

The Twenty-Eighth International Conference on Solid Waste Technology and Management

Philadelphia, PA, USA

March 10-13, 2013

AGENDA

(updated March 5, 2013)

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/>

Founder:
Iraj Zandi
University of
Pennsylvania

Chair:
Ronald L. Mersky
Widener University

Conference Manager:
Joy Foster
Widener University



Widener
University

The Journal of Solid Waste Technology and Management



Scientific Committee:

- Haluk Akgun, Middle East Technical University, Turkey
- Dra. Sara Ojeda Benitez, Autonomous University of Baja California, Institute of Engineering, México
- Giuseppe Bonifazi, Sapienza – Università di Roma, Italy
- Maria Cristina Borba Braga, Parana Federal University, Brazil
- Shoou-Yuh Chang, North Carolina A&T State University, USA
- Dr. Thomas Coskeran, Durham University Business School, UK
- Toru Furuichi, Graduate School of Engineering, Hokkaido University, Japan
- Ruby Mejía de Gutiérrez, Universidad del Valle, Colombia
- Mervat El-Hoz, University of Balamand, Lebanon
- Dr. (Mrs.) Kasturi Gadgil, Indian Institute of Technology, Delhi, India
- Dr. Albert B. Jubilo, Philippine Institute of Chemical Engineers, Philippines
- Maria Lyubarskaya, ENGECON (Saint-Petersburg State University of Engineering and Economics), Russia
- William L. Magette, PhD, UCD School of Civil, Structural and Environmental Engineering, Ireland
- Ilan Nissim, Ministry of Energy and Water Resources, Israel
- Dr. Chukwu Onu, Southern University A & M College, USA
- Genxing Pan, Nanjing Agricultural University, People's Republic of China
- Professor Paul Phillips, University of Northampton, Northampton, NN2 7AL, UK
- Eva Pongrácz, University of Oulu, Finland
- Professor Krishna R. Reddy, University of Illinois-Chicago, USA
- Dr. Jerry E. Uhuo, National Assembly Abuja, Nigeria
- Bruce Wilson, University of New Brunswick, Canada
- Anita Závodská, Barry University, USA

CONFERENCE SUMMARY

SUNDAY, MARCH 10, 2013

- Pre-Conference Tour of Philadelphia
- Professional Education Short Course on Solid Waste in Construction Applications
- Cultural Program
- Opening Reception

MONDAY, MARCH 11, 2013

Opening Plenary

Oral Presentations

- 1A Landfill 1
- 1B Recycling 1
- 1C Utilization of Wastes in Construction
- 1D Modeling and Planning

- 2A Biological Treatment 1
- 2B E-Waste
- 2C Case Studies 1
- 2D Environmental Protection

- 3A Recycling Technologies
- 3B Agricultural and Plant Wastes
- 3C Landfill 2
- 3D Innovative Technologies 1
- 3E Energy Recovery 1

- 4A Landfill 3
- 4B Waste Generation and Composition
- 4C Sludge and Mineral Wastes
- 4D Waste Utilization

Poster Session 1

TUESDAY, MARCH 12, 2013

Oral Presentations

- 5A Case Studies 2
- 5B Biological Treatment 2
- 5C Management of Specific Wastes
- 5D Landfill 4

- 6A Energy Recovery 2
- 6B Policy and Public Involvement 1
- 6C Research Advances 1

Poster Session 2

Oral Presentations

- 7A Agricultural and Food Wastes
- 7B Recycling 2
- 7C Innovative Technologies 2
- 7D Ash Utilization and Treatment

- 8A Policy and Public Involvement 2
- 8B Landfill 5
- 8C Research Advances 2
- 8D Special Workshop: Environmental Chemistry & Hydrogeology Made Easy, Part 1

Closing Reception

WEDNESDAY, MARCH 13, 2013

Special Workshop: Environmental Chemistry & Hydrogeology Made Easy, Part 2

Technical Field Trips

DETAILED AGENDA

SUNDAY, MARCH 10

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)

1:00 p.m. - 5:00 p.m.

Professional Education Short Course: Solid Waste in Construction Applications. Instructor: Magdy Abdelrahman, North Dakota State University. This course will focus on using recycled materials, like tire rubber and recycled asphalt pavement, to enhance the performance of pavement as an aspect of the civil infrastructure sustainability. Asphalt applications have the potential to contribute to the solution of the growing solid waste problem provided that raised engineering and environmental concerns are addressed. Recycled tires, also known as crumb rubber modifier (CRM), and recycled asphalt pavement (RAP) for example, can be engineered and used successfully in asphalt pavement applications. Asphalt binders represent an area that can improve pavement performance. Recycled asphalt pavement enhances the structural capacity of pavement layers. The course will provide up-to-date information on fundamentally characterizing the materials and process variables responsible for property development in asphalt-rubber and RAP applications. The course will cover examples of the use of CRM and RAP in infrastructure applications.

Professional Development Hours will be awarded to participants.
(additional fee)

Cultural Program: Philadelphia Orchestra and Philadelphia Museum of Art. Trips will be available to these renowned Philadelphia institutions. Space is limited. Email solid.waste@widener.edu for availability.

(additional fee)

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

Welcome Reception

MONDAY, MARCH 11

8:00 a.m. - 5:30 p.m.

Conference check-in and registration

8:00 a.m. – 9:00 a.m.

Coffee

9:00 a.m. – 9:30 a.m.

Opening Plenary

Presentation of the Russia-USA Solid Waste White Paper, Ronald L. Mersky, Widener University, **USA** and Maria Lyubarskaya, ENGECON (Saint-Petersburg State University of Engineering and Economics), **Russia**

9:30 a.m. – 10:55 a.m.

Sessions 1

SESSION 1A

Landfill 1

A Landfill Site Can Be Recycled Indefinitely, *Xu Fei (Philip) Wu*, W&Y Environmental International Inc., **Canada**

Converting Old Landfills into Naturalization Sites, *David Smith*, The Regional Municipality of Niagara, **Canada**

Evaluation of Bagasse Ash Treated Black Cotton Soil for Use in Waste Containment Applications, *Kolawole Osinubi*, Ahmadu Bello University, *Stephen Ijimdiya*, Ahmadu Bello University, **Nigeria**

Trees on Monolithic Landfill Final Covers, *Mick Williams*, Shaw Environmental & Infrastructure, Inc., **USA**

Effect of Frequency and Recirculated Volume in Produced Leachate, *María Claudia Delgado-Hernández*, Instituto Tecnológico de Toluca, *María del Consuelo Hernández-Berriel*, Instituto Tecnológico de Toluca, *Beatriz Barrientos Becerra*, Instituto Tecnológico de Toluca, *Liliana Márquez-Benavides, Ph.D.*, **México**

SESSION 1B

Recycling 1

An Economic and Technical Analysis of Emerging Post-Consumer Plastic Recycling Methods, *Matthew Franchetti*, The University of Toledo, *Connor Kress*, The University of Toledo, **USA**

The Management and Reverse Logistic of Industrial Waste as an Indicator of Sustainability, *Marisa Soares Borges*, Federal University of Parana, **Brazil**

Glass Recycling in Italy: Use of Waste Glasses in the Production of a New Materials, *Rosa Taurino*, University of Modena and Reggio Emilia, *Luisa Barbieri*, *Fernanda Andreola*, *Cristina Leonelli*, **Italy**

Resource Recovery through Efficient Recycling, *Lakshmi Raghupathy*, GIZ-IGEP, Deutsche Gesellschaft fur Internationale Zusammenarbeit GmbH, **India**

SESSION 1C

Utilization of Wastes in Construction

The Impacts of Using Potentially Hazardous Waste Materials as Aggregates in Concrete, *Diego Romero*, University of Miami, *Rodrigo Mora*, British Columbia Institute of Technology, *Carol Hays*, University of Miami, *Dr. Jacqueline James*, **USA**

A Novel Iron Carbonate Binder for Recycling Crushed Glass, Waste Steel Dust, and CO₂, *David Stone*, Tohono O'odham Community College, **USA**

Utilization of Solid Wastes to Produce Value Added Ceramic Products Useful for the Construction Industries, *Swapan Kumar Das*, CSIR-Central Glass & Ceramic Research Institute, **India**

The Use of a Petrochemical Industry Waste as a Partial Replacement to Portland Cement Concrete: Performance Against Chlorides and Carbonation, *Nancy Torres Castellanos*, Student Universidad Nacional de Colombia, *Janneth Torres Agredo*, Universidad Nacional de Colombia, *Ruby Mejia de Gutierrez*, Universidad del Valle, **Colombia**

SESSION 1D
Modeling and Planning

The Use of GIS: Spatial and Temporal Analysis of a Waste Management System within an English County, *Nicholas Head*, University of Northampton, *Paul S. Phillips*, University of Northampton, *Terry Tudor*, University of Northampton, *Prof. Margaret Bates*, **United Kingdom**

Transportation and Material Reuse in New York City: Opportunities for Partnership, *Alison Conway*, City College of New York, *Thomas Marano*, Materials Exchange Development Program, NYC Department of Sanitation, *Benjamin Rose*, Materials Exchange Development Program, NYC Department of Sanitation, *Vasil Diyamandoglu*, *David Hirschler*, **USA**

Biodegradable Municipal Waste (BMW) Management Strategy: Ireland and the Czech Republic Compared – A Year Later, *Anita Zavodska*, Barry University, *Anne Morrissey*, Dublin City University, *Libuse Benesova*, Charles University in Prague, **USA, Ireland and Czech Republic**

Life Cycle Assessment of an Innovative Process for PVC Cables Waste Recycling, *Cristian Chiavetta*, Delft University of Technology, *Valentina Luciani*, Delft University of Technology, *Peter Rem*, Delft University of Technology, **The Netherlands**

10:55 a.m. - 11:15 a.m.
Break

11:15 a.m. – 1:10 p.m.
Sessions 2

SESSION 2A
Biological Treatment 1

The Development of Biogas with Bio-Degradable Solid Waste Fermentation in China, *Hongxun Zhang*, University of Chinese Academy of Sciences, *Zhihui Bai*, Research Centre for Eco-Environmental Sciences, CAS, *Qian Wang*, Research Centre for Eco-Environmental Sciences, CAS, **P.R. China**

Innovative Treatments of Municipal Solid Waste Prior to Landfilling: Preliminary Results, *Paolo S. Calabro*, Università Mediterranea di Reggio Calabria, *Nicola Moraci*, Università Mediterranea di Reggio Calabria, **Italy**

Management of Solid Waste by Employing Rapid Composting Techniques Involving Microbial Formulations, *Kalpana Arora*, Indian Institute of Technology Delhi, *Satyawati*

Sharma, Indian Institute of Technology Delhi, **India**

Composting of Used Diapers, *Perla Xochitl Sotelo-Navarro*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Rosa María Espinosa-Valdemar*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Alethia Vázquez-Morillas*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Margarita Beltrán-Villavicencio*, *Xochitl Quecholac-Piña*, **México**

SESSION 2B

E-Waste

Recovery of Metals from Zinc-Carbon and Alkaline Batteries: A Proposal of a New Thermal Process, *Franco Medici*, Dep. Chemical Engineering, Materials and Environment, "Sapienza" University of Roma, *Gerolamo Belardi*, Institute for Environmental Engineering and Geosciences (CNR), via Salaria km 29,300, *Roberto Lavecchia*, Department of Chemical Engineering, Materials and Environment, "Sapienza" University of Rome, *Luigi Piga*, **Italy**

E-waste Generation and Management in Gaborone, Botswana - Assessing Current Practice and Potential Strategies for Improvement, *Mesfin Taye*, Linköping University, *Wisdom Kanda*, Linköping University, *Joakim Krook*, Linköping University, *Dr. Mattias Lindahl*, **Ethiopia**

Challenges in E-Waste Recycling in Developing Economies, *Lakshmi Raghupathy*, GIZ-IGEP, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, *Ashish Chaturvedi*, GIZ-IGEP, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, **India**

E-Waste Generation Patterns and Management Preference in Nigeria, *Fatima Badiru Ibrahim*, Ahmadu Bello University Zaria, Nigeria, *Donatus B. Adie*, Ahmadu Bello University Zaria, Nigeria, *Abdulraheem Giwa*, Ahmadu Bello University Zaria, Nigeria, *Professor Charles Amen Okuofu*, **Nigeria**

Assessment of Metal Recovery Efficiency for Waste Printed Circuit Boards (PCBs) from Consumer Electronic Products in Vietnam with MEMRECS Concept and Different End-of-Life Scenarios, *Hoang Long Le*, Graduate School of Energy Science, Kyoto University, *Keiichi N. Ishihara*, Graduate School of Energy Science, Kyoto University, *Eiji Yamasue*, Graduate School of Energy Science, Kyoto University, *Hideyuki Okumura*, **Japan**

SESSION 2C

Case Studies I

Analysis of Municipal Solid Waste Management in Ota, Ogun State, Nigeria: Potential for Wealth Generation, *David Olukanni*, Covenant University, **Nigeria**

Challenges of Domestic Solid Waste Management in an Emerging African Urban Environment: An Analysis of Stakeholder Perspectives from Lobatse in Botswana, *Tumelo Tinny Kwailane*, Private Participant, **Botswana**

Sustainable Health Care Waste Management in Nigeria - A GIS Mapping Approach, *Isa Iyortim*, United States Agency for International Development, *Kelechi Amaefule*, John Snow Incorporated, *Kalada Green*, United States Agency for International Development, *Abimbola, Sowande*, **Nigeria**

Development and Validation of a Stream Assessment Protocol for Tropical Climates, *Manny Anthony Taguba*, University of the Philippines - Diliman, **Philippines**

SESSION 2D

Environmental Protection

Remediation Of Contaminated Soil in Car Maintenance Centers, *Shakinaz El Sheltawy*, Cairo University, *Haidy Magdy*, Cairo University, **Egypt**

Prediction of Environmental Impacts from Using Municipal Solid Waste Derived Material as Co-fuel in Cement Kiln, *Deepak Singhal*, Indian Institute of Technology Bombay, *Anurag Garg*, Indian Institute of Technology Bombay, **India**

Health Impacts of Solid Waste on Urban Environment: Case of Akurana Town, *Sri Lanka*, *Lalitha Dissanayake Dissanayake Mudiyansele*, University of Peradeniya, Sri Lanka, *Breuste Juergen*, University of Salzburg, *Amanda Robinson*, Bowling Green State University, **Sri Lanka**

Future Implications of Utilizing Dedicated Pumps for Groundwater Sampling, *Julie Rose*, Groundwater Essentials, *Christine Batchelder*, Groundwater Essentials, *Craig Intelisano*, Proactive Environmental Products, **USA**

Assessment of Solid Waste Ash from Central Medical Incinerator: Environmental Impact, *Saleh M. A-Muzaini*, KISR, **Kuwait**

Coal Fired, Parallel Brayton-Rankine Power Cycles with Zero Emissions and CO2 Sequestration at 4% Efficiency Loss, *Bert Zauderer*, Coal Tech Corp, **USA**

1:10 p.m. - 2:00 p.m.

Awards Luncheon

Presentation of the Russell Ackoff Award, Roy F. Weston Award, Iraj Zandi Award and Student Paper Award

2:00 p.m. - 3:55 p.m.

Sessions 3

SESSION 3A

Recycling Technologies

A Comparative Study of Testing Methods for the Fatigue Lives of Neat and Polymer

Modified Binders with and without Mastics, *Yusuf Mehta*, Rowan University, *Gemma Peebles*, **USA**

Recycling of Black Plastic Bags, *Mansoor Imam*, Department of Civil Engineering, Sir Syed University of Engineering & Technology, Karachi, *Abdul Quddus*, Hydrocarbon Development Institute of Pakistan (HDIP), *Samiullah Bhatti*, Department of Civil Engineering, Sir Syed University of Engineering & Technology, **Pakistan**

Waste Paper Particle Size Determination and the Role of Influencing Parameters on Waste Paper Disc Screen Efficiency - Case Study on Constructed Disc Screen by Department of Processing and Recycling (I.A.R.), RWTH Aachen University - Germany, *Arash Rezaee*, RWTH Aachen University, *Anja Maul*, RWTH Aachen University, *Nils Bauerschlag*, RWTH Aachen University, *Thomas Pretz*, **Germany**

The Degradation of 4-Chlorophenol Using Visible Light Active Mesoporous Ce Incorporated Tio₂ Photocatalyst, *Murugesan Velayutham*, B.S. Abdur Rahman University, *Palanisamy Bommusamy*, Anna University, **India**

SESSION 3B

Agricultural and Plant Wastes

Utilization of Grains and Straw Pellets for the Evaluation and Further Development of a Small-Scale Combustion Unit, *Donnaly Cabaces*, Batangas State University, *Joel Cabaces*, **Philippines**

An Integrated Approach for Madhuca Indica (Mahua) Seed Cake Utilization, *Aditi Gupta*, Indian Institute of Technology Delhi, *Satyawati Sharma*, Indian Institute of Technology Delhi, **India**

Towards Zero Solid Waste: Utilising Tannery Waste as a Protein Source for Poultry Feed, *Hira Lal Paul*, The University of Northampton, *Paul Phillips*, University of Northampton, *Anthony D. Covington*, University of Northampton, *Dr. Paula Antunes*, *Mr. Paul Evans*, **United Kingdom**

Optimization of Biogas Production from Animal Wastes, *Mohamed Ben Oumarou*, Mechanical Engineering Department, University of Maiduguri, Borno State, *M. Dauda*, Department of Mechanical Engineering- University of Maiduguri, National Agency for Science and Engineering Infrastructure (NASENI), Abuja, **Nigeria**

Concrete Tiles with Dry Leaves, *Amelia Gonzales*, College of Engineering, Bicol University, *Annaliza Gratil*, College of Engineering, Bicol University, **Philippines**

Development of an Eggshell Powdering Machine, *Donnaly Cabaces*, Batangas State University, *Hector Comia*, *Chrislee Gonzales*, *Raffy Dalisay*, **Philippines**

SESSION 3C

Landfill 2

Lessons Learned from Successful Applications of Biological Leachate Treatment: Overview and Case Studies, *Sara Arabi*, Conestoga-Rovers & Associates, *George Nakhla*, University of Western Canada, *Andrew Lugowski*, Conestoga Rovers and Associates, **Canada**

Sulfate Radical Oxidation of Refractory Organic Matters and Ammonia-Nitrogen in Mature Landfill Leachate, *Cuibai Chen*, Montclair State University/Chinese University of Geosciences, *Huan Feng*, Montclair State University, *Yang Deng*, Montclair State University, **USA**

Examination of Heavy Metal Leaching from 100% Coal Combustion Fly Ash (CCFA) Concrete, *Carolyn Desrochers*, Villanova University, *Brian Chaplin*, Villanova University, *Aleksandra Radlińska*, The Pennsylvania State University, **USA**

VSep Treatment of Leachate, *Mark Galimberti*, VSep - New Logic, **USA**

SESSION 3D

Innovative Technologies 1

Procedure for Making Collagen Nanofibrils from Waste Bovine Corium, *Alex Bertuccio*, Manhattan College, *Gennaro Maffia*, Manhattan College, **USA**

Turbidity Reduction in Water Using Collagen Dispersions in a Modified Sand Filter, *Alex Bertuccio*, Manhattan College, *Gennaro Maffia*, Manhattan College, **USA**

Application of Locally Produced Activated Carbon from Waste Nigerian Bamboo, *Awajogak Ujile*, Department of Chemical/Petrochemical Engineering, Rivers State University of Science and Technology, **Nigeria**

SESSION 3E

Energy Recovery 1

A Study of Influencing Factors on Quality of Rice Straw Pellets, *Kazuei Ishii*, Graduate School of Engineering/Hokkaido University, *Toru Furuichi*, Graduate School of Engineering/Hokkaido University, *Shintaro Watanabe*, Hokkaido University, *Yu Tomokawa*, **Japan**

Performance Contracting of a Multifaceted Combined Heat and Power Plant Using Landfill Gas at a Corrections Facility, *Jerald Peterson*, Johnson Controls, Inc., *Robert Scott*, Johnson Controls, Inc., *Rao Chitikala*, Johnson Controls, Inc., *Carl Zickler*, *Jeffrey Simerl*, *Brina Clippinger*, *Paul Cunningham*, *Robert Cahill*, *Jim Kreutzberger*, *Dan Buck*, *Mark Harlacker*, **USA**

ASPEN-HYSYS Simulations for the Small Scale Conversion of Waste Plastics into Gaseous and Liquid Fuels, *Ahmed Mohamed El- Khaiary*, Alexandria University, Faculty of Engineering, *Alex Bertuccio*, Manhattan College, *Gennaro Maffia*, Manhattan College, **Egypt and USA**

Decision Support System for Development and Integration of Technologies for Energy Reclamation from Municipal Wastes, *Assaf Yoshi*, Ben-Gurion University of the Negev, *Gadi Rabinowitz*, Ben-Gurion University of the Negev, *Zeev Wiesman*, Ben-Gurion

University of the Negev, *Gideon Oron*, **Israel**

3:55 p.m. - 4:15 p.m.

Break

4:15 p.m. – 6:30 p.m.

Sessions 4

SESSION 4A

Landfill 3

Impact of Leachate Age on the Treatment Efficiency and Power Generation of Microbial Fuel Cells, *Mohamed Abdallah*, University of Ottawa, *Matthew Neilson*, University of Ottawa, *Kevin Kennedy*, University of Ottawa, **Canada**

Combined Treatment of “Old” Landfill Leachate by Anaerobic Ammonium Oxidation (Anammox) with Simultaneous Denitrification, *Shaoqi Zhou*, South China University of Technology, *Xiao Zhou*, South China University of Technology, *Perry Chou*, University of Waterloo, **P. R. China**

Benchmark Concentrations of Emerging Organic Pollutants from Leachate for Water Reuse Using Stochastic Risk Assessment, *Walter Tang*, Florida International University, **USA**

Treatment of Landfill Leachate with Reverse Osmosis Membrane Technologies, *Fangyue Li*, ROCHEM UF-Systeme GmbH, Germany

Landfill Leachate: How Much Is Lost and Where Did It Go?, *Ketil Haarstad*, Bioforsk Soil & Env., **Norway**

Geotechnical Characterization of Ankara Clay as a Liner Material, *Haluk Akgün*, Middle East Technical University (METU), **Turkey**

Treatment Methods for Leachate Impacted by Landfill Gas Well Pumping, *Ivan A. Cooper*, Civil & Environmental Consultants, Inc., *Eric D. Chiado*, **USA**

SESSION 4B

Waste Generation and Composition

Composition of Solid Waste Generated by the Tertiary Aluminum Recycling Industry, *Mirian Chieko Shinzato*, Federal University of São Paulo, *Luis Fernando Wu*, Federal University of São Paulo, *Inara Guglielmetti Braz*, Federal University of São Paulo, **Brazil**

Improved Methods to Determine Biochemical Methane Potential for MSW, *Ian Fleming*, University of Saskatchewan, *Kevin Mathison*, University of Saskatchewan, **Canada**

Measurement of Moisture Content of Fresh Municipal Solid Waste by Four-Point Probe Resistivity Method, *Sams Farhana*, Delaware State University, *Jebari Weekes*, Delaware State University, *Sahadat Hossain*, University of Texas at Arlington, *Noureddine*

Melikechi, Daniel Fluman, Mukti Rana, USA

Applicability of Waste Generation Factors in Estimation of Hazardous Waste Generation, *Ozge Yilmaz, Clemson University, Tanju Karanfil, Clemson University, Zehra Can, Marmara Univeristy, Ismail Toroz, Ozgur Dogan, Salim Oncel, Filiz B. Dilek, Ulku Yetis, USA*

SESSION 4C ***Sludge and Mineral Wastes***

Influences of Thermal Treatment on Evaporation and Leaching of Fluorides from Waste Slag Generated by Mg Production Using Pidgeon Process, *Fenglan Han, School of Material Science & Engineering, Beifang University of Nationalities, Laner Wu, School of Material Science & Engineering, Beifang University of Nationalities, Shengwei Guo, School of Material Science & Engineering, Beifang University of Nationalities, Qixing Yang, Chun Du, Yuhong Chen, China*

High Temperature Air Gasification (HTAG) Process of Sewage Sludge – Influence of the Gasification Agent Temperature on the Producer Gas Composition, *Sebastian Werle, Silesian University of Technology, Poland*

Re-use of Dredging Sludges as Semifinished Products, *Antonio D'Andrea, Sapienza University of Rome, Cristiano Fustaino, Cristina Tozzo, Sapienza University of Rome, Italy*

Flash Carbonization of Sewage Sludge, *Sam Van Wesenbeeck, University Hawaii (HNEI), Michael J. Jr Antal, University Hawaii (HNEI), Wolter Prins, University Ghent, Frederik Ronsse, USA*

Industrial Sludge Treatment, *Gordian Tah, JET Cameroon, Cameroon*

Methylene Blue Adsorption by the Waste of Phosphate Rock, *Gihan Malash, Alexandria University, Mohammad El-Khaiary, Alexandria University, Egypt*

High Temperature Air Gasification (HTAG) Process of Sewage Sludge – Influence of The Gasification Agent Temperature on The Producer Gas Composition, *Sebastian Werle, Poland*

SESSION 4D ***Waste Utilization***

RAP Testing Techniques for Pavement Applications, *Magdy Abdelrahman, North Dakota State University, USA*

Effective Solid Waste Management by Utilising BF Slag Waste as Replacement of Normal Coarse Aggregate in Concrete Applications, *Arun D. Pofale, Visvesvaraya National Institute of Technology, Mohammed Nadeem, Visvesvaraya National Institute of Technology, India*

Converting Waste from the Dimension Stone Industry into Sustainable Environmental Resources: Current Trends, Market Opportunities and Future Outlook, *Carla Furcas*, University of Cagliari, *Ginevra Balletto*, University of Cagliari, **Italy**

Improvement Asphalt Mixtures Behaviour Using Scrap Tires, *Liseane Padilha Thives*, Federal University of Santa Catarina State, *Glicério Trichês*, UFSC, *Jorge Pais*, Uminho University, *Paulo Pereira*, **Brazil**

Enhancement of Strength and Durability Properties of Quarry Dust Concrete Using Inorganic Inhibitors, *Devi M*, Paavai Engineering College, Affiliated to Anna University Chennai, *Murugesan V*, Anna University Chennai, *Dr. K. Kannan*, Government College of Engineering, Salem, Tamil Nadu, **India**

6:30 p.m. – 7:30 p.m

Posters 1 and Reception

POSTER SESSION 1

Heavy Metal Distribution Characteristics in Different Particle Size Fractions of Bottom Ash and Fly Ash from a Large-Sized (120 MW) Power Plant of a Fluting Board Mill, *Risto Pöykiö*, City of Kemi, *Olli Dahl*, Aalto University, School of Chemical Technology, *Gary Watkins*, Aalto University, School of Chemical Technology, *Kati Manskinen*, *Hannu Nurmesniemi*, **Finland**

Characterization of Bottom Ash and Fly Ash from an Industrial-Scale (120 MW) Power Plant Incinerating Biomass-Based Fuels, *Risto Pöykiö*, City of Kemi, *Kati Manskinen*, Stora Enso Oyj, Heinola Fluting Mill, *Hannu Nurmesniemi*, Stora Enso Oyj, Veitsiluoto Mill, *Gary Watkins*, *Olli Dahl*, **Finland**

Screening and Cloning the Heavy Metal Pollutants Resistant Genes of *Avicennia Marina* by Suppression Subtractive Hybridization, *Jicheng Zhang*, Xiamen University, *Chongling Yan*, Xiamen University, **China**

Use of Concentrated Solar Energy to Synthesize Alumina from an Aluminium Hazardous Waste, *Isabel Padilla*, Centro Nacional de Investigaciones Metalúrgicas. CSIC, *Sol López-Andrés*, Dpt. Cristalografía y Mineralogía. Fac. CC. Geológicas. UCM, *Marta Alvarez-Leal*, Dpt. Cristalografía y Mineralogía. Fac. CC. Geológicas. UCM, *Dr. Aurora López-Delgado*, **Spain**

Preliminary Studies to Recycling Gypsum with Solar Thermal Energy, *Sol López-Andrés*, Dpt. Cristalografía y Mineralogía. Fac. CC. Geológicas. UCM, *Aurora López-Delgado*, Centro Nacional de Investigaciones Metalúrgicas. CSIC, *David Sanz Arauz*, ETS Arquitectura. UPM, *Isabel Padilla*, *Marta Alvarez-Leal*, *Alfonso Vazquez*, **Spain**

Preparation and Characteristic Analysis of Densified Refuse-Derived Fuel for Thermal Treatment, *Yi-Ying Jin*, Tsinghua University, *Tian-Jing Mi*, China University of Mining & Technology, Beijing, *Fu-Qiang Liu*, Tsinghua University, **China**

Obtention of Soil Cement Bricks through Addition of PET (Polyethylene Terephthalate) Wastes, *João Alexandre Paschoalin Filho*, Universidade Nove de Julho, *João Henrique Storopoli*, Universidade Nove de Julho, **Brazil**

A New Trend in Collection and Transportation Management of Municipal Solid Waste in Shanghai, China, *Ying An*, Tongji University, *Guangming Li*, Tongji University, *Wenqing Wu*, Shanghai Waste Administrative Division, *Wenzhi He*, *Xiang Shi*, **China**

The Technology Research of the Co-processing of Municipal Sludge in Cement Rotary Kilns, *Wei Xu*, State Key Laboratory of Pollution Control and Resources Reuse, College of Environmental Science and Engineering, Tongji University, *Jingcheng Xu*, State Key Laboratory of Pollution Control and Resources Reuse, College of Environmental Science and Engineering, Tongji University, *Xiangfeng Huang*, State Key Laboratory of Pollution Control and Resources Reuse, College of Environmental Science and Engineering, Tongji University, *Juwen Huang*, *Chen Zhao*, *Guangming Li*, **China**

Vegetative Landfill Cover Performance in Seattle WA, *Isabel McClure*, King County Solid Waste, *Anne Holmes*, King County Solid Waste, *Erick Miller*, Aspect Consulting, *Peter Bannister*/Aspect Consulting, *Dr. Louis Licht*/Ecolotree, **USA**

Biogas Generation Characteristics of Bio-dried Organic Residue from Bio-drying MBT Facility, *Jae-Ram Park*, The University of Seoul, *Je-Hyun Nah*, The University of Seoul, *Sung-Jin Bae*, The University of Seoul, *Jeong-An Kwon*, *Dong-Hoon Lee*, **Korea**

Management Method for Waste from Sewage Plants as a Component of Concrete Designed for Local Roads, *Paweł Rajczyk*, Czestochowa University of Technology, Faculty of Civil Engineering, *Jarosław Rajczyk*, Czestochowa University of Technology, Faculty of Civil Engineering, *Zbigniew Respondek*, Czestochowa University of Technology, Faculty of Civil Engineering, **Poland**

The Analysis of the Influence of Fly Ashes on the Growth Rate of Concrete Compressive Strength and Freeze Resistance, *Jarosław Rajczyk*, Czestochowa University of Technology, Faculty of Civil Engineering, *Jacek Halbiniak*, Czestochowa University of Technology, Faculty of Civil Engineering, **Poland**

Chemical Characterization of Sewage Sludge by TGA/DTA, SEM/EDS and DLS: A Contribution to Its Reuse, *Danilo Santos*, University of São Paulo - USP / State University of São Paulo - UNESP, *Leila Vitorino*, University of São Paulo - USP, *Clóvis Ribeiro*, State University of São Paulo - UNESP, *Marisa S. Crespi*, **Brazil**

Management of Hazardous Chemical Waste in Higher Education Institutions: The Case of University of São Paulo - Campus of Ribeirão Preto, Brazil, *Danilo Santos*, University of São Paulo - USP / State University of São Paulo - UNESP, *Adriano Pimenta*, University of São Paulo - USP, *Regina Leal*, University of São Paulo - USP, *Fábio J. Caixeta*, *Marisa S. Crespi*, **Brazil**

Utilization of Grains and Straw Pellets for the Evaluation and Further Development of a Small-Scale Combustion Unit, *Donnalyn Cabaces*, Batangas State University, *Joel Cabaces*, **Philippines**

Development of an Eggshell Powdering Machine, *Donnalyn Cabaces*, Batangas State University, *Hector Comia*, *Chrislee Gonzales*, *Raffy Dalisay*, **Philippines**

Development of a Liquid Manure Disposal System for the Swine Industry in the

Philippines, *Michael Aloria*, Batangas State University, **Philippines**

Development and Performance Evaluation of a Biodegradable Waste Milling Machine for Composting System, *Michael Aloria*, Batangas State University, *Christian Roy Marasigan*, *Abegail Barte*, *Engr. Ibrahim Manalo*, **Philippines**

Investigation and Analysis of Informal End-of-Life Vehicle (ELV) Treatment in China, *Shuhan Hu*, Chiba University, *Hidefumi Kurasaka*, Chiba University, *Yanping Yang*, State Key Laboratory of Advanced Design and Manufacturing for Vehicle Body (Hunan University), **Japan**

Composting of Used Diapers, *Perla Xochitl Sotelo-Navarro*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Rosa María Espinosa-Valdemar*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Alethia Vázquez-Morillas*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Margarita Beltrán-Villavicencio*, *Xochitl Quecholac-Piña*, **México**

Degradation of Plastics on Marine Environment, *Juan Carlos Álvarez-Zeferino*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Margarita Beltrán-Villavicencio*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Alethia Vázquez-Morillas*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Rocío Gutiérrez-Ortíz*, *Rosario Enríquez-Rosado*, **México**

E-waste Generation and Management in Gaborone, Botswana - Assessing Current Practice and Potential Strategies for Improvement, *Mesfin Taye*, Linköping University, *Wisdom Kanda*, Linköping University, *Joakim Krook*, Linköping University, *Dr. Mattias Lindahl*, **Ethiopia**

Glass Recycling in Italy: Use of Waste Glasses in the Production of a New Materials, *Rosa Taurino*, University of Modena and Reggio Emilia, *Luisa Barbieri*, *Fernanda Andreola*, *Cristina Leonelli*, **Italy**

The Management and Reverse Logistic of Industrial Waste as an Indicator of Sustainability, *Marisa Soares Borges*, Federal University of Parana, **Brazil**

Numerical Simulation for Remediation of 1,4-Dioxane-Contaminated Groundwater at Aomori-Iwate Illegal Dumping Site in Japan, *Kazuei Ishii*, Graduate School of Engineering/Hokkaido University, *Toru Furuichi*, Graduate School of Engineering/Hokkaido University, *Yuto Okajima*, Hokkaido University, **Japan**

Preparation of Carbonaceous Heavy Metal Adsorbent from Paper Sludge Using Sulfur Impregnation, *Takaaki Wajima*, Akita University, **Japan**

A System Architecture Approach to the Identification and Valuation of Design Option Flexibilities Under Uncertainty, *Cesar Casanova*, The George Washington University, *Thomas Mazzuchi*, The George Washington University, *Shahram Sarkani*, The George Washington University, **USA**

TUESDAY, MARCH 12

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. - 10:10 a.m.
Sessions 5

SESSION 5A
Case Studies 2

Alternative Management Strategy of Solid Waste in Developing Countries, Nairobi Kenya Case Study, *Shoou-Yuh Chang*, North Carolina A&T State University, *Jenberu Feyyisa*, North Carolina A&T State University, **USA**

Implementation of Integrated Municipal Waste Management Systems in Romania. Case Studies., *Alexei Atudorei*, Romanian Association for Solid Waste Management, *Luminita Gabriela Atudorei*, TeamNet Engineering Romania, *Mihai Gabriel Ghinea*, TeamNet Engineering Romania, **Romania**

Building Resilience through Solid Waste Management: The Case of the Province of Iloilo, Central Philippines., *Joy Lizada*, College of Management, University of the Philippines Visayas, *Rhodella Ibabao*, College of Management, University of the Philippines Visayas, **Philippines**

Evaluation of the Contemporary Municipal Solid Waste Management in Addis Ababa (Ethiopia), *Hayal Desta Yimer*, Addis Ababa University, *Hailu Worku*, Addis Ababa University, **Ethiopia**

Evaluation of the Performance of Integrated MSW Management Scenarios in Europe: Preliminary Results., *Paolo S. Calabro'*, Università Mediterranea di Reggio Calabria, *Claudio Lubello*, Università di Firenze, *Manuela Gori*, Università di Firenze, **Italy**

Waste Management Approach in Nigeria: What Exists, What Alternatives., *Taiwo Odumosu*, Olabisi Onabanjo University, *Bola Ogunsanwo*, Olabisi Onabanjo University, *Ajose Dorcas Oluwatoyin*, University of Ibadan, *Esuruoso Olasupo Abiodun*, Olabisi Onabanjo University, *Remi Olasore*, Olabisi Onabanjo University, *Abolarin Temitope Abiodun*, **Nigeria**

Solid Waste Management in Sugar Industry: A Case Study of Sanjeevani Co-operative Sugar Factory Goa India., *Prakash Munnoli*, SDM College of Engineering and Technology, *Saroj Bhosle*, Goa University, **India**

SESSION 5B
Biological Treatment 2

Development and Performance Evaluation of a Biodegradable Waste Milling Machine for Composting System, *Michael Aloria*, Batangas State University, *Christian Roy Marasigan*, *Abegail Barte*, *Engr. Ibrahim Manalo*, **Philippines**

Advanced Exhaust Treatment for MBT Plants, *Erdogan Coskun*, Department of Processing and Recycling RWTH Aachen University, *Bastian Wens*, Department of Processing and Recycling RWTH Aachen University, *Thomas Pretz*, Department of Processing and Recycling RWTH Aachen University, **Germany**

Role of Bacterial Inoculums on Bioconversion of Press Mud Using *Eudrilus Eugeniae* (Kinberg), *Prakash Munnoli*, S.D.M. College of Engg and Technology, **India**

Converting Waste to Money Using Managed Ecosystem Fermentation, *Edward Calt*, Integrated BioChem, LLC, **USA**

SESSION 5C

Management of Specific Wastes

Recovery of Homogeneous Materials from Composite Masonry Structures by Crushing and Mechanical Separation – Limitations of Prevalent Processes, *Mirko Landmann*, Weimar Institute of Applied Construction Research, *Anette Müller*, Weimar Institute of Applied Construction Research, *Ulrich Palzer*, Weimar Institute of Applied Construction Research, **Germany**

Collection and Recycling Options for Small Single-Use Propane Cylinders, *Travis Wagner*, University of Southern Maine, **USA**

Investigation and Analysis of Informal End-of-Life Vehicle (ELV) Treatment Sector in China, *Shuhan Hu*, Chiba University, *Hidefumi Kurasaka*, Chiba University, *Yanping Yang*, State Key Laboratory of Advanced Design and Manufacturing for Vehicle Body (Hunan University), **Japan**

Degradation of Plastics on Marine Environment, *Juan Carlos Álvarez-Zeferino*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Margarita Beltrán-Villavicencio*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Alethia Vázquez-Morillas*, Universidad Autónoma Metropolitana - Unidad Azcapotzalco, *Rocío Gutiérrez-Ortíz*, *Rosario Enríquez-Rosado*, **México**

SESSION 5D

Landfill 4

Attenuative Capacity of Compacted Bagasse Ash Treated Foundry Sand, *Kolawole Osinubi*, Ahmadu Bello University, *George Moses*, Nigerian Defence Academy, **Nigeria**

Laser Induce Breakdown Spectroscopy (LIBS) - A New Technique to Determine Metals in Landfill Leachate, *Sams Farhana*, Delaware State University, *Poopalasingam Sivakumar*, Delaware State University, *Jebari Weekes*, Delaware State University, *Noureddine Melikechi*, *Sahadat Hossain*, *Daniel Fluman*, *Mukti Rana*, **USA**

10:10 a.m. - 10:30 a.m.

Break

10:30 a.m. – 12:15 p.m.

Sessions 6

SESSION 6A

Energy Recovery 2

Thermal Decomposition Characteristics of Automobile Shredder Residue, *Juma Haydary*, Slovak University of Technology in Bratislava, *Dalibor Susa*, Slovak University of Technology, **Slovakia**

Economic Analysis of Biodigesters as an Appropriate Waste-to-Energy Technology in the Developing World with Case Study, *Adam Dellinger*, The University of Toledo, *Matthew Franchetti*, The University of Toledo, **USA**

Influence of the Operating Conditions on Sewage Sludge Gasification Process in the Fixed Bed Gasifier, *Sebastian Werle*, Silesian University of Technology, **Poland**

Pyrolytic Conversion of Corncoobs to Biofuels, *Olumuyiwa Lasode*, University of Ilorin, *Innocent Oyerinde*, University of Ilorin, *Ayokunle Balogun*, Lower Niger River Basin Development Authority, **Nigeria**

Energy Recovery from Crude Oil Residue Using Thermal Plasma Pyrolysis, *Vijay Kumar Srivastava*, Pandit Deendayal Petroleum University, Gandhinagar, **India**

Regenerative Energy from Industrial and Municipal Organic Waste, *Torsten Fischer*, Krieg & Fischer Ingenieure GmbH, *Katharina Backes*, Krieg & Fischer Ingenieure GmbH, **Germany**

SESSION 6B

Policy and Public Involvement 1

Survey of Study Activities in Environmental Education at Elementary Schools in Japan, *Masafumi Tateda*, Toyama Prefectural University, *Natsuki Myoui*, Toyama Prefectural University, **Japan**

Model of Economic Development Surrounding Sustainable Development through Environmental Education, *Marisa Soares Borges*, Federal University of Parana, **Brazil**

An Industry-Led Waste Strategy for Queensland: Process and Outcomes, *Georgina Davis*, Waste Recycling Industry Association (Queensland), **Australia**

Towards a Zero Waste Vision: Backcasting as a Potential Method for Achieving Effective Policy Formation, *Nicholas Head*, University of Northampton, *Paul S. Phillips*, University of Northampton, *Terry Tudor*, University of Northampton, *Prof. Margaret Bates*, **United Kingdom**

Attitudes to the Use and Disposal of Pharmaceuticals, *Anne Morrissey*, Dublin City

University, *Cecilia Fenech*, Dublin City University, *Kieran Nolan*, Dublin City University, *Luc Rock*, *John Tobin*, **Ireland**

State-of-Art of Russian Solid Waste Management System and Perspectives of Its Development, *M. A. Lyubaskaya*, Saint-Petersburg State University of Engineering and Economics, **Russia**

SESSION 6C *Research Advances 1*

Study on the Stabilization/Solidification of Lead with Rich-Silicon Materials, *Longjiao Shen*, Wuhan Environmental Protection Science Academy, Wuhan, PR China, *Weixing Wang*, School of Resource and Environment Science, Wuhan University, Wuhan, PR China, *Yan Shao*, School of Resource and Environment Science, Wuhan University, Wuhan, PR China, *Haobo Hou*, *Min Zhou*, **China**

Effect of Tannery Effluent and Contamination Curing Period on Some Geotechnical Properties of Lateritic Soil, *Adrian Eberemu*, Ahmadu Bello University, *Agapitus Amadi*, Federal University of Technology, Minna, *Kolawole Osinubi*, Ahmadu Bello University, **Nigeria**

Economic Evaluation of the Implementation and Operation of Landfills in Open Pits Remaining from Mining Activity, *Raul Oliveira Neto*, Federal University of Pampa - UNIPAMPA, *Carlos Otávio Petter*, Federal University of Rio Grande do Sul - UFRGS, *Luis Eduardo Souza*, Federal University of Pampa - UNIPAMPA, **Brazil**

Comparison of Degradation of Methylene Blue by N Doped ZnO and Iron Ore Rejects, *Vrinda Borker*, Dhempe College of Arts and Science, *Rajashri Karmali*, Govt. College of Arts Science and Commerce, *Koyar Rane*, Rani Chennamma University, **India**

A Geopolymer Synthesized from Calcined Ore-Dressing Tailing of Bauxite and Its Low-Temperature Properties, *Wensheng Zhang*, China Building Materials Academy, *Jiayuan Ye*, China Building Materials Academy, **China**

Enhancing Printed Circuit Boards Leaching by Ultrasound, *Denis Massucatto*, University of Sao Paulo, *Jorge Alberto Soares Tenório*, University of Sao Paulo, *Denise Crocce Romano Espinosa*, University of Sao Paulo, **Brazil**

Activated Carbon Production from Date Stones: New Approach, *Gagik Torosyan*, State Engineering University of Armenia, *Dezi Hovhannisyn*, The European Regional Educational Academy, **Republic of Armenia**

Study of Bioelectricity Generation by Using Compost in Paddy Plant Microbial Fuel Cell, *M. A. Moqsud*, Yamaguchi University, *K. Omine*, Nagasaki University, *M. Hyodo*, Yamaguchi University, *Y. Nakata*, *J. Yoshitake*, **Japan**

12:15 p.m. – 1:15 p.m.
Poster Session 2

POSTER SESSION 2

Bio-ethanol Production Potentials of Different Parts of Yam Tuber, *Bartholomew Okolo*, University of Nigeria, *Anene Moneke*, University of Nigeria, *Reginald Agu*, The Scotch Whisky Research Institute, *J.W. Walker*, **Nigeria**

Characterization of Sugar Cane Mills Wastes and Evaluation of Thermal Behavior in Both N₂/O₂ and CO₂/O₂ Atmospheres, *Daniel Rodrigues da Silva*, Instituto de Química de Araraquara/Universidade Estadual Paulista, *Marisa Spirandeli Crespi*, Instituto de Química de Araraquara/Universidade Estadual Paulista, *Paula Manoel Crnkovic*, Instituto de Química de Araraquara/Universidade Estadual Paulista, *José Anchieta Gomes Neto*, **Brazil**

Carbon Footprint & Recycling Scenarios, *Lakshmi Raghupathy*, GIZ-IGEP, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, **India**

Diffusion of Ions Present in the Vinasse through a Tropical Soil, *Miriam Gonçalves Miguel*, State University of Campinas, *Thalita Priscila Suguikawa*, State University of Campinas, *Bruno Cesar Mortatti*, State University of Campinas, *Sueli Yoshinaga Pereira*, **Brazil**

Hydraulic Conductivity of Municipal Solid Waste from Brazil, *Bruno Cesar Mortatti*, State University of Campinas, *Barbara Cesar Martins*, State University of Campinas, *Julio Cesar Beltrame Benatti*, State University of Campinas, *Jorge Luiz da Paixão Filho*, *Miriam Gonçalves Miguel*, *Sueli Yoshinaga Pereira*, **Brazil**

Volume to Weight Conversion Factors for Commercial Office Buildings (NYC), *Amy Marpmann*, Great Forest, *Matthew Shurtleff*, *Ross Guberman*, *Richard Fuller*, **USA**

Thermal Characterization as a Precursor Tool for the Sewage Sludge Reuse in Power Generation, *Lilian Danielle de Moura Torquato*, Chemistry Institute / Universidade Estadual Paulista, *Marisa Spirandeli Crespi*, Chemistry Institute / Universidade Estadual Paulista, *Clóvis Augusto Ribeiro*, Chemistry Institute / Universidade Estadual Paulista, **Brazil**

Identification of Organic Compounds in Leachate from in Brazilian Sanitary Landfill by CG/MS, *Sonia Almeida*, IQ-UNESP, *Evaneide Lima*, IQ-UNESP, *Marisa Crespi*, IQ-UNESP, **Brazil**

Statistic Method for Metal Analyzes in Brazilian Sanitary Landfill Residues, *Sonia Almeida*, IQ-UNESP, *Laercio Lucas*, AFA- Academia da Força Aérea - Pirassununga-SP, *Marisa Crespi*, IQ-UNESP, **Brazil**

Factors Affecting Methane Production from “Isatis Tinctoria L.” by Anaerobic Digestion, *Rosa Taurino*, University of Modena and Reggio Emilia, *Manuela Carchesio*, *Isabella Lancellotti*, *Fabio Tatano-Evelin Colombo-Luisa Barbieri*, **Italy**

Factors Affecting Methane Production from “Isatis Tinctoria L.”, *Manuela Carchesio*, aDiSBeF - Department of Base Sciences and Fundamentals, Section of Bio-Mathematics, Environmental Modeling and Engineering, University of Urbino “Carlo Bo”, Urbino, Italy, *Isabella Lancellotti*, *Fabio Tatano*, *Rosa Taurino*, *Luisa Barbieri*, Urbino (**Italy**)

Re-use of Dredging Sludges as Semifinished Products, *Antonio D'Andrea*, Sapienza University of Rome, *Cristiano Fustaino*, *Cristina Tozzo*, Sapienza University of Rome, **Italy**

Application of Silica Reduction Technology for Fly Ash Zeolite Synthesis, *Vijay Kumar Srivastava*, Pandit Deendayal Petroleum University, *Chintan Pathak*, PDPU, **India**

RAP Testing Techniques for Pavement Applications, *Magdy Abdelrahman*, North Dakota State University, **USA**

Applicability of Waste Generation Factors in Estimation of Hazardous Waste Generation, *Ozge Yilmaz*, Clemson University, *Tanju Karanfil*, Clemson University, *Zehra Can*, Marmara University, *Ismail Toroz*, *Ozgur Dogan*, *Salim Oncel*, *Filiz B. Dilek*, *Ulku Yetis*, **USA**

Improvement Asphalt Mixtures Behaviour Using Scrap Tires, *Liseane Padilha Thives*, Federal University of Santa Catarina State, *Glicério Trichês*, UFSC, *Jorge Pais*, Uminho University, *Paulo Pereira*, **Brazil**

Industrial Sludge Treatment, *Gordian Tah*, JET Cameroon, **Cameroon**

Effects of Solid Waste Dumping on the Spatial and Temporal Variability of Shallow Groundwater and Nitrate Contamination in Bundelkhand Region of India, *Sutapa Bose*, IISER Kolkata, *Amit Singh Chauhan*, Bundelkhand University, *Jayalakshmi Oinam*, Jawaharlal Nehru University, *G. Senthilkumar*, *Anamika Shrivastava*, *Al. Ramanathan*, **India**

A Micromechanical Model to Heterogeneous and Complex Solid Materials, *Buonsanti Michele*, Department of Civil, Environmental, Energy and Materials Engineering, Mediterranean University of Reggio Calabria, *Leonardi Giovanni*, Department of Civil, Environmental, Energy and Materials Engineering, Mediterranean University of Reggio Calabria, *Schepis Micol*, Department of Civil, Environmental, Energy and Materials Engineering, Mediterranean University of Reggio Calabria, **Italy**

β -Cyclodextrin-Modified Zeolite from Fly Ash: Synthesis, Characterization, and Adsorption Properties, *Ana Lucia Ramalho Mercê*, Laboratório de Equilíbrio Químico - Departamento de Química Universidade Federal do Paraná - UFPR, *Denise Alves Fungaro*, Instituto de Pesquisas Energéticas e Nucleares, IPEN - CNEN/SP, *Aurora López-Delgado*, National Centre for Metallurgical Research. CSIC, *Isabel Padilla*, *Olga Rodríguez*, *Carina Pitwak Magdalena*, *Edgar Winter Júnior*, *Tharcila Colachite Rodrigues Bertolini.*, **Brazil**

Activated Carbon Production from Date Stones: New Approach, *Gagik Torosyan*, State Engineering University of Armenia, *Dezi Hovhannisyn*, The European Regional Educational Academy, **Republic of Armenia**

Characterization of Waste from the Cutting of Marble for the Production of Synthetic Slags, *Felipe Grillo*, University of São Paulo, *Jose Oliveira*, Institute of Espirito Santo, *Denise Espinosa*, University of São Paulo, *Raphael de Alcantara Sampaio*, *Jorge Alberto Soares Tenório*, **Brazil**

1:15 p.m. – 2:15 p.m.

Luncheon

2:15 p.m. – 4:15 p.m.

Sessions 7

SESSION 7A
Agricultural and Food Wastes

A Comparative Study on Straw Biogasification Using Different Fixed Bed Anaerobic Fermentation Technologies, *Hongguang Zhu*, Tongji University, *Yalei Zhang*, Tongji University, **China**

Extraction of Potassium and Ammonium Fertilizer from Rice Straw, *Shakinaz El Sheltawy*, Cairo University, *Dina Magdy*, Central Metallurgical R & D Institute, *Marwa Shalaby*, National Research Center, **Egypt**

Preliminary Study on the Use of Sugar Cane Bagasse Ash as an Addition to Portland Cement, *Janneth Torres Agredo*, Universidad Nacional de Colombia, *Camilo Ernesto Escandón Giraldo*, *Ruby Mejía de Gutiérrez*, Universidad del Valle, *Luis Octavio Gonzalez Salcedo*, **Colombia**

Development of a Liquid Manure Disposal System for the Swine Industry in the Philippines, *Michael Aloria*, Batangas State University, **Philippines**

Study of Particle Size Distribution on Fluidization Parameters in a 5MW AFBC Power Plant Using Cotton Stalk, *Saroj Kumar Mohapatra*, Thapar University, Patiala, *Rajeev Kamal Sharma*, Thapar University, Patiala, **India**

Utilization of Agro-Industrial Waste as Organic Fertilizer to Enhance the Growth, Yield and Quality of Egg Plant (*Solanum melongena*), *Abhishek Sharma*, Indian Institute of Technology Delhi, *Satyawati Sharma*, Indian Institute of Technology Delhi, **India**

Market-based System of Municipal Solid Waste Composting, *M. El-Hoz*, The University of Balamand, **Lebanon**

SESSION 7B
Recycling 2

The Process Evolution - Technology at the Service of Recycling, *Jeremie Bourgeois*, Sherbrooke OEM, **Canada**

Trends in Plastics Recycling and Reuse, *Randy Rossow*, Saint Martin's University, *D. S. Mahamah*, Saint Martin's University, **USA**

Reuse and Recycling of Construction Waste: A Comparative Study between Brazil and Portugal, *P. L. Côrtes*, Universidade Nove de Julho – Uninove, Universidade de São Paulo – USP, *Antônio Guerner Dias*, Universidade do Porto, *J. A. Paschoalin Filho*, Universidade Nove de Julho – Uninove, **Brazil**

Analysis of a University Campus Recycling Program, *Ronald L. Mersky*, Widener University, Department of Civil Engineering, *Brian Ayres*, Student, *Vincent Erdlen*, Student, *James Magaw*, Student, *Joseph Wizda*, Student, Widener University, **USA**

SESSION 7C
Innovative Technologies 2

Recovery of Glass from MBT Residue by Gravity Concentration: Effect of Up Stream Processing in Particle Shape, *M. Teresa Carvalho*, CERENA, Instituto Superior Técnico, Technical University of Lisbon, *Nilmara Dias*, CERENA, Instituto Superior Técnico, Technical University of Lisbon, *Nuno Belo*, CERENA, Instituto Superior Técnico, Technical University of Lisbon, *Angela Maximo*, *Stephanie Landim*, *Pedro Pina*, *Jorge Sousa*, **Portugal**

Modeling and Simulation of Flow Distribution of Centrifugal Slurry Pump, *Satish Kumar*, Thapar University, Patiala, *Saroj Kumar Mohapatra*, Thapar University, Patiala, *Bhupendra Kumar Gandhi*, IIT Roorkee, **India**

Removal of Oil Products from Waste Water by Cable Factories Waste, *Anush Harutyunyan*, "Expertise Center of Republic of Armenia" State Non Profit Organization, *Gagik Torosyan*, State Engineering University of Armenia, **Armenia**

Bioremediation of Toxic Organics and Recovery of Radioactive Elements from Nuclear Wastewater, *Evans M. N. Chirwa*, University of Pretoria, *Pulane E. Molokwane*, University of Pretoria, *Nonhlanhla Ngwenya*, University of Pretoria, *Phumza V. Tikilili*, **South Africa**

Earth Emfc, Ripple, Creep, Waste, Building Design Consideration, *Ranjan Roy*, Temple University, **USA**

Lighting the Future for Mercury Waste Disposal, *Mark Ceaser*, Environmental Solutions & Technologies, **USA**

SESSION 7D
Ash Utilization and Treatment

Properties Influencing the Manufacturing of Artificial Aggregates from Pond Ash, *Vasugi V*, Indian Institute of Technology-Madras, *Ramamurthy K*, Indian Institute of Technology Madras, **India**

Influence of Compactive Efforts on Lateritic Soil Stabilized with Bamboo Leaf Ash, *Afeez Bello*, Osun State University, *Kolawole Osinubi*, Ahmadu Bello University, **Nigeria**

Application of Silica Reduction Technology for Fly Ash Zeolite Synthesis, *Vijay Kumar Srivastava*, Pandit Deendayal Petroleum University, *Chintan Pathak*, PDP, **India**

The Effect of Metal Chelating on the Solidification/Stabilization of Municipal Solid Waste Incinerator (MSWI) Fly Ash Using Blast Furnace Slag-Based Cementitious Materials, *Yan Shao*, School of Resource and Environment Science, Wuhan University, Wuhan, PR China, *Min Zhou*, School of Resource and Environment Science, Wuhan University, Wuhan, PR China, *Weixing Wang*, School of Resource and Environment Science, Wuhan University, Wuhan, PR China, *Haobo Hou*, **China**

Feasibility of Use of a High Percentage Fly Ash Unburned Material in Alkaline Activation Processes, *Johanna Mejia*, Universidad del Valle, *Jhonathan Rivera*, Universidad del Valle, *Ruby Mejia de Gutierrez*, Universidad del Valle, **Colombia**

Recovery of NF-Metals from Bottom Ash and Further Processing, *Stefan Heinrichs*, RWTH Aachen University, Department of Processing and Recycling, *David Ruessmann*, RWTH Aachen University, Department of Processing and Recycling, *Thomas Pretz*, RWTH Aachen University, Department of Processing and Recycling, **Germany**

4:15 p.m. – 4:35 p.m.

Break

4:35 p.m. – 6:35 p.m.

Sessions 8

SESSION 8A

Policy and Public Involvement 2

Applicability of NIMBY and NIMTO Syndromes, and Willingness and Ability to Pay for Improved Solid Waste Management among Nairobi Households, *Augustine Afullo*, North Central College, *Benjamin Danga*, Kenyatta University, **USA**

The Evolution of Value Chains and Recycling Opportunities in the Informal Management of Municipal Solid Waste of Kaduna Metropolis, Nigeria, *Yusuf Rigasa Abdullahi*, Kaduna State University, *Bala Isah Abdulkarim*, University of Abuja, *Abdul Gambo Badamasi*, Kaduna Polytechnic, **Nigeria**

SESSION 8B

Landfill 5

Asbestos Removal from Closed Landfill in the State of Kuwait, *Mohammad Abdulrahman*, Kuwait University-Faculty of Science, *Zeinab Haji Alipour*, Kuwait University-Faculty of Science, *Noura Al-Sarawi*, Wilkes University, **Kuwait**

Waste to Energy from Municipal Closed Landfill – Case Study: Al-Qurain Landfill, Kuwait, *Aliaa Al-Shaalan*, Ministry of Electricity and Water, *Noura Al-Sarawi*, Wilkes University, *Mohammad Abdulrahman Al-Sarawi*, Kuwait University - Faculty of Science, **Kuwait**

SESSION 8C

Research Advances 2

Effects of Solid Waste Dumping on the Spatial and Temporal Variability of Shallow Groundwater and Nitrate Contamination in Bundelkhand Region of India, *Sutapa Bose*, IISER Kolkata, *Amit Singh Chauhan*, Buedelkhand University, *Jayalakshmi Oinam*, Jawaharlal Nehru University, *G. Senthilkumar*, *Anamika Shrivastava*, *Al. Ramanathan*, **India**

Assessment and Management of Used Pesticide Containers from Farm Lands in Kaduna

State, Nigeria, Usman Ibrahim, Ahmadu Bello University, Zaria, Aishat Mukhtar, Ahmadu Bello University, Fatima Badiru Ibrahim, Ahmadu Bello University, Zaria, Nigeria

Nigeria Electronic Wastes: Material Flow Assessment and Analysis, Fatima Ibrahim B., Ahmadu Bello University, Donatus Adie, Ahmadu Bello University, Abdulraheem Giwa, Ahmadu Bello University, Prof. C. A. Okuofu, Nigeria

Waste Management: A Bibliometric Analysis of the Brazilian Scientific Production, P. L. Côrtes, Universidade Nove de Julho – Uninove, Universidade de São Paulo – USP, Brazil

The Use of Human Health Risk Assessment in Sanitary Landfill Siting Decisions, Allan Alzona, National University - Manila, Philippines

Effect of Additive on the Rheological Properties of Coal Slurry, Saroj Kumar Mohapatra, Thapar University, Patiala, Satish Kumar, Thapar University, Patiala, India

SESSION 8D ***Special Workshop***

Environmental Chemistry & Hydrogeology Made Easy For Containment, Assessment, Management and Remediation, Part 1, Instructor: George (Bud) Ivey, B.Sc., CES, CESA, P.Chem., EP, President & Senior Environmental Specialist, Ivey International Inc.

6:30 p.m. – 7:30 p.m.
Closing Reception

WEDNESDAY MARCH 13

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. - 11:00 a.m.

Special Workshop

Environmental Chemistry & Hydrogeology Made Easy For Containment, Assessment, Management and Remediation, Part 2, Instructor: George (Bud) Ivey, B.Sc., CES, CESA, P.Chem., EP, President & Senior Environmental Specialist, Ivey International Inc.

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

FIELD TRIP 1 – Environmental Landfill and Composting

Delaware Solid Waste Authority

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 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. 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 1200 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 4500 scfm of landfill gas for the generation of green power. The landfill also operates a recycling area including a yard waste composting system utilizing the Gore tarping system.

Wilmington Organic Recycling Center

Accepting 160,000 tons per year of source separated organic waste, WORC is the most state-of-the-art, large scale commercial food and yard waste composting facility in North America. The facility sits on 27 acres across from the Port of Wilmington, Delaware. This location was formerly a brownfield site that was remediated prior to WORC construction. The project was developed by The Peninsula Compost Group over a three-year period at a cost of \$20 million. Ground was broken in May 2009, and construction was complete in December 2009.

FIELD TRIP 2 –Recycling and Transfer

Covanta Energy 58th St Transfer Station and E-vanta WEEE Recycling

The 58th St Transfer Station is permitted as a solid waste & recycling transfer station. It is located in South West Philadelphia & zoned for industrial use & has rail access to CSX line. The site accepts commercial, municipal & demolition type waste as well as cardboard & office paper for recycling purposes.

The facility includes an electronic scrap recycling process. Visitors to the facility will take a tour of the operations including the new electronic recycling project.

Revolution Recovery

Providing a complete range of recycling services to the construction, manufacturing, commercial and residential markets in the Philadelphia metropolitan area and Northern Delaware, Revolution Recovery is committed to their mission of keeping materials out of landfills while providing sustainable services at a cost less than traditional landfill disposal. Located on a 3.5 acres (1.4 ha) site with 35,000ft²+ (3300 m²) of warehouse space, their Philadelphia facility accepts over 300 tons/day of both commingled and

separated materials. After being placed on the tipping floor, the loads move through a 250 ft automated sort line and recovery system where materials such as wood, drywall, metal, rubble, cardboard, plastics, carpet, mixed paper, and other materials are diverted from landfills. Through this system, the facility is able to recover approximately 80% of inbound materials, process them, and ship them to recyclers and end users.