

10th International Conference on Engineering

for Waste and Biomass Valorisation

August 20-23, 2024 IN-PERSON PARTICIPATION ONLY Sendai, Japan

Online programme Updated on July 25, 2024

Organising Committee Board

Prof Ange Nzihou

WasteEng Conference Series Founder and WasteEng2024 Conference Chair

> Dr Francisco Javier Escudero Sanz Dr Elsa Weiss-Hortala

Local Organising Committee

Prof Junya Kano Prof Toshiaki Yoshioka

WasteEng2024 Conference co-Chairs

Prof Takaaki Tomai



Posters

17	Slow pyrolysis of date palm fruit wastes for bio-oil production
	James TITILOYE, Saham IBARHIAM
	Presented by TITILOYE James
	Phosphorus recovery from the end-products of the anaerobic digestion of municipal
18	solid waste
	Veronica OLIVEIRA, Celia DIAS-FERREIRA, João LABRINCHA, Carmo HORTA
	Presented by DIAS-FERREIRA Celia
19	Exploring the potential of recycling waste glass from photovoltaic modules for
	pavement concrete applications
	Ayesha SIDDIKA, Ailar HAJIMOHAMMADI
	Presented by HAJIMOHAMMADI Ailar
44	Environmental benefits of recycling inorganic industrial waste in cement
	manufacturing using lite cycle assessment approach
	Chihchi HUANG, Ya-Chen YEH, Yi-Chieh LAI, Mengshan LEE
	Presented by HUANG Chihchi Development of economically viable waste tyre pyrolysis technologies to yield liquid
	fractions that meet commercial fuel standards
57	Matimu KHOSA, Cara SCHWARZ, Johann GORGENS, Marisana MASHA
	Presented by GORGENS Johann
	Techno and social assessment of a macroalgae biorefinery in the Baltic Sea region
	Riccardo PAOLI, Francesco ROMAGNOLI, Ana ARIAS CALVO, Eduardo ENTRENA-BARBERO, Maria
73	Teresa MOREIRA, Tanel ILMJÄRV, Kjetil ELVEVOLD
	Presented by PAOLI Riccardo
	Influence of different agricultural wastes on the setting time of Portland cement
	pastes using impedance spectroscopy
83	Marcelo BORTOLETTO, Alex Otávio SANCHES, José Antonio MALMONGE, Mauro Mitsuuchi TASHIMA,
	Jorge Luis AKASAKI
	Presented by AKASAKI Jorge Luis
0.4	Gas-liquid mass transfer in trickle bed reactor and in continuous stirred tank reactor
84	Sambit DUTTA, Marianna KRIKELI, Hariklia GAVALA, Ioannis SKIADAS
	Presented by DUTTA Sambit
	CO ₂ adsorption by steam-activated biochars from husk biomass: the impact of particle
0.0	size
98	Ángel ALCÁZAR RUIZ, Alba VILLARDON PEREZ, Fernando DORADO FERNANDEZ, Luz SANCHEZ SILVA, Roberto CAMPANA
	Presented by SANCHEZ SILVA Maria Luz
	Developing a sustainable NaOH composition for hydrothermal synthesis of a novel
	waste-derived hydroxy sodalite catalyst
101	Thomas ANIOKETE, Gordian MBAH, Vincent ANIAKU, Michael DARAMOLA
	Presented by
114	
	Enhanced hydrogen production from starch potato waste biomass by thermophilic
	Parageobacillus thermoglucosidasius using nanoparticles
	Mamata SINGHVI, Beom Soo KIM
	Presented by KIM Beom Soo



stern	
122	Investigations on Y doped porous Ca based sorbent derived from waste eggshell for CO ₂ cyclic adsorption Chong TIAN, Shenduo KUANG, Kangle SI, Shengyan LIU, Ao WANG
	Presented by TIAN Chong
131	Anaerobic co-digestion of slaughterhouse sludge and effluent for methane production Sillero LEONOR, Fernandez-Rodriguez JUANA, Solera ROSARIO, Perez MONTSERRAT <i>Presented by</i> MONTSERRAT Perez
139	Direct reutilization of spent graphite recovered from spent lithium batteries as catalyst to remove organic pollutants
	Yanhui KONG, Yutaro TAKAYA, Mauricio CORDOVA-UDAETA, Chiharu TOKORO Presented by KONG Yanhui
	Separation of chicken manure and rice husk induced by moisture in poultry waste and its energy potential
144	Bedlam SERVIENTO, Michael LORETERO Presented by SERVIENTO Bedlam
	Characterization of the thermo-physical properties of refuse-derived fuels from face
145	masks Elaiza Jane SUBERE, Michael LORETERO Presented by SUBERE Elaiza Jane
	Utilising a biochar-based wastewater treatment for the removal of chemical
152	contaminants Alexandra RICHARDSON, Paul-Enguerrand FADY, Leon BARRON, Meredith BARR <i>Presented by</i>
	Chemically modified cellulose for efficient recovery of gold
155	Keisuke NAKAKUBO, Syunsuke TAKA, Kuohong WONG, Asami MASHIO, Tsuyoshi TANIGUCHI, Tatsuya NISHIMURA, Katsuhiro MAEDA, Hiroshi HASEGAWA <i>Presented by</i> NAKAKUBO Keisuke
	The potentials of energy recovery from MSW in Taiwan and Germany
159	Jou-Ying WU, Chaoheng TSENG
	Presented by WU Jou-Ying Mathematical optimization of green hydrogen yield from the slaughterhouse waste
167	codigestion
	Fernandez-Rodriguez JUANA, Sillero LEONOR, Perez MONTSERRAT, Solera ROSARIO Presented by MONTSERRAT Perez
	Research on recovery of useful metals from automotive substrates
168	Kouki TSURUMI, Mitsumasa KIMATA
	Presented by KIMATA Mitsumasa
180	An integrated approach to the recovery of high-purity graphite from steelmaking dust
	Ping-Yu HSIEH, Ying-Liang CHEN, Yao-Kuan HUANG, Hsin-Fu YEH, Yi-Chieh LAI Presented by CHEN Ying-Liang
	Acid-functionalized activated carbon derived from oil palm waste for the conversion
189	of xylose to high value compounds
.00	Angie BOLAÑOS Angie, Gustavo ESCOBAR, Diana LÓPEZ Presented by

Presented by



	-
	3-acetamido-5-acetylfuran production from N-acetylglucosamine with Al-exchanged
195	montmorillonite
100	Kiyoyuki YAMAZAKI, Norihito HIYOSHI, Aritomo YAMAGUCHI
	Presented by YAMAZAKI Kiyoyuki
	Pyrolysis of argan shells for the production of activated carbon
210	Zainab AFAILAL, Noemí GIL-LALAGUNA, Robert MACÍAS, Jose Luis SANCHEZ, Alberto GONZALO, Jesús
2.0	ARAUZO
	Presented by SANCHEZ Jose Luis
	Electrochemical anaerobic fluidized bed ceramic membrane bioreactor for bioenergy
218	recovery from greywater
	Minseok KIM, Minyeong LEE, Jeonghwan KIM
	Presented by KIM Minseok
	Evaluation of the chemical composition of food residues – impacts in bioprocesses
237	Íthalo BARBOSA SILVA DE ABREU, Jéssica SILVA SANTOS, Vitor GUILHERME CECILIO DE SALES, Elias
	GABRIEL MAGALHÃES SILVA, Everardo VALADARES DE SA BARRETTO SAMPA, Emmanuel DAMILANO
	DUTRA Presented by DUTRA Emmanuel
	Chemical looping combustion of pyrolysis gases and vapors in a fixed bed reactor
	Javier ABREGO, César GRACIA, José Luis SANCHEZ, Alberto GONZALO, Erika Michela DEMATTEIS,
239	Mahnoor NAFEES
	Presented by ABREGO Javier
	Production of derivatives from wheat straw and argan nutshell as reinforcement
	material for paper
242	Zainab AFAILAL, Noemí GIL-LALAGUNA, Alberto GONZALO, Javier ABREGO, José Luis SÁNCHEZ, Iciar
	SERRANO, Pablo GONZÁLEZ, Cristina CRESPO
	Presented by GONZALO Alberto
	Sisal waste pretreatment and semi-simultaneous saccharification for ethanol
	production
249	Habila Yusuf THOMAS, Carlos EDUARDO DE ARAUJO PADILHA, Emmanuel DAMILANO DUTRA,
	Everaldo De Sá BARRETO SAMPAIO, Rafael BARROS DE SOUZA
	Presented by SAMPAIO Everardo
	Sustainable and functional biofilms using blends of protein-isolates from grass pea
	and sunflower by-products: bacterial cellulose nanostructures as effective reinforcing
261	agent
	Antiopi VARDAXI, Aristeidis PAPAGIANNOPOULOS, Stergios PISPAS, Georgios MOUSDIS, Erminta
	TSOUKO
	Presented by TSOUKO Erminta
	Dynamic surface leaching behaviour of blast furnace slag binders
267	Ivan SALAS, Eva CIFRIAN, Ana FERNANDEZ-JIMENEZ, Angel PALOMO, Ana ANDRES
	Presented by ANDRES PAYÁN Ana
270	Sustainable materials from industrial and agricultural wastes: pH-dependence
	leaching behaviour
	Eva CIFRIAN, Ivan SALAS, Manuel DE PEDRO, Ana ANDRES
	Presented by ANDRES PAYÁN Ana



309	Simulation of gasification of lignocellulosic biomass waste: study of the effects of moisture, equivalence ratio and oxygen injection Elias Gabriel MAGALHÃES SILVA, Rodrigo SEQUINEL, Rômulo SIMÕES CEZAR MENEZES, Emmanuel DAMILANO DUTRA, Íthalo BARBOSA SILVA DE ABREU, Wallysson KLAUS PIRES DE BARROS <i>Presented by</i> DUTRA Emmanuel Study of the pyrolysis of Ayous and Kambala co-products: kinetic modelling of the two
353	species Mamoun Clévie ABONI AKODZI, Yann ROGAUME, Pierre GIRODS Presented by
376	Optimization of solid fuel production through co-hydrothermal carbonization of polyvinyl chloride and Pontederia crassipes-A waste valorization study Michael COMMEH Presented by COMMEH Michael
378	Ozonation catalyzed by hydrochar derived from sewage sludge for micropollutants removal Nieto-Sandoval JULIA, Cavalcante RODRIGO, Bayarri BERNARDÍ, Malvestiti JACQUELINE, Dantas RENATO, Sans CARMEN
379	Presented by JULIA Nieto-Sandoval Optimizing biochar synthesis for micropollutant removal: insights from a design of experiments study with vine shoots Bernardi BAYARRI FERRER, Pere LLOPART, Carmen SANS
380	Presented by BAYARRI FERRER Bernardi Enhanced adsorption performance of modified sludge biochar for micropollutant removal: activation, kinetics, and regeneration studies Bernardi BAYARRI FERRER, Sun ZHENGYI, Julia NIETO-SANDOVAL, Carmen SANS
381	Presented by BAYARRI FERRER Bernardi Evaluation of the use of coal fly ash modified graphite-polyurethane composite electrodes for the determination of Pb(II) in ethanol fuel Caio DE BARROS, Priscilla CERVINI, Liezel VAN DER MERWE, Éder CAVALHEIRO Presented by VAN DER MERWE Liezel
392	Fire retardants for wood construction products: a sustainability assessment through life cycle assessment Francesco ROMAGNOLI, Nidhiben Arvindbhai PATEL, Riccardo PAOLI, Maksims FEOFILOVS Presented by PAOLI Riccardo
393	Framework for evaluation of peat extraction site restoration strategies: the background supporting tool Francesco ROMAGNOLI, Agris KAMENDERES, Nidhiben Arvindbhai PATEL, Baiba IEVINA, Riccardo PAOLI, Maksims FEOFILOVS
403	Presented by Thermal pretreatment and structural analysis of lignocellulosic biomass for enzymatic hydrolysis to PLA production Tianyi GUO, Nils TIPPKOETTER Presented by GUO Tianyi
404	Microwave pyrolysis for recycling of railway waste wood sleeper Taehoon KOH, Hanju YOO Presented by