



16TH
IWA World Conference
on Anaerobic Digestion
Accelerating natural cycles with anaerobic digestion

Poster presentations

Sunday 23-06-2019 and Monday 24-06-2019

Microbiology of anaerobic digestion

High salinity does not affect acetoclastic methanogenic potential of marine sediments impacted by aquaculture

P. Aguilar, L. Cabrol, C. Lavergne, R. Chamy, Chile

The Effect of MNP Size and Concentration on Methane Production by Fresh and Degassed Anaerobic Sludge

E. Al-Essa, R. Bellomendoza, D.G. Wareham, New Zealand

Substrate-driven divergence of prokaryotic communities in two EGSB bench-scale reactors

C.C. Callejas, E. Ripoll, I. Lòpez, L. Borzacconi, Uruguay

Unifying ammonia inhibitory limits in anaerobic digestion: link with operational conditions and microbial communities

R. Moscoviz, G. Capson-Tojo, R. Moscoviz, A. Robles, S. Astals, J.-P. Steyer, France

Evaluation of the anammox microbial community developed in a fish farming effluent treatment system.

M.L.C. Carra, A. José da Silva, Brazil

Pulse feeding of anaerobic reactors reduces start-up times and increases achievable loading rates

F. L. de los Reyes III, P. Shen, J. Yeh, X. He, L. Wang, United States

Identify the stability of process performance and microbial community in thermophilic anaerobic digestion of cattle manure

N. Duan, P.G. Kougias, L. Treu, I. Angelidaki, China

Microbial population dynamics during aerobic anaerobic alternation for sludge reduction

H. Feng, L P Sun, W Z Guo, China

Effect of substrate/inoculum ratio and consecutive feeding upon methane yield and microbial community during the anaerobic digestion of OFMSW

B. Ornelas Ferreira, J. Calabria-Araujo, L. dos Santos, A. Zerbini, A. Martins, C. Leal, L. Lobato, C.A.L. Chernicharo, Brazil

1,3-Propanediol production from glycerol by biofilms in two UASB reactors

L.F. Florencio dos Santos, S. Veras, P. Rojas, L. Florencio, M.T. Kato and J. Luis Sanz

Identification of pathogenic and dairy-spoiling *Clostridium* consortia in lab-scale anaerobic digesters fed with agricultural biomass

A. Fontana, M. Soldano, P. Bellassi, C. Fabbri, F. Gallucci†, F. Cappa, Italy

Bioaugmentation alleviates ammonia inhibition during protein-rich substrate biomethanation

I. A. Fotidis, H. Tian, E. Mancini, L. Treu, I. Angelidaki, Denmark

Continuous Production of Biohydrogen and Biomethane from Tequila Vinasse: Enhancing the Hydrogenic Stage by Lactate Pre-fermentation

O. García Depraect, R. Muñoz, J. B. van Lier, E. R. Rene, E. León Becerril, Mexico

Selective predation of bacterial cell by anaerobic protists

Y. Hirakata, M. Hatamoto, T. Watari, M. Oshiki, N. Araki, T. Yamaguchi, Japan

Growth rate heterogeneity in *Desulfovibrio vulgaris* decreases in response to a reduction in pH as observed in real-time

C. Keating, Y. Song, R. Gonzalez-Cabaleiro, C. Quince, G. Collins, H. Yin, W. Sloan, United Kingdom

Effect of a radical feedstock change on the biogas microbial community

J. Klang, U. Szewzyk, D. Bock, S. Theuerl, Germany

Comparison of microbial community in two-phase anaerobic digestion system with and without recirculation

L. Li, Y. Qin, Z. Kong, J. Wu, K. Kubota, Y. Li, Japan

Anaerobic digestion of food waste: the influence of trace elements addition on microbial community structure and methane production

A. Martins, J. Calabria-Araujo, B. Ferreira, C.A.L. Chernicharo, Brazil

Microbial reduction of antimony by anaerobic microorganisms

I. Moreno-Andrade, J. Carrillo-Reyes, J.A. Field, R. Sierra-Alvarez, Mexico

Microorganisms Involved in the LAS Degradation using Ethanol and Alcohol Ethoxylated as Co-substrates in FBR

F. Motteran, B. M. Nadai, J. K. Braga, E. L. Silva, M. B. A. Varesche, Brazil

Novel syntrophic bacteria involved in short-chain fatty acid degradation in full-scale anaerobic digesters

L. Hao, M.S. Dueholm, T.Y. Michaelsen, G. Dottorini, C. Singleton, R.H. Kirkegaard, M. Albertsen, P.H. Nielsen, Denmark

Production of ethanol from CO by *Clostridium autoethanogenum* is enhanced in co-culture with *Clostridium kluyveri*

M. Diender, I. Parera-Olm, J.J. Koehorst, M. Gelderloos, P.J. Schaap, A.J.M. Stams, D.Z. Sousa, The Netherlands

Microbial communities in anaerobic digestion process fed by different kinds of volatile fatty acids using 16s rRNA metagenomics approach

P. Prommeenate, W. Chetruengchai, K. Kusonmano, W. Kittichotirat, S. Cheevadhanara,, K. Kuroda, M. Hatamoto, T. Yamaguchi, B. Suraraksa, Thailand

Microbial indicators of co-digesters working with manure as basis substrate in “unhealthy” situations

L. Regueiro, J.M. Lema, M. Carballa, Spain

Thermal hydrolysis affects the microbiome structure and composition in sewage sludge anaerobic reactors

G. H. R. Braz, A. Taboada-Santos, N. Fernandez-González, M. Carballa, J. M. Lema, Spain

Effects of different carbon sources on the AGS microbial composition

S. L. S. Rollemberg, A. R. M. Barros, A. N. de Barros, L. Q. Oliveira, J. P. M. Lima, V. N.S.A Lira, A. F. dos Santos, C. C. B. F. Batista, P. I. M. Firmino, A. B. dos Santos, Brazil

Lipid hydrolysis assessment – opening our eyes to a remaining blind spot in AD

P. Van Gaelen, B. Raes, D. Springael, I. Smets, Belgium

Methane Production Correlates with Bacterial Community Shift During PHB Bioplastic Anaerobic Co-Digestion

K. Venkiteshwaran, N. Benn, S. Seyedi, D. Zitomer, United States

Effect of the conformation of microbial diversity in the production of hydrogen via dark fermentation

M. A. Vesga, R. Chamy, M. C. Scippacasse, L. Fuentes, C. Etchebehere, E. Tapia, Uruguay

Size-fractionated sludge induced differentiation of metabolic characteristics and microbial community structure in phenol anaerobic degradation

J. Wang, B.T. Wu, C.H. He, Z.H. Hu, W. Wang, China

Co-digestion of syngas with different wastewater for optimum volatile fatty acid generation

C. Liu, W. Wang, China

Continuous biomethanation of organic fraction of municipal solid waste under extreme ammonia levels

M. Yan, H. Tian, B. Khoshnevisan, P. Tsapekos, I. A. Fotidis, I. Angelidaki, Denmark

Insights in the role of active bacterial, archaeal, and eukaryal populations in raw microalgae biomass degradation in an anaerobic membrane bioreactor

N. Zamorano-López, R. Serna-García, X. Fonoll, S. Shrestha, D. Aguado, L. Borrás, A. Seco, L. Raskin, Spain

Impact of temperature on degradation of glucose and their links to microbial community structure

J. Zhao, The Netherlands

Enhancement of anaerobic digestion using syntrophic propionate oxidizing bacteria from different sources of seed sludge

B. Suraraksa, N. Boonapatcharoen, Thailand

Thermophilic anaerobic digestion: Effect of start-up strategies on performance and microbial community

J.G Shin, H.M Jang, Y.M Kim, Republic of Korea

Which is the cause of the slow lipid degradation under cold anaerobic conditions?

R. Bashiri, T. P. Curtis, I. D. Ofițeru, United Kingdom

Mining anaerobic digestion data with Deep-omics, a new digital environmental engineering platform for omics data

C Midoux, G Perréal, O Chapleur, M Predhumeau, O Rué, Y Fayolle, M Mariadassou, P Dabert, V Loux, T Bouchez, N Raidelet, [A Bize](#), France

Lactate transformation in acetogenic and methanogenic steps of anaerobic digestion.

[A. Detman](#), D. Mielecki, A. Sikora, Poland

A list of the key enzymes useful in searching for metabolic pathways of anaerobic digestion

[A. Sikora](#), A. Detman, Poland

Effect of membrane physicochemical properties on Initial Deposition of Anaerobes Isolated from Anaerobic Membrane Bio-Reactor

[Y. Yang](#), A.D. Grossman, R. Bernstein, M. Herzberg, G. Oron, Israël

Volatile fatty acids production from sewage sludge in co-digestion with the organic fraction of municipal solid waste

[C. Fernando-Foncillas](#), H. Uellendahl, Denmark

Microbial acclimation towards substrate overloading via recurring solids retention time reduction

[A.F. Mohidin](#), T.C.A. Ng, A.A. Cokro, Y. Lu, S. Wuertz, Singapore

Genome-centric metagenomics in biogas reactors fed with Long Chain Fatty Acids Panagiotis

G. Kougias, L. Treu, S. Campanaro, Xinyu Zhu, I. Angelidaki, Greece

Sulfur Cycle Technologie

Influence of the metals in the sulfidogenesis

[M.P. Cunha](#) , A.F. Maluf Braga, R.B. Costa, R.P. Rodriguez, M. Zaiat, Brazil

Effect of airflow rate and dosing point on microaerobic sulfide removal

J.F.L. Brito, C.R.A.A. Dantas, G.A. Garcia Neto, G.A.R. de Queiroz, M.E.R. da Silva, A.B. dos Santos, [P.I.M. Firmino](#), Brazil

Bio-refining of Coke Oven Gas – The Removal and Recovery of Sulfur

R. Pugh, R. [Dinsdale](#), C. Laycock, G. Lloyd, United Kingdom

Post-treatments anaerobic effluents/digestates

Regulation of hydrogen peroxide dosage in the heterogeneous photo-fenton process used as posttreatment

K. E. Saldaña-Flores, [V. Alcaraz-Gonzalez](#), L. A. Martins-Ruotolo, E. A. Urquieta-Gonzalez, R. A. Flores-Estrella, Mexico

Removal of micro and macro pollutants from anaerobically treated effluents by using MBR post-treatment in a sulfatecontaining wastewater

[A. Arias](#), A. Liñares, M. Martínez, F. Omil, J.M.Garrido, Spain

Free ammonia effects on a rotating biological contactor: assessment of stable nitrification for anaerobically pretreated effluents

L. G. Bicelli, M. R. Augusto, T. S. O. Souza, Brazil

Addition of enzymes on sugar beet pulp anaerobic digestion: impact of dosage

C. Bougrier, A. Da Costa, D. Dognin, A. Lazuka, G. Quentin, J.A. Cacho Rivero, France

Preliminary evaluation of *S. obliquus* and *C. vulgaris* growth on winery waste digestate in an integrated anaerobic digestion-microalgae approach

C. Cavinato, P. Scarponi, F. Battista, N. Frison, D. Bolzonella, Italy

Integration of self-sustaining smouldering after semi-dry anaerobic digestion for a sustainable digestate management

A. Ezieke, Y. Liu, A. Serrano, L. Yermán, H. Wyn, D.K. Villa-Gomez, Australia

White rot fungi pretreatment to advance volatile fatty acid production from solid-state fermentation of solid digestate: Efficiency and mechanisms

W. Fang, B. Qu, T. Zhang, China

Thermophilic anaerobic digestion of sewage sludge with addition of pyrolysis oil - long-term reactor performance

A.K. Hämäläinen, P. Chatterjee, M. Kokko, J. Rintala, Finland

Nitrification in presence of sulfide an organic matter: Experiences in batch and SBR reactors

C. Huiliñir, V. Fuentes, L. Hernandez, S. Montalvo, L. Guerrero, Chile

Improvement of digested sludge quality by post-aeration

M. Vojtiskova, B. Satkova, J. Bindzar, P. Jenicek, Czech Republic

Relative head-loss in sand filters applied in the post-treatment of UASB reactor

B. Linhares, W. Leite, J. Morais, S. Gavazza, L. Florencio, M. Kato, Brazil

Biologic production of H₂ using citrus wastewater as substrate

R. Pachiega, S. I. Maintinguer, Brazil

Post-treatment of the aqueous phase of hydrothermal liquefaction by UV photocatalysis

D. Quispe-Arpasi, B. E. Bueno, R. Ribeiro, G. Tommaso, Brazil

Circular Agronomics: producing high-quality organic fertilizers from digestates in an agro-industrial biogas plant

V. Riau, L. Morey, À. Porta, J. Soler, B. Fernández, Spain

Characterization of an anaerobic effluent for nitrogen removal propose

P. A. Sachetto, R. Lima-Coasaca, A. L. Tonetti, L. M. O. Cruz, Brazil

Maximizing dissolved methane recovery from AnMBR effluents using different capture options

P. Sanchis-Perucho, A. Robles, F. Durán, J. Ferrer, A. Seco, Spain

Ozone treatment of dairy manure digestate: effect on biochemical parameters, and micronutrient concentrations

M. H. Somers, S. Azman, B. Alonso-Fariñas, G. Bollansée, M. Leermakers, L. Appels, Belgium

Production and removal of volatile fatty acids in a continuously fed reactor using homoacetogens from mixed culture.

R. Tuffou, J. Massanet-Nicola, R. Dinsdale, A. Guwy, United Kingdom

Coupled high-rate anaerobic treatment and microalgae growth for digestate valorization

N. Ulgudur, T.H. Erguder, S.Uludag-Demirer , G.N. Demirer, Turkey

1,3-Propanediol and Methane production by co-digestion of Crude Glycerol in an integrated biosystem

C. V. Rodrigues, M. G. Nespeca, I. K. Sakamoto, M. B. A. Varesche, S. I. Maintinguer, Brazil

Study on Fenton Methodology and Application of Fenton Methodology / Fenton alike Methodology to pre-treat Anaerobical Digestate for Recycling Usage—Chinese Experiences in Treatment on Anaerobical Digestate

Wu Libin, Wu Ting, China

Microalgae-bacteria side stream treatment in a WWTP - a pilot scale study

M. Mantovani, F. Marazzi, M. Bellucci, T. Fantasia, E. Ficara, V. Mezzanotte, Italy

Agricultural use of anaerobic effluents

Organic Fertilizer from AD of Coal Industry Wastes

S. Jin, P.H. Fallgren, M. Peng, F. Peng, L. Chen, Unites States

Onsite anaerobic digestion of agro-waste and effects of temperature and particle size

Z. Zhu, U. Yogev, A. Gross, The Netherlands

Digestate soluble organic matter extracts versus commercial humic substances for biostimulation of hydroponic systems

F. Guilayn, M. Benbrahim, M. Rouez, M. Crest, D. Patureau, J. Jimenez, France

Elucidation of the inhibitory effect of anaerobic digester effluent on bacterial plant diseases

M. Feng, Y. Fukuda, C. Tada, Japan

Nutrient removal/recovery linked to AD (anammox, struvite, N/P general)

Deammonification process treating swine manure digestate: influence of C/N ratio

A. Chini, C. E. Hollas, F. G. Antes, A. C. Bolsan, H. Treichel, A. Kunz, Brazil

Optimization of biogas production using autotrophic process to remove nitrogen

D.C.Bon, L.M. de Oliveira Cruz, Brazil

Achieving efficient sludge management: Full-scale demonstration of partial nitritation/anammox on the COD-rich centrate from sequential thermal hydrolysis and anaerobic digestion

N. Carlier, R. Jordaens,, B. Bundervoet, J. Colsen, M. Van Tendeloo, S.E. Vlaeminck, The Netherlands

Improving the nitrogen removal efficiency of the anammox process by the addition of methane

E. Castillo Arriagada, N. Saborimanesh, L. Yerushalmi, C. Mulligan, Canada

Investigation of Recovery Strategies for Mainstream PNA-MBBR under continuous influent and aeration conditions

H. Chen, L. Peng, H.Wang, Y. Hu, L. Gong, Y. Li, China

Effects of boron on nitrogen removal, EPS production and bacterial community assembly during the anammox reactor start-up

C. Zhaorui, H. Chengxing, S. Yikui, R. Hongwei, China

Enrichment and nutrient removal performance of ANAMMOX bacteria at mesophilic temperature range using different inocula

T.C. D'Silva, W. Mirza, R.Z. Gaur, B. Hasan, A. Mushir, A.A. Khan, B. Lew, B. Diamantis, India

Dynamic of nitrous oxide production in continuous reactors containing anammox biomass

T. D. S. Pereira, R. H. Spindola, N. C. Silveira, G. L. Giglio, E. C. Pires, M. H. R. Z. Damianovic, Brazil

Enrichment of anammox bacteria for the startup of food waste digestate post-treatment system

A.D. Pereira, J.S. Fernandes, L.A. Fernandes, C.D. Leal, B.G.P. Carvalho, F.A.C. Warrener, H.M.C. Castro, C.A.L. Chernicharo, J.C. Araújo, Brazil

Effect of temperature and stirring speed on struvite precipitation using real centrates from sewage sludge anaerobic digesters

C. González, M.A Camargo-Valero, F.Molina, D. López, C.Peláez, B. Fernández, Colombia

Removal of ammoniacal nitrogen in simultaneous nitrification and autotrophic denitrification process using elemental sulfur and zeolite in a batch reactor

L. Guerrero, J. C. Rubio, A. Barahona, S. Montalvo, C. Huiliñir, Chile

Struvite precipitation as a technology to be integrated in anaerobic tank supernatant– removal efficiency and crystal characterization

J. Wang, K. Wang, China

Suppressing nitrite oxidizing bacteria by free ammonia under anaerobic and aerobic conditions

M. Nanes, W. Leite, J. Morais, S. Gavazza, L. Florencio, M.T. Kato, Brazil

Ammonium recovery and conversion path by the immobilization of Scenedesmus obliquus in alginate beads from biogas slurry

X. Liu, K. Wang, China

Hyper-thermophilic anaerobic treatment of black water for recovery of nutrients and energy

M.J. Moerland, M.H.A. van Eekert, B. Meulman, G. Zeeman, C.J.N. Buisman, The Netherlands

Nitrogen recovery from an anaerobic co-digestion supernatant using gas-permeable membranes

G.Noriega-Hevia, J.Serralta, L.Borrás, A.Seco, J.Ferrer, Spain

Partial Nitritation/Anammox for post-treatment of food waste digestate: Impacts of different aeration strategies on nitrogen removal and microbial community

A. D. Pereira, H. M. C. Castro, L. A. Fernandes, C. D. Leal, B. P. G. Carvalho, J. S. Fernandes, C. A. L. Chernicharo, J. C. Araújo, Brazil

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

Fermentation liquid production from food waste as carbon source for enhancing nitrogen removal in sequencing batch reactors

S.S. Qi, Z. Hu, China

The effects of high dissolved oxygen levels on partial nitrification/anammox process

M.R. Augusto, L.G. Bicelli, T.S.O. Souza, Brazil

Impact of struvite nucleation rates in the kinetics description using a fluidized bed reactor

C. Santiviago, J. Peralta, I. López, Uruguay

rDNA- and rRNA-derived communities present divergent functional traits throughout full-scale landfill leachate treatment process trains

D. Shu, Y. He, China

Post-treatment of a high-strength wastewater using a high rate algal pond for nitrogen and phosphorus recovery

A. F. Torres-Franco, L. L. Barros, S. E. Araújo, F. Passos, C. C. Figueredo, C. R. Mota Filho, Brazil

How to manage ammonium content in anaerobic digestion of high protein content substrates using a sidestream vacuum stripping?

F. Vedrenne, N. Baffaleuf, J. Robert, J.A. Cacho Rivero, France

Autotrophic Denitrification with S⁰ as an electron donor: effect of S⁰ / NO₃⁻ -N ratio on nitrogen conversions

D. Yanez, C. Huiliñir, S. Montalvo, L. Guerrero, Chile

Recovery performance of an anaerobic ammonium oxidation reactor during organic carbon shock

R. Yang, X. Wang, S. Chen, China

Analysis of the Microbial Community Structure in Different Anaerobic Ammonia Oxidation Denitrification Systems by High-throughput Sequencing

L. Zhang, W. Lv, S. Li, China

Recovery of N and P nutrition from anaerobic digestate by natural superabsorbent fiber

L. Zhang, K. Loh, S. Sarvanantharajah, J. Zhang, Singapore

Supplementation of PVA/CS and PVA/CS/Fe gel beads as an efficient strategy for anammox biomass granulation in UASB reactors

J. Wang, J. Liang, L. Sun, China

Nutrient recovery by struvite precipitation from effluents of an anaerobic residual biomass reactor

C. Ochoa, O.L. Bayona, A.M. Candela, I.O. Cabeza, M.A. Hernández, Colombia

Shocking anammox into adaptation to 15 °C: evidence of long-term cold shock response and varied species survival

V. Kouba, J. Gerlein, A. Benakova, M.A. Lopez, E. Rysava, D. Vejmelkova, J. Bartacek, Czech Republic

Novel anaerobic high-rate reactors / advanced sludge retention

ORGANIC WASTE TO BIOENERGY: TECHNOLOGY TRANSLATION FROM LABORATORY TO FIELD

A.Gangani Rao, T. Anil Kumar, T.A.S. Jayanth, K. Sujan Sekhar, S. Begum, V. Arelli, S. Juntupally, S. Ahuja, D. Kumar Ahuja, India

Methane and hydrogen production from molasses via a novel integrated three-stage system

T.H. Erguder, M. Gazaloğlu, M.C. Akman, E. Koç, U. Gündüz, İ. Eroğlu

Enhanced methane yield and COD removal during anaerobic digestion of Tequila vinasses by applying microelectricity

M.A. Guadalupe Reynoso-Deloyaa, J.N. Acosta-Hernandez, L. García-Sánchez, E. Baltazar Estrada-Arriagac, Mexico

The evaluation of an anaerobic filter for domestic waste water at ambient temperatures: kinetic parameters

L. Guerrero, S. Montalvo, E. Coronado, A. Barahona, R. Chamy, Chile

High-rate anaerobic plug flow reactor for co-digestion dairy manure, pressure sterilized animal by-products and cheese whey

A.Aivasidis, A.Eftaxias, S. Pappas, M.D. Koskinari, A. Koumara, V. Diamantis, Greece

Wastewater treatment by a novel anaerobic biofilm reactor thermally stimulated under low temperature

E. de Lima Neto, E.C. Pires, Brazil

Anaerobic moving bed biofilm reactor (AnMBBR) as pre-treatment of a dairy effluent with high levels of solids and fats

F. Morgan-Sagastume, S. Jacobsson, M. Carlsson, Sweden

Dry anaerobic digestion of blue mussels by-products: preliminary study in 60 L batch reactors and perspectives

M. Mercier-Huat, L. André**, J. Grosmaître, A. Pauss, T. Ribeiro, France

Influence of Temperature on the Operation of a Modified Anaerobic Inclining-Baffled Reactor Treating Recycled Paper Mill Effluent

H.M. Zwain, D.C. Stuckey, I. Dahlan, Iraq

Start-up strategies for digesting chicken manure using percolationrecirculation mode of operation

R. Rajagopal, B. Goyette, S. Adhikary, D. Jérôme, Canada

Granular sludge bed technologies

Enhanced anaerobic digestion of LCFA (long chain fatty acid) rich wastewater by low strength ultrasonication: performance, beta-oxidation enzymes and microbial community

J. Park, S.G. Shin, S. Cho, Republic of Korea

Long-term performance stability and nutrient removal of aerobic granules treating UASB effluent

A.A. Khan, M.N. Hasan, M. Owaes, R.Z. Gaur, S.S. Afsar, S. Ahmad, A. Khursheed, Anwar.A. Khan, B. Lew, A.A. Kazmi, India

Incidence of acetate oxidation and homoacetogenesis on methane formation: kinetic assessment using specific activities.

I. López, E. Ripoll, L. Borzacconi, Uruguay

Effect of volatile fatty acids and chitosan to enhance efficiency of anaerobic granular sludge in treating palm oil mill effluent

B. Suraraksa, N. Hudayah, Thailand

Development of UASB–DHS system for Treatment of Industrial Wastewater containing Water-Soluble Polymer

T. Watari, Y. Sakai, D. Tanikawa, Y. Hirakata, M. Hatamoto, F. Yoneyama, O. Wakisaka, T. Yamaguchi, Japan

Degradation of 2-propanol by granular anaerobic sludge: from laboratory to industrial application

M. Izquierdo, J.M. Peña-roja, P. San-Valero, N. Vermorel, A. Waalkens, C. Gabaldón, Spain

A Size-Driven Life Cycle Model for Anaerobic Granular Sludge Formation and Maintenance in Upflow Anaerobic Bioreactors

S. Mills, A.C. Trego, U.Z. Ijaz, G. Collins, Ireland

Primary screening of inoculum for on-site treatment of groundwater contaminated with gasoline components

A.-M. Wang, C.-S. Hwu, C.-H. Wu, Taiwan

Characteristics and performance of membrane bioreactors on treating tomato paste processing wastewater

K.Z. Su, H. Zhou, T. Shu, China

Anaerobic granular sludge as a microbial platform for the conversion of gaseous substrates at moderate pressures

J.I. Alves, M. Lopes, A.L. Arantes, I. Belo, D.Z. Sousa, M.M. Alves, Portugal

Low-tech solutions for developing countries

Lighting the anaerobic digestion process in rural areas: nutrients recovery from cattle manure digestate

J. Jaimes-Estévez, L. Castro, H. Escalante, Colombia

Quantification of dissolved methane in an UASB reactor treating industrial wastewater using the COD method and a desorption tower

M. Esparza-Soto, M. Lucero-Chávez, S.V. Ríos-Moreno, C. Fall, Mexico

Codigestion of solid organic kitchen waste and waste activated sludge at low temperature: calorific value of biogas and methane

M. Esparza-Soto, S. Alcaraz-Ibarra, M. A. Mier-Quiroga, M. Lucero-Chavez, C. Fall, Mexico

Life cycle assessment of low-tech anaerobic digesters implemented in smallscale farms in Colombia

I. Ferrer, L. Castro, H. Escalante, M. Garfí, Spain

Sell your GC: Simple and accurate BMP measurement with a scale and syringe

S.D. Hafner, J. R. Mortensen, C. G. Justesen, R. Thorsen, J. M. Triolo, S. Astals, Denmark

Improvement in process efficiency and biogas productivity using glycerin as a co-substrate in anaerobic digestion of vinasse

G. Lovato, L.P.P. Batista, M B Preite, J.N. Yamashiro, A.L.S. Becker, M.F.G. Vidal, N. Pezini, R. Albanez, S.M. Ratusznei, J.A.D. Rodrigues, Brazil

Hydrogen production from coffee pulp by dark fermentation

R. Miñón-Fuentes, O. Aguilar-Juárez, Mexico

Effects of toilet paper and food waste in UASB reactors treating domestic wastewater

D.P.P. Gomes, M. Figueiras, E. Pastich, S. M. Santos, S. Gavazza, Brazil

COD and ammonium removal during the start-up phase evaluation of two modified septic tanks

Á.L. Santiago-Díaz, M.L. Salazar-Peláez, D. de los Cobos-Vasconcelos, V. Mugica-Álvarez, Mexico

Effects of Mn-oxides on biological decolorization of azo dye under aerobic and anaerobic conditions

A. Shoiful, T. Kindaichi, Y. Aoi, N. Ozaki, A. Ohashi, Japan

Methane Production from Anaerobic Co-Digestion of Sugarcane Vinasse and Cheese Whey in an AnSBBR

S.P. Sousa, S.M. Ratusznei, J.A.D. Rodrigues, J.N. de Albuquerque, Brazil

Win-win wastewater treatment to sustain world: Porous adsorbents from waste waterworks sludge for phenol remediation

M.A. Tony, Egypt

Iron sludge as a source of Fenton's reagent for textile wastewater treatment: Insights on hydroxyl free radicals induction sources

M.A. Tony, Egypt

Solids Retention Time in Semicontinuous Anaerobic Digestion Reactors of Organic Fraction of Municipal Solid Waste

A. Valdovinos Lepine, O. González Barceló, Mexico

Decentralized management of sewage using anaerobic systems and its potential to comply with legislation in a developing country: A case study in Brazil.

T.C.R. Mesquita, T.F.O. Santos, A.C. Borges, M.L. Calijuri, F.M. Souza, A.Pereira Rosa, Brazil

Biomethane from fish waste as a source of renewable energy in fishermen communities

L.S. Cadavid-Rodríguez, M.A. Vargas-Muñoz, J. Plácido, Colombia

Technological Innovation of an Anaerobic Reactor Dual Chamber for Municipal Wastewater Treatment

A. Galindo Montero, E. Pimienta Serrano, J. Pérez Montiel J, Colombia

Biological treatment of soybean molasses in two different low-cost reactors

A. Sarti, B.S. de Mello, G.H.R. da Silva, B.C.G. Rodrigues, Brazil

Biogas upgrading and management

Biogas Upgrading coupled with PHB Accumulation in *Nostoc muscorum*: Effect of Volatile Fatty Acids (VFAs) Addition

R. [Ángelesa](#), J. Gutiérrez, E. Arnáiza, R. Muñoz, R. Lebrero, Spain

CoSin project, towards renewable gas and energy storage in WWTPs

[N. Basset](#), A. Romero, P. Gómez, N. De Arespachaga, J. Guilera, T. Andreu, I. Mallol, M. Latorre, Spain

Impact of biomethane use in dual fuel engines

A. Cabria, V. Mendez, [A. Rodríguez-Abalde](#), D. Meana, Spain

Application of biochar in anaerobic digestion: effects on hydrogen sulfide

A. Rosales, C. Palma, R. Labatut, [A. Carvajal](#), Chile

Application of Taguchi orthogonal arrays to optimise the removal of CO₂ from biogas using amine scrubbing solutions

[A. Claramunt Ortega](#), Adrian Gonzalez, M. Nistor, M.K. De Kreuk, The Netherlands

Evaluation of biogas production in anaerobic sludge blanket reactors as from the codigestion of high rate algal ponds biomass

[L. V. Castro](#), C. C. Moreira, M. P. Freitas, A.F. Torres, F. Passos, C. R. Mota Filho, Brazil

Biomethane generation in an AnSBBR treating acidified cassava wastewater

K.U. Devens, A.P. Trevisan, T.U. Tonello, G. Biasotto, L.C.L. Rossi, J.R.F. Santos, E.B. Lied, [S. D. Gomes](#), Brazil

Techno-economic feasibility of fermentative hydrogen production from ethylene glycol at ambient temperature

[A. Elreedy](#), M. Fujii, A. Tawfik, Japan

Hydrogen enrichment as a bioaugmentation tool to alleviate ammonia inhibition on anaerobic digestion of phenol

B.T. Wu, C.H. He, Z.H. Hu, W. Wang, China

Biogas production and upgrading in a microalgae-based system treating agricultural runoff: a pilot-scale study

[D. Marín](#), R. Lebrero, R. Muñoz, R. Díez-Montero, J. García, I. Ferrer, Spain

Microaeration applied in UASB reactors treating domestic wastewater: investigation of the removal of dissolved gases and treatment of biogas

[R.M. Glória](#), C.L. de Souza, T.D. Marinho, C.A.L. Chernicharo, Brazil

Iron and nickel nanoparticles concentration for hydrogen production optimization with *Clostridium butyricum*

[A. G. L. Moura](#), C. A. B. S. Rabelo, E. L. Silva, M. B. A. Varesche, Brazil

Microbial consortia competition: a key factor affecting the biological methanation performance

E. Olaya, M. Figueroa, [A. Rodríguez-Abalde](#), Spain

Microalgae use as a photosynthetic biogas upgrading method

L. Pérez, M. Figueroa, N. Muñoz, A. Rodríguez-Abalde, Spain

Enzymatic saccharification of sugarcane bagasse for hydrogen production in dark fermentation

C.A.B.S. Rabelo, B. S. Dionizio, D.H.F. de Souza, M B.A. Varesche, Brazil

Optimized production of H₂ and ethanol by a novel strain *Thermanaerobacterium*

V. Silva, C.A.B.S. Rabelo, I.K. Sakamoto, E.L. Silva, M.B.A. Varesche, Brazil

PRODUCTION CONTINUOUS MULTIPLE TUBES REACTOR ATTRIBUTES IN CONTINUOUS HYDROGEN PRODUCTION

A.P. TREVISAN, E.B. LIED, K.U. DEVENS, T.U. TONELLO, G. BIASOTTO, L.C.L. ROSSI, J.R. FERNANDES, S.D. GOMES, Brazil

Increase in membrane performances for biogas upgrading

A. Bertrandias, S. Valentin, A. Trueba, S. Kulkarni, V. Grabié, France

Biogas production integrated to the concept of biorefinery for lignocellulosic biomass

M.P.C. Volpi, B.S. Moreas, B.V.M. Lima, D.H. Silva, G.P. Freitas, L.M.G. Souza, Brazil

Anaerobic Biocorrosion of metals: Turning a problem to opportunity for CO₂ utilization to products and biogas upgrading

I. Vyrides, C.G. Samanides, A. Kyprianou, G. Chrysanthou, M. Andronikou, Cyprus

Biogas production from palm oil mill effluent and its utilization in Thailand

W. Yoochatchaval, A. Prothirusmee, Thailand

Enrichment of sulfate reducing bacteria in anaerobic digestion system for a high rate desulfurization

T. Kim, Y. Yun, Republic of Korea

HYDROGEN PRODUCTION USING SUGARCANE VINASSE: pH EFFECTS ON DARK FERMENTATION

E.R. Lovatel, L.L. Beal, B. Pertile, A.P. Sausen, A.P. Torres, M.P. Souza

Evaluation of trace metals influence on methane production from domestic sewage using Plackett-Burman design

J.A. da Silva, A F.M. Braga, M. Zaiat, F.G. Feroso, G.H.R. Silva, Brazil

Biological methanation of hydrogen and carbon dioxide: long-term lab pilot experiments

Y. Rafrafi, V. Contreras, S. Palmade, V. Guerré, M. Spérandio, X. Lefebvre, C. Dumas, France

Kinetic analysis of the mechanism of inhibition by excess of substrate in the anaerobic digestion of OFMSW

H. Vélchez Pérez, S. González-Martínez, Mexico

Ex-situ biogas upgrading in continuous stirred tank reactor (CSTRs)

R. Wahid, D.G. Mulat, S.J. Horn, Norway

Acute effects of the reduction degree of graphene oxide on methane production

J.I. Bueno-López, F.J. Cervantes, J.R. Rangel-Mendez, Mexico

Does the inoculum matter for ex-situ biomethanation? Assessment of various microbiomes

W. Logrono, P. Kluge, H. Harms, S. Kleinstüber, M. Nikolausz, Germany

Anaerobic biotransformation of micro-pollutants

Sulfamethoxazole and Ciprofloxacin removal in anaerobic structured bed reactor: effect of substrate and hydraulic retention time

R.B. Carneiro, C.A. Sabatini, C. M. Mukaeda, A.J. Santos-Neto, M. Zaiat, Brazil

Effect of airflow rate on microaerobic emerging micropollutants removal

J.G.S. Nascimento, M.H.P. Araújo, M.E.R. da Silva, A. B. dos Santos, P.I.M. Firmino, Brazil

4-Nonylphenol removal in Anaerobic Fluidized Bed Reactor in up scale

H.S. Dornelles, E.L. Silva, M.B.A Varesche, Brazil

Inhibition of chlortetracycline on anaerobic digestion and its fate during anaerobic digestion of swine manure

C. Lee, J.Y. Kim, M. Ju, Republic of South Korea

Azithromycin removal from a high-strength wastewater in a lab-scale UASB reactor

M.D.P Martínez-Polanco, M.C Bustos-López, J.D Valderrama-Rincón, M.C Díaz -Báez, Colombia

Monitoring of metabolites production in anaerobic digestion by *C. acetobutylicum* and *C. beijerinckii* using a synthetic residue

J. Martins, G. Mockaitis, A.J. Silva, Brazil

Mass spectrometry analysis of by-products and intermediary metabolites from LAS under aerobic and anaerobic degradation

F. Motteran, M.B.A. Varesche, P. A. Lara-Martin, Brazil

Microbial diversity enhances azo dye decolorization in processes using intermittent aeration

J.M.S. Oliveira, I.K. Sakamoto, E. Foresti, Brazil

Effect of mercury on anaerobic digestion process

A.N. Rollinson, I. Kartalis, J. Beyer, Y. Ismawati, T. Radu, United Kingdom

INFLUENCE OF THE ANTIBIOTICS IN THE DEGRADATION PROCESSES OF THE ORGANIC MATTER IN AN EXPANDED GRANULAR SLUDGE BED REACTOR

D.C. Rodriguez, G.A. Peñuela, Colombia

EFFECT OF CARBAMAZEPINE AND DICLOFENAC ON THE BEHAVIOR OF AN ANAEROBIC REACTOR OF EXPANDED GRANULAR SLUDGE BED (EGSB)

E.S.Baquero, D.C. Rodriguez, G.A. Penuela, Colombia

Anaerobic and microaerobic benzene biodegradation: Effect of intermediates

J. P. S. Siqueira, A.M. Pereira, P.I.M. Firmino, A.B. dos Santos, Brazil

Biotransformation of Soluble Microbial Products (SMPs) in an Anaerobic Baffled Reactor (ABR)

Y.N.A. Soh, C. Kunacheva, R.D. Webster, D.C. Stuckey, Singapore

ANAEROBIC NAPHTHALENE MINERALIZATION COUPLED TO SULPHATE REDUCTION

A. Yadu, B.P. Sahariah, J. Anandkumar, India

Synchronous microbial vanadium (V) reduction and denitrification in groundwater using hydrogen as the sole electron donor

Y.F. Jiang, B.G. Zhang, China

Towards biological removal of volatile siloxanes in biogas by endogenous microbiota

A.E. Ortiz-Ardila, R. Labatut, Chile

Dissipation of PAHs, Nonylphenols and pharmaceuticals during anaerobic digestion of organic waste in urban, agricultural and territorial settings

N.Sertillanges, D.Patureau, S.Houot, C.S.Haudin, M.Bourdat-Deschamps, France

How continuous electrical stimulation affects the chloramphenicol-reducing biocathode resistome

M. Qi, B. Liang, A. Wang, China

Bio-electrochemical systems/ Micro fuel cells

Bioelectrochemical assisted Anaerobic Digestion of sewage sludge piloting under real operating conditions

M. Aliaguilla, D. Molognoni, P. Bosch-Jimenez, F. Andrés, S. García, M.S. Romero-Guiza, X. Tomàs, P. Icaran, V. Monsalvo, E. Borràs, Spain

Effect of the anolyte pH, catholyte concentration and anodic potential on H₂ production in MEC

R. Cardeña, G. Buitrón, Mexico

Phosphate migration in a dual chamber Microbial Electrolysis Cell: nutrient removal from digestates

M. Cerrillo, A. Austrich, L. Burgos, A. Bonmatí, Spain

Electricity production using new shade macrophytes in constructed wetlands-microbial fuel cells

O. Guadarrama-Pérez, K.Y. Bahena-Rabadanb, E. Baltazar Estrada-Arriagaa, Mexico

Evaluation of relationship between ATP concentration as anode microbial activity and process performance in MFCs

K. Kubota, T. Watanabe, Japan

A capacitive fluidised bioelectrochemical reactor for enhanced energy recovery

I.S. Michie, R.M. Dinsdale, A.J. Guwy, United Kingdom

Sustainable Wastewater Treatment Coupled to Energy Recovery with Microbial Electrochemical Technologies: The WE-MET Project

F. Aulenta, C. Cruz Viggì, C. Pastore, D. Montecchio, B. Erable, A. Bergel, M. Zeppilli, M. Villano, M. Majone, G. Lyberatos, I. Ntaikou, K. Papadopoulou, G. Antonopoulou, A. Tremouli, S. Da Silva, H. Chouchane, A.S. Masmoudi, A. Cherif, Greece

Independent and synergistic effects of magnetite addition and external voltage on anaerobic digestion of dairy effluent

G. Baek, J. Kim, C. Lee, Republic of Korea

Automatic control for hydrogen production in Microbial Electrolytic Cells

G. Rodríguez-Valenzuela, V. Alcaraz-González, R.A. Flores-Estrella, Mexico

Utilization of electric voltage for upgrading of methane production from phenol and supporting methanogenic granules

A. Mostafa, S. Im, S. Kim, D.-H. Kim, Republic of Korea

Microbial desalination cell operating with anoxic biocathode for carbon and nitrate removal, bioelectricity production and water desalination

S. Perazzoli, J.P. de Santana Neto, H.M. Soares, Brazil

Contribution analysis of electrochemical and bioelectrochemical methane production in a bioelectrochemical anaerobic digestion reactor

J.-G. Park, H.-J. Kwon, H.-B. Jun[†], Republic of Korea

Increase of Methylophilic Methanogens in Bulk Sludge of Bio-electrochemical Anaerobic Digestion

B. Lee, H.-B. Jun[†], Republic of Korea

Identification of Methanol Production in Cu Catalyzed Bio-electrochemical Anaerobic Digestion

H.-R. Park, H.-B. Jun[†], Republic of Korea

Power generation with a batch type Microbial Fuel Cell using a hydrogenotrophic methanogen as cathodic catalyst

M. Umetsu, Y. Fukuda, H. Takahashi, C. Tada, Japan

Evaluation of methane production in a bio-electrochemical anaerobic digestion reactor according to increased loading rate

W.-Q. Shi, H.-B. Jun[†], Republic of Korea

Environmental Management and policy

P-graph Based Waste Treatment Optimisation for Sustainable Recovery

Y.V. Fan, J.J. Klemeš, Czech Republic

Industrial symbiosis for biogas production, nutrient recirculation and reduced carbon footprint

F. Ometto, N. Svensson, A. Karlsson, X. Truong, C. Svedin, J. Ejlertsson, Sweden

Agricultural biogas plants as a part of decentralized renewable energy production in Finland

E. Winquist, P. Rikkonen, V. Varho, Finland

Methane emission from high-solid cattle manure during storage at various temperatures

S. Im, A. Mostafa, D.-H. Kim, Republic of Korea