

2nd International Conference on Pollution Prevention and Clean Technologies

December 1 & 2, 2022

HYBRID EVENT PLATFORM

Warsaw University of Technology
Warsaw, Poland



Conference Programme

Organised by



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**Local time in Poland
UTC+01:00**

Conference Schedule

9:00 AM	DAY 1	01.12.2022	Thursday	6:20 PM
9:00 AM	Registration of participants and welcome coffee			ground floor
10:00 AM	Opening ceremony			room 1.01
10:30 AM	Plenary session			room 1.01
12:10 PM	Poster session with coffee			ground floor
12:55 PM	Session 1: Circular Economy I			room 1.01
2:40 PM	LUNCH			ground floor
3:25 PM	Session 2: Resource Recovery			room 1.01
8:00 PM	Gala Dinner - Arche Hotel Puławska Residence			3:00 AM

8:15 AM	DAY 2	02.12.2022	Friday	6:20 PM
8:15 AM	Welcome coffee			ground floor
8:30 AM	Session 3: Bioenergy & Biofuels			room 1.01
11:00 AM	Coffee break			ground floor
11:20 PM	Session 4: Circular Economy II			room 1.01
1:35 PM	LUNCH			ground floor
2:20 PM	Session 5: Pollution prevention			room 1.01
3:50 PM	Coffee break			ground floor
4:05 PM	Session 6: Cleaner production technologies			room 1.01
5:50 PM	Closing ceremony			room 1.01

Conference Location

Centre for Innovation and Technology Transfer Management
of Warsaw University of Technology (CZiTT)
Rektorska 4, 00-614 Warsaw

Conference Programme

9:00 AM	DAY 1	01.12.2022	Thursday	6:20 PM
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9:00 AM Registration of participants and welcome coffee – ground floor

10:00 AM Opening ceremony – room 1.01

Moderators: Assoc. Prof. Dr. Monika Zubrowska-Sudol (Warsaw University of Technology, Poland) Dr. Grzegorz Piechota (GPCHEM, Poland)

Assoc. Prof. Dr. Anna Bogdan – Vice-Dean of The Faculty of Building Services, Hydro and Environmental Engineering, Warsaw University of Technology, Poland

Prof. Dr. Gopalakrishnan Kumar – University of Stavanger, Norway

Prof. Dr. Marian Kwietniewski – Council of Scientific Excellence, Poland

Bartosz Zaborski – Municipal Water Supply and Sewerage Company in the Capital City of Warsaw Joint Stock Company, Poland

Dr. Klara Ramm – European Federation of National Associations of Water Services

Dr. Rameshprabhu Ramraj– 4th i-ReSEAT–welcome message ([Online](#))

10:30 AM Plenary session – room 1.01

Chairs: Prof. Dr. Gopalakrishnan Kumar (University of Stavanger, Norway), Assoc. Prof. Dr. Monika Zubrowska-Sudol (Warsaw University of Technology, Poland)

10:30 AM **Plenary speaker :**

Prof. Dr. Jarosław Milewski (Warsaw University of Technology, Poland)

Energy in the face of contemporary threats, challenges and opportunities

11:00 AM **Keynote speaker:**

Prof. Dr. Jacek Dach (Poznań University of Life Sciences, Poland)

Co-generation, biomethane or biohydrogen: what is the best choice for biogas plants?

11:20 AM **Plenary speaker :**

Prof. Dr. Ashok Pandey (CSIR-Indian Institute of Toxicology Research, India)

Micropollutants fate and future perspectives

[online](#)

11:50 AM **Keynote speaker:**

Prof. Dr. Josef Marousek (Institute of Technology and Business in České Budějovice, Czech Republic)

Digestate valuation

12:10 PM Poster session with coffee – ground floor

12:55 PM Session 1: Circular Economy I – room 1.01

Chairs: Prof. Dr. Jacek Dach (Poznań University of Life Sciences, Poland)

Prof. Dr. Chyi-How Lay (Feng Chia University, Taiwan)

 12:55 PM **Paskalis Sahaya Murphin Kumar**, Hyoung-il Kim

*Highly graphitized potassium enriched porous bio-carbons derived from the seeds of Indian long pepper (*Piper nigrum*): A metal-free electro-catalyst for superior electrochemical H₂O₂ production*

online

 1:10 PM **Invited speaker:** Manali Anthoula, **Gikas Petros**
Energy production from microsieved solids at the wastewater treatment plant of Rethymno, Greece, through the gasification process

 1:25 PM **Szałkowska Karolina**, Żubrowska – Sudoł Monika

Opportunities for water reuse implementation in metropolitan area with a focus on public transport fleet cleaning

 1:40 PM Cimochowicz-Rybicka Małgorzata, **Górka Justyna**, **Poproch Dominika**
Application of water treatment sludge in the sewage sludge disposal process

 1:55 PM **Banach-Wiśniewska Anna**, Pieczykolan Marek, Bacza Tomasz, Gieleciak Zbigniew

Biohydrogen production from industrial waste and sewage sludge via dark fermentation process

 2:10 PM **Anna Hnydiuk-Stefan**, Jolanta Królczyk, Dominika Matuszek, Łukasz Biłos, Żaneta Grzywacz, Marta Bożym, Robert Junga

*Assessment of accumulation of pollutants from fly ash in *P. ostreatus* and a substrate based on coffee grounds by elemental analysis using the ICP-OES method and photometric method*

online

 2:25 PM **Stachurski Arkadiusz**, Delgorge Frank, Muszyński Adam

Water reuse from the wastewater: experiences and challenges of implementing a full-scale water reuse system in a food industry plant

2:40 PM LUNCH – ground floor

3:25 PM Session 2: Resource Recovery – room 1.01

Chairs: Prof. Dr. Josef Marousek (Institute of Technology and Business in České Budějovice, Czech Republic), Assoc. Prof. Dr. Małgorzata Wzorek (Opole University of Technology, Poland)

 3:25 PM **Invited speaker: Zielińska Magdalena**, Mikucka Wioleta, Witońska Izabela, Bułkowska Katarzyna, Binczarski Jacek

Valorization of distillery stillage: recovery of bioactive phenolic acids via synergistic use of waste-derived compounds

online

 3:40 PM **K.R. Jaya Sheeba**, A. Jagadeesh Kumar, S. Anne Kavitha, S. Shobana, J.

*Effect of Benzene carbonyl treatment on natural cellulosic fibers extracted from *Acacia pennata**

online

3:55 PM	Bojarski Wiktor , Czekała Wojciech, Dach Jacek <i>Production of compost from timber residues</i>	
4:10 PM	Invited speaker: Czekała Wojciech <i>Bioconversion of food waste into energy and feed ingredients</i>	
4:25 PM	Keane C Mason , Srinivasa R Popuri <i>Extraction of Nutrient and Chemical Compounds and Physico-Chemical Properties of Macroalgae Collected in Barbados Beaches</i>	online
4:40 PM	M. Abisha, A. Jagadeesh Kumar, S. Virgin Brindha, M. Vadivel, S. Arvindnarayan, S. Shobana, J. Dharmaraja, Moonyong Lee, R. Krishna Priya <i>Extraction and characterization of novel Butea parviflora fiber (BPF) for the reinforcement of green composite materials</i>	online
4:55 PM	Nowak Mateusz , Czekała Wojciech, Dach Jacek <i>Research on water recovery in agricultural biogas plants</i>	
5:10 PM	Invited speaker: Ashokkumar Veeramuthu <i>Natural astaxanthin production from algae and its residues for biochar synthesis</i>	online
5:25 PM	Chia-Min Chang , Jia-Rou Shen, Hsin-Hsuan Yu, Chiu-Yue Lin, Chyi-How Lay <i>Enhancing biomethane production from cattle manure using novel three-stage fermentation process</i>	
5:40 PM	Keynote speaker: Prof. Cigdem Eskicioglu (University of British Columbia, Canada) <i>Challenges and opportunities of resource recovery from hydrothermal liquefaction of municipal sludge</i>	online
6:00 PM	Keynote speaker: Prof. Sang-Hyoun Kim (Yonsei University, South Korea) <i>Continuous biohydrogen production from waste biomass</i>	online

8:00 PM

Gala Dinner - Arche Hotel Puławska Residence

Puławska 361 02-801 Warsaw



3:00 AM

Gala Dinner

8:00 PM 01.12.2022 Thursday / Friday 02.12.2022 3:00 PM



Gala Dinner location:

Arche Hotel Puławska Residence

Puławska 361

02-801 Warsaw

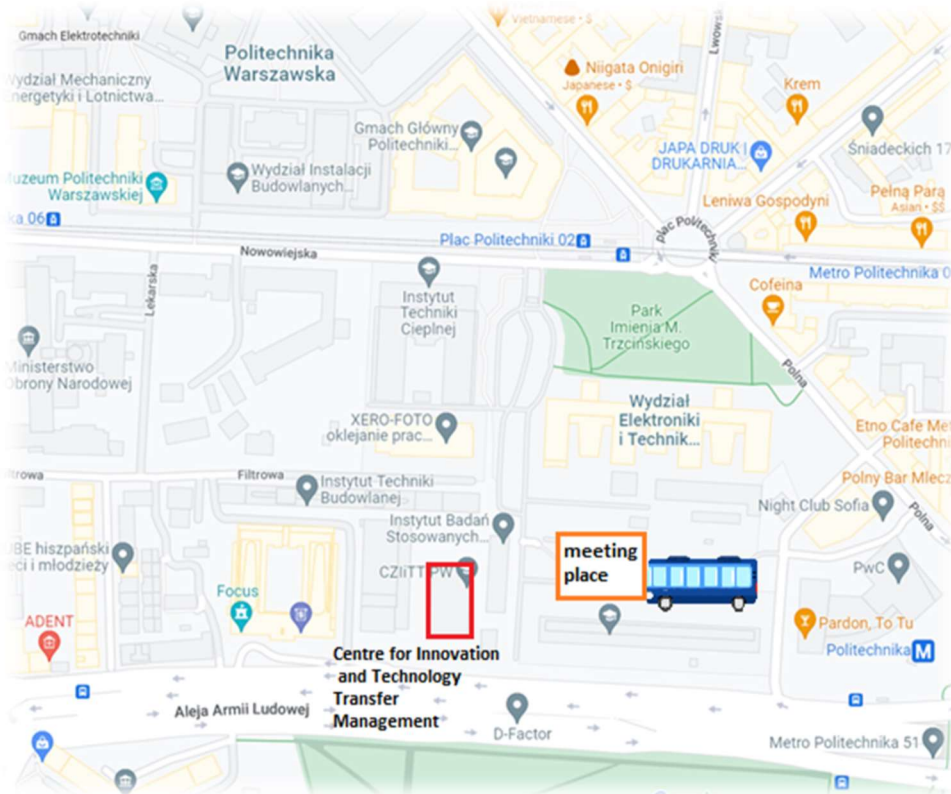


**PUŁAWSKA
RESIDENCE**

The coach will be provided by the conference organizers free of charge.
Pick-up and return will take place from and to the parking lot in front of the conference venue (CZIITT Building, Rektorska 4, see the map below)

- Pick-up time: ~ 7:30 PM
- Return time from Gala Dinner (1st round): ~ 12:00 AM
- Return time from Gala Dinner (2st round): ~ 3:00 AM

Meeting place:



8:15 AM	DAY 2	02.12.2022	Friday	6:20 PM
8:15 AM	Welcome coffee – ground floor			
8:30 AM	Session 3: Bioenergy & Biofuels – room 1.01 Chairs: Dr. Grzegorz Piechota (GPCHEM, Poland) Dr. Katarzyna Miszta-Kruk (Warsaw University of Technology, Poland)			
8:30 AM	Kanmani S.	<i>Biohydrogen production from domestic wastewater under dark fermentation using nanoparticles</i>		online
8:45 AM	Jayen Aris Kriswantoro , Chen-Yeon Chu	<i>Cocoa Pod Husk Pretreatment and Its Feasibility Assessment of Biohydrogen Production</i>		online
9:00 AM	Ponnambalam Sabarikirishwaran , Ming-Yan Shen, Rameshprabu Ramaraj, Hsuan-Chen Wu, Chen-Yeon Chu	<i>Influence of Food to Microbe (F/M) ratio, pH and substrate COD on Biomethane Production from e.coli fermenter effluent</i>		online
9:15 AM	Invited speaker: Rajesh Banu J , Kavitha S, Yukesh Kannah R, Irfana Barveen R, Gopalakrishnan Kumar	<i>An integrated biorefinery approach for repurposing of pretreated food waste for microalgae cultivation and biofuel production</i>		online
9:30 AM	Invited speaker: S. Kiran , M. Leenus Jesu Martin, Ankit Sonthalia, Edwin Geo Varuvel	<i>Effect of Octanol injection on the Performance of a Compression Ignition engine fueled with Waste Animal Fat</i>		
9:45 AM	Sukasem Natthanicha	<i>Exploring the potential of rice straw as biomass material for biofuel ethanol production and its impact evaluation on energy consumption, economic analysis and carbon footprint of Thailand</i>		online
10:00 AM	Jasiński Jan Tomasz , Jasiński Tomasz Jan, Czekala Wojciech	<i>Substrate and waste management of an agricultural biogas plant - polish case study</i>		
10:15 AM	Garlicka Agnieszka , Umiejewska Katarzyna, Nielsen Per Halkjær, Muszyński Adam	<i>Feasibility of generating clean energy through anaerobic co-digestion of thickened excess sludge and maize silage: effect of feedstock pre-treatment by hydrodynamic disintegration</i>		
10:30 AM	Aleksandra Łukomska , Marcin Pietrowski, Wojciech Czekala, Jacek Dach	<i>Traditional or peak biogas plants - choosing the optimal technology"</i>		
10:45 AM	Jose Antonio Magdalena , María Fernanda Pérez Bernal, Nicolas Bernet, Eric Trably	<i>Sequential dark fermentation and microbial electrolysis cells for bioenergy production</i>		online

11:00 AM	Coffee break – ground floor
11:20 AM	Session 4: Circular Economy II – room 1.01 Chairs: Prof. Dr. Edwin Geo Varuvel (SRM University, India), Assoc. Prof. Dr. Alina Kowalczyk Juško (University of Life Sciences in Lublin, Poland)
11:20 AM	Invited speaker: Kommedal Roald , Negari Mohammad Shamsaddini, Ydstebø Leif <i>Denitrification of recirculated aquaculture system effluents using fish sludge as primary substrate</i> online
11:35 AM	Obaid Bhat , Yuwalee Unpapromb, Mudasir Alid, Rameshprabu Ramaraja <i>Performance of light emitting diodes (LEDs) to enhance the biomass production of Spirulina</i> online
11:50 AM	Invited speaker: Sonaimuthu Mohandoss , Yong Rok Lee <i>Green Synthesis of Photoluminescent Carbon Dots from Cassia auriculate Flower Extract for Sequential Fe 3+ ions and Cysteine Sensing, Patterning, and Living Cell Imaging</i> online
12:05 PM	Bqk Joanna <i>The use of precipitation in the cities of the future – problems, barriers and challenges</i> online
12:20 PM	Joka Yildiz Magdalena , Asplin Sarah, Razeq Iram, Zgłobicka Izabela, Banks Scot <i>Production and characterization of activated carbons from buckwheat husks and their pellets</i>
12:35 PM	M. Abisha , A. Jagadeesh Kumar, S. Virgin Brindha, S. Shobana, J. Dharmaraja, S. Arvindnarayan, M. Vadivel, Moonyong Lee, R. Krishna Priya <i>Characterization of KMnO₄ treated Butea parviflora fiber(BPF) for polymeric matrix of the composite materials</i> online
12:50 PM	S. Anne Kavithaa , A. Jagadeesh Kumar, K.R. Jaya Sheebaa, J. Dharmarajac, S. Shobanad, S. Arvindnarayane, M. Vadivelf, Moonyong Leeg, R. Krishna Priyaa <i>Characteristics of raw and treated Zea Mays root fibres: the efficient reinforcement for polymeric composites</i> online
1:05 PM	Wasunan Pimphan , Maneewong Chutamas, Daengprok Wichittra, Thirabunyanon Mongkol <i>High peptide productivity and optimal hydrolysis conditions of earthworm (Amynthes arenulus) proteins using low molecular weight protease produced by Bacillus velezensis PM 35</i> online
1:20 PM	Malarski Maciej , Czajkowska Justyna, Wichowski Piotr <i>Heavy metals in fly ash as a factor limiting the use in fertilizing composts</i>
1:35 PM	LUNCH – ground floor

2:20 PM	Session 5: Pollution prevention – room 1.01 Chairs: Assoc. Prof. Dr. Wojciech Czekala (Poznan University of Life Sciences, Poland), Prof. Dr. Gopalakrishnan Kumar (University of Stavanger, Norway)
2:20 PM	Invited speaker: Alagarasan Jagadeesh Kumar , Moonyong Lee <i>Electro-oxidation of heavy metals contaminated water using banana waste- derived activated carbon and Fe₃O₄ nanocomposites</i> online
2:35 PM	Invited speaker: P. Senthil Kumar , M. Shanmugapriya, G. Prasannamedha <i>Immobilization of hydrothermally derived carbon in cellulose beads for the removal of emerging contaminants from water</i> online
2:50 PM	Invited speaker: Srinivasa R. Popuri , Lien-Chieh Lee, Ching-Hua Liao, Chi-En Hung <i>Application of Waste Biomass of Sargassum Loaded Chitosan Hybrid Sorbent for the Removal of Copper (II) and Nickel (II) Ions from Aqueous Solutions through Biosorption</i>
3:05 PM	Mańdok Tomasz, Pawlusińska Karolina, Szozda Natalia, Wujcicki Łukasz , Dudek Gabriela, Kluczka Joanna, Piotrowski Krzysztof <i>Study on the sorption removal of phosphorous using iron(II/III) oxide-modified chitosan hydrogel</i>
3:20 PM	Anita Parzentna-Gabor , Damian Kasperczyk, Krzysztof Barbusiński, Eldon R. Rene <i>Comparison of odor and VOC emission biopurification using Compact Trickle Bed Bioreactors (CTBB) working in two different wastewater treatment plants</i>
3:35 PM	Kyriakos Fotiadis , Penelope Baltzopoulou, George Karagiannakis, Vasileios Zaspalis <i>Diesel fuel deep adsorptive desulfurization at ambient conditions with the use of high surface area activated carbons</i>
3:50 PM	Coffee break – ground floor
4:05 PM	Session 6: Cleaner production technology – room 1.01 Chairs: Prof. Dr. Srinivasa Rao Popuri (The University of the West Indies, Barbados), Assoc. Prof. Dr. Katarzyna Umiejewska (Warsaw University of Technology, Poland)
4:05 PM	Velasco Jerald , Chang Chia-Lin <i>Consumer's willingness to pay for renewable energy: evidence from a double-bounded dichotomous choice survey in the Philippines</i> online
4:20 PM	M Jerome Stanley, M Leenus Jesu Martin, Edwin Geo Varuvel <i>Effect of Biogas Composition Variations on the Performance and Emission Characteristics and Cycle-to-Cycle Combustion variations of a Direct Injection SI Engine</i>
4:35 PM	Invited speaker: Magdalena Zabochnicka <i>Industrial wastewater treatment by simultaneous sorption using hydrogel beads materials toward circular economy</i>
4:50 PM	Sangsuwan Theerapan , Polvongsri Sarawut <i>Optimum Sizing of Solar air compressor in compressed air storage for Nile Tilapia production under Biofloc system</i> online

5:05 PM **Avadaiappa Pillai Pasupathy**
Investigation on heating and cooling capacity behaviour of phase change material coupled with screen mesh Wick heat pipe for thermal energy storage applications **online**

5:20 PM Jesu Godwin D, Leenus Jesu Martin M, **Edwin Geo Varuvel**
Analysis of si engine parameters for alcohol-gasoline dual-fuel blends using endoscopic imaging

5:35 PM **Janchoke Tanyarat**, Mongkon Sulaksana
Performance study of an evaporative cooling system combined with a chiller system for a strawberry greenhouse **online**

5:50 PM Closing ceremony – room 1.01
Award ceremony. Announcement of:
Best poster winner
Best presentation winner
Distinction awardees for posters
Distinction awardees for presentation in each session

Moderators: Assoc. Prof. Dr. Monika Zubrowska-Sudol (Warsaw University of Technology, Poland),
 Prof. Dr. Gopalakrishnan Kumar (University of Stavanger, Norway),
 Dr. Grzegorz Piechota (GPCHEM, Poland)

Poster Session

Posters presented onsite (available also online)

1. *Preliminary risk analysis of using reclaimed water for snow production*
Klara Ramm
2. *Graywater recovery in green wall systems* Matej-Łukowicz Karolina, Strycharz Joanna, Bobkowska Katarzyna, Wojciechowska Ewa
3. *Assessment of public awareness and knowledge about agricultural biogas plants* Lisiak-Zielińska Marta, Borowiak Klaudia, Budka Anna, Jałoszyńska Sylwia, Dach Jacek
4. *Perception of biogas plants – a case study for the agricultural landscape*
Lisiak-Zielińska Marta, Jałoszyńska Sylwia, Budka Anna, Borowiak Klaudia, Dach Jacek
5. *Management of food waste containing animal protein in the process of liming and aerobic composting* Anna Głowacka, Sławomira Bering, Bartosz Bogustawski, Krzysztof Tarnowski, Jacek Mazur
6. *Hydrothermal Carbonization of Wastes to Address Carbon Capture Challenge* Ansone-Bertina Linda, Klavins Maris, Arbidans Lauris
7. *Impact of wood ash and sewage sludge on elemental content in Hybrid Alder* Bertins Maris, Makovskis Kristaps, Lazdina Dagnija, Lazdins Andis, Klavins Maris, Viksna Arturs
8. *Investigation of physical and chemical properties of waste tire char produced via pyrolysis in an industrial auger reactor* Ewa Szatyłowicz, Magdalena Joka Yildiz, Izabela Zgłobicka, Guray Yildiz, Krzysztof J. Kurzydłowski
9. *Impact of torrefaction pre-treatment on combustion process of millet stalk*
E. Yilmaz, R. Junga, M. Wzorek
10. *The possibility of using common reed from constructed wetland wastewater treatment plants for energy purposes* Józwiakowski Krzysztof, Kowalczyk-Juśko Alina, Gizińska-Górna Magdalena, Listosz Agnieszka, Mazur Andrzej, Pochwatka Patrycja, Czekala Wojciech, Urban Danuta, Dach Jacek
11. *Pretreatment of herbal waste using sonication* Magdalena Lebiocka, Agnieszka Montusiewicz, Sylwia Pasieczna – Patkowska, Aleksandra Szaja
12. *How to increase the efficiency of dam reservoir hydropower plants in the face of climate change. The Jeziorsko hydropower plant case study*
Sojka Mariusz
13. *Enhanced biohydrogen production via extracellular electron transfer*
Yang Jisu, Sim Young-bo, Kim Saint Moon, Joo Hwan-Hong, Pandey Ashutosh Kumar, Ko Jeun, Lee Youngkyu, Kim Sang-Hyoun

14. *Microbiological activity in soil fertilized with fly ash from biofuel combustion*
Odzijewicz Joanna Irena, Wołejko Elżbieta
15. *Enhancing biomass degradation during low-thermal pre-treatment prior to anaerobic digestion* Anna-Remiszewska-Skwarek, Archana Kasinath, Hubert Byliński, Wojciech Artichowicz, Małgorzata Szopińska, Sylwia Fudal-Książek, Aneta Łuczkiwicz
16. *Effects of pH control on lactic acid production from food waste via anaerobic fermentation* Chia-Min Chang, Jia-Rou Shen, Hsin-Hsuan Yu, Chiu-Yue Lin, Chyi-How Lay
17. *Biohydrogen production from bamboo hydrolysates using heat-treated anaerobic sludge inoculum* Chyi-How Lay, Qiao Yi Chen, Chia-Min Chang
18. *Drinking water treatment sludge disposal – Cracow WTP case study* Dominika Poproch, Justyna Górka, Małgorzata Cimochowicz-Rybicka, Bartosz Łuszczek, Ewelina Chrapusta-Srebrny
19. *Impact of hydrodynamic disintegration of agricultural biowaste subjected to methane fermentation on the dewaterability of the digestate* K. Umiejewska, A. Garlicka, K. Sytek-Szmeichel, M. Zubrowska-Sudoł, J. Walczak
20. *Influence of the type of biomass on the efficiency of biogas plant operation* Pochwatka Patrycja, Kowalczyk-Juśko Alina, Dach Jacek
21. *The importance of bio-waste and by-products in biogas production in Poland* Kowalczyk-Juśko Alina, Viola Vambol, Angelika Banaś
22. *Possibility of enhancing methane production from sugar beet pulp using hydrodynamic disintegration process* K. Sytek-Szmeichel, A. Dzido, P. Krawczyk, M. Żubrowska-Sudoł
23. *Life Cycle Assessment of sewage sludge mono-digestion and co-digestion with organic fraction of municipal solid waste* Karolinczak Beata, Justyna Walczak, Monika Zubrowska-Sudoł
24. *Machine learning algorithm for the optimization of wastewater fermentation process* Pandey Ashutosh Kumar, Joo Hwan-Hong, Sim Young-bo, Kim Saint Moon, Yang Jisu, Ko Jeun, Lee Youngkyu, Kim Sang-Hyoun
25. *Combined sodium citrate and ultrasonic pretreatment of sludge for cost effective bioenergy recovery* Rajesh Banu J, Kavitha S, Yukesh Kannah R, Sindhu, Gopalakrishnan Kumar
26. *How to introduce the idea of circular economy in the wastewater treatment plant* Sytek-Szmeichel Katarzyna, Żubrowska-Sudoł Monika
27. *Fate of micro- and macro-elements in co-digestion of food industrial wastes and municipal sewage sludge* Szaja Aleksandra, Montusiewicz Agnieszka, Lebiocka Magdalena

28. *Sewage sludge disintegration mechanism in hydrodynamic disintegrator operated with various rotational speeds* Walczak Justyna, Dzido Aleksandra, Jankowska Honorata, Krawczyk Piotr, Żubrowska-Sudoł Monika
29. *Fast start-up of deammonification process in moving bed biofilm reactor (MBBR) by reducing oxygen concentration* Borowska Weronika, Nina Doscocz, Żubrowska-Sudoł Monika
30. *Effects of nanoparticles on activated sludge during wastewater treatment* Doscocz Nina, Affek Katarzyna, Załęska-Radziwiłł Monika
31. *Application of biopreparations for biodegradation of sewage sludge* Worwąg Małgorzata, Zawieja Iwona
32. *Changes in nitrification kinetics and microbial diversity in a moving bed sequencing batch biofilm reactor based on long term study* Zajac Olga, Zubrowska-Sudoł Monika, Godzieba Martyna, Ciesielski Sławomir
33. *Physical, chemical and biological methods supporting the process of biodegradation of sewage sludge* Zawieja Iwona, Worwąg Małgorzata
34. *Analysis of heavy metals concentration in sediments of the Vistula and Oder, two the biggest rivers in Poland* Jaskuła Joanna, Sojka Mariusz

Posters presented online

35. *Wastewater treatment in coke plants in the aspect of circular economy* Maria Włodarczyk-Makuła, Jolanta Kozak
36. *Hydrogen sulfide removal in biogas using Sulfide oxidizing unit* Kwon Yeelyung, Park Jungsu, Kim Gi-Beom, Jo Yura, Kim Sang-Hyoun
37. *Expired yeast biomass derived mesoporous biochar framework coupled with Cu/Mn doped Fe₂O₃-PANI nanoparticles and its performance of electro-catalytic degradation of PFAS contaminants* Ganesan Sivarasan, Ganesan Arulraj, Huang-Mu Lo
38. *Extraction, Spectral characterization and Physico-chemical analyses on alkali treated Nerium oleander derived natural cellulosic fiber composites* M. Esakkiammal, C. Cyril Antony, Jeyaprakash Dharmaraja, Sutha Shobana, Rusal Raj Francis, Retnam Krishna Priya, Sundaram Arvindnarayan, Manoharan Vadivel, Moonyong Lee
39. *Greener synthesis, Physico-chemical analyses and Structural characterization of CuO nano particles derived from Acalypha indica* M. Esakkiammal, K. Balaguru, Jeyaprakash Dharmaraja, Sutha Shobana, Rusal Raj Francis, Retnam Krishna Priya, Sundaram Arvindnarayan, Manoharan Vadivel, Moonyong Lee

40. *Synthesis and characterization of Alginate based hydrogel beads for controlled release of Urea* M. Vadivel, A. Jagadeesh Kumar, S. Shobana, R. Krishna Priya, S. Arvindnarayan, J. Dharmaraja, Moonyong Lee
41. *Characterization of polyhydroxyalanoate (PHA) copolymer from fermentation carboxylate using Pseudomonas putida* Rashmi Chandra, Tizazu H. Mekonnen, Hyung-Sool Lee
42. *Biomass-derived Photoluminescent Carbon Dots as a Sensitive and Selective Dual Detection of Cu²⁺ and Fe³⁺ ions Sensing, Bioimaging and Real Sample Analysis* Sonaimuthu Mohandoss, Yong Rok Lee
43. *Green Synthesis of Biomass-derived Photoluminescent Carbon Dots from Hibiscus Tea Powder for Multimetal ions Sensing and Bioimaging Application* Sonaimuthu Mohandoss, Yong Rok Lee
44. *Augmentation in biohydrogen production from waste activated sludge through sodium persulfate activated in alkaline condition mediated exopolymer release for subsequent bacterial disintegration* Preethi, Rajesh Banu, Gopalakrishnan Kumar, Gunasekaran M.
45. *Sustainability of macroalgal biomass for energy efficient and cost-effective biofuel production through a novel surfactant induced microwave pretreatment* Arulazhagan Pugazhendia, Rajesh Banu Jeyakumar, Bandar A. Al-Murd
46. *Biomass cultivation of Botryococcus braunii and characterization: A bio-refinery approach* Jeyaprakash Dharmaraja
47. *Physico-chemical analysis, engine performance and emission characteristics of Chlorella protothecoides derived biodiesel using heterogeneous NiLB chelate promotor* Jeyaprakash Dharmaraja, Sutha Shobana, Sundaram Arvindnarayan, Rusal Raj Francis, Murugesan Balamurugan, Retnam Krishna Priya, Manoharan Vadivel
48. *Design, analysis, fabrication and testing of dual rotor wind turbine: A Comparative Study* Joel Varughese Kalarickal, Jeyaprakash Dharmaraja, Sutha Shobana, Sundaram Arvindnarayan, Mohan Sekar
49. *Financial Feasibility of Biochar Production from Agricultural Waste to Circular Economy* Keela Mathurada, Taechawatchananont Nopmallee, Liao Shu-Yi, Hsieh Chi-Ming, Thongma Chanakan
50. *Oxygen-Enriched Carbon Quantum Dots derived from Spent Coffee Grounds: A highly Active Metal-free Photocatalyst for Efficient Solar-to-Hydrogen Peroxide Conversion* Paskalis Sahaya Murphin Kumar, Do-Yeon Lee, Hyoung-il Kim

51. *Biochar is a good idea for SDGs! Using TOC and FAO-CSA to develop the circular economy business model for practicing Net Zero by converting the agriculture waste into biochar action* Hsu Shun-Fa, Lee Yi-In, Tsai Shih-Chieh, Chen Chao-Hao, Nopmallee Taechawatchananont
52. *Amelioration in biogas production efficiency of waste activated sludge by calcium peroxide induced microwave disintegration* Arulazhagan Pugazhend, Rajesh Banu Jeyakumar
53. *The compost biochar as a new sorbent for gas mitigation from composting* Stegenta-Dąbrowska Sylwia
54. *Performance and Emission characteristics of Rice bran oil-diesel blends* Sundram Arvindnarayan, Sutha Shobana
55. *Investigation of latent heat thermal energy storage in phase change material: Thermal energy storage application* Avadaiappa Pillai Pasupathy
56. *Rapid Analytical Methodology for Biomonitoring of Cooking Oil Fume's based Volatile organic aldehydes in Lung Tissue Samples using Semi-automated micro-QuEChERS method coupled with LC-MS/MS technique* Gurrani Swapnil, Prakasham Karthikeyan, Ming-Tsang Wu, Chia-Fang Wu, Po-Chin Huang, Yu-Jia Lin, Vinoth Kumar Ponnusamy
57. *A Novel Greener Fast Extraction Technique for Monitoring of Nicotine in Urban water and biological samples by GC-FID Analysis* Gurrani Swapnil, Prakasham Karthikeyan, Ming-Tsang Wu, Chia-Fang Wu, Po-Chin Huang, Yu-Jia Lin, Vinoth Kumar Ponnusamy
58. *Biomonitoring of acrylamide and its metabolites from human urine using a novel In-syringe-based solid phase extraction technique coupled with UHPLC-MS/MS* Prakasham Karthikeyan, Ming-Tsang Wu, Chia-Fang Wu, Po-Chin Huang, Yu-Jia Lin, Vinoth Kumar Ponnusamy
59. *Rapid Identification and Analysis of Ochratoxin-A in Food and Agricultural Soil Samples using a Novel Semi-Automated In-Syringe Based Fast Mycotoxin Extraction Technique Coupled with UHPLC-MS/MS* Prakasham Karthikeyan, Ming-Tsang Wu, Chia-Fang Wu, Po-Chin Huang, Yu-Jia Lin, Vinoth Kumar Ponnusamy
60. *Mesoporous Silica-Biogenic Carbon dot Nanospheres for Aqueous Methoxy-DDT Removal Using a Short-Bed-Adsorption Column Chromatography* Manayil Parambil Ajith, Rajamani Paulraj, Ching-Hua Liao, Vinoth Kumar Ponnusamy
61. *Nanoceramics: Fabrication, Properties and its Applications Towards the Energy Sector* Uday Shashikumar, Thusnisha J. George, Cheng-Te Huang, Prakasham Karthikeyan, Vinoth Kumar Ponnusamy, Siew Ling Lee

62. *Large scale production of lipids and exopolysaccharides from Botryococcus braunii: and its potential applications in biofuel, pharmaceutical, nutraceutical industries* Ashokkumar Veeramuthu , Gangavarapu Jyothi , Gayathri Vanapalli , Elanchezian S , Kasthuri AM , Valluru Sri Akhila , Pooja Karuppaswamy , Agila Elango
63. *Tiger Grass Utilization in the Production of Bioethanol from Fermentable Sugar Following Pretreatment and Hydrolysis Methods* Manmai Numchok, Unpaprom Yuwalee, Ramaraj Rameshprabu
64. *Characterization of Split gill mushroom chemical feature, prebiotic property of Schizophyllan extract simulating probiotic bacteria* Nuttapong seatang Ramaraj Rameshprabu, Ruankaew praphuret, Unpaprom Yuwalee,
65. *Effect of salt stress on Vegetable Cultivation with high Antioxidant activity* Waritapat Chaiworn, Rawisara Saikon, Piya Chai, Waranghana Khaodee
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