Scientific Program

Monday
September 23, 2024

2nd International Conference on

Cleaner Production and Circular Economy
&
Energy Engineering and Resource Efficiency

Day 1 - September 23, 2024	
Meeting Hall: Prague East	
08:00 - 08:45	Registrations
08:45 - 09:00	Opening Ceremony and Introduction
Keynote Presentations	
09:00 - 09:40	Stormwater Modeling: Recent Progress and Challenges
	Erik R Christensen, University of Wisconsin-Milwaukee, USA
09:40 - 10:20	Cleaner Production and Circular Economy: Paradigm Shifts and New Directions
	K Sandy Kyaw, Cardiff Metropolitan University, UK
Networking & Refreshments 10:20 - 10:40 @ Bridge	
10:40 - 11:20	Strategic Future Thinking: Leveraging Technology for Sustainable Practices in the Circular Economy
	Xukai Fu and William Meng, Beijing Jinkai New Energy Environmental Technology Co., Ltd., China
Oral Presentations	
Session Chair	**Xukai Fu,** Beijing Jinkai New Energy Environmental Technology Co., Ltd., China
Session Chair	**K Sandy Kyaw,** Cardiff Metropolitan University, UK
Sessions:	Circular Economy | Circular Bio-economy | Life Cycle Assessment | De-carbonization/ Low- Carbon Economy and Net Zero | Environmental Sustainability and Climate Change | Resource Efficiency and Value Chain | Renewable Energy
11:20 - 11:45	How Small Projects Shed Light on the Big Picture: Rural Biogas Projects Vs Global Environmental Degradation A Common Denominator
	Jón Gudmundsson, Agricultural University of Iceland, Iceland
11:45 - 12:10	Development of a Methodological Framework for Circular Economy Business Model Valorization
	Natalija Cudecka-Purina, BA School of Business and Finance, Latvia
12:10 - 12:35	Towards a Circular Economy for Bikes: AI-based Damage Detection for Repair Planning
	Tobias Geger, Institute for Software and Systems Engineering, University of Technology Clausthal, Germany
12:35 - 13:00	The Circular Economy – Comparative Study of Different Countries on the Spectrum - Germany, Netherlands, and France, on One Side, and Romania and Poland, on the Side
	TUDOROIU, Simina Claudia and TUDOROIU, Roxana Elena, University of Petrosani, Romania
Group Photo:13:00 - 13:15	
Lunch 13:15 - 14:00 @ Berlin	
14:00 - 14:25	Enabling a Circular Economy of Medicines with a Smart Packaging Environmental Sensor
	James Gerrans, University of Reading, UK

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14:25 - 14:50	Circularity Assessment by Hierarchy of Disassembly: An Application of Circularity Indicators as a Design Tool for Architecture
	Francesco Incelli and Massimo Rossetti, Iuav University of Venice, Italy
14:50 - 15:15	Can it be Determined? On how to Rate Refurbishment Expenditure of Power Tool Batteries with the Help of Artificial Intelligence
	Dominique Fabio Briechle, Institute for Software and Systems Engineering, University of Technology Clausthal, Germany
15:15 - 15:40	Cogeneration Unit with a Pulse Detonation Engine
	Jirí Rusín, Technical University of Ostrava, Czech Republic
15:40 - 16:05	Identification of R. Erythropolis Bioadsorption Process and Cesium Accumulation Location
	Woong Kim, Kyungpook National University, South Korea
	Networking & Refreshments 16:05 - 16:25 @ Bridge
16:25 - 16:50	Testing Experience with GIT as a More Sustainable Solution
	Necmettin Mert Kocanali, Balikesir Elektromekanik Sanayi Tesisleri AS, Turkey
16:50 - 17:15	Does the Circular Economy Provide Solutions to the Challenges of Public Transport Electrification? Insights from the CE4CE Project
	Marcin Wolek, University of Gdansk, Poland
	Poster Presentations @ 17:15 - 18:00
Poster Judge	**James Gerrans, University of Reading, UK**
Poster Judge	**Xukai Fu, Beijing Jinkai New Energy Environmental Technology Co., Ltd., China**
POSTER 01	The Northern Netherlands: Transformation of a Gas-Producing Region into a Forerunner in the Biobased Circular Transition
	Johanna Angela Thomann, Hanze University of Applied Science, The Netherlands
POSTER 02	Methane Production from the Pyrolysis-Methanation of Waste Polyethylene Terephthalate Plastic
	Maram Alotaibi, University of Leeds, UK
POSTER 03	Pyrolysis of Waste Plastics and Tires for Liquid Fuels and Chemicals
	Noof Alzahrani, University of Leeds, UK
POSTER 04	Application of Ligninolytic Enzyme Producing Bacteria for Enhanced Bioconversion of Lanzhou Lily Biomass into Bioethanol
	Kamran Malik, Lanzhou University; China
POSTER 05	Grapes Pomace and Potatoes Residues Potential of Bioethanol Production: Pre-Treatment Approach for Maximizing Bioethanol
	Shah Mudassar, Lanzhou University, China
POSTER 06	Facing up to the Non-Circularity of Plastics: Policies for Plastics that Address Human Health and Environmental Safety Concern
	Shambulova Malika, HafenCity University Hamburg, Germany
	Day 1 Concludes followed by Certificate Felicitation

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Day 2 - September 24, 2024	
Meeting Hall: Prague East	
Keynote Presentations	
09:00 - 09:40	Global Population: From Super-Malthus Behavior to Doomsday Criticality **Aleksandra Drozd-Rzoska, Institute of High Pressure Physics Polish Academy of Sciences, Poland** **Agata Angelika Sojecka, University of Economics in Katowice, Poland**
09:40 - 10:20	Sustainable Options for the End-Of-Life of Clean Energy Technologies **Anna Mazzi, University of Padova, Italy**
Networking & Refreshments 10:20 - 10:40 Bridge	
Oral Presentations	
Session Chair	**Xukai Fu, Beijing Jinkai New Energy Environmental Technology Co., Ltd., China**
Session Chair	**Jón Gudmundsson, Agricultural University of Iceland, Iceland**
Sessions:	Cleaner Energy Systems | Circular Economy | Sustainable Development and Sustainable Technology | Cleaner Production Economics | Cleaner Logistics and Supply Chain | Renewable Energy | Advanced Energy Systems | Cleaner and Responsible Consumption
10:40 - 11:05	Solar Harvesting via Multiple Transparent Photothermal Panels for Building Heating Utilities **Donglu Shi, University of Cincinnati, USA**
11:05 - 11:30	Circular Economy in the Construction Sector. An Explorative Study about the Recycling of Single-Use Masks based on a Customer Survey and Business Expert Interviews **Daniela Ludin and Erika Mueller, Department of Economics, Heilbronn University, Germany**
11:30 - 11:55	Circular Economy and Entrepreneurship in Europe: An Analysis of the Impact of Cultural Factors and Regulatory Framework **Francisco J Sáez-Martínez and Angela Gonzalez-Moreno, University of Castilla-La Mancha, Spain**
11:55 - 12:20	Sustainability Awareness among Customers in the Service Sector. An Explorative Study Based on a Survey at a German Hair Salon **Daniela Ludin and Erika Mueller, Department of Economics, Heilbronn University, Germany**
12:20 - 12:45	Improving Areas with a Circular Economy Approach for Plastic from the Target Environment. A Case Study **Marius Köder, Aalen University of Applied Science, Germany**
12:45 - 13:10	The Cycle of Zero Fossil Methane **Suaad S Al-Zakwani, University of Birmingham, UK**
Lunch 13:10 - 14:00 @ Berlin	

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14:00 - 14:25	Enhancing the Use of Reclaimed Building Materials: Supply Chain Actors' Attitudes Toward the Potential of a Mobile Application
	Aleksandra Dorota Kret-Grzeskowiak, Wrocław University of Science and Technology, Poland
14:25 - 14:50	Optimizing the Reverse Supply Chain for Deconstructed Modular Building Components
	Hosna Ghorab, Concordia University, Concordia Institute for Information Systems Engineering, Canada
14:50 - 15:15	Biodiesel Production Processes with Yeasts from a Sustainable Approach
	Alejandra Sánchez Solís, Universidad Iberoamericana, Mexico
15:15 - 15:40	Harnessing Energy from Descending Greywater in Tall Buildings
	Gideon Oron, Ben-Gurion University of the Negev, Israel
15:40 - 16:05	Reverse Logistics of Post-Consumer Glass Bottle in Brazil: A Case Study from the Perspective of the Street Collectors and the End Consumer
	Alaercio Nicoletti Junior, Production Engineering Department, Mackenzie Presbyterian University, Brazil
Networking & Refreshments 16:05 - 16:25 @ Bridge	
16:25 - 16:50	Development of Viable Hop Planting in Brazil - A Case Study
	Alaercio Nicoletti Junior, Production Engineering Department, Mackenzie Presbyterian University, Brazil
16:50 - 17:15	The Challenge of Reverse Logistics for Post-Consumer Glass Packaging in Brazil
	Alaercio Nicoletti Junior, Production Engineering Department, Mackenzie Presbyterian University, Brazil
17:15 - 17:40	The Use of Fine Pellet Grains and Sponge Iron Sludge to Produce Oxide Briquettes Based on Circular Economy
	Reza Bahaadini, Reza Rouholamini and Samad Abbaslou, Golgohar Iron and Steel Development Company, Iran
17:40 - 18:05	Understanding Dairy Livestock Farmers' Intention to Adopt Sociocultural Dynamics for Food Security using the Theory of Planned Behaviour
	Paresh Kumar Sarma, Bangladesh Agricultural University, Bangladesh
18:05 - 18:30	Optimizing DO Concentration in Conventional Activated Sludge Process to Alleviate Energy Consumption: Application of Particle Swarm Optimization algorithm
	Mpho Muloiwa, Tshwane University of technology, South Africa

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Day 3 - September 25, 2024	
Oral Presentations	
Session Chair	**Erik R Christensen, University of Wisconsin-Milwaukee, USA**
Sessions:	Cleaner Production and Advanced Manufacturing | Circular Economy | Green Technologies and Green Development | Resource Efficiency and Value Chain | Environmental Sustainability and Climate Change | Renewable Energy
09:00 - 09:25	Machine Learning as A Modeling Tool for Energy Consumption Planning Entity According to Product Characteristics for the Die-Casting Industry: Case Study
	Mariel Alfaro-Ponce and Cristopher A Muñoz-Ibañez, Institute of Advanced Materials for Sustainable Manufacturing, Tecnologico de Monterrey, Mexico
09:25 - 09:50	Development of a Green Process to Recover Gold, Silver, and Copper from Electronic Waste in Ecuador
	Alejandra Galarza, Extractive Metallurgy Department, Escuela Politécnica Nacional, Ecuador
09:50 - 10:15	Rejected Stream from Recycling of Multi-Layered Packaging Waste: Characterization, Opportunities for Circularity and Environmental Impacts Review
	Carolina Bedoya Muñoz, Universidad Nacional de Colombia, Colombia
Networking & Refreshments 10:15 - 10:35 @ Bridge	
10:35 - 11:00	Systems Based Assessment of Livelihood Vulnerability and Adaptation Strategies to Climate Change: Rajanpur District Pakistan
	Muhammad Afzal, University of Southern Queensland, Australia
11:00 - 11:25	An Experiment Investigating the Potential of Utilizing a Phase Change Material to Enhance the Electrical Efficiency of a Solar Panel
	Mohamed Bouzelmad, Ibn Zohr University, Morocco
11:25 - 11:50	Carbon Pricing in Germany's Road Transport and Housing Sector: Options for Reimbursing Carbon Revenues
	Manuel Frondel, RWI Leibniz-Institut für Wirtschaftsforschung, Germany
E-Poster	
E-Poster	Tackling Climate Change Through Multi-Stakeholder Partnerships. Promoting SDG 17 to Combat Climate
	Elena Bulmer, Antonio de Nebrija University, Spain

Virtual Program

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Day 1 - September 23, 2024	
Virtual Presentations - British Summer Time (BST)	
11:00 - 11:30	The Possibilities of Bacterial Cellulose within Established Markets: The Scalability of the Process and the Versatility of the Material
	Patrizia Bolzan, Politecnico di Milano, Italy
11:30 - 12:00	Does Family Care Promote Clean Cooking Energy Choices for Older Persons? – Analysis In Light of Home-Based Care in Rural China
	Wei Huang, Sichuan Agricultural University, China
12:00 - 12:30	Hosting Capacity of Distribution Grid
	Alen Tatalovic, HEP ODS d.o.o. Elektroprimorje Rijeka, Croatia
12:30 - 13:00	Aspects of V2G Implementation in the Distribution System
	Mateo Kirincic, University of Rijeka, Croatia
13:00 - 13:30	Study of the Process of Structural Wood Reuse in a Deconstruction/ Reconstruction Operation
	Odran Lemaitre, Laboratoire d'Etude et de Recherhce sur le Matériau Bois, Université de Lorraine, France
13:30 - 14:00	Environmental Sustainability and Intelligence as well as General Green Technologies
	Jinsong Wu, University of Chile, Chile
14:00 - 14:30	SRF Pyrolysis: Recovery Potential and its Role in the Circular Economy
	Jarudej Asingsamanunt, Imperial College London, UK
14:30 - 15:00	A Step Closer to Sustainability with In-Mold Electronics
	Stephan S Harkema, TNO at Holst Centre, Netherlands
15:00 - 15:30	Research and Development on Space Solar Power in Korea
	Joon-Min Choi, HanSeo Univeristy, South Korea