9th May

14h30 – Registration

16h00 – Welcome Session: ICBM – past, present, and future
Chair: Madalena Alves, University of Minho, Portugal

16h30 – **Keynote Lecture 1 – Engineering Open Biological Systems: Moving from Craft to Computation – *Tom Curtis*, *Newcastle University, United Kingdom***
Chair: Madalena Alves, University of Minho, Portugal

17h30 – 60 seconds of cool science – poster pitch presentations

18h30 – Welcome Reception

10th May

09h00 – **Keynote Lecture 2 - Novel microbes & partnerships: what more is there to learn from anaerobic** digestion?**– *Diana Sousa, Wageningen University and Research, The Netherlands***
Chair: Cláudia Etchebehere, Biological Research Institute Clemente Estable, Uruguay

10h00 – Parallel Sessions (oral communications) - Auditorium | Room A

Auditorium: Microbial Networks
Chair: Cláudia Etchebehere, Biological Research Institute Clemente Estable, Uruguay

- **OC-MN-01** - Microbial interactions and key players in lactate-based chain elongation – Bioindicators of process performance identified by machine learning communities to pure cultures – ***Sabine Kleinsteuber, Helmholtz Centre for Environmental Research - UFZ, Germany***

- **OC-MN-02** - Oleate degradation in a continuous microaerophilic bioreactor by a syntrophic co-culture together with facultative anaerobic bacteria - ***M. Salomé Duarte, University of Minho, Portugal***

- **OC-MN-03** - Observation and study of a yet uncharacterised organism beneficial to the anaerobic digestion process: case study of a *Cloacimonetes* bacterium - ***Xavier Goux, Luxembourg Institute of Science and Technology***

- **OC-MN-04** - Unravelling microbial methane cycling in Amsterdam canals - ***Koen Pelsma, Radboud University, The Netherlands***

Room A: Biotransformations
Chair: Martijn Diender, Wageningen University & Research, The Netherlands

- **OC-BT-01 -** Synthetic microbial co-cultures for syngas fermentation to odd-chain carboxylic acids - ***Ivette Parera Olm, Wageningen University & Research, The Netherlands***

Secretariat: Skyros Congressos
Mobile: +351 912538940
E-mail: icbm@skyros-congressos.com
Website: https://skyros-congressos.pt/icbm

10th May

- **OC-BT-02** - CH_4 production at moderate H_2/CO_2 pressures – insights on the use of anaerobic granular sludge as biocatalyst - ***Sónia G. Barbosa, University of Minho, Portugal***

- **OC-BT-03** - Biohydrogenation and beta-oxidation of oleate in sludge digesters are promoted at elevated sulfide level - ***Sepehr Shakeri Yekta, Linköping University, Sweden***

- **OC-BT-04** - A new protein hydrolysis monitoring tool to gain more insight in the initial steps of anaerobic digestion - ***Ilse Smets, KU Leuven, Belgium***

11h00 – Coffee-break & Posters Session (Posters 1-16)

11h45 – Session: **Bioenergetics and Extreme Environments** (oral communications) – **Auditorium**

Auditorium: Bioenergetics and Extreme Environments
Chair: Miguel Mauricio Iglesias, Universidade de Santiago de Compostela

- **OC-BE-01** - The value of acetoclastic methanogens in the energy metabolism of the syntrophic butyrate oxidizer *Syntrophomonas wolfei* - ***Maaike Besteman, Wageningen University & Research, The Netherlands***

- **OC-BE-02** - Understanding inefficient substrate use with resource allocation models - ***Alberte Regueira, Universidade de Santiago de Compostela, Spain***

- **OC-EE-01** - Antibiotic resistance in biogas digestates - ***He Sun, Swedish University of Agricultural Sciences (SLU), Sweden***

- **OC-EE-02** - Influencing factors and microbial key players for anaerobic granules development in saline conditions - ***Maria Cristina Gagliano, Wetsus, The Netherlands***

12h45 – Lunch

14h30 – **Keynote Lecture – Electromethanogenesis – *Amelia Rotaru, University of Southern Denmark, Denmark***
Chair: Caroline Plugge, Wageningen University and Research, The Netherlands

15h30 – Parallel Sessions (oral communications) - Auditorium | Room A

Auditorium: Microbial Networks
Chair: Caroline Plugge, Wageningen University and Research, The Netherlands

- **OC-MN-05** - Syntrophic propionate oxidation at high ammonia conditions - ***Maria Westerholm, Swedish University of Agricultural Sciences (SLU), Sweden***

- **OC-MN-06** - Pseudomonas empower syntrophic fatty acids degradation in the presence of oxygen - ***Carla Magalhães, University of Minho, Portugal***

- **OC-MN-07** - Competing, collaborating or coexisting: the effect of methanogens on chain elongation - ***Maximilienne Allaart, Delft University of Technology, The Netherlands***

10th May

- **OC-MN-08** - Influence of operational conditions on the microbiome responsible of the anaerobic fermentation of protein-rich sidestreams - ***Carlota Vijande, Universidade de Santiago de Compostela, Spain***

Room A: Biotransformations
Chair: Gilberto Martins, University of Minho, Portugal

- **OC-BT-05** - The smallest versus the biggest bioreactor: comparison of lignocellulolytic strategies employed by microbes in the termite gut and anaerobic digestion systems - ***Magdalena Calusinska, Luxembourg Institute of Science and Technology, Luxembourg***

- **OC-BT-06** - Effect of cobalt, nickel, and selenium/tungsten deficiency on mesophilic anaerobic digestion of chemically defined soluble organic compounds - ***Luka Šafarič, Linköping University, Sweden***

- **OC-BT-07** - Talk over a cup of propionate: identification of Quorum Sensing signaling compounds in syntrophic co-cultures of Syntrophobacter fumaroxidans MPOB and methanogens - ***Anna Doloman, Wageningen University and Research, The Netherlands***

- **OC-BT-08** - Moderate hydrostatic pressure modifies the metabolic flux distribution in natural and adapted high-salinity anaerobic mixed culturesMild hydrostatic pressure modifies the metabolic flux distribution in natural and adapted high-salinity anaerobic mixed cultures - ***Pamela Ceron, Delft University of Technology, The Netherlands***

16h30 – Surprise Event

17h15 – Coffee-break & Posters Session (Posters 17-32)

19h00 – Conference Dinner

11th May

09h00 – **Keynote Lecture: Climate Change Microbiology: Novel Insights into Methane Cycling Archaea – *Cornelia Welte, Radboud University, The Netherlands***
Chair: Maria Alcina Pereira, University of Minho, Portugal

10h00 – Parallel Sessions (oral communications) - Auditorium | Room A

Auditorium: Omics and Meta-Omics
Chair: Maria Alcina Pereira, University of Minho, Portugal

- **OC-OM-01** - GLOMICAVE, a holistic approach for multi-omics data analysis - ***Xavier Domingo-Almenara, Centre for Omics Sciences - EURECAT, Spain***

- **OC-OM-02** - High-throughput semi-supervised surveillance of potential acetogenic communities in methanogenic anaerobic digester environments - ***Abhijeet Singh, Swedish University of Agricultural Sciences (SLU), Sweden***

11th May

- **OC-OM-03** - The anaerobic digestion&virome: a first glimpse - ***Alessandro Rossi, University of Padova, Italy***

- **OC-OM-04** - Time-course trajectories of metabolomic response in anaerobic digesters inhibited by ammonia - ***Olivier Chapleur, PROSE - INRAE, France***

Room A: Novel Bioprocesses

Chair: Ana Júlia Cavaleiro, University of Minho, Portugal

- **OC-NB-01** - Physiological and metabolic flexibility of ex situ biomethanation systems - ***Marcell Nikolausz, Helmholtz Centre for Environmental Research - UFZ, Germany***

- **OC-NB-02** - Cascade anaerobic transformation of food waste into biobased products and bioenergy - ***Agata Gallipoli, Water Research Institute-IRSA CNR, Italy***

- **OC-NB-03** - Effect of biochar on microbial dynamics and process performances during mesophilic anaerobic digestion of an industrial effluent - ***Roman Moscoviz, Centre International de Recherche Sur l'Eau et l'Environnement (CIRSEE), France***

- **OC-NB-04** - Siloxanes removal in high mass transfer bioreactors: a novel biotechnology based on bacterial biodegradation of these persistent compounds - ***Celia Pascual, University of Valladolid, Spain***

11h00 – Coffee-break & Posters Session (Posters (33-46)

11h45 – **Parallel Sessions (oral communications) - Auditorium | Room A**

Auditorium: Omics and Meta-Omics

Chair: Andreia Salvador, University of Minho, Portugal

- **OC-OM-05** - Integrated meta-analysis of bacterial communities in anaerobic digesters: from individual studies to comprehensive data interpretation and evaluation – ***Jo De Vrieze, Ghent University, Belgium***

- **OC-OM-06** - Improving analysis of meta-omics data with the MOSCA framework - ***João Sequeira, University of Minho, Portugal***

- **OC-OM-07** - Mining anaerobic digestion data with DeepOmics and Easy16S, user-friendly tools for environmental engineering meta-omics data - ***Ariane Bize, INRAE-PROSE, France***

- **OC-OM-08** - Comprehensive inventory of biogas microbiomes in 45 German full-scale biogas plants - ***Dirk Benndorf, Otto von Guericke University, Germany***

- **OC-OM-09** - Analysis of the replication index on hundreds of metagenome-assembled genomes collected from different biogas reactors shed light on the growth characteristics of microbes in the anaerobic digestion process - ***Stefano Campanaro, University of Padova, Italy***

11th May

Room A: Novel Bioprocesses
Chair: Marta Carballa, University of Santiago de Compostela

- **OC-NB-05 -** Key role of anaerobic microorganisms in leaching out embedded resources from sludge through ultrasound assisted fermentation process - ***Barbara Tonanzi, Water Research Institute-IRSA CNR, Italy***

- **OC-NB-06** - Microbial co-cultivation induces a metabolic shift, promoting syngas conversion to chain-elongated acids - ***Martijn Diender, Wageningen University & Research, The Netherlands***

- **OC-NB-07** - Microbial propionate production from carbon monoxide – a novel bioprocess - ***João Moreira, University of Minho, Portugal***

- **OC-NB-08** - Anaerobic dynamic membrane bioreactor development to facilitate organic waste conversion to medium chain carboxylic acids and their downstream recovery - ***Shilva Shrestha, Lawrence Berkeley National Lab, USA***

- **OC-NB-09** - Determining the impact of acid whey composition on lactic acid-based chain elongation efficiency and performance - ***Dianna Kitt, University of Michigan, USA***

13h00 – Lunch

14h30 – **Keynote Lecture - A new global catalogue of microbes in anaerobic digestion systems guides further functional studies - *Per Halkjær Nielsen, Aalborg University, Denmark***
Chair: Madalena Alves, University of Minho, Portugal

15h30 – Session**: Biotransformations** (oral communications) – **Auditorium**

Auditorium: Biotransformations
Chair: Madalena Alves, University of Minho, Portugal

- **OC-BT-09** - Differential effects of carbon-based and iron-based conductive materials in anaerobic butyrate-degrading enrichments - ***Cátia Braga, University of Minho, Portugal***

- **OC-BT-10** - Enhanced glycerol conversion by *Thermoanaerobacter* strains - ***Ana Júlia Cavaleiro, University of Minho, Portugal***

- **OC-BT-11** - Development of an enhanced chain elongation process for caproic acid production from waste-derived lactic acid and butyric acid - ***Corine Nzeteu, National University of Ireland Galway, Ireland***

- **OC-BT-12** - Transcriptome analysis of high ammonia biogas reactors - effects of trace elements - ***Anna Schnürer, Swedish University of Agriculture (SLU), Sweden***

16h30 – Coffee-break

17h00 – Closing Ceremony

Secretariat: Skyros Congressos
Mobile: +351 912538940
E-mail: icbm@skyros-congressos.com
Website: https://skyros-congressos.pt/icbm

A special thank you to all our sponsors:

SIAM

BPC INSTRUMENTS

paralab

frontiers in Microbiology

BIOTHANE by VEOLIA

BIOPORTUGAL Químico, Farmacêutica, Lda.

PAQUES

Universidade do Minho

STAB vida Your easy genetics laboratory

Secretariat: Skyros Congressos
Mobile: +351 912538940
E-mail: icbm@skyros-congressos.com
Website: https://skyros-congressos.pt/icbm

Skyros congressos