

MEETING JOINING LINK (LIVE STREAMING ON ZOOM PLATFORM)

As the conference is hybrid, the virtual attendees can access the in-person presentations and queries can be asked through zoom chat box.

Meeting links shared will be for the complete meeting to join at any point of time.

Time Zone: Eastern Time

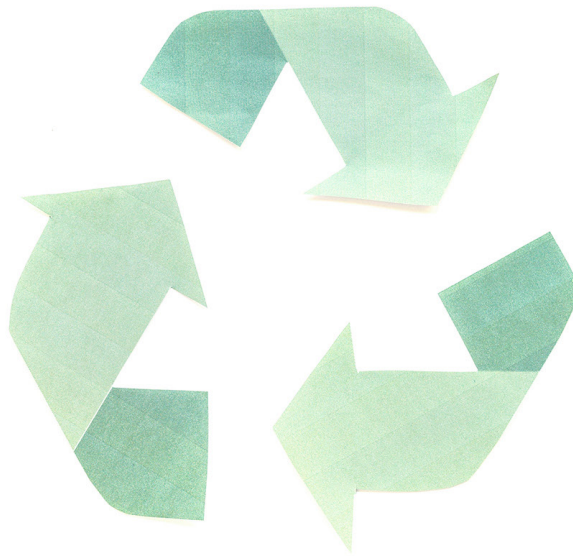
March 11-14 | Boston, MA | Hybrid

Join Zoom Meeting

<https://us06web.zoom.us/j/84899202856?pwd=AoRrpRrG5iHRCBh1gFt1zXt7U9Lwlv.1>

Meeting ID: 848 9920 2856

Passcode: 560914



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08:30-08:50	Registrations & Badge Pickup	@ Pre-Function Level 1
08:50-09:00	Opening Ceremony	

Keynote Presentations

Moderator: **Yongsheng Chen**, Georgia Institute of Technology, Atlanta, GA

09:00-09:30

Frequentist and Bayesian BACI Analyses Determine that Climate Change but not the Massachusetts Bay Sewage Effluent Outfall Affects Massachusetts Bay Benthic Infaunal Biodiversity



Eugene Gallagher, UMass Boston, Boston, MA

Eugene Gallagher recently retired as an Associate Professor in the School for the Environment at UMass Boston. He earned his B.A. degree from Carleton College (Northfield MN) and M.Sc. & Ph.D. degrees in Oceanography at the University of Washington (Seattle). He was an independent scientist at the Woods Hole Marine Biological Laboratory. He was a founding faculty member of the first Ph.D. program at UMass Boston. He and his students have been studying the effects of pollution on Boston Harbor and Massachusetts Bay benthic communities for more than four decades, often using multivariate statistical methods. He taught oceanography, environmental science, and statistics.

09:30-10:00

Governing the System Change to Circular Economy

Jacqueline Cramer, Utrecht University, Netherlands



Jacqueline Cramer has always combined her academic career with being a change agent in sustainability. She has worked as a practitioner for more than 30 years with a great variety of companies on the implementation of sustainable entrepreneurship, corporate social responsibility, and circular economy. She has been part-time professor since 1990, presently professor of sustainable innovation at Utrecht University. Before she was Minister of Housing, Spatial Planning, and the Environment (2007 -2010). She was member of about 120 Boards and still holds various Board memberships, among which Chairman of the Concrete Agreement, Building Agreement Steel and Dutch Circular Textile Valley.

10:00- 10:20 **Coffee Break**

Oral Presentations

Waste and Recycling

- 10:20-10:40 **Decentralized Municipal Wastewater Treatment to Recover Resources for Urban Food Production using Controlled Environment Agriculture**
Yongsheng Chen, Georgia Institute of Technology, Atlanta, GA
- 10:40-11:00 **Using Crumb Rubber as Modifiers in Dry Process for Open Graded Friction Course of Asphalt Mixtures**
Junan Shen, Georgia Southern University, Statesboro, GA
- 11:00-11:20 **De-oxidation of Metal Powders using Non-thermal Hydrogen Plasma for Optimized Reuse in Additive Manufacturing**
Devon Jensen, Advanced Cooling Technologies, Inc., Lancaster, PA
- 11:20-11:40 **Advanced Approach to Closed Pulp Mill Water Circuits. Laboratory Results and Mill Experience**
Janne Vehmaa, Andritz Oy, Finland
- 11:40-12:00 **Economic and Environmental Assessment of using Solid Waste-based Electricity for Electric Vehicle Charging**
Vinay Gonela, Texas A&M University Central Texas, Killeen, TX

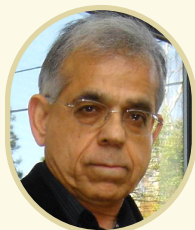
Keynote Presentation

12:00-12:30

Improving Enzymes and Bacteria for Bioremediation of Carcinogenic & Nuclear Waste (Online Talk)

A. C. Matin, Stanford University School of Medicine, Stanford, CA

A.C. Matin, is an Indian American microbiologist and immunologist, serving as a professor at Stanford University School of Medicine. His research spans microbiology and biotechnology, with a focus on antibiotic resistance, cancer research, biofilm engineering, and cellular biology. He has published over 100 research papers plus several reviews, holds several patents, and received recognition from NASA for his work on the *E. coli* Antimicrobial Satellite (EcAMSat) system.



12:30-12:40 **Group Photo and Discussion Time**

12:40-13:40 **Lunch Break**

Oral Presentations

Chair: Mingzhou Jin, University of Tennessee, Knoxville, TN

- 13:40-14:00 **Electrochemical Separation Technologies for Industrial Sustainability**
Yupo Lin, Argonne National Laboratory, Lemont, IL
Thomas Lippert, Argonne National Laboratory, Lemont, IL
- 14:00-14:20 **Assessing the Cost and Environmental Benefits of Unit Pricing in Municipal Solid Waste Management: Insights in the Wake of New Regulations**
Giacomo Di Foggia, University of Milano-Bicocca, Italy

- 14:20-14:40 **Estimating Energy Consumption and GHG Emissions in the U.S. Food Supply**
Mingzhou Jin, University of Tennessee, Knoxville, TN
- 14:40-15:00 **Upcycling Food Wastes to Cellulosic and Polysaccharide Advanced Materials**
Takaomi Kobayashi, Nagaoka University of Technology, Japan
- 15:00-15:20 **Valorization of Banana Peel into Spherical Magnetic Beads Particles for Remediation of Antibiotics and Heavy Metals**
Chirangano Mangwandi, Queen's University Belfast, UK
- 15:20-15:40 **Towards IoT-enabled Sustainable and Resilient Smart Communities**
Nalini Venkatasubramanian, University of California, Irvine, CA
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- 15:40-16:00 **Coffee Break**
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- 16:00-16:20 **Oil Contaminant Removal from Wastewater using Novel Filtration Membrane**
Zhaoyang Liu, Qatar Environment and Energy Research Institute, Hamad bin Khalifa University, Qatar Foundation, Qatar
- 16:20-16:40 **CO₂ Photoreduction using Encapsulated Bismuth Halide Perovskites in Geopolymers Produced from Industrial By-products**
Edith Luevano Hipolito, Autonomous University of Nuevo Leon, Mexico
- 16:40-17:00 **Characteristics of Organic Fertilizers used in Japanese Agriculture**
Tran Quoc Thinh, Ritsumeikan University, Japan
- 17:00-17:20 **Machine Learning Based Optimization of Initial Cultivation Time for Agricultural Practices in the Blue Nile Basin of Ethiopia in the Context of Climate Change**
Mohammad Reza Mazarei Behbahani, Uconn, Storrs, CT

17:20-18:20 **Poster Presentations and Drinks**

- P-01 **A Dark Side of Trust: Examining the Influence of Environmental Risk Perception on Citizens Plastic-avoiding Behavior**
Bairong Wang, Shanghai Maritime University, China
- P-02 **Rare Earth Magnet Recycling using Advanced Distillation**
Emmanuel Opoku, Worcester Polytechnic Institute, Worcester, MA
- P-03 **Recycling of Magnesium alloy using G-METS Distillation**
Daniel Mc Arthur Sehar, Worcester Polytechnic Institute, Worcester, MA
- P-04 **Finite Element Analysis for Metal Purification with G-METS Distillation**
Amy Telgerafchi, Worcester Polytechnic Institute, Worcester, MA
- P-05 **E-Waste Pathways Optimization Analysis: Tool Development**
Anthony Weiss, University of Missouri, Kansas City, MO

END OF DAY-1

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Keynote Presentation

Chair: **Seulki Lee-Geiller**, Yale University, New Haven, CT

08:30-09:00

Strategy to Control Photochemical Ozone Formation, What Could we do?

Yoshizumi Kajii, Kyoto University, Japan



Yoshizumi Kajii from Tokyo Institute of Technology, has held various academic positions including Assistant Professor at Tokyo Institute of Technology, Associate Professor at RCAST, University of Tokyo, and Professor of Applied Chemistry at Tokyo Metropolitan University. Currently, he serves as Professor at GSGES, Kyoto University, Group Leader at the National Institute for Environmental Studies, and Chief Professor at Qingdao University.

Oral Presentations

Environmental Impact and Innovation Technology

- 09:00-09:20 **Forecasting and Nowcasting COVID-19 Dynamics Powered by Wastewater Surveillance**
Yongtao Cao, Indiana University of Pennsylvania, Indiana, PA
- 09:20-09:40 **County-level Dataset of Available Municipal Reclaimed Water: Addressing Freshwater Demands in Bioenergy Production**
May Wu, Argonne National Laboratory, Lemont, IL
- 09:40-10:00 **Harnessing Public Waste Accountability to Mitigate Municipal Waste Generation: Lessons from an Empirical Cross-city Analysis**
Seulki Lee-Geiller, Yale University, New Haven, CT
- 10:00-10:20 **Calculation of Spectral Radiative Forcing using the MODTRAN Atmospheric Radiative Transfer Model**
Alexander Berk, Spectral Sciences, Inc., Burlington, MA
- 10:20-10:40 **Hybrid Green Composites using Waste Rice Straw, Jute Fibers and Soy Protein-based Resin**
Anil Narayan Netravali, Cornell University, Ithaca, NY
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- 10:40-11:00 **Coffee Break**
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- 11:00-11:20 **All-green Food Packaging Material Made with Chitosan and Cellulose Nanofibers**
Jaehwan Kim, Inha University, South Korea
- 11:20-11:40 **Robots in Ship Breaking and Waste Sorting**
Berk Calli, Worcester Polytechnic Institute, Worcester, MA

- 11:40-12:00 **Optically Active Nanocellulose Coatings: From Agricultural Waste to Functional Layers**
Rachel Yerushalmi, Ben-Gurion University of the Negev, Israel
- 12:00-12:20 **Creating a Solid Waste Sustainability Hub to Enhance Reducing, Recycling, and Repurposing**
Shenghua Wu, University of South Alabama, Mobile, AL
- 12:20-12:40 **Plastic Bag usage and the Policies: A Case Study of China**
Bairong Wang, Shanghai Maritime University, China

12:40-13:40 **Lunch Break**

Waste Treatment and Circular Economy

Chair: May Wu, Argonne National Laboratory, Lemont, IL

- 13:40-14:00 **The Center for Resource Recovery and Recycling (CR³) at WPI Colorado School of Mines and KU Leuven**
Adam Clayton Powell, Worcester Polytechnic Institute, Worcester, MA
- 14:00-14:20 **Circular Economy Business Models within Wine and Olive Oil Sustainability Programs in Portugal**
Maria Raquel Lucas, MED & Global Change and Sustainability Institute, University of Evora, Portugal
- 14:20-14:40 **National Baseline of Material Circularity to Measure Circular Economy Potential for Construction Materials**
Nongnuch Poolsawad, National Science and Technology Development Agency, Thailand
- 14:40-15:00 **Nanotechnology Meets Circular Economy**
Steffen Foss Hansen, Technical University of Denmark, Denmark
- 15:00-15:20 **Advanced Treatment of Wastewater Containing Microcontaminants in a Novel Pilot-scale UV-LED Photoreactor**
Alejandro Cabrera Reina, Metropolitan Technological University, Chile
- 15:20-15:40 **Nutrient Recovery from Recirculating Aquaculture Systems (RAS) Wastewater**
Sukalyan Sengupta, University of Massachusetts Dartmouth, North Dartmouth, MA
- 15:40-16:00 **Coffee Break**
- 16:00-16:20 **Policy Framework and Development of the Biogas Sector-lessons from Europe**
Marcus Gustafsson, Linköping University, Sweden
- 16:20-16:40 **Techno-economic Feasibility and Environmental Footprints of Resource Recovery using Electrokinetic Separation with Heterogenous Ion Exchange Membranes Exemplified by Recycled Plastic Processes**
Yu-I Lin, National Taiwan University, Taiwan
- 16:40-17:00 **Solvent Extraction of Plastics from Municipal Solid Waste**
Harrison Appiah, Moscow, ID, University of Idaho
- 17:00-17:20 **Ecological Impact of Stormwater Runoff on the Water Quality of Chelsea Creek and Constitution Beach**
Edward Joseph Smith, Suffolk University, Boston, MA
- 17:20-17:40 **Application of Pollutant Zeolite after the Adsorption of Heavy Metals and Dyes from Wastewater in Building Brick Construction**
Meryem El rharib, University Hassan II, Faculty of Science, Morocco

END OF DAY-2

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Oral Presentations

Waste Management Technology and Sustainability

Chair: Ibrahim dos Prazeres, MED & Global Change and Sustainability Institute, University of Evora, Portugal

- 08:30-08:50 **Recycling of Manganese Mining Residues to SO₂ Capture and Technosol Production**
Margarita Gutierrez Ruiz, UNAM, Mexico
- 08:50-09:10 **Recycling and Reuse of Lithium-ion Batteries**
Hosop Shin, IUPUI, Indianapolis, IN
- 09:10-09:30 **Biowaste-derived 3D Sorous Carbon Foam for Selective CO₂ Capture**
Rajasekhar Balasubramanian, National University of Singapore, Singapore
- 09:30-09:50 **Sustainability Benchmarks in the Olive Oil Sector**
Ibrahim dos Prazeres, MED & Global Change and Sustainability Institute, University of Evora, Portugal
- 09:50-10:10 **E-waste Recycling: Achieving Profitability without Subsidy**
Anthony Caruso, University of Missouri, Kansas City, MO
-
- 10:10-10:30 **Coffee Break** @ Charles Ball Room
-
- 10:30-10:50 **From Waste to Porous Alkali-activated Construction Material with Unique Properties**
Lubica Kriskova, KU Leuven, Belgium
- 10:50-11:10 **Full Scale Anaerobic Digestion: Methacules™ -- Kajima's Sustainable Solution for Organic Waste Management**
Yishuai Jiang, Kajima Corporation, Singapore
- 11:10-11:30 **Waste Sampling: Balancing Act Between Bias, Accuracy, and Cost**
Mohammad Abdullah Alolayan, Kuwait University, Kuwait
- 11:30-11:50 **Green Future: Exploring Seaweed as a Sustainable Food Source**
Soraya Paz-Montelongo, University of La Laguna, Spain
- 11:50-12:10 **Is Female a More Pro-environmental Gender? Evidence from China**
Yong Li, Shanghai Maritime University, China
- 12:10-12:30 **Development of a Plastic Recyclability Index**
Cheng Wang, Argonne National Laboratory, Lemont, IL
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- 12:30- **Lunch & Departures**

END OF DAY-3

Join the meeting

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06:50-07:00

Opening Remarks & Introduction

Keynote Presentations

Moderator: Yolandi Schoeman, University of the Free State, South Africa

07:00-07:30

Harnessing Eutrophication for Integrated Water-Energy-Food (IWEF) Products

Gang Pan, York St John University, UK

Gang Pan specializes in natural water management, spanning chemical, environmental, ecological, and nano sciences. With a multidisciplinary approach, he pioneers cost-effective solutions for harmful algal bloom control and aquatic restoration, while also advancing surface adsorption theories and synchrotron techniques. His current research focuses on the Integrated Water-Energy-Food framework, aiming to transform pollutants into biofuel, electricity, and anti-toxin biochar for agricultural safety.



07:30-08:00

Recent Advances in Circular and Sustainable Closed-loop Agriculture Supply Chains

Mostafa Hajiaghahi-Keshteli, Tecnologico de Monterrey, Mexico

Mostafa Hajiaghahi-Keshteli is an Associate Professor at the Dept. of Industrial Engineering at Tecnologico de Monterrey, Mexico. He is a senior researcher at the Center of Sustainable Smart Logistics. His main research areas are Sustainable and Smart Logistics, Supply Chain Integration and Optimization, sustainability, and Circular economy. He has first designed and developed some food and agricultural supply chains such as Citrus, Rice, Sugarcane, Avocado, Walnut, etc. He was ranked as the top 1% of scientists in the area of Supply Chain, and also one of the top 2% scientists, according to the SciVal and Scopus reports.



08:00-08:30

Sludge Management: Can the Circular Economy always be Sustainable?

Spinosa Ludovico, CNR Senior Scientist (retired), ISO and CEN Expert, Italy

Spinosa Ludovico has been Senior Scientist at National Research Council in Italy, Assistant Professor in Agricultural Hydraulics, Contract Professor in Ecology, and Contract Professor in Waste Engineering (Italian Universities), and Guest Professor at Harbin Institute of Technology (China). He has been Delegate at the European COST Action on Sludge, and Chair of the IWA Specialist Group on Sludge Management. Now Expert Member at CEN/TC308 and ISO/TC275 on Sludge Management, and Scientific Consultant at Euro Tecno Service s.r.l. Awarded of the IWASGSM Specialist Medal in Residuals Research in 2009 and nominated as IWA Fellow in 2015. Co-editor of books, and author of more than 250 publications.



Oral Presentations

Reduce, Reuse and Recycle | Environmental Impact | Waste to Energy

- 08:30-08:50 **The use of Date Waste into Solar Absorber for Water Desalination**
Ghinwa Harik, American University of Beirut, Lebanon
- 08:50-09:10 **Carbon Footprint Associated with Two Organic Waste Management: Tunnel Composting System Versus Landfill**
Giampiero Grossi, Tuscia University, Italy
- 09:10-09:30 **Environmental Assessment of Strawberry Supply Chain and Comparison of Different Packaging Materials**
Hong Minh Hoang, INRAE, France
- 09:30-09:50 **The Quantity and Composition of Supermarket Food Waste: A Direct Measurement in KSD Local Municipality, Eastern Cape Province, South Africa**
Grace Okuthe, Walter Sisulu University, South Africa
- 09:50-10:10 **BTEX Valorization into PHAs by *Pseudomonas putida***
Nicolas Diaz Moreno, University of Valladolid, Spain
- 10:10-10:30 **Economy and Sustainability of Waste to Energy Plant in India: Case Study**
Perminder Jit Kaur, IISc Bangalore, India
- 10:30-10:35 **Poster Presentation**
Simultaneous Removal of Microcontaminants and Microorganisms Inactivation through Sulphate Radical Advanced Oxidation Processes: Comparison of Solar Radiation and UV-LED Technology as Activation Method
Sara Miralles Cuevas, Metropolitan Technological University, Chile
-
- 10:35-10:50 **Break**
-
- Chair: Catherine N. Mulligan**, Concordia University, Canada
- 10:50-11:10 **Establishing Effective Scenarios to Reduce Plastic Waste, a Case Study of Norway**
Golnoush Abbasi, The Climate and Environmental Research Institute -NILU, Norway
- 11:10-11:30 **Troubleshooting Dioxins Stack Emissions in an Industrial Waste Gas Incinerator**
Amiram Bar Or, NRCN, Israel
- 11:30-11:50 **A Multi-criteria Decision-making Framework towards Achieving Zero Waste in the Iron and Steel Industry of Developing Nations in Southern Africa: A Case Study**
Yolandi Schoeman, University of the Free State, South Africa
- 11:50-12:10 **The Role of Materials Management in Mitigating Greenhouse Gas Emissions**
Fank Princiotta, USEPA, Chapel Hill, NC
- 12:10-12:30 **Water Management within the Context of Environmental Emergency Regions in the State of Zacatecas, Mexico**
Edith Olmos Trujillo, Autonomous University of Zacatecas, Mexico
- 12:30-12:50 **Evaluation of New Life Potential in Buildings**
Lizeth Rodriguez, Central America University, El Salvador
- 12:50-13:10 **Insect Farming - A New Vertical in Waste Management**
Yuval Gilad, FreezeM, Israel
- 13:10-13:30 **Phosphorus Release and Recovery by Reductive Dissolution of Chemically Precipitated Phosphorus from Simulated Wastewater**
Aseel Alnimer, Wilfrid Laurier University, Canada

- 13:30-13:50 **Water-energy Nexus Considerations for Mining Wastewater**
Catherine N. Mulligan, Concordia University, Canada
- 13:50-14:10 **Characterization of Atmospheric Aerosol Sources in a Suburban Area of NW Spain**
Fernanda Isabel Oduber Perez, University of Leon, Spain
- 14:10-14:30 **A Mix of Ingredients to Reduce Plastic Pollution**
Maria del Rosario Calderon, World Wildlife Fund, Guatemala
- 14:30-14:50 **How Can we Make the Best Use of Limited Battery Materials to Minimize CO₂ Emissions?**
Linda Gaines, Argonne National Laboratory, Lemont, IL
- 14:50-14:55 **Poster Presentation**
Use Crushed Waste Glass (CWG) as a Potential Sand Substitute for Geotechnical Applications
Xinran Zhang, UCL, UK
-
- 14:55-15:15 **Break**
-
- Chair: Femi Peter Alege**, USDA-ARS, Stoneville, MS
- 15:15-15:35 **Building Material Recirculation Concept as a Sustainable and Economically Efficient Way for Modern Design Process**
Elzbieta Rynska, Warsaw University of Technology, Poland
- 15:35-15:55 **Recycling Wastewater Heat in the Food Sector: Opportunities & Challenges**
Aonghus Mc Nabola, Trinity College Dublin, Ireland
- 15:55-16:15 **Spatiotemporal Changes in Trace Metal Bioavailability in the Sediment Porewater of a Constructed Wetland using Passive Porewater Samplers**
Xiaoyu Xu, University of Georgia, Evans, GA
- 16:15-16:35 **Examining the Impact of Environmental Technologies, Environmental Taxes, Energy Consumption, and Natural Resources on GHG Emissions in G7 Economies**
Matarr Manjang, National Water and Electricity Company Ltd, Gambia
- 16:35-16:55 **Sustainable Cotton Gin Byproducts Treatment and Utilization**
Femi Peter Alege, USDA-ARS, Stoneville, MS
- 16:55-17:15 **Reuse of Available Garbage for Shelter and Light**
Toby Cumberbatch, The Cooper Union, New York, NY
- 17:15-17:35 **Could Urea Recovery from Fresh Urine be a Sustainable Alternative to NH₄⁺ Recovery from Hydrolyzed Urine?**
Haotian Wu, Universite Laval, Canada
- 17:35-17:55 **Technologies and Innovations for Organic Food at the Brazilian Savanna**
Sanderson Cesar Macedo, University of Brasilia, Brazil
- 17:55-18:15 **Magnetically Enhanced Arc Plasma (MEAP) Destruction of Per- and Polyfluoroalkyl Substances (PFAS) in Leachates and Wastewater**
Ming Xu, Michigan State University, East Lansing, MI

END OF DAY-4



We wish to see you at

ENVIRONMENTAL SUSTAINABILITY THROUGH WASTE AND RECYCLING

(ENSURE-2025)

March 10-13, 2025 | Paris, France



USG-United Scientific Group (A non-profit organization)

8105, Rasor Blvd - Suite #112, PLANO, TX 75024

Tel: +1-469-854-2280/81; **Fax:** +1-469-854-2278

Email: organizer@conference-wastemanagement.com

Web: <https://wasteandrecycling.org/>