16TH IWA World Conference on Anaerobic Digestion

Accelerating natural cycles with anaerobic digestion

Poster presentations

Tuesday 25-06-2019 and Wednesday 26-06-2019

Anaerobic MBR, research & application

EVALUATION OF THE METHANOGENIC POTENTIAL OF CASSAVA PEELS, CASSAVA WASTEWATER AND WATER HYACINTH TO OPTIMIZE ANAEROBIC DIGESTION IN REPUBLIC OF BENIN
S. Ahou, L.S. Baba-Moussa, J. Bautista Angeli, S. Awad, Y. Andres, France

Membrane performance and operation optimization of a hollow fiber anaerobic membrane bioreactor (HF-AnMBR) in treating food waste
H. Cheng, Y. Li, Y.Y. Li, Japan

Effect of ultrafiltration membrane material on fouling dynamics in submerged anaerobic membrane bioreactor treating domestic wastewater
A.D. Grossman, Y. Yang, D.C. Camarena, G. Oron, R. Bernstein, Israel

Performance of a mini pilot plant of AnMBR treating real municipal sewage
J. Ji, S. Sakuma, A. Ohtsu, Y. Chen, T. Hojo, Y.Y Li, Japan

Membrane fouling control through mitigating cake layer formation by powdered activated carbon addition in a submerged anaerobic membrane bioreactor treating domestic wastewater
Z. Lei, W. Wen ,S. Yang, X.C. Wang, R.Chen, China

Effect of selenium and cobalt addition on the stability of food waste anaerobic digestion
K. Li, K. Wang, China

Effect of HRT on the operating feasibility of AnMBR technology for primary-settled sulfate-rich sewage treatment
O. Mateo, P. Sanchis-Perucho, N. Zamorano-López, A. Robles, L. Borrás, N. Martí, J. Serralta, J. Ferrer, A. Seco, Spain

Codigestion of sewage sludge with wastewater. Performance assessment through batch and continuous test
A. Donoso-Bravo, V. Ortega, Y.Lesty, H. Vanden, D. Zambrano, D. Olivares, Chile

A2O MBR system for the treatment of lead contaminated wastewater and their application in remote mining communities
H. Ravishankar, S. Moazzem, V. Jegatheesan, Ireland

Exploring microalgae and primary sludge co-digestion in a thermophilic Anaerobic Membrane Bioreactor (AnMBR).
R. Serna-García, G. Noriega-Hevia, A. Bouzas, A. Seco, Spain

Silicon carbide (SiC) anaerobic ceramic membrane bioreactor to treat high-strength organic wastewater
K. Cho, K. Seo, S.G. Shin, S. Lee, M.B. Gu, C. Park, Republic of Korea

Anaerobic degradation of monosodium glutamate from wastewater in an up-flow anaerobic sludge blanket reactor
Y. Wei, H. Chen, M. Xie, C. Du, C. Lei, G. Zhang, China

Size-fractionation and Fouling Behavior of Sub-visible Particles (0.45-10 µm) in Anaerobic Membrane Bioreactors (AnMBRs): Impacts of Feed Composition
Z. Zhou, Y. Yao, F. Meng, China

Bio-methane production variation under different draw solute reverse diffusions in an anaerobic digester simulated for FO-AnMBR
S. Li, Y. Kim, S. Phuntsh, H. Kyong Shon, T. Leiknes, N. Ghaffour, China

Cell-associated and extracellular antibiotic resistance gene profile in AnMBR effluent under elevated antibiotic conditions
P. Wang, M. Harb, A. Zarei-Baygi, L.B. Stadler, A.L. Smith, United States

Energy positive wastewater treatment: A novel cloth-filter anaerobic membrane bioreactor combined with ammonia recovery and electrolysis
A.D. Martin-Ryals, L.C. Schideman, United States

Enhanced phenol conversion rate and recovery time after phenol shock load in anaerobic membrane bioreactors by the dosage of acetate
V.S. Garcia Rea, L.M. Fonseca Aponte, J.D. Muñoz Sierra, D.G. Cerqueda, H. Spanjes, J.B. van Lier, The Netherlands

Pre-treatment technologies (physicochemical/ biological)

Mild alkaline pretreatment of cassava pulp for accelerating high-solids anaerobic digestion
N. Aramrueang, P. Lomwongsopon, Thailand

Pre-treatment of agave bagasse using ruminal fluid for methane production
M. Barragán-Trinidad, G. Buitrón, Mexico

How can pretreatments overcome the limitations of the main solid feedstock anaerobic digestion?
H. Carrère, A. Battimelli, I. Ferrer, France

Comparison of pretreatment's effects on olive mill solid waste to enhance biogas production
V. Wyman, S. Albornoz, E. Trigo, A. Garrido, A. Donoso-Bravo, A. Carvajal, Chile

Thermal pre-treatment for enhanced anaerobic co-digestion of food waste and sewage
D. Somani, H. Srivastava, P.C. Sabumon, G. Anjali, India

Measurement of physical properties of biomass from simple methods: indicators of mechanical pre-treatments efficiency on feeding and mixing of anaerobic digesters
H. Coarita, R. Teixeira Franco, R. Bayard, P. Buffière, France

Effect of chemical pre-treatment with phase-separation on the methane potential of lignocellulosic substrate
L. D'avila, A. Ortega, J. H. L. Alino, J. G. Somer, T. Edwiges, Brazil

Co-storage as an alternative pre-treatment strategy to increase biodegradability of garden grass
L. D'avila, A. Ortega, J. A. Bastos, L. Schmoeller, Jin Mi Triolo, T. Edwiges, Brazil

Anaerobic digestion of emulsified and non-emulsified oleic, palmitic and stearic acid
A.Eftaxias, C. Michailidis, V. Diamantis, A. Aivasidis, Greece

Ultrasound to Maximise Digestion of Thermally Hydrolysed Sewage Sludge
M. Darke, J. Donnelly, A. Henley, S. Savvas, P. Kumi, A. Oliveira, T. Patterson, J Reed, Z Chong, L. Vergara, V. Wilson, R Matthews, S. Esteves, United Kingdom

Assessment of mesophilic semi-continuous anaerobic digestion of olive mill solid waste pretreated with steam-explosion
A. Serrano, F.G. Fermoso, B. Alonso-Fariñas, G. Rodriguez-Gutierrez, J. FernándezBolaños, R. Borja, Spain

Valuable compounds extraction and methane production from strawberry extrudate
J. Cubero-Cardoso, A. Trujillo-Reyes, A. Serrano, G. Rodriguez-Gutierrez, R. Borja, F.G. Fermoso, Spain

Valorization of tomato peels and grape pomace with sequential pretreatment: from lab to pilot scale
M. Garuti, A. Giuliano, M. Soldano, R. Guzzinati, C. Fabbri, L. Petta, S. Piccinini, Italy

Improving Methane Production of Brewer´s Spent Grain by Physical Pretreatment
M.M. Gomes, M.B.A. Varesche, Brazil

Visualization of the research field of pre-treatments for anaerobic digestion using bibliometrics
A. Gonzalez, A.T.W.M. Hendriks, M.K. de Kreuk, J.B. van Lier, The Netherlands

Co-storage of wheat straw with alkaline or acidic waste can increase methane production
A.H. Vazifehkhoran, M.C. Roda-Serrat, R. El-Houri, J.M. Triolo, Denmark

Thermal – NaOH Pretreatment of Adapted Switchgrass for the Enhancement of Consecutive Ethanol and Methane Production
E. Kökdemir Ünşar, N.A. Perendeci, Turkey

Enhancing anaerobic digestion of fat enriched substrates by hydrodynamic cavitation pre-treatment
J. Lunnbäck, A. Björn, A. Karlsson, J. Ejlertsson, F. Ometto, Sweden

Enhanced disintegration of waste activated sludge with low organic content by "Solid hydrogen peroxides" treatment
H. Luo, W. Guo, N, Ren, China

Enhancement of biogas production of mixed slurry by pulsed electric field treatment
I.A. Nges, J, Möllerström, Sweden

Anaerobic Digestion State-of-the-Art Examples from the Latest Generation Installations
D.L. Parry, C.D. Clark, United States

Effects of enzymatic hydrolysis on ethanol and subsequent methane productions from energy crop Panicum virgatum L. (Switchgrass)
S.I.A. Başar, E.Kökdemir Ünşar, A. Perendeci, Turkey

Effect of the coagulant addition prior to Primary Settling over the Anaerobic Digestion performance. A case study.
L. M. Ruiz, A. Checa, J. I. Perez, J. M. Torre-Marín, A. Munoz-Ubina, M. A. Gómez, Spain

Increase in hydrolysis and acidogenesis of the organic fraction of urban solid waste: effect of a fungal pretreatment.
R. Mancera, O. Loera, F. Ramíez, Mexico

Full-scale demonstration of a new methane fermentation accelerator at sewage sludge digestion tank
J. Takahashi, J. Inamura, N. Kataoka, Japan

Magnéli-phase Ti4O7 film for electro-oxidation treatment of herbicide wastewater
J. Teng, S. You, China

Innovative approach towards the bio-stimulation of anaerobic digestion processes by low intensity ultrasonication
V.K. Tyagi, Y. Zhou, India

Thermal hydrolysis of semi-solid residues from beverage industries to increase biogas production in anaerobic high-rate reactors
B. Weber, E.A. Stadlbauer, Mexico

Accelerated methane production from corn straw: Pretreated by mixed enzymes
X. Zhao, J. Wang, X. Wang, K. Wang, China

Comparison of the concentration and odour properties of selected volatile aromatic compounds emitted from disintegrated and digested sludge
H. Byliński, J. Aszyk, M. Szopińska, A. Remiszewska-Skwarek, A. Łuczkiewicz, S. Fudala-Książek, J. Namieśnik, Poland

Converting organic waste into energy by coupling hydrothermal liquefaction and anaerobic digestion
D. Cabrera, C. Celis, R. Labatut, Chile

Alkaline and Thermal Inocula Pretreatments in Cheese Whey Anaerobic Digestion on Apparent Kinetics Parameters and Volatile Fatty Acids and Biogas Production
M.P.G. de Almeida, V.A.O. Silva, G. Mockaitis, Brazil

Sewage sludge pretreatment by low thermal disintegration for better efficacy of sludge digestion process
A. Kasinath, A. Remiszewska-Skwarek, M. Szopińska, S. Fudala-Książek, E. Zaborowska, A. Luczkiewicz, Poland

Anaerobic membrane bioreactor employing ethanol fermentation as a pre-treatment for food waste
Y. Kosaki, S. Jin, Japan

Impact of pressure on the efficiency of ultrasonic sewage sludge pre-treatment
T. Lippert, J. Bandelin, J.E. Drewes, K. Koch, Germany

Enhancing mesophilic anaerobic digestion of waste activated sludge by heat pretreatment and its kinetics modeling
B. Liu, M. Terashima, M. Fujiwara, F. Shinya, H. Yasui, Japan

Improvement of the anaerobic digestion of purple phototrophic bacteria-based biomass by thermal hydrolysis
I. Rodriguez, R. Molina, Y. Segura, T. Hülsen, D. Batstone, V. Monsalvo, F. Martinez, J.A. Melero, D. Puyol, Spain

Electrochemical treatment of maize processing industrial wastewater: phosphorus, turbidity and COD removal
A.B. Ribas, K.Q. Carvalho, C. Benincá, F.B. Freire, Brazil

Pretreatment of spiramycin fermentation residue using hyperthermophilic digestion: quick startup and performance
Z. Tian, M. Awad, M. Yang, Y. Zhang, China

Co-treatment of sulfite wastes and waste activated sludge for energy recovery: a feasibility study
F. X. Zan, Q. Zeng, T. W. Hao, G.H. Chen, China

Quantifying the environmental and economic indicators of different sludge management schemes
A. Arias, G. Feijoo, M.T. Moreira, Spain

Demonstration of a continuous TORWASH® pilot plant for sewage sludge: Thermal treatment, dewatering and effluent processing
P. Nanou, J.R. Pels , F. Sebastiani, C.M. van der Meijden, H. Kuipers, W. Driessen, J. Vogelaar, The Netherlands

Sanitary landfill leachate treatment with double chamber anaerobic reactor in series with constructed wetland
A. Galindo Montero, E. Pimienta, J. Pérez Montiel, Colombia

Methane recovery from lignocellulosic biomass pretreated with ruminal microorganisms in a pilot scale reactor
J.O. Ovis-Sánchez, J.D. Barrios-Pérez, A. Vargas, I. Valdéz-Vázquez, J. Carrillo-Reyes, Mexico

Enhancing hydrolysis of chicken manure under hyper-thermophilic with in-suit gas phase ammonia stripping
D.-M. Min, W. Qiao, R. Fan, S.M. Wandera, N. Camilla, R.-J. Dong, China

Fibrolytic Enzyme Activity During Pretreatment using Rumen Fluid for the Anaerobic Digestion of Lignocellulose
S. Takizawa, Y. Fukuda, C. Tada, Y. Nakai, Japan

Thermal hydrolysis: Getting some insights on the formation of recalcitrant compounds and their effects on anaerobic digestion
E. Ortega-Martínez, D. Jeison, R. Chamy, Chile

Optimization of alkaline pretreatment of yerba mate (Ilex paraguariensis) by response surface methodology
A.D.N. Ferraz Júnior, M.I. Etchelet, C. Etchebehere, Uruguay

Modelling, Instrumentation and control

Modeling of the nitrification process in the presence of sulfide and organic matter: Calibration and simulation
L. Acosta, C. Huiliñir, S. Montalvo, L. Guerrero, Chile

Peculiarities and (often) ignored aspects of methanogenic activity testing
F.P. van der Zee, M. Lam, X. Zhang, S. Pacheco-Ruiz, The Netherlands

Modeling of continuous dark fermentative hydrogen production in an Upflow Column Bioreactor
M. Alexandropoulou, G. Antonopoulou, G. Lyberatos, Greece

Threshold inhibition function: a new equation to model inhibition in anaerobic digestion systems
S. Astals, M. Peces, D.J. Batstone, Australia

Virtual Reference Feedback Tuning and Model Free Control Approaches for Anaerobic Digestion Processes Control. A Comparative Study
L. Condrachi, R.Vilanova, E. Ceanga, M. Barbu, Romania

Comparison of drag force models to predict the liquid/solid interfacial momentum transfer in UASB reactors – CFD study and PIV validation
C. D. Bastiani, J. L. Alba, G.T. Mazzarotto, S.R. Farias Neto, A. Reynolds, D. Kennedy, L.L. Beal, Ireland

Modelling of sugarcane vinasse processing in a pilot-scale APBR to energy recovery and organic matter removal using ADM1
J.X. Carvalho, R. Ribeiro, P.T. Couto, M. Zaiat, G. Tommaso, Brazil

DETERMINING THE RATIO OF WORKING VOLUMES OF BIOREACTORS IN A TWO-STAGE ANAEROBIC DIGESTION SYSTEM WITH PRODUCTION OF HYDROGEN AND METHANE
E. Chorukova, I. Simeonov, Bulgaria

ADM1-based model development for the processing of sugarcane vinasse in an acidogenic batch reactor
P.T. Coutoa, F. Enga, I. Nopens, M. Zaiata, R. Ribeiroc, Brazil

Kinetic modeling of anaerobic digestion of microalgae hydrothermal liquefaction wastewater
M.S. Dias, C. Bonadio, B. E. Bueno, R. Ribeiro, G. Tommaso, Brazil

Monitoring of methane fermentation of fish waste using an electronic tongue: calibration procedure
B. Fernández, A. Farmanesh, N. Carbó, L. Tey, R. Martínez-Manez, M.C. Martínez-Bisbal, Spain

Development of a multidimensional model for AD based on ADM1
M. Figueroa, R. Nouri, L. Poceiro, A. Rodríguez-Abalde, C. Cotelo, G. Ferro, A. Gomez, I. Jove, J.M. Nóbrega, Spain

Identification of Wastewater Primary Sludge Composition
C.E. Gaszynski, G.A. Ekama, D.S. Ikumi, South Africa

Supervisory control applied to an anaerobic digestion process exposed to drastic feedstock changes
P.G. Isfahani, B. Valverde-Pérez, M. Alvarado-Morales, M. Shahrokhi, M. Vossoughi , I. Angelidaki, Denmark

The use of single emitter ultrasound sensors to detect solid particle concentrations in UASB reactors
E. Meursing, M. Wiersma, M. Hoep, D. Yntema, M. Wagterveld, L.S. Azevedo, T. BressaniRibeiro, C.A.L. Chernicharo, L.L.F Agostinho, The Netherlands

Modelling butanol production in anaerobic mixed microbial cultures
H. Junicke, X. Flores-Alsina, T. Pinto, K.V. Gernaey, Denmark

Identification of critical problems in BMP tests from the shape of methane production curves
K. Koch, S.D. Hafner, S. Weinrich, S. Astals, Germany

Modeling microbial response to temperature changes in anaerobic digestion: a novel approach
A. Kovalovszki, L. Treu, I. Angelidaki, Denmark

Extremum seeking control of cascade of anaerobic digesters for separate hydrogen and methane production
I. Simeonov, V. Lakov, Bulgaria

Critical Assessment and Optimisation of Sewage Sludge Mesophilic Anaerobic Digestion Processes at Operational Wastewater Treatment Plant
J. Liu, S.R. Smith, United Kingdom

An assessment of on-line model identification using Luenberger observer for anaerobic digestion processes
L.G. Cortés, J.D. Marín-Batista, M.A. de la Rubia, A.F. Mohedano, D.F. Larios, J. Barbancho, Spain

When you make a psychrophilic BMP without an adapted inoculum, a low cost digester dies
L.P. Castro, J. Guzmán, H Arenas, J. Martí-Herrero, M. Romero-Güiza, H. Escalante, Spanje

NUMERICAL MODELLING AND VALIDATION OF SHEAR THINNING FLOWS IN A LABSCALE DIGESTER
S. Nagasundaram, A.K. Pozarlik, H. Norouzi-Firouz, G. Brem, The Netherlands

Integration of biokinetic and CFD for biogas production
H. Norouzi-Firouz, A. Pozarlik, S. Nagasundaram, G. Brem, The Netherlands

Validation of an advanced predictive model for anaerobic digestion of sewage sludge
S. Oxtoby, P. Winter, S.R. Smith, United Kingdom

Model-based flexibilisation of biogas plants using ADM1
L. Peters, P. Biernacki, F. Uhlenhut, S. Steinigeweg, Germany

VFA monitoring using UV/VIS spectroscopy for anaerobic digestion control
M. Placer, S. Costas, R. Pena, G. Tenreiro, V. Roca, P. Villar, S. Gómez-Cuervo, J.A. Álvarez, L. Herrero, F. Rodriguez, Spain

ADM1 modelling as a comprehensive tool for the standardization of BMP protocol
S. Pommier, M. Peyre Lavigne, France

Hydrodynamics and organic matter degradation in an Upflow Anaerobic Packed Bed Reactor: characterization and computational fluid dynamics validation
T.R. Nascimento, R. Ribeiro, G.C. Dacanal, F.L. Caneppele, J.A. Rabi, J.X. Carvalho, Brazil

A new simplified dry anaerobic digestion model considering modified AM2 and MIM hydrodynamics models
A. Dujany-Coutu, S. Mottelet, L. André, E. Lamy, S. Guérin, S. Azimi, V. Rocher, A. Pauss, T. Ribeiro, France

Modelling and Simulation of Solid-Fluid hydrodynamics of UASB reactor with modified geometry.
K.F.S Richard, L. Philipovsky, A.C. Van Haandel, S.P Pereira, C.A.S Paiva, Brazil

Automatic optimum start-up of anaerobic digesters using model predictive control and practically feasible sets of measurements
W. Ahmed, J. Rodríguez

Value of batch tests for estimating biogas potentials and degradation kinetics in anaerobic digestion
S. Weinrich, F. Schäfer, J. Pröter, J. Liebetrau, Germany

Peculiarities and (often) ignored aspects of methanogenic activity testing
F.P. van der Zee, M. Lam, X. Zhang, S. Pacheco-Ruiz, The Netherlands

Biohydrogen production from cheese whey in AnSBBR: effects of temperature and metabolic pathway kinetic modeling
D.M.F. Lima, L.M.H. Maia, J.A.D. Rodrigues, S.M. Ratusznei, M. Zaiat, Brazil

Numerical simulations of local mixing created by rising biogas bubbles in an anaerobic sludge matrix
R. Arnau, P. Wei, R. Martínez-Cuenca, M. de Kreuk, J. B. van Lier, S. Chiva, Spain

On-line optimization of methane production in continuous AD processes via gradient-based ESC feedback control
G. Lara-Cisneros, D. Dochain, J. Álvarez-Ramírez, Belgium

Development of a novel multi-parameter monitoring tool using GC-IMS for chemical fingerprinting in anaerobic digestion
A. Oliveira, T. Patterson, J. Reed, S. Esteves, United Kingdom

Development of a decision-support software tool for simulation and optimization of co-digestion of various organic waste streams (CODIGEST)
C. Vaneeckhaute, A. Dufour, F. Béline, Canada

Co-Digestion of Alcohol Distillery Wastes: Interaction of Vinasse, Aniseed and Pomace
F. Yılmaz, E. Kökdemir Ünşar, N.A. Perendeci, Turkey

Control-oriented modelling of anaerobic digesters fed on agro-zootechnical waste
V. Corbellini, A. Negri, G. Ferretti, E. Ficara, Al. Leva, F. Malpei, Italy

Use of a lab-scale CSTR-type anaerobic digester for the design of a pilot-scale digester producing biomethane from a Food Residue Biomass Product using ADM1
G.M. Lytras, D. Mathioudakis, K. Papadopoulou, T. Dimitriou, D. Kenanidis, G. Lyberatos, Greece

Numerical simulations of filtration process and flux distribution in submerged hollow fiber module:Effects of fiber diameter and length
K. Su, R. Wu, Z. Wang, China

Biogas and by-products via anaerobic digestion and dark fermentation in Aspen Plus: Case study, Santander - Colombia
M. Amado, I. Cabeza, C. Barca, J-H. Ferrasse, M. A. Hernández, Colombia

Linear regression models for BMP prediction of lignocellulosic biomass
V. Dandikas, H. Heuwinkel, F. Lichti, J.E. Drewes. K. Koch, Germany

Anaerobic Digestion of Sewage Sludge from Carbon Concentrating Treatment Process: Modeling and LCA Based Approach
H. Guven, H. Gulhan, R.K. Dereli, M.E. Ersahin, H. Ozgun, I. Ozturk, Turkey

Resource recovery

Production of propionic acid from organic waste residue through acidic hydrolysis process
R. Ali, F. Saravia, J. Gescher, H. Horn, Germany

Volatile fatty acids production from thermally hydrolyzed potato starch using anaerobic digestion
M. Bhargav, K. Singh, Canada

Volatile fatty acids production from olive mill solid waste (OMSW) in pHcontrolled fed-batch anaerobic reactors
F. Cabrera, A. Torres, A. Serrano, G. Rodriguez-Gutierrez, D. Jeison, F.G. Fermoso, Chile

Biohydrogen production in continuous acidogenic reactors fed with sucrose at pH below 3.0
J. Cardoso Ribeiro, G. Cesar Dacanal, M. Zaiat, Brazil

Light intensity directly effects the physiology of purple non-sulfur bacteria and increases nutrient removal from wastewater under anaerobic sequencing batch reactor regime
M. Cerruti, J. Hoon Kim, D.G. Weissbrodt, The Netherlands

Anaerobic Treatment of Blast Furnace Gases
R.P. Chalmers-Brown, R.M. Dinsdale, J. Massanet-Nicolau, G. Lloyd, United Kingdom

Energy conversion efficiency produced from treatment of wastewater through an hybrid UASB anaerobic reactors
D.M. Hernandez, L.A.P.Hurtado, K.L. Fuentes, J.G. Rueda-Bayona, T.R.Chaparro, Colombia

Using endogenous electron donors and acceptors in food waste for n-caproate production
C. A. Contreras-Davila, C. J. N. Buisman, D. P. B. T. B. Strik, The Netherlands

Substrate and light impacts on novel anaerobic associations of fermenters and purple non-sulfur bacteria for waste-based carbohydrate valorization
G. Crosset-Perrotin, M. Cerruti, D.G. Weissbrodt, The Netherlands

Preliminary results of an anaerobic hybrid reactor treating sugarcane vinasse in a sugar and alcohol industry
V. Del Nery, M.H.R.Z. Damianovic, E.C. Pires, M.M. de Araujo Jr, Brazil

Increase of methane production in high rate pilot-UASB reactors treating vinasse from operational strategies arrangements
V. Del Nery, I. Alves, M.H.R.Z. Damianovic, E.C. Pires, Brazil

Effect of the operating conditions on the anaerobic digestion of wheatgrass for chemicals and energy production
I.M.O. Silva, D. Dionisi, United Kingdom

Effect of operational pH on volatile fatty acid production using strawberry extrudate as a carbon source
E. Russo, A. Serrano, G. Rodriguez, J. Cubero-Cardoso, G. Esposito, F.G. Fermoso, Spain

Effect of Barium addition on biohydrogen production and ecotoxicity of sugarcane vinasse
A.F.M. Braga, M.R. Lima e Silva, M.C. Felipe, A.C. Bernegossi, C.G. Issa, J J. Corbi, F.G. Fermoso, M. Zaiat, Brazil

H2/CO2-based carboxylate chain elongation: case study with an acidogenic and a methanogenic inoculum
F.C.F. Baleeiro, H. Sträuber, Germany

Fermentative biohydrogen production as an energy approach for sugarcane biorefineries: Comparing juice and molasses as substrates
L.T. Fuess, M. Zaiat, C.A.O. Nascimento, Brazil

Overcoming Ammonia Inhibition in Blackwater Anaerobic Treatment: Impact of Feedstock Storage
M. Gao, L. Zhang, Y. Zhang, N. Yu, Y. Liu, Canada

Activity of the Candidatus Accumulibacter under mesophilic and thermophilic digester conditions and the significance for P-recovery
K.A. Smith Hansen, M. Nierychlo, A. Oehmen, P.H. Nielsen, Denmark

Short branch chain fatty acid production using methanol by an open culture enrichment: a community perspective investigation
S. Huang, R. Ganigué, R. Kleerebezem, K. Rabaey. Belgium

Potential role of anaerobic digestion in remediation of sedimented fibers originating from pulp and paper industry
M Kokko, P Chatterjee, P Lindqvist, J Rintala. Finland

Characterization and anaerobic biodegradability of an effluent from a Chilean wine industry
Y. Lauzurique, C. Huiliñir, A. Castillo, R. Salazar, V. García, Chile

Energy and exergy based suitability analysis of biogas production from vegetable, fruit and flower (VFF) market wastes considering its seasonal variations
M.M. Mondal, C.J. Speier, M. Velusamy, D. Weichgrebe, S.V. Srinivasan, Germany

Resource recovery linked to anaerobic digestion of concentrated municipal sewage from a forward osmosis pilot system
J. Muñoz Sierra, K. Roest, L. van Dijk, A. Polman, H. Ramaekers, A. Hendriks, E. Cornelissen, The Netherlands

Alleviating sulfide toxicity using biochar during anaerobic treatment of high-sulfate wastewater with sulfur recovery
F.R. Oliveira, K.C. Surendra, D.P. Jaisi, H. Lu, S.K. Khanal, United States

Stimulating Lactic Acid production in Enrichment Cultures by B vitamins and peptides
J.L. Rombouts, E.M.M. Kranendonk, D.G. Weissbrodt, R. Kleerebezem, M.C.M. van Loosdrecht, The Netherlands

Production of carboxylic acids from slaughterhouse wastewaters
N.W.S. Morais, M. M. H. Coelho, T.J.T. Ferreira, F.S.S. Silva, E.L. Pereira, R.C. Leitão, A.B. Dos Santos, Brazil

Reflections on reactor design for the anaerobic digestion of organic residues on cruise ships
K. Schumüller, S. Köster, Germany

Anaerobic digestion of aqueous pyrolysis liquid (APL) with ozone pretreatment
S. Seyedi, K. Venkiteshwaran, D. Zitomer, United States

Production of medium chain carboxylic acids from brewery waste using anaerobic fermentation technology
S. Shrestha, B. Colcord, M. Muermans, L. Aley, X. Fonoll, L. Raskin, United States of America

Dark photosynthesis: explorations on bioelectrochemical growth of photosynthetic food grade microorganisms on wastewater
D.P.B.T.B. Strik, M. van der Zwart, L. Jourdin, Y.J. Chu, C.J.N. Buisman, The Netherlands

Introducing grass to pig farm's crop rotations to feed both pigs and biogas plant – Nutrient flows and techno-economic assessment
E. Tampio, E. Winquist, S. Luostarinen, Finland

Low pH anaerobic operation for the removal of nitrate, sulfate and selenate with biogenic selenium production
L.C Tan, Y.V. Nancharaiah, S. Lu, E.D. van Hullebusch, R. Gerlach, P.N.L. Lens, Ireland

Inoculum treatment selection for the improvement of degradation and generation of biomethane from FOG
L.C. Tan, E. Ryan, P. Keogh, P.N.L. Lens, Ireland

Anaerobic treatment of wastewater from hydrothermal liquefaction of Spirulina conversion using immobilized biomass.
B.E. Bueno, D. Quispe-Arpasi, R. Ribeiro, G. Tommaso, Brazil

Single cell protein production using biogas and effluent produced from anaerobic digestion of urban bio-waste
P. Tsapekosa, B. Khoshnevisana, B. Valverde- Péreza, Y. Zhang, I. Angelidakia, Denmark

Biorefining grass silage for farm-scale use – separation efficiency and biomethane potential
M. Vainio, E. Winquist, E. Tampio, S. Ervasti, T. Stefansk, Finland

What is the best anaerobic technology to produce VFA from sugar beet vinasse?
F. Vedrenne, N. Baffaleuf, N. Brack, J.A. Cacho Rivero, France

Valorisation of urban bio-waste beyond energy recovery: modified AD process for chemicals production
F. Velghe, S. Gildemyn, F. De Wilde, I. Wierinck, J. Smis, T. Dietrich, Belgium

Biological hydrogen production from crude glycerol: inocula and methanogenesis inhibition method
M.B. Viana, R.I. Dams, B.M. Pinheiro, R.C. Leitão, S. T. Santaella, A.B. dos Santos, Brazil

Inhibitory effects of free propionic and butyric acids on the activities of hydrogenotrophic methanogens in mesophilic mixed culture fermentation
W. Zhang, F. Zhang, R. Jianxiong Zeng, China

Energy potential of biogas and sludge from UASB reactors: Case study of Paraná State in Brazil
A.P. Rosa, L.S. Lopes, J.S. Marco, T.C R. Mesquita, G.R.C. Possetti, Brazil

Assessing the energy potential of scum in a full-scale UASB-based treatment plant
A.P. Rosa, C.A.L. Chernicharo, A.D.U.C. Schmidt, J.M. Borges, Brazil

Towards technology integration: anaerobic digestion coupled to pyrolysis of agricultural residues
N. Acosta, A. Estrada, J. De Vrieze, S. Ghysels, M. Pala, S. Buffel, F. Ronsse, K. Rabaey, Belgium

Volatile Fatty Acids production from fish waste: Effect of pH and Inoculum Substrate ratio
L.S. Cadavid-Rodríguez, V. E. Castro-López, Colombia

Acidogenic fermentation of household solid waste: bacterial enrichment at controlled PH
L. Digan, S. Dubos, E. Mengelle, E. Paul, C. Pagès, E. Trably, C. Dumas, France

Biogas Upgrading benefits the Energy Balance at BIOFOS WWTP
L.K Nielsen, J. Stuhr, Denmark

Production of high-value volatile fatty acids from A-sludge: impact of pH, pretreatment and hydraulic retention time
L. Van Peteghem, C. Cagnetta, S.J. Andersen, J. De Vrieze, K. Rabaey, R. Ganigué, Belgium

Steering microbiomes towards new biochemical production: iso-caproate
K. de Leeuw, D. Strik, C. Buisman, The Netherlands

Cellulose recovery from municipal wastewater and its possible use for volatile fatty acids production
G. Cipolletta, A.L. Eusebi, C. Akyol, N. Frison, A. Foglia, F. Fatone, Italy

Biomass to energy and metabolites through biological processes using residual waste from typical crops in Colombia
M.A. Hernández, C. Ochoa, O. L. Bayona, A. M. Candela, I.O. Cabeza, Colombia

Sludge and slurry digestion

Developing low-cost psychrophilic anaerobic digesters of food waste and sewage sludge at a household scale
S. Alcaraz-Ibarra, M. Esparza-Soto, M. Lucero-Chávez, M.A. Mier-Quiroga, M.C. Jiménez-Moleón, Mexico

Thermophilic anaerobic digestion of organics under mild alkaline conditions
S. Azman, P. Bogaerts, L. Appels, R. Dewil, Belgium

Operation of a membrane bioreactor with primary clarifier and anaerobic sludge digestion
D. Bastian, L. Palmowski, J. Pinnekamp, Germany

Comprehensive characterization of liquid fraction of digestate: impact of co-digestion and process conditions
A. Battimelli, A. Akhiar, M. Torrijos, H. Carrère, France

Anaerobic codigestion of landfill leachate and glycerol to enhance biogas production and organic matter removal
L.D. Bottega, J.T. Gotardo, B.M. Gomes, S.D. Gomes, P.Y. Takeda, Brazil

Thermophilic full-scale installation for anaerobic sludge digestion at 's Hertogenbosch (NL): unlocking the energy potential of sludge from wastewater treatment plants
B. Bundervoet, A.A. Kulagowska, I. Dekker, J. Colsen, I. Angelidaki, The Netherlands

Valorization of poultry industry waste through hydrogen and methane production
V. de la Sovera, G. Zinola, F. Marconi, P. Rodriguez, P. Menendez, C. Etchebehere, Uruguay

Enhancement of biogas productivity using co-digestion of animal carcass and swine wastewater treatment system sludge
D.C. Tápparo, R.L.R. Steinmetz, A.C. do Amaral, T.C. Gaspareto, A. Cé, A. Kunz, Brazil

Inhibition of methane production by antibiotics – differences in BMP and CSTR experiments digesting cattle slurry
S. Ervasti, S. Luostarinen, Finland

Co-digestion of aquaculture sludge with municipal sewage sludge: effects on methane yield and phosphorous content.
M.M. Estevez, R.Tomczak-Wandzel, L. Ydstebø, Norway

Dried aquaculture waste sludge as co-substrate for municipal biogas plants in Norway
H.E. Hatland, M.M. Estevez, K. Akervold, Norway

Application of DGT as a potential monitoring tool to assess trace metal bioavailability in anaerobic digestion
A.Ilic, J.Bartacek, Czech Republic

Effect of organic loading rate and retention time on bio-hydrogen production from dilute sulphuric acid pre-treated sugarcane trash hydrolysate
D. Cressey, P. Paulose, A. Puthumana, M. Latif, P. Kaparaju, Australia

Effect of multiple inocula on co-digestion of poultry and garden waste with thermal pre-treated sugarcane bagasse
N. Vats, A.A. Khan, K. Ahmad, India

Synergetic treatment of sewage sludge and food waste for biogas generation and heavy metals immobilization via anaerobic digestion and pyrolysis
C. Li, S. Xie, X. Zhu, R. Tian, I. Angelidaki, Y. Wang, Denmark

Bioaugmentation of mono-digestion of grass with methanogenic propionate-utilizing enrichment to restore function
L. Lianhua, H. Shuibin, S. Yongming, L. Ying, K. Xihui, China

Potential of Crassulacean Acid Metabolism (CAM) plants as alternative energy crops
K. Lueangwattanapong, F. Ammam, J.A.C. Smith, I.P. Thompson, United Kingdom

Thermal *vs* aerobic hydrolysis of sewage sludge: Technical, economic and environmental comparison
S. Montalvo, C. Huiliñir, L.Guerrero, A. Castillo, Chile

Effect of the addition of magnetite on the anaerobic digestion of pig slurry
N. Muñoz, M. Figueroa, I. Rodríguez, E. Pereira, A. Rodríguez-Abalde, Spain

Effect of two different hydrolytic additives over the anaerobic digestion process of the liquid fraction of swine manure
M.A. Ortiz-Cabrera, F. Cruz, X. Flotats, Spain

Methane production in a dairy farm biogas plant co-digesting cow slurry and screw press separated solid fraction of slurry
V. Pyykkönen, S. Luostarinen, Finland

Influence of SRT in activated sludge process on the energy efficiency of wastewater treatment plants
J. Rühl, M. Engelhart, Germany

Biogas Production Using Slaughterhouse Wastewater and Domestic Sludge to Cover Energy Demand for Wastewater Treatment Plant
S.S.B. Dababat, Palestinian Territory, Occupied

Importance of substrate origin for anaerobic sludge rheology in continuous stirred-tank biogas reactors
L. Šafarič, S. Shakeri Yekta, B.H. Svensson, A. Schnürer, D. Bastviken, A. Björn, Sweden

Anaerobic co-digestion approaches traditional WWTPs to electrical self-sufficiency and reduces co-substrates treatment costs
A. Taboada-Santos, M. Carballa, N. Moralesb, J.R. Vázquez-Padin, R. Gutierrez, J.M. Lema, Spain

Energy and nutrient recovery potential from microsieved sludge
E. Tampio, M. Kokko, M. Vainio, S. Rasi, J. Rintala, Finland

Anaerobic digestion of fur animal manure and assessment of co-digestion with other livestock manures
E. Tampio, J. Laakso, S. Ervasti, M. Vainio, V. Pyykkönen, S. Luostarinen, Finland

ORANGE WASTE CODIGESTION EFFECT ON THE BIOMASS AT PILOT AND FULLSCALE
M. J. Tarrega, P. Granell, C. Beniel, M. Torregrosa, G. Fayos, V.Fajardo, C.Cañigral, I.Garcia, J. Santos, Spain

Valorisation of sewage sludge in co-digestion with cheese whey to produce volatile fatty acids
R. Iglesias-Iglesias, C. Kennes, M.C. Veiga, Spain

Biochemical methane potential (BMP) of secondary sewage sludge from different treatment processes in Peru
E. Giraldo Araujo, G. Candela Lévano, E. Cadillo La Torre, R.M. Miglio Toledo, R. Vela Cardich, Peru

Anaerobic Co-digestion of Food Waste and Sewage Sludge
C. Wang, Y. Wang, Y. Wang, T. Zhang, Hong Kong

Fate of IMP-producing Escherichia coli in anaerobic co-digestion of food waste and pig manure
S. Wang, Z. Wang, Y. Jiang, D. Morris, L. O'Connor, Z. Hu, X. Zhan, Ireland

Influence of ensiled treatment on the anaerobic co-digestion performance of *Pennisetum* hybrid and kitchen waste
D. Wo, Y, Sun, China

Comparision of thermal and thermal-alkaline pretreatment on anaerobic digestion of sewage sludge
B. Xiao, Y. Liu, J. Liu, China

Anaerobic Codigestion of Household Blackwater with Kitchen Organic Waste
L. Zhang, B. Guo, Q. Zhang, A.P. Florentino, R. Xu, H. Zhang, Y. Zhang, Y. Liu, Canada

Dynamic changes in microbial populations during acclimatisation to increasing ammonium concentrations in food waste digestion
W. Zhang, C. Banks, S. Heaven, A. Alessi, J. Chong, United Kingdom

Magnesium and calcium silicate mediated in-situ CO_2 sequestration and nutrients removal in sludge anaerobic digestion
Y. Zhang, L. Gong, Q. Jiang, M. Cui, H. Liu, J. Zhang, B. Fu, H. Liu, China

Dual acid-gas anaerobic co-digestion of excess sludge and pig slurry combined with hydrodynamic cavitation and ozonation
E. Zuriaga-Agustí, B. Hernández, I. Pastor, M. Galián, G. Silvestre, J. Carvajo, J.L. Aranda, M. Abellán, C. García, Spain

Improvement of methane production from anaerobic co-digestion of residues generated in sugarcane biorefinery: the effect of add bagasse fly ashes
O.F. Herrera, B.E.L. Baêta, L.V.A. Gurgel, S. F. de Aquino, Brazil

Anaerobic digestion of slaughterhouse wastes after hygienization in a continuous two-stage process
A. Spyridonidis, I.A. Vasiliadou, S. Antonoudis, C. Kivraki, K. Stamatelatou, Greece

Evaluating effect of substrate to inoculum ratio and enzyme treatment on anaerobic digestion of chicken litter
N. Bhatnagar, D. Ryan, R. Murphy, A.M. Enright, Ireland

Anaerobic co-digestion of sludge cake from poultry slaughtering and sweet potato: energy recovery and organic matter removal efficiency
F.M. Damaceno, M.S.S.M. Costa, J. Lucas Jr., L.A.M.Costa, E.L. Buligon, J.C.P.S. Restrepo, M. Chiarelotto, J. Bofinger, R.K. Niedzialkoski, Brazil

Biogas production by co-ensiling catch crops and straw – effect of substrate blend and influence on microbial communities
L. Feng , Y.M.L. Perschke, D. Fontaine, M. Nikolausz, A. J. Ward, J. Eriksen, P. Sørensen, H.B. Møller, Denmark

Anaerobic Co-digestion of Cigarette Butts and Food Waste with Various Pretreatments
H. Kim, O. Choi, B. Sang, Republic of Korea

Impact of temperature, loading rate, retention time and feedstock mix on faecal indicator bacteria survival in farm-based anaerobic co-digestion
S. Nolan, S. Connolly, R. Naga , C. Thorn, D. Bolton, E. Cummins, O. Fenton, K. Richards , V. O'Flaherty , F. Abram, Ireland

Performance evaluation of a large scale two stages agricultural biogas plant for anaerobic digestion
P. Peu, R. Girault, R. Bottari, A.-L. Duedal, France

Impacts of furfural and vanillin on two-stage hythane fermentation
C. Sun, A. Xia, Q. Liao, X. Guo, Q. Fu, Y. Huang, X. Zhu, China

Performance of a mini pilot plant of AnMBR treating real municipal sewage
J. Ji, S. Sakuma, A. Ohtsu, Y. Chen, T. Hojo, Y.-Y Li, Japan

Treatment of dewatering liquors from biosolids treated by the Torwash process
W. Driessen, J.T.A. Vogelaar, J.R. Pels, H. Kuipers, The Netherlands

Anaerobic biodegradation kinetics of pre-treated slaughterhouse wastewater
V.C. Hernández-Fydrych, M. Meraz-Rodríguez, M.L. Salazar-Peláez , Y. Ramírez-Quirós, M.C. Fajardo-Ortiz, Mexico

Responses of bioconversion kinetics and microbial activity to feeding frequency during co-digestion of organic wastes
Q. Li, X. Wang, China

Anaerobic Treatment of Hydrothermal Aqueous Product for Enhanced Wastewater Energy Recovery
A.D. Martin-Ryals, L.C. Schideman, United States

Effect of food/inoculum ratio in methane production by co-digestion of poultry manure and lignocellulosic biomass
A.G.O. Paranhos, G.F. Barreto, S.Q. Silva, S.F. Aquino, O.F. Herrera, Brazil

Role of free nitrous acid on hydrogen recovery from waste activated sludge in a pre-fermentation and bio-electrochemical system
A. Zhou, Z. Liu, S. Wang, X. Yue, China

Dual acid-gas anaerobic co-digestion of excess sludge and pig slurry combined with hydrodynamic cavitation and ozonation
E. Zuriaga-Agustí, B. Hernández , I. Pastor, M. Galián, G. Silvestr , J. Carvajo, J.L. Aranda, M. Abellán, C. García, Spain

Impact of Ag, TiO2 and ZnO nanoparticles on methane production from anaerobic digestion of primary and secondary sludge
M.N. Carballo-Costa, N. Fernandez-Gonzalez, M.Carballa, J.M. Lema, Spain

Anaerobic Codigestion of Landfill Leachate and Crude Glycerol for Enhanced Biogas Production
P. Y. Takeda, J. T. Gotardo, S. D. Gomes, L. D. Bottega, Brazil

Improvement of Sludge Dewaterability by Anaerobic Digestion and Mechanism Analysis Based on Moisture Distribution
W. Zhang, D. Dong, X. Dai, China

Bio-polymer production using anaerobic systems

Bioaugmentation with Lactobacillus delbrueckii to enhance the production of lactic acid from municipal biopulp
M. Alvarado-Morales, P. Tsapekos, E.F. Bosma, S. Baladi, I. Angelidaki, Denmark

Effect of the sludge retention time in the production of lactic acid and hydrogen during dark fermentation
L. Braga, E. Castelló, L. Fuentes, V. Rostan, C. Reino, C. Etchebehere, Uruguay

CONVERTING urban ORGANIC WASTEs INTO BIOPOLYMERS: The resurbis project
J. Mata-Alavarez, J. Dosta, A. Bodrin, M. Reis, J.M. Lagaron, D. Bolzonella, F. Fanitel, M. Majone, Spain