The Thirty-Second International Conference on Solid Waste Technology and Management

Philadelphia, PA, USA
March 19-22, 2017

AGENDA
(updated March 12, 2017)

Department of Civil Engineering
Widener University
1 University Place
Chester, PA 19013-5792 USA
Phone: 610-499-4042
Fax: 610-499-4461
email: solid.waste@widener.edu
http://solid-waste.org

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University of Pennsylvania
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The Journal of Solid Waste Technology and Management
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• Maria Cristina Borba Braga, Parana Federal University, Brazil
• Shoou-Yuh Chang, North Carolina A&T State University, USA
• Toru Furuichi, Hokkaido University, Japan
• Professor Sadhan Kumar Ghosh, President, International Society of Waste Management, Air and Water, & Mechanical Engineering Dept., Jadavpur University, India
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• Mervat El-Hoz, University of Balamand, Lebanon
• Maria Liubarskaia, Saint-Petersburg State University of Economics, Baltic Academy for Tourism and Entrepreneurship, Russia
• Dr. Mary Purcell, Cork Institute of Technology, Ireland
• Ilan Nissim, Ministry of National Infrastructures, Energy and Water Resources, Israel
• Sara Ojeda-Benitez, Institute of Engineering, Autonomous University of Baja California, México
• Dr. Chukwu Onu, Southern University and A & M College, USA
• Professor Paul Phillips, University of Northampton, UK
• Dr. Eva Pongrácz, University of Oulu, Finland
• Prof. Krishna Reddy, University of Illinois at Chicago, USA
• Dr. Masafumi Tateda, Toyama Prefectural University, Japan
• Dr. Jerry E. Uhuo, National Assembly Abuja, Nigeria
• Prof. Dongmin Wang, Director of Solid Waste Subcommittee of The Chinese Ceramic Society, P.R. China
• Anita Závodská, Barry University, USA
# Conference Summary

**Sunday, March 19, 2017**
- Pre-Conference Tour of Philadelphia
- Opening Reception

**Monday, March 20, 2017**
- Opening Plenary
- Oral Presentations
  1A Landfill 1
  1B Agricultural Wastes 1
  1C Policy and Public Involvement 1
  1D Use of Wastes in Construction 1
  2A Biological Treatment 1
  2B Contaminated Sites
  2C Waste Management Planning 1
  2D Special Wastes
  3A Chemical Treatment Advances 1
  3B Electrical and Electronic Wastes
  3C Landfill 2
  3D Case Studies
  4A Agricultural Wastes 2
  4B Special Session: Construction and Demolition Wastes for Sustainable Architecture
  4C Waste Management Planning 2
  4D Special Workshop: Elevated Temperature in Landfills: Occurrences, Impacts, and Resolution

- Poster Session 1

**Tuesday, March 21, 2017**
- Oral Presentations
  5A Policy and Public Involvement 2
  5B Biological Treatment 2
  5C Facility Siting and Planning
  5D Environmental and Health Impacts
  6A Waste Business Analyses
  6B Waste Management in Developing Areas
  6C Use of Wastes in Construction 2
  6D Special Session on Pyrolysis

- Poster Session 2
  7A Landfill 3
  7B Recycled Materials
  7C Chemical Treatment Advances 2
  7D Agricultural Wastes 3

- Closing Reception

**Wednesday, March 22, 2017**
- Technical Field Trips
SUNDAY, MARCH 19

12:00 p.m. - 6:00 p.m.
Conference check-in and registration

1:00 p.m. - 5:00 p.m.
Guided Tour of Philadelphia: The tour will include the Liberty Bell, Independence Hall and the Betsy Ross House along with a bus tour of the city.
(additional fee)

5:00 p.m. - 6:00 p.m.
Welcome Reception

MONDAY, MARCH 20

8:00 a.m. - 5:30 p.m.
Conference check-in and registration

8:00 a.m. – 8:45 a.m.
Coffee

8:45 a.m. – 10:00 a.m.
Opening Plenary

Welcome and US EPA Mid-Atlantic Update:

Update on The US EPA Sustainable Materials Management Program, John A. Armstead, EPA Mid-Atlantic Region, Acting Deputy Regional Administrator, USA

Keynote Address:

Don’t Waste a Bite - On the Link between Hunger and Waste Management, Ofira Ayalon, The University of Haifa and Samuel Neaman Institute, Technion, Israel

Conference Theme Presentation:

Global Capacity, Potentials and Trends of Solid Waste Research and Management, M. A. Nwachukwu, Federal University of Technology Owerri, Nigeria

Plenary Presentations:

Circular Economy and 3Rs - Reduce, Reuse, Recycle for Efficient Use of Resources, Sadhan Kumar Ghosh, ISWMMAW, Jadavpur University, India

Circular Economy & Sustainable Development – in India, Lakshmi Raghupathy, TERI University, India

10:05 a.m. – 11:30 a.m.
Sessions 1
SESSION 1A
Landfill 1

Design Guidance for Reinforcement Layers under Piggyback Landfill Liner Systems, Gregory Mills, Smith Gardner, Inc., USA

Emerging Landfill Trends in Exposed Geomembrane Cover Systems and the New Wind Defender Ballast System, Elliot Pugh, Wind Defender, LLC, James Tuttle, Chesapeake Containment Systems, Inc., USA

The Future of Pre-Sub Title D Municipal Landfill Cleanups, Michael Grappé, Arkansas Department of Environmental Quality, USA

Mitigation of Greenhouse Gas Emissions from Landfills by Mechanical Biological Treatment - A Brazilian Case Study, Francisco Contreras, University of Brasilia, Fernanda Lemos da Silva, University of Brasilia, Brazil

SESSION 1B
Agricultural Wastes 1

Biogas as a Strategic Resource on Renewable Energies in South Brazil, Marisa Soares Borges, Federal University of Parana, Marcelo Alves de Sousa, Parque Tecnológico Itaipu, Janaina Camile Pasqual, Parque Tecnológico Itaipu, Iara B.R. Rosa, Driely Rosa, Brazil

Anaerobic Digestion: Efficient Organic Waste Reutilization for Integrated Waste Management and Carbon Reduction, Serpil Guran, Rutgers EcoComplex, David Specca, Rutgers EcoComplex, Margaret Brennan-Tonetta, Rutgers University, USA

Adding Waste Scrap Iron to Enhance Anaerobic Digestion of Biomass and Production of Methane, Yaobin Zhang, Dalian University of Technology, China

SESSION 1C
Policy and Public Involvement 1

Assessing Innovative Approaches in Urban Solid Waste Management, Arti Jaiswal, SPA, Bhopal, Chandan, SPA, Bhopal, Sanjeev Rawat, Architectural and Planning Consultancy Firm, India

The Role of Universities in Increasing Waste Awareness among Citizens, Anita Zavodska, Barry University, Anne Morrissey, Yasuhiro Matsui, USA

Public Behavior, Awareness, and Perception Concerning Household Solid Waste Recycling in Urban Area of China: A Case Study, Xiao Liu, Shandong University, Peiming Zheng, Shandong University, Kun Zhang, Shandong University, Lidong Cao, Jianli Wen, Ning Wang, Fengchuan Wang, Shuping Zhang, Renqing Wang, Hui Wang, China

Sustainable Solid Waste Management - Policy Comments, Amalendu Bagchi, Wisconsin Department of Natural Resourses, USA

Enhancing Governance, Transparency and Accountability for Sustainable Solid Waste Management, Mervat El-Hoz, University of Balamand, Lebanon
SESSION 1D  
Use of Wastes in Construction 1


The Effect of Waste Additives on the Mechanical Strength of Fired Clay Bricks, Mehdi Serati, The University of Queensland, David Williams, The University of Queensland, Maria Durante Ingunza, The University of Queensland, Sebastian Quintero Olaya, Australia

Geotechnical Characterisation of Neutralised Red Mud for Use in Civil Engineering Construction and Manufacturing, Sebastian Quintero Olaya, The University of Queensland, Maria del Pilar Durante Ingunza, Federal University of Rio Grande do Norte/UFRN, David J. Williams, The University of Queensland, Mehdi Serati, Australia

11:30 a.m. – 11:50 a.m.  
Break

11:50 a.m. – 1:10 p.m.  
Sessions 2

SESSION 2A  
Biological Treatment 1

A Comparative Review of Biogas Production from Microalgae Biomass and Microalgae Waste, Laura Vargas, Instituto de Energias Renovables-UNAM, Emilio Arenas, Instituto de Energias Renovables-UNAM, Pathiyamattom Joseph Sebastian, Instituto de Energias Renovables-UNAM, Mexico

Application and Validation of ED-XRF and SEM-EDX Techniques in the Study of Composting Process, S. L. Belagali, University of Mysore, B. Manohara, University of Mysore, India

Biogas Production from Lignocellulose-Rich Waste Fractions, Ilona Sárvári Horváth, University of Borås, Sweden

Evaluation of Sampling Methods for Gas-Phase Siloxanes in Biogas, Clara Eichler, Virginia Tech, Yaoxing Wu, Virginia Tech, Steven Cox, Virginia Tech, Stephanie Klaus, Gregory D. Boardman, USA

Management Modeling of High COD Wastes Content of Biosolids for Energy Generation and Effluent Production in an Anaerobic Membrane Bioreactor, Gideon Oron, Ben-Gurion University of the Negev, Zuckerberg Water Research Institute, Blaustein Institutes for Research, Oshrat Shamir, Ben-Gurion University of the Negev, Nadav Krauss, Ben-Gurion University of the Negev, Ioannis K. Kalavrouziotis, Israel
SESSION 2B
Contaminated Sites

Waste-to-Energy Approach in Washing of Petroleum Contaminated Soil, Bassim Abbassi, University of Guelph, Stephen Emslie, University of Guelph, Canada

Coupled Estimation Method for Determination of Flow and Transport Parameters Using Transient Observation Data during Remediation of 1,4-Dioxane Groundwater Contamination, Kazuei Ishii, Hokkaido University, Toru Furuichi, Hokkaido University, Atsushi Fujiyama, Hokkaido University, Masahiro Sato, Yumika Shishido, Japan

Management of Contaminated Soil Generated from 16” HFO Pipeline Leakage at Jaber Al-Ahmad Residential Area, Fatemah Al-Baroud, Kuwait Oil Company, Majed Al-Mutairi, Kuwait Oil Company, Krishna Vangala, Kuwait Oil Company, Ghadeer Al-Qattan, Kuwait

SESSION 2C
Waste Management Planning 1

A Study of Household Waste Production in the Czech Republic as a Function of the Number of Household Members, Libuše Benešová, Charles University in Prague, Jakub Śmíd, Charles University in Prague, Anita Zavodská, Barry University, Czech Republic

Characterization of MSW Generated in Some Egyptian Cities, Shakinaz El-Sheltawy, Cairo University, Salah El-Haggar, American University in Cairo, Mai Fouad, Cairo University, Eslam G. Al-Sakkari, Egypt

A Retrospective of State Solid Waste Planning in the U.S.A., Moe Chowdhury, Jackson State University, Ricardo Brown, Jackson State University, Wayne Goodwin, Jackson State University, USA

Problems and Prospects of Solid Waste Management in South Africa: A Case of Khayelitsha Community, Aifani Confidence Tahulela, Cape Peninsula University of Technology, Harry Ballard, Cape Peninsula University of Technology, South Africa

SESSION 2D
Special Wastes

Design Challenges for Modifications to a Low Level Radioactive Waste Incinerator, William Norris, OBG, Michael Mannuzza, OBG, USA

Preparing Graphene-Copper Composite Material from Anode Graphite of Spent Lithium-Ion Batteries, Wexuan Zhang, Tongji University, Zhanpeng Liu, Tongji University, Wenzhi He, Tongji University, Guangming Li, Haochen Zhu, Juwen Huang, China

Heading Toward Sustainable Management of Sewage Sludge, Saleh Al-Muzaini, Kuwait Institute for Scientific Research, Kuwait

Sawdust Management and Disposal through Use in Aquaculture Wastewater Treatment, Olayemi Olanlokun, University of Ilorin, Bolaji Sule, University of Ilorin, Nigeria

Analysis of Bio-Chemicals Extractable from Untreated Wood Waste, Francesco Di Maria, Università di Perugia, Enrico Segoloni, Università di Perugia, Italia
1:10 p.m. – 2:05 p.m.
Awards Luncheon
Presentation of the Russell Ackoff Award, Roy F. Weston Award, Iraj Zandi Award and Student Paper Award

2:05 p.m. – 3:55 p.m.
Sessions 3

SESSION 3A
Chemical Treatment Advances

Adsorptive Removal of Reactive Yellow 84 by Effectual High Temperature Activated Carbon from Borassus flabellifer and Its Modified Magnetic Iron-Oxide Nano Adsorbent, Karpagasundaram Muthukumaran, Govt. College of Technology, Coimbatore under Directorate of Technical Education, Govt. of Tamilnadu, S. Indhu, Govt. College of Technology, Coimbatore under Directorate of Technical Education, Govt. of Tamilnadu, India

Assessing the Persistence of Trace Organic Compounds in Waste Coffee Grounds, Rhianna Briars, UCL, Paul Hellier, Nicos Ladommatos, Arthur Kay, Ben Mills-Lamptey, United Kingdom


SESSION 3B
Electrical and Electronic Wastes

Cloud Based Model for WEEE Collection and Monitoring, Biswajit Debnath, Jadavpur University, Ipsita Saha, Guru Nanak Institute of Technology, Sadhan Ghosh, Jadavpur University, India


Comparison between WEEE-Management in Switzerland and in Egypt, Shakinaz El-Sheltawy, Cairo University, Dina Magdy, CMRDI, Egypt

Review on Future Economic Potential Stems from Global Electronic Waste Generation and Sustainable Recycling Practices, Shamim Ahsan, Metropolitan State University of Denver, USA

SESSION 3C

Landfill 2

A Long-Term Study on Methane Degradation Layer Extracted from the Landfill, Kaur-Mikk Pehme, Estonian University of Life Sciences, Merilin Heinsoo, Estonian University of Life Sciences, Kati Tammjärv, Estonian University of Life Sciences, Ottar Tamm, Mait Kriipsalu, Estonia

Country Specific Methane Generation Potential (L0) of Solid Wastes in Landfills in Republic of Korea, Sangjae Jeong, Seoul National University, Changmin Lee, Seoul National University, Jae Young Kim, Seoul National University, Republic of Korea

Quantification of Human Health Risk to MSW Landfill Leachate Contamination for Major Indian Cites, Harshit Mishra, Indian Institute of Technology, Vinay Yadav, Indian Institute of Technology, Subhankar Karmakar, Indian Institute of Technology, Rakesh Kumar, India

Partial Nitrification and Denitrification of Mature Landfill Leachate Using a Pilot-Scale Continuous Activated Sludge Process at Low Dissolved Oxygen, Zhenguo Chen, South China University of Technology, Xiaojun Wang, South China University of Technology, Yongyuan Yang, South China University of Technology, Markus W. Mirino Jr., P. R. China

Effects of Alkalinity on the Treatment of Landfill Leachate through Algae Growth, Tahir Imran Qureshi, NFC-Institute of Engineering & Technology, Pakistan

SESSION 3D

Case Studies

Managing Municipal Solid Waste in the Palestinian Territory: Joint Service Councils, a Sustainable Approach, Ali Barhoum, Joint Service Council of Solid Waste Management of the Local Authorities of Khan Younis, Rafah and Middle Area (JSC KRM), Yasser Dwaik, Joint Service Council of Solid Waste Management Hebron and Bethlehem, Hani Shawahneh, Joint Service Council of Solid Waste Management Jenin, Gaza

Resource Recovery from Waste in India – Case Studies, Lakshmi Raghupathy, TERI University, India

Decentralised Waste Management in High Rise Buildings – A Proposed Model for Self Reliance an Indian Case, Rahul Baidya, Institute of Engineering & Management, Jadavpur University, India

Waste Recycling Practices in Some Countries in Asia, Europe, Africa and South America, Sadhan Kumar Ghosh, Jadavpur University, Marisa Soares Borges, Federal University of Parana, Brazil, Sannidhya Kumar Ghosh, University of Colorado Boulder, Francesco Di Maria, Vanessa Cruvinel, Tomás Ramos, Shakinaz T. El-Sheltawi, M. K. Fouad, A. S. Aremu, O. M. Ojowuro, Chucheka Tivani, Yong-Chil Seo, Mervat El-Hoz, India
Managing the Technology for Selectively Collecting Solid Waste in the Amazon, Norma Maria Coelho Vieira, University of Taubaté (UNITAU), Research Group on Innovation Management and Technology (GEITEC) at the Federal University of Rondônia (UNIR), Brazil, Marcelo José Peres Gomes da Silva, State University of Londrina (UEL), Brazil, Flávio de São Pedro Filho, GEITEC - Research Group Management of Innovation and Technology of the Federal University of Rondônia (UNIR), Brazil, University of Beira Interior, Covilha, Portugal, Maria José Aguilar Madeira Silva, University of Beira Interior (UBI), Covilha, Portugal, Fabricio Moraes de Almeida, Federal University of Rondônia (UNIR), Brazil, GEITEC – Research Group on Management for Innovation and Technology, UNIR, Brazil, Brazil

3:55 p.m. – 4:15 p.m.
Break

4:15 p.m. – 5:55 p.m.
Sessions 4

SESSION 4A
Agricultural Wastes 2

Conversion of Agricultural Waste to Local Cattle Nutrition in Thailand, Siriporn Boonpa, St. Theresa International College, Thailand

Replacement of Fishmeal with Dried Chicken Intestine as Sole Animal Protein Source in the Nutrition of Clarias gariepinus, Oluseun Motunrayo Osineye, Federal College of Fisheries and Marine Technology, Ladi Raji, Federal College of Fisheries and Marine Technology, Nigeria

Municipal Sewage Sludge Increased Soil-Incorporated Biofumigants in Horticultural Crops, George Antonious, Kentucky State University, USA

Case Study: Optimal Operation of a Boiler Based on Solubility of Amorphous Silica in Rice Husk, Masafumi Tateda, Toyama Prefectural University, Ryoko Sekifuji, Toyama Prefectural University, Atsushi Yamazaki, Waseda University, Mana Yasui, Japan

A Comparative Study on the Effect of Sodium Chloride as a Secondary Salt Use in PKL (Scientific Name- Bryophyllum pinnatum) and Lemon Juice for Electricity Generation, Md Asrafusjaman, Jagannath University, Tanjila Akter, Jagannath University, Mohammad Al Mamun, Jagannath University, Mehedi Hasan, K.A. Khan, Bangladesh

SESSION 4B
Special Session:
Construction and Demolition Wastes for Sustainable Architecture

Innovative Uses of Dredged Material for Sustainable Architecture, Rui Liu, Kent State University, USA

Investigations on the Re-Utilization of Concrete Waste Sand in Composite Cements, Martin Reformat, Bauhaus-Universität Weimar, F.A. Finger-Institute for Building Materials Science (FIB), Horst-Michael Ludwig, Bauhaus-Universität Weimar, F.A. Finger-Institute for Building Materials Science (FIB), Germany
SESSION 4C

Waste Management Planning 2

A New Perception of Municipal Solid Waste Management in Egypt: Waste to Energy Approach, Shakina Taha El Sheltawy, Cairo University Giza, Mai Mohamed Kamal El Din Fouad, Cairo University Giza, Hanem Sibak, Cairo University Giza, Egypt

Bio-Medical Waste Management in India – A Novel Approach, Lakshmi Raghupathy, TERI University, India

E-Waste Collection Channels for Effective Management, Lakshmi Raghupathy, TERI University, Dharna Tiwari, Amity University, India

E-Waste Recycling in India: A Case Study, Biswajit Debnath, Jadavpur University, Sadhan Kumar Ghosh, Jadavpur University, India

SESSION 4D

Special Workshop: Elevated Temperature in Landfills: Occurrences, Impacts, and Resolution

A Model to Describe Heat Generation and Accumulation at Municipal Solid Waste Landfills, Zisu Hao, North Carolina State University, Joel Ducoste, North Carolina State University, Marco Castaldi, The City College of New York, CUNY, Scott Luettich, Geosyntec Consultants, Craig Benson, University of Virginia, Bryan Staley, EREF, Morton Barlaz, N.C. State University, USA

A Simple Spreadsheet Model for Elevated Temperatures in Waste, Henry Kerfoot, Civil and Environmental Consultants, USA

Heat Balance Calculations for Landfills with Accelerated Decomposition of Organic Matter and Implications for Landfill Temperature, Henry Kerfoot, Civil and Environmental Consultants, USA

Implications of Elevated Temperature Landfills to Leachate Chemistry and Treatment Technologies, Ivan Cooper, Civil & Environmental Consultants, Inc., USA
6:00 p.m. – 7:00 p.m
Posters 1

6:30 p.m. – 7:30 p.m
Reception
Information Meeting with Bryan Staley of EREF- Environmental Research & Education Foundation

POSTER SESSION 1

Fuel Properties of Municipal Solid Waste (MSW) by Using a Weighted Sum Method in a TGA, Hong Cui, HNEI, University of Hawaii at Manoa, Scott Turn, HNEI, University of Hawaii at Manoa, USA

Solid Waste Management in Jimma City, Michael Yirga, Jimma University, Ethiopia

Solid Waste Management in Addis Abeba, Hanna Berhanu, Haramaya, Ethiopia

Marble Waste Recycling and Its Application in the Steel Desulphurization Process, Jorge Luis Coleti, USP - University of Sao Paulo, Felipe Fardim Grillo, UNESC - University of South Catarinense, Jorge Alberto Soares Tenorio, USP - University of Sao Paulo, Brazil

Isolation and Characterization of Cyanide Degrading Bacteria from Artisanal Gold Mine Talings, Amzy Vallenas Arévalo, USP - Universidade de São Paulo, Claudia Monge Pimentel, URP - Universidad Ricardo Palma, Carlos Alvarez Rosario, USP - Universidade de São Paulo, B. Karolski, A. S. Justo, J. L. Coleti, J. A. S. Tenório, Brazil

Asphalt Mixtures Energy Consumption and Emission, Liseane Padilha Thives, Federal University of Santa Catarina, Enedir Ghisi, Federal University of Santa Catarina, Brazil

A Comparative Study on the Effect of Sodium Chloride as a Secondary Salt Use in PKL (Scientific Name- Bryophyllum pinnatum) and Lemon Juice for Electricity Generation, Md Asrafusjaman, Jagannath University, Tanjila Akter, Jagannath University, Mohammad Al Mamun, Jagannath University, Mehedi Hasan, K.A. Khan, Bangladesh

A Comparative Review of Biogas Production from Microalgae Biomass and Microalgae Waste, Laura Vargas, Instituto de Energias Renovables-UNAM, Emilio Arenas, Instituto de Energias Renovables-UNAM, Pathiyamattom Joseph Sebastian, Instituto de Energias Renovables-UNAM, Mexico

Characteristics of Organic Fouling on RO Membrane from MSW Leachate Treatment Systems, Xiaolan Zeng, Chongqing University, Yujia Yao, Chongqing University, Wenchuan Ding, Chongqing University, Kunyu Li, China

Quantification of Human Health Risk to MSW Landfill Leachate Contamination for Major Indian Cites, Harshit Mishra, Indian Institute of Technology, Vinay Yadav, Indian Institute of Technology, Subhankar Karmakar, Indian Institute of Technology, Rakesh Kumar, India

Mitigation of Greenhouse Gas Emissions from Landfills by Mechanical Biological Treatment - A Brazilian Case Study, Francisco Contreras, University of Brasilia, Fernanda Lemos da Silva, University of Brasilia, Brazil
Managing Municipal Solid Waste in the Palestinian Territory: Joint Service Councils, a Sustainable Approach, Ali Barhoum, Joint Service Council of Solid Waste Management of the Local Authorities of Khan Younis, Rafah and Middle Area (JSC KRM), Yasser Dwaik, Joint Service Council of Solid Waste Management Hebron and Bethlehem, Hani Shawahneh, Joint Service Council of Solid Waste Management Jenin, Gaza

Social Aspects of Solid Wastes Management in Curitiba: Green Exchange – A Success Case, Marisa Soares Borges, Federal University of Parana, Flavia Soccol, Pontifical Catholic University of Parana, Marina C.R. Ballao, Municipal Secretariat of Environment Curitiba City Hall, Brazil

Problems and Prospects of Solid Waste Management in South Africa: A Case of Khayelitsha Community, Aifani Confidence Tahulela, Cape Peninsula University of Technology, Harry Ballard, Cape Peninsula University of Technology, South Africa

Solid Waste Segregation Assessment through Activities of Environmental Education in a Municipality of Rio Grande do Sul State, Brazil, Vania Elisabete Schneider, Universidade de Caxias do Sul, Verônica Casagrande, Universidade de Caxias do Sul, Sofia Helena Zanella Carra, Universidade de Caxias do Sul, Brazil

Waste Recycling Practices in Countries in Asia, Europe, Africa and South America, Sadhan Kumar Ghosh, Jadavpur University, Marisa Soares Borges, Federal University of Parana, Brazil, Sannidhya Kumar Ghosh, University of Colorado Boulder, Francesco Di Maria, Vanessa Cruvinel, Tomás Ramos, Shakinaz T. El-Sheltawi, M. K. Fouad, A. S. Aremu, O. M. Ojowuro, Chucheka Tivani, Yong-Chil Seo, Mervat El-Hoz, India


Enhanced Anaerobic Digestion of Food Waste by Adding Activated Carbon: Fate of Bacterial Pathogens and Antibiotic Resistance Genes, Jingxin Zhang, National University of Singapore, Kai-Chee Loh, National University of Singapore, Singapore

TUESDAY, MARCH 21

8:00 a.m. - 5:30 p.m.
Conference check-in and registration

8:00 a.m. – 8:30 a.m.
Coffee

8:30 a.m. - 10:20 a.m.
Sessions 5

SESSION 5A
Policy and Public Involvement 2

Social Aspects of Solid Wastes Management in Curitiba: Green Exchange – A Success Case, Marisa Soares Borges, Federal University of Parana, Flavia Soccol, Pontifical Catholic University of Parana, Marina C.R. Ballao, Municipal Secretariat of Environment Curitiba City Hall, Brazil

Training Professional Drivers in Australia's Waste Management and Recycling Sector, Keith Heavens, TAFE Queensland SkillsTech, Georgina Davis, Griffith University, Australia

Environmental Education: An Advocacy of a Travel Agency in Davao City, Philippines, Lilia Panchito, Davao Merchant Marine Academy-College of Southern Philippines, D'Artagnan Yambao, Philippine Long Distance Telephone, Shomae Lilli Panchito, Agro Industrial Foundation College of the Philippines, Ruben A. Neri, Elisa P. Madrazo, Jonathan Naraval, Philippines

North America's First Independent Producer Responsibility Regime Set to Launch, Jonathan Cocker, Baker & McKenzie LLP, Canada

Solid Waste Segregation Assessment through Activities of Environmental Education in a Municipality of Rio Grande do Sul State, Brazil, Vania Elisabete Schneider, Universidade de Caxias do Sul, Verônica Casagrande, Universidade de Caxias do Sul, Sofia Helena Zanella Carra, Universidade de Caxias do Sul, Brazil

SESSION 5B
Biological Treatment 2

Exploration of Biodrying Process for Mixed Municipal Solid Waste Management, Asha P. Tom, Cochin University of Science and Technology, Ajit Haridas, National Institute of Interdisciplinary Science and Technology, Trivandrum, Renu Pawels, Cochin University of Science and Technology, India

Carbonization of Reed Plant in a Fluidized Bed Pyrolysis Reactor, Bassim Abbassi, University of Guelph, Ramesh Rudra, University of Guelph, Kayla Schmidt, University of Guelph, Faisal Shahin, Canada


Utilization of Co-Products of Enzyme-Assisted Aqueous Extraction of Soybeans for Corn Fermentation, Jasreen Sekhon, Drexel University, Tong Wang, Iowa State University, Stephanie Jung, California Polytechnic State University, Kurt Rosentrater, USA

SESSION 5C
Facility Siting and Planning


Landfill Site Selection Using Multi Criteria Decision Analysis - A Case Study for Gulshan-E-Iqbal Town, Karachi Pakistan, Saad Malik, Institute of Space Technology, Javeria Gabriel Arain, Institute of Space Technology, Pakistan
Integrated Waste Management Systems for Developing Economies, Lakshmi Raghupathy, TERI University, India

SESSION 5D
Environmental and Health Impacts

Impact of Composting and Landfill Emissions on Climate Change, Sutripta Sarkar, Barrackpore Rastraguru Surendranath College, Sadhan Kumar Ghosh, Jadavpur University, India

Human Exposure of Chemicals Released from Plastic during Reuse and Recycling: Mixture Toxicity Issues and Challenges, Tanushree Parsai, Indian Institute of Technology Delhi, Arun Kumar, Indian Institute of Technology Delhi, India

Systematic Quantification of GHG Emissions Inventory Using USEPA Mandatory Reporting Rules Methodology: A Case Study of Cedar Hills Regional Landfill, King County, WA, Mizanur Rahman, King County Solid Waste Division, Toraj Ghofrani, King County Solid Waste Division, USA

Use of Collagen Nanofibrils to Clarify Turbid Water, Gennaro Maffia, Manhattan College, Amanda Belluccio, Manhattan College, Nicole Aylmer, Manhattan College, USA


Sustainability Analysis of Green Computing Alternatives Using AHP and QFD, Biswajit Debnath, Jadavpur University, Reshma Roychoudhuri, Heritage Institute of Technology, Sadhan K. Ghosh, Jadavpur University, India

10:20 a.m. – 10:50 a.m.
Break

10:50 a.m. – 12:35 p.m.
Sessions 6

SESSION 6A
Waste Business Analyses

Analysis of Barriers to Recyclable Market Development with the Inclusion of Waste Picker Organizations from Espirito Santo/Brazil: Scenarios for Appreciation, Renato Ribeiro Siman, Federal University of Espírito Santo, Renato Meira de Souza Dutra, Federal University of Espírito Santo, Luciana Harue Yamane, Federal University of Espírito Santo, Brasil

Occupational Dysfunction in Creating Value Proposition for Waste Pickers Organizations in Espirito Santo/Brazil, Renato Ribeiro Siman, Federal University of Espírito Santo, Juliana Pardinho Tackla, Federal University of Espirito Santo, Roquemar de Lima Baldam, Federal University of Espírito Santo, Luciana Harue Yamane, Brasil


SESSION 6B
Waste Management in Developing Areas

Waste Recycling: What Do Nigerian Prospective Teachers Know, Do and Feel?, *Ayodeji Ifegbesan*, University of Johannesburg, *Isaac T. Rampedi*, University of Johannesburg, **South Africa**


Characteristics and Management of Domestic Waste in Rural Area of China, *Zhiyong Han*, State Key Laboratory of Geohazard Prevention and Geoenvironment Protection (Chengdu University of Technology), *Guozhong Shi*, Biogas Institute of Ministry of Agriculture, *Zeng Dan*, Science School of Tibet University, **China**


SESSION 6C
Use of Wastes in Construction 2

Pervious Concrete Pavement: An Ecofriendly Solution, *Marleisa Arocho-Irizarry*, University of Puerto Rico at Mayagüez, *Sangchul Hwang*, University of Puerto Rico at Mayagüez, Puerto Rico

Evaluation of Partial Replacement of Calcium Carbide Residue with Cement on Compressive Strength of Concrete: Implication for Waste to Wealth, *Olubunmi Ajike Mokuolu*, University of Ilorin, *Bolarinwa Olaniyi*, University of Ilorin, Nigeria

Phosphorus Recovery from Storm Water Runoff with Fly Ash-Added Pervious Concrete, *Vincent Hwang*, Southwestern Educational Society, *Sangchul Hwang*, University of Puerto Rico at Mayagüez, Puerto Rico

Economic Potential of Gold Tailings Dams: A Case Study of the Klein Letaba Tailings Dam, Limpopo Province, South Africa, *Ndivhuwo Nemapate*, University of Venda, *Jason Ogola*, University of Venda, George Ekosse, University of Venda, South Africa
SESSION 6D
Special Session on Pyrolysis

Economic Review of Targeted Biochar Production and Application: A First Step towards a Societal Techno-Economic Analysis, Tom Emile Kuppens, Hasselt University, Ann Cuypers, Hasselt University, Marijke Jozefczak, Robert Carleer, Nele Witters, Robert Malina, Belgium

Carbon Negative Energy via the Fast Pyrolysis to Fuels and Bioproducts Platform, Mark Mba Wright, Iowa State University, Wenqin Li, Iowa State University, USA

Kinetics of Pyrolysis of Mixed Municipal Solid Waste, Vibhuti Chhabra, Monash University; Indian Institute of Technology, Bombay, Yogendra Shastrl, Indian Institute of Technology, Bombay, Sankar Bhattacharya, Monash University, Australia

12:35 p.m. – 1:35 p.m.
Poster Session 2

POSTER SESSION 2

Environmental Education: An Advocacy of a Travel Agency in Davao City, Philippines, Lilia Panchito, Davao Merchant Marine Academy-College of Southern Philippines, D'Artagnan Yambo, Philippine Long Distance Telephone, Shomae Lilli Panchito, Agro Industrial Foundation College of the Philippines, Ruben A. Neri, Elisa P. Madrazo, Jonathan Naraval, Philippines

Healthcare Waste Generation and Management in Public Healthcare Facilities in Adama, Ethiopia, Samuel Fekadu Hayleeyesus, Jimma University, Wondemagegn Cherinetc, Ethiopia

Contributing to a Sustainable Packaging Waste Management under a Circular Economy Approach: The Case Study of the Canned Anchovy Sector, Jara Laso, University of Cantabria, Maria Margallo, University of Cantabria, Spain

From a Linear to a Circular Economy: Environmental Concerns of Recycling Bottom and Fly Ashes from Municipal Solid Waste Incineration, Maria Margallo, University of Cantabria, Spain

Designing of Fly-Ash Reinforced Waste Plastic Composite Tiles for Societal Usage, Ridham Dhawan, CSIR - National Physical Laboratory, Sundeep Kumar Dhawan, CSIR - National Physical Laboratory, India

Integrated Sustainable Waste Management for Santiago de Chile and Inclusion of the Informal Sector, Fernanda Cabanas, Columbia University, Athanasios Bourtsalas, Columbia University, Alex Godoy-Faundez, Universidad del Desarrollo, USA

Estimation of the Energy Recovery Potential of Discarded Recyclable Solid Waste (Santo André, SP, Brazil), Rodolfo Shbrolini Tiburcio, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Mauro Malpeli Junior, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Andrea Carolina Gutierrez Gomez, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Juliana Tófano de Campos Leite Toneli, Ana Maria Pereira Neto, Brazil
Influence of Municipal Solid Waste Physical Composition in the Energy Potential of the Combustible Fraction of Wet Waste in Santo André City, SP, Brazil, Andrea Carolina Gutierrez Gomez, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Renata Almeida, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Rodolfo Sbrolini Tiburcio, Universidade Federal do ABC, Centro de Engenharia, Modelagem e Ciências Sociais Aplicadas, Mauro Malpeli, Juliana Tôfano dos Campos Leite Toneli, Gilberto Martins, Ana Maria Pereira Neto, Brasil

Synergetic Incorporation of Granite Waste and Coffee Husk Ash in Clay-Based Products, Wilson Acchar, Federal University of Rio Grande do Norte, Keite Avelino, Federal University of Rio Grande do Norte, Brazil

Evaluation of Asphalt Mixtures Using Red Mud as a Filler, Liseane Padilha Thives, Federal University of Santa Catarina, Mayara Lima, Federal University of Santa Catarina, Glicério Trichês, Federal University of Santa Catarina, Brazil

Waste Tires: Reverse Logistics in Brazil, Liseane Padilha Thives, Federal University of Santa Catarina, Gabriel Dibe Andrade, Federal University of Santa Catarina, Thiago Romeu Antunes, Federal University of Santa Catarina, Claudio Zimermann, Brazil

A Novel Iron Carbonate Binder that Recycles Steel Dust, Crushed Glass, and Carbon Dioxide, David Stone, Iron Shell LLC, Tohono O'odham Community College, Sumanta Das, University of Rhode Island, Leonid Frayman, Allegheny Coatings, USA

The Formation of Inorganic Fouling Scales on RO Membrane in a Landfill Leachate Treatment System, Xiaolan Zeng, Chongqing University, Yongzhou Huang, Chongqing University, Wenchuan Ding, Chongqing University, Kunyu Li, China

Partial Nitrification and Denitrification of Mature Landfill Leachate Using a Pilot-Scale Continuous Activated Sludge Process at Low Dissolved Oxygen, Zhengu Chen, South China University of Technology, Xiaojun Wang, South China University of Technology, Yongyuan Yang, South China University of Technology, Markus W. Mirino Jr., P. R. China

Biogas as a Strategic Resource on Renewable Energies in South Brazil, Marisa Soares Borges, Federal University of Parana, Marcelo Alves de Sousa, Parque Tecnológico Itaipu, Janaina Camile Pasqual, Parque Tecnológico Itaipu, Iara B.R. Rosa, Driely Rosa, Brazil

Anaerobic Co-Digestion of Solid Organic Waste and Manure of Farm Animals for Biogas Production, Osiris Cuevas, UNICACH, Azalia Salazar, UPEMOR, Ricardo Justo, UPEMOR, Goevanni Mulato, Fidel Aguilar, Joel Moreira, P.J. Sebastian, México

Study of Slow Release of Urea Supported on Straw Biochars, Marco Figueiredo, Universidade do Estado do Rio de Janeiro, Luana Ventura, Universidade do Estado do Rio de Janeiro, Ana Carvalho, Faculdade de Ciências da Universidade de Lisboa, Wallace Souza, Fabio da Silva, Mariene Maciel, Brasil

1:35 p.m. – 2:35 p.m.  
Luncheon

2:35 p.m. – 4:25 p.m.  
Sessions 7
SESSION 7A
Landfill 3

The Formation of Inorganic Fouling Scales on RO Membrane in a Landfill Leachate Treatment System, Xiaolan Zeng, Chongqing University, Yongzhou Huang, Chongqing University, Wenchuan Ding, Chongqing University, Kunyu Li, China

Advanced Treatment of Landfill Leachate by Chemical Oxidation - Biological Aerated Filter Processes, Xiaojun Wang, South China University of Technology, Xiaoyang Gu, Hualu Environmental Technology Co., Ltd., Zhengu Chen, South China University of Technology, P. R. China

Application of Membrane Technology to Treat Landfill Leachate, Thomas Pullar, EarthRes Group, Inc., USA

Comparing Different Options for Leachate Treatment in a Life Cycle Perspective, Francesco Di Maria, Università di Perugia, Federico Sisani, Università di Perugia, Italia

Characteristics of Organic Scales on RO Membrane from MSW Leachate Treatment Systems, Xiaolan Zeng, Chongqing University, Yujia Yao, Chongqing University, Wenchuan Ding, Chongqing University, Kunyu Li, China

SESSION 7B
Recycled Materials

Integrating Solid Waste Management and Transportation Safety with Pervious Concrete Bicycle Path, Carla Moreno Cortés, University of Puerto Rico, Mayaguez Campus, Alexandra Morales Vélez, University of Puerto Rico, Mayaguez Campus, Enrique González Vélez, University of Puerto Rico, Mayaguez Campus, Sangchul Hwang, Puerto Rico

Comprehensive Utilization of Chlor-Alkali Industry Salt Sludge, Jeng-Ywan Shih, Ming Chi University of Technology, Kuan-Chun Chiu, Ming Chi University of Technology, Zhi-Run Chen, Ming Chi University of Technology, Taiwan

A Novel Iron Carbonate Binder that Recycles Steel Dust, Crushed Glass, and Carbon Dioxide, David Stone, Iron Shell LLC, Tohono O'dham Community College, Sumanta Das, University of Rhode Island, Leonid Frayman, Allegheny Coatings, USA

SESSION 7C
Chemical Treatment Advances 2

Control of Pore Size and Morphology in Artificial Tissue Made from Waste Corium, Gennaro Maffia, Manhattan College, Olivia Mason, Manhattan College, USA

Reuse of Waste Plastics, Gennaro Maffia, Manhattan College, Olivia Mason, Manhattan College, Marissa Kaplan, Manhattan College, USA

Catalysis of Biodiesel Production Processes Using Phosphate Rock: Parametric and Optimization Study, Hassan El Shimi, Cairo University, Shakinaz El Sheltawy, Cairo University, Egypt
SESSION 7D
Agricultural Wastes 3

Comparative Assessment of Toxic Residues on Clarias gariepinus Smoked with Coal and Biochar-Loaded Kilns, Oluseun Motunrayo Osineye, Federal College of Fisheries and Marine Technology, Bethel Jahnezim, Federal College of Fisheries and Marine Technology, Nigeria

A New Approach of Increasing the Output Performances of Pathor Kuchi Leaf (PKL) Electrochemical Cell, Md. Mostofa Kamal, Brahmanbaria City Model College, Md. Kamrul Alam Khan, Jagannath University of Bangladesh, Md. Abdul Latif, Dhaka WASA, Md. Abdulla Al-Mamon, Bangladesh

Studies on Organic Fertilizer as a Solid Waste from Myrobalan during Electricity Generation, A. K. M. Obaydullah, Upazilla Resource Centre, Md. Kamrul Alam Khan, Jagannath University, Bangladesh

Closing the Plasticulture Loop: A Case Study Review from Queensland, Australia, Georgina Davis, Queensland Farmers' Federation, Australia

5:00 p.m. – 6:00 p.m.
Closing Reception

WEDNESDAY MARCH 22

8:00 a.m. – 9:00 a.m.
Conference check-in and registration

8:00 a.m. – 9:00 a.m.
Coffee

9:00 a.m. – 2:00 p.m.
Technical Field Trips (choose 1)

FIELD TRIP 1 – Environmental Landfill and Recycling

Delaware Solid Waste Authority Cherry Island Landfill
The Cherry Island Landfill is a municipal solid waste landfill located in Wilmington, Delaware. The site recently underwent a major landfill expansion. The expansion project included the successful design and construction of an 8,000-ft (1.5 mile) long, 60-ft high mechanically stabilized earth (MSE) berm over extremely soft river-dredge material. The site is located at the confluence of the Delaware and Christina Rivers. The completion of this landfill expansion project represents a significant engineering achievement considering the size of the MSE berm and the deep layer of very soft soils over which the berm was constructed. The berm consists of 1.5 million cubic meters of fill and is one of the highest and most massive reinforced structures constructed over soft soils ever built in the United States. By completing this berm the capacity of the landfill
to received waste was increased by an estimated 50 years. This pioneering project was selected as a finalist for the 2012 Outstanding Civil Engineering Achievement (OCEA) award by the American Society of Civil Engineers.

The Cherry Island Landfill manages approximately 1,200 tons of solid waste per day and operates four (4) unique handling areas. The state-of-the-art operation utilizes recovered resources for all operational needs such as landfill cover and access road construction. Zero virgin materials are imported for operational purposes. The landfill collects and processes approximately 3,000 scfm of landfill gas for the generation of green power. The landfill also operates a recycling area which removes materials such as metals, tires, drywall, and yard waste from the solid waste stream.

FIELD TRIP 2 - Waste Management at the Largest Shopping Mall in the U.S.A.

King of Prussia Mall
The King of Prussia Mall is the largest shopping mall in the United States in terms of leasable space. Covering 270,000 m² (2,900,000 ft²) with more than 240 stores and restaurants, walking every corridor and every isle of King of Prussia Mall would be the equivalent of walking across Manhattan. This field trip will examine the waste management and recycling operations at the mall, followed by an opportunity to enjoy the shopping.