Anaerobic Digestion Of Swine	*Burboa Charis, Vianey (Mexico)*
P359	Two-stage Approach To Use Waste From The Sugar-Alcohol Industry As Co-substrates For Hydrogen And Methane Production	*Rabelo, Camila (Brazil)*
P360	Process Design And Model-based Assessment Of Biological Methanation Integration In Wastewater Treatment Plants	*Rossi, Simone (Italy)*
P361	Spatial Assessment Of The Bioenergy Production And Nutrient Recycling Potential Of Brazilian Bovine Slaughterhouse Waste	*Lazarotto Formagini, Edinéia (Brazil)*
P362	Comparison Of Current On-ship Wastewater Treatment Technologies: Is There A Niche For Anaerobic Systems?	*Gonzalez-Gil, Lorena (Spain)*
P363	Multi-objective Optimization Of Thermal Pretreatment Process For Resource Recovery And Contaminant Abatement	*Adetule, Oluyemi (Ireland)*
P364	Influence Of Metformin On Anaerobic Digestion Activity	*González Blanco, Gehovana (Mexico)*
P365	Integrated Anaerobic Digestion And Photo-Fermentation For Tequila Vinasse Valorization And Biogas Upgrading	*León Becerril, Elizabeth (Mexico)*
P366	Optimizing Dark Fermentation Of Olive Mill Wastewater Via Inoculum Pretreatments	*Fino, Debora (Italy)*
P367	Fate Of Pharmaceutical Micropollutants During Mainstream Anaerobic Treatment Of Domestic Sewage	*Holohan, Conall (Netherlands)*
P368	Influence Of Temperature, Inoculum Source, And Organic Loading On Biohydrogen Production From Soybean Molasses In Batch	*Comparato, Carolina (Brazil)*
P369	Starch-Rich Diets And Fats, Nitrate And 3-Nitrooxypropanol Additives: Impacts On Methane Yields Of Dairy Cow Manure	*Romio, Cristiane (Denmark)*
P370	Treatment Of Delactosed Cheese Whey Permeate Using AnMBR: Performance, Methane Production, And Membrane Fouling Behavior	*Perendeci, Nuriye (Türkiye)*
P371	Determination Of The Optimum SRT For Carbon Capture And System Performance Of HR-MBR Treating Municipal Wastewater	*Atilgan, Merve (Türkiye)*
P372	Modular Prototype For The Biological Treatment Of Acid Rock Drainages (ARD)	*Zambrano-Romero, Aracely (Ecuador)*

P373	Conductive Materials-amended Anaerobic Digestion Of Dairy Farm Waste For Improved Antibiotics Degradation	*Pelagalli, Vincenzo (Ireland)*
P374	Production Of Struvite By Microbial Isolates In Sugarcane Biorefinery Effluents	*Soares, Bruna (Brazil)*
P375	Use Of Magnetite-amended Digestate As A Fertiliser: Impact On VOC Emissions And Soil Microbial N Cycling	*Vincent, Julien (Ireland)*
P376	Application Of Nanoparticles In Anaerobic Digestion: A Review Based On The PRISMA Methodology	*Soares, Bruna (Brazil)*
P377	Impact Of Silver Nanoparticles On The Anaerobic Digestion Of Sewage Sludge And Organic Solid Waste	*González Blanco, Gehovana (Mexico)*
P378	Enhanced Organic Micropollutant Removal In UASB Reactors Amended With Biochar And Magnetic Biochar	*Firmino, Paulo Igor (Brazil)*
P379	Effect Of Organic Loading Rate On Antibiotic Resistance Genes Fate During Anaerobic Digestion Of Cow Manure	*Espada Núñez, Pablo (Spain)*
P380	Energy Potential, Nutrients And Microorganisms In Olive Mill Solid Waste	*Martín Medrano, Cinta (Spain)*
P381	Under The Spotlight: Dead Volume Diagnosis In Full-scale Anaerobic Digesters By Means Of CFD Modelling	*Arnau Notari, Rosario (Spain)*
P382	Effect Of Physico-chemical Pre-treatments On The Anaerobic Biodegradability Of Soybean Okara For Biomethane Production	*Quispe Arpasi, Diana Elizabeth (Peru)*
P383	Biodegradation Of Allura Red And Aromatic Amines: Effect Of Micro-aeration And Co-substrate	*Meza, Edna (Mexico)*
P384	Relationship Between The Electron-transfer Capacity Of Carbon-based Materials And Biohydrogen Productivity	*Burboa, Vianey (Mexico)*
P385	Biological Stability Of Digestates From Anaerobic Digestion: Implications For Agricultural Reuse	*Cerrillo, Miriam (Spain)*
P386	Impact Of Multistep Separation On Biogas Potential From Re-digested Biogas Digestate	*Ghorbani, Marzieh (Denmark)*
P387	Design, Development, And Operation Of A Novel EGSB Reactor System Utilising Native Microbiota For VFA Production From Cheese Whey Permeate	*Utomo, Michael Hananta (Ireland)*
P388	Synergistic Anaerobic Co-Digestion Of Swine Manure And Nixtamalization Wastewater	*Serrano, Denisse (Mexico)*
P389	Anaerobic Co-digestion Of Fish Waste And Wet Coffee Processing Wastewater For Biomethane Production	*Quispe Arpasi, Diana Elizabeth (Peru)*
P390	Maximizing Methane Production In Swine Wastewater Through Alumina And Iron Oxide Additives	*Armenta, Miguel (Mexico)*
P391	Effect Of Grinding On The Anaerobic Digestion Of Green Waste	*Bassin, Joao (Brazil)*

P392	Co-Digestion Synergies Between Food Waste And Green Waste: Methane Yield And Biodegradability Evaluation	*Bassin, Joao (Brazil)*
P393	Pilot Scale Codigestion Of Gracilaria Sp. And Cattle Manure In A 20 M^3 Fixed Dome Digester: Biogas Performance And Kinetic Modelling	*Essadek, Abdessadek (Morocco)*
P394	Circular Biomethane Production In Rural Areas From Agri-food Waste: LIFE CHANDELIER Project	*Fernández Blanco, Ana (Spain)*
P395	Integrating Aquatic Biomass Into Anaerobic Digestion: A Sustainable Bioenergy Approach Using Duckweed	*Akan, Aytac Perihan (Türkiye)*
P396	Influence Of Hydraulic Retention Times On Hydrogen Production Via Acidogenic Fermentation	*Fernandez-Morales, Francisco Jesus (Spain)*
P397	Advanced Anaerobic Reactor For High Hydrolysis And Conversion Efficiency In Sewage Sludge Treatment	*Deng, Zhe (Belgium)*
P398	Techno-economic And Environmental Impacts Of Methanogenic Inhibition In Waste-to-energy Anaerobic Digestion Systems	*Rivas-García, Pasiano (Mexico)*
P399	Anaerobic Co-Digestion As A Pathway To Energy Neutrality In Small-Scale Wastewater Treatment Plants And Underloaded Facilities	*López, Neus (Spain)*
P400	RE-FEED: Renewable Energy Production At Farm Level For Energy Efficiency And Defossilization	*Fragoso, Rita (Portugal)*
P401	Stabilization Period Of A Fermentative Reactor Using An Intermittent Feeding Control Strategy	*Vargas Casillas, Alejandro (Mexico)*
P402	Effect Of Humidity And Biogas Composition On The CO_2 Permeability And CO_2/CH_4 Selectivity Of Supported Liquid Membranes For Biogas Upgrading	*Marco Velasco, Gorka (Spain)*
P403	Comparative Fouling Study Of NIPS-driven And Electrospun PVDF Flat-sheet Membrane Contactors For Dissolved-CH_4 Recovery From An Anaerobic Digestate	*Gálvez, Alejandro (Spain)*
P404	Retrofitting Old WWTPs With Anaerobic Digestion. A Case Study On Economic Viability	*Gomes-Rodrigues, Sergio (Spain)*
P405	Recovering Nutrients and Unblocking the Cake Layer of an Electrochemical Anaerobic Membrane Bioreactor	*Zhang, Yuhan (China)*
P406	Enhanced Ectoine Production From Methane In A Taylor Flow Bioreactor	*Herrero Lobo, Raquel (Spain)*
P407	Pathogen Regrowth Risks Associated With Sludge Pretreatment In Mesophilic Anaerobic Digestion	*Duan, Haoran (Hong Kong, China)*
P408	Mitigation Of Terpene-Induced Inhibition In Anaerobic Digestion Of Citrus Waste Via Clostridium Dark Fermentation	*Park, Jeong-Hoon (Republic of Korea)*

Fueling Sustainability

19

19th IWA World Conference on Anaerobic Digestion

8. Technical and Social Visits

8.Technical and Social Visits

→82

Technical Visit: Polanco Process at the Pinedo

Saturday 13/06

The Pinedo Water Resource Recovery Facility (WRRF) is the largest of its kind in Valencia and a key component of the region's circular economy strategy. The facility provides reclaimed water and high-quality biosolids to local rice farmers while safeguarding the sensitive ecosystems of the Albufera Natural Park.

The plant currently serves approximately 1.78 million population equivalents across the city of Valencia and 18 surrounding municipalities.

In recent years, the Pinedo WRRF has undergone major upgrades aimed at enhancing sustainability and energy efficiency. These improvements include advanced automation systems, replacement of equipment with high-efficiency units, optimization of aeration processes, expansion of biogas cogeneration capacity, installation of a 1-MW photovoltaic array, and modernization of electrical and pumping infrastructure. Collectively, these measures have substantially reduced energy consumption and strengthened operational reliability.

8.Technical and Social Visits

→83

Technical Visit: Polanco Process at the Pinedo

Saturday 13/06

The highlight of this technical visit will be one of the plant's most transformative innovations: the Thermal Hydrolysis Process (THP) by teCH4+. This pretreatment step significantly enhances anaerobic digestion by increasing biogas yields, reducing sludge volumes, and ensuring effective sludge hygienization, all while maintaining a compact footprint and modest energy demand. Full-scale operation has demonstrated the robustness of this technology, enabling greater resource recovery, improving energy self-sufficiency, and reinforcing the facility's essential role in Valencia's environmental protection and circular-economy objectives.

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FF Polanco

8.Technical and Social Visits

→84

Social TOUR – L’Albufera de València

Saturday 13/06

From the Pinedo WRRF, we will continue to **L’Albufera de Valencia**, one of the most iconic and ecologically valuable coastal wetlands in the Valencian Community and the western Mediterranean. Located just a few kilometers south of the city, the Albufera Natural Park is designated both as a **Special Protection Area (SPA)** for birds and a **Site of Community Importance (SCI)** in Europe. Its landscape features a serene freshwater lagoon surrounded by rice fields, pine forests, and traditional Valencian scenery, making it a symbol of the region’s natural and cultural heritage.

The excursion will begin with a **traditional Valencian lunch**, where attendees will have the opportunity to enjoy a selection of dishes, including the authentic **Paella Valenciana**. This will be an excellent occasion to discover one of the most renowned elements of Valencian gastronomy while sharing a relaxed and friendly moment with fellow participants.

The visit will conclude with a boat tour across the lagoon, giving participants the chance to take in the tranquil surroundings and appreciate the unique atmosphere of this remarkable ecosystem.

Fueling Sustainability

19th IWA World Conference on Anaerobic Digestion

9. Social Programme

The AD19 Conference Logo: Tradition, Art and Transformation

Fueling Sustainability

AD19

19th IWA World Conference on Anaerobic Digestion

The visual identity of AD19 is inspired by one of Valencia's most distinctive cultural traditions: the Fallas. The conference logo has been conceived as a three-dimensional artistic figure created by a fallero artist, reflecting the craftsmanship, creativity and expressive character of this unique cultural heritage.

The Fallas are much more than a festival. Deeply rooted in Valencian identity, they combine art, satire, community participation and collective celebration. Every year, large-scale artistic monuments are built in the streets of Valencia through the collaboration of artists, artisans and neighbourhood associations, transforming the city into an open-air museum of ephemeral art.

Recognised by UNESCO as Intangible Cultural Heritage of Humanity, the Fallas symbolise creativity, renewal and transformation — values that closely connect with the spirit of AD19 and the principles of sustainability and circularity. Just as waste can be transformed into energy and new resources, the Fallas represent the human capacity to transform materials, ideas and collective effort into something meaningful, inspiring and shared.

By incorporating this artistic language into the conference logo, AD19 seeks to connect innovation and science with the cultural identity of Valencia, celebrating both technological progress and the creative spirit of the city that hosts the conference.

Welcome ceremony

Tue. 9/06

The AD19 Welcome Ceremony will take place at the iconic Palau de les Arts Reina Sofía, one of Valencia's most emblematic cultural landmarks.

As delegates arrive and complete the registration process before the start of the ceremony, they will be welcomed by the sound of the dolçaina and tabal, two of the most distinctive instruments of Valencian tradition.

9. Social Programme

→ 87

The dolçaina is a traditional Valencian wind instrument with a bright and powerful sound, historically played during celebrations, processions and community gatherings. It is accompanied by the tabal, a small drum that provides rhythm and energy.

For centuries, these instruments have brought people together in public spaces across Valencian towns and villages. At AD19, they will welcome delegates as a symbol of community, tradition and shared celebration. Through this musical reception, the conference wishes to offer participants a first experience of Valencian culture and the spirit of Mediterranean hospitality that accompanies the event.

At the end of the ceremony in the auditorium, the musicians will guide delegates to the Welcome Reception Hall, where they will enjoy light refreshments in an atmosphere of fellowship and networking.

Orxata Poster Session

Wed. 10/06

— *Tiger nuts (xufa)*

As part of the social programme of AD19, delegates will be invited to enjoy the Orxata Poster Session, an opportunity to explore the conference posters in a relaxed and welcoming atmosphere while tasting one of Valencia's most traditional refreshments: orxata accompanied by fartons.

Orxata is a refreshing drink made from tiger nuts (xufa), a crop traditionally cultivated in the fertile Valencian market gardens surrounding the city, known as l'Horta de València. Deeply rooted in local culture and Mediterranean agriculture, it represents a close connection between territory, tradition and sustainable use of natural resources. It is traditionally served with fartons, elongated sweet pastries designed to be dipped into the drink.

By combining scientific exchange with this local culinary tradition, the Orxata Poster Session aims to create a friendly and informal environment that encourages discussion, networking and the sharing of ideas — while offering delegates a taste of Valencia's cultural and agricultural heritage.

Beer & Tapas Poster Session

Thu. 11/06

Following the Orxata Poster Session, delegates will have another opportunity to engage with presenters and colleagues during the Beer & Tapas Poster Session, held the following day in a relaxed and informal atmosphere.

9. Social Programme

→88

This session combines scientific discussion with one of the most characteristic elements of Spanish social culture: tapas. Traditionally shared among friends and colleagues, tapas represent conviviality, conversation and the enjoyment of gastronomy as a collective experience. Accompanied by local beers and refreshments, delegates will be invited to continue exploring the conference posters while discovering a selection of traditional Spanish flavours.

By bringing together science, networking and gastronomy, the Beer & Tapas Poster Session reflects the Mediterranean spirit of sharing ideas around the table, encouraging interaction and collaboration among participants in an open and welcoming environment.

Gala Dinner

Fri. 12/06

The **Gala Dinner**, traditionally held on the final day of the conference as a special evening of celebration and fellowship, will take place at the iconic ***Veles e Vents***, in the heart of Valencia's harbour, where delegates will enjoy dinner in the rooftop restaurant.

Before inviting delegates to continue the evening on the terrace, we are pleased to share two living expressions of Valencian culture.

The evening will begin with the ***albaes*** – improvised sung verses, rich in wit and emotion, traditionally used to welcome guests, honour people and mark important moments within the community. Accompanied by the sound of the *dolçaina* and *tabal*, they remain a vibrant part of Valencian cultural heritage. On this occasion, the *albaes* will draw inspiration from the spirit of AD19: cooperation between peoples, science in service of society, and a shared commitment to a more sustainable future.

They will be followed by the ***Muixeranga,*** one of the most unique and symbolic traditions of Valencian culture. Built through trust, cooperation and collective effort, these human towers remind us that great achievements are only possible when every person plays their part. Each participant supports the others, creating together balance, strength and resilience.

The *Muixeranga* reflects the very spirit of sustainability: a shared responsibility that requires the involvement of the whole society – science, industry, institutions and citizens alike. Just as these towers stand through cooperation, a more sustainable future can only be built together.

At the foot of the iconic *Veles e Vents*, where Valencia meets the Mediterranean, these performances will offer a special moment of culture, community and celebration.

Following the *albaes* and the *Muixeranga*, delegates will be invited to the rooftop terrace, where they will enjoy a wine reception accompanied by traditional dances performed by *Algadins d'Algemesí.*

Rooted in centuries of Valencian tradition, these ***Danses*** reflect community spirit, harmony and celebration. Their rhythms, movements and colourful costumes evoke the cultural heritage of the Mediterranean and the close connection between people, territory and shared identity.

As delegates gather overlooking Valencia's harbour, these performances will create a welcoming and vibrant atmosphere in which culture, fellowship and celebration come together.

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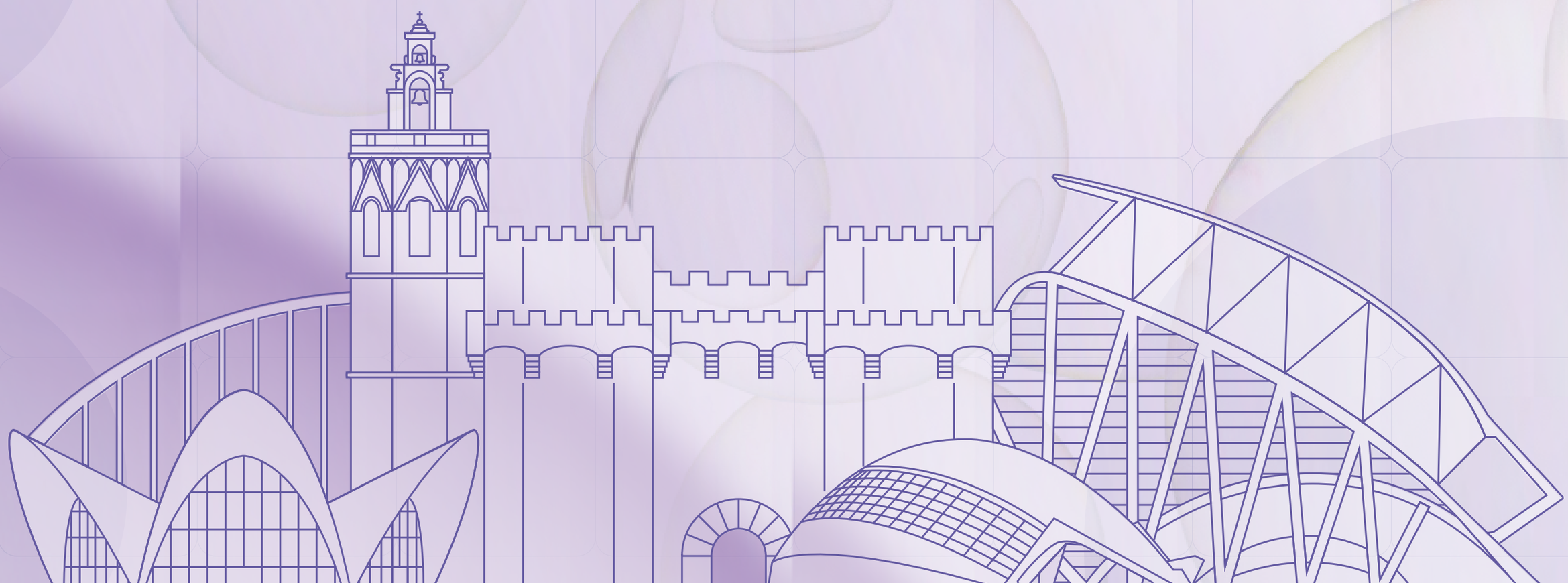
19th IWA World Conference on Anaerobic Digestion

10. Committees



10. Committees

→ 91

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10. Committees

→ 92

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→ 94

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→95

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10. Committees

→ 96

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Vinay Kumar Tyagi	National Institute of Hydrology, India
Vincent O'Flaherty	University of Galway, Ireland
Xavier Flores-Alsina	Danmarks Tekniske Universitet, Denmark
Yadira Bajón Fernández	Cranfield University, UK
Yan Zhou Zhou	Nanyang Technological University, Singapore
Yang Liu	Queensland University of Technology, Australia
Yifeng Zhang	Technical University of Denmark, Denmark
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