

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

Philadelphia, PA, USA

March 11 - 14, 2012

AGENDA

(updated March 6, 2012)

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
www.widener.edu/solidwaste

Founder:
Iraj Zandi
University of
Pennsylvania

Chair:
Ronald L. Mersky
Widener University

Conference Manager:
Gordon Salisbury
Widener University



**Widener
University**

The Journal of Solid Waste Technology and Management



Scientific Committee:

- Haluk Akgun, Middle East Technical University, Turkey
- Sara Ojeda Benitez, Universidad Autonoma de Baja California, Institute of Engineering, México
- Giuseppe Bonifazi, Sapienza – Università di Roma, Italy
- Cristina Braga, Parana Federal University, Brazil
- Shoou-Yuh Chang, North Carolina A&T State University, USA
- Thomas Coskeran, Durham University, UK
- Toru Furuichi, Graduate School of Engineering, Hokkaido University, Japan
- Ruby Mejía de Gutiérrez, Universidad del Valle - Escuela de Ingeniería de Materiales, Colombia
- Mervat El-Hoz, University of Balamand, Lebanon
- Kasturi Gadgil, Amity University, (Retired From IIT, Delhi), India
- Noah Galil, Technion-Israel Institute of Technology, Israel
- Dr. Albert B. Jubilo, Philippine Institute of Chemical Engineers, Philippines
- William L. Magette, Civil Engineering, University College Dublin, Ireland
- Ilan Nissim, Ministry of Energy and Water, Israel
- Chukwu Onu, Southern University and A & M College, USA
- Paul S. Phillips, University of Northampton, UK
- Eva Pongrácz, University of Oulu, Finland
- Krishna R. Reddy, University of Illinois, USA
- Dr. Jerry E. Uhuo, National Assembly, Abuja, Nigeria
- Bruce G. Wilson, University of New Brunswick, Canada
- Anita Závodská, Barry University, USA

CONFERENCE SUMMARY

SUNDAY, MARCH 11, 2012

- Pre-Conference Tour of Philadelphia
- Short Course on Bioreactor Landfill
- Opening Reception

MONDAY, MARCH 12, 2012

Opening Plenary

Oral Presentations

- 1A Waste Utilization 1
- 1B Landfill 1
- 1C Recycling 1
- 1D Case Studies 1

- 2A Industrial Wastes 1
- 2B Waste Generation and Composition 1
- 2C Composting and Biological Treatment
- 2D Research Advances 1
- 2E Landfill 2

- 3A Agricultural Wastes 1
- 3B Landfill 3
- 3C Recycling 2
- 3D Waste Management in Developing Regions

- 4A Energy Recovery
- 4B Waste Management Policy
- 4C Use of Wastes in Construction
- 4D Landfill 4
- 4E Case Studies 2

Poster Session 1

TUESDAY, MARCH 13, 2012

Oral Presentations

- 5A Workshop on Demolition Waste Recycling 1
- 5B Modeling and Analysis
- 5C Environmental Impacts and Improvements

- 6A Workshop on Demolition Waste Recycling 2
- 6B E-Waste
- 6C Management of Specific Wastes
- 6D Modeling
- 6E Research Advances 2

Poster Session 2

Oral Presentations

- 7A Ash Management
- 7B Mining and Mineral Wastes
- 7C Sludge
- 7D Waste Utilization 2
- 7E Construction and Demolition Wastes Recycling 3

- 8A Waste Collection
- 8B Research Advances 3
- 8C Waste Generation and Composition 2
- 8D Agricultural Wastes 2
- 8E Case Studies 3

Closing Reception

WEDNESDAY, MARCH 14, 2012

Technical Field Trips

DETAILED AGENDA

SUNDAY, MARCH 11

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
(additional fee)

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

Short Course: *Bioreactor Technology for Energy Recovery From Waste: Recent Advances*

Instructor: J. Patrick A. Hettiaratchi, PhD, PEng, FCSCE, University of Calgary

Professional Development Hours Awarded
(additional fee)

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

Welcome Reception

MONDAY, MARCH 12

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

Conference check-in and registration

8:00 a.m. - 9:00 a.m.

Coffee

8:50 a.m. - 9:35 a.m.

Opening Plenary

G4RC (Global Resources Recovery, Reuse, Recycling and Conversion), 2011

Ronald Mersky, Associate Professor, Department of Civil Engineering, Widener
University, **USA**

Iraj Zandi, Professor Emeritus of Systems & National Center Professor of Resource
Management & Technology School of Engineering & Applied Science & Wharton
School, University of Pennsylvania, **USA**

Paola Olimpia Achard, Professor, Department of Systems and Institutions for the
Economy, University of L'Aquila, **Italy**, *Massimiliano Fabbicino*, Professor, and *Luca
d'Antonio*, Doctor, Department of Hydraulics, Geotechnics and Environmental
Engineering, University of Naples, Naples, **Italy**

Kaimin Shih, Assistant Professor, Department of Civil Engineering, The University of
Hong Kong, & Hong Kong Waste Management Association, **Hong Kong Special
Administration, China**

Georgiana Davis, Adjunct, Griffith School of Engineering, Griffith University, Brisbane,
Australia

Ajantha Perera, Founder, National Program On Recycling of Solid Waste, Sri Lanka, **Sri
Lanka**

9:35 a.m. – 10:55 a.m.

Sessions 1

SESSION 1A

Waste Utilization 1

Development of a Prediction Model for Degree of Blending Between Rap Binder and Virgin Binder *Sean Coffey*, Student, Rowan University, *Yusuf Mehta*, Associate Professor, Rowan University, **USA**

Glass Ceramic from Tft-Lcd Waste Glass and Bof Slag by Thermal Treatment *Kung-Cheh Li*, Professor, National Taiwan University, Graduate Institute of Environmental Engineering, *Chen-Shiuan Fan*, Student, National Taiwan University, Graduate Institute of Environmental Engineering, **Taiwan**

Torrefied-Biomass (Biocoal) from Municipal Solid Waste for Power Production, *Ezra Bar-Ziv*, Professor, *Boris Chudnovsky*, Senior Expert, Israel Electric Corporation, **USA and Israel**

Sustainable Materials Management – Shifting of Focus of US EPA Waste Programs, *David Iacono*, Sustainability Partnerships Manager, U.S. Environmental Protection Agency, Mida-Atlantic, **USA**

SESSION 1B

Landfill 1

A Holistic Approach of Rehabilitation of Qurain Landfill Site *Saleh Al-Muzaini*, Professor, Kuwait Institute for Scientific Research, **Kuwait**

A Prototype for Decision Support System for Selection of Landfill Daily Cover *Lakshmi K*, *Christine Chan*, Professor, University of Regina, Kelvin T.W. Ng, Assistant Professor, University of Regina, **Canada**

The Current Situation of Sanitary Landfills in Brazil and The Importance of the Application of Economic Models *Raul Oliveira Neto*, Adjunct Professor, Federal University of Pampa - Unipampa, *Carlos Otavio Petter*, Adjunct Professor, Federal University of Rio Grande do Sul, *José Luis Cortina*, Associate Professor, Cataluña Polytechnic University, **Brazil**

Leachate and Gas Flow Behavior in Landfills of Municipal Solid Wastes in China, *Yunmin Chen*, Professor, Zhejiang University, *Tony Liangtong Zhan*, Professor, Zhejiang University, *Yuchao Li*, Associate professor, **China**

Sustainability Comparison of Bioreactor Landfills and Traditional ‘Dry tomb’ Landfills *Philip T. McCreanor*, Associate Professor, Director of Engineering Honors, Mercer University - School of Engineering, *Kevin G. Berry*, Project Engineer, Hodges, Harbin, Newberry & Tribble, Inc., **USA**

SESSION 1C

Recycling 1

Defining Virtuous Recycling Users Groups: A GIS-based Modelling Framework for the

Management of a Market Incentive Program *Maria Ioannilli*, Assistant Professor, Department of Civil Engineering, University of Rome “Tor Vergata” and In TIME – Innovation Technologies Information and Methodologies for the Earth, Spin-off of University of Rome “Tor Vergata”, *Stefano Luigi Mastrodonato*, Post doctoral student, Department of Civil Engineering, University of Rome “Tor Vergata”, *Gustavo Mizes*, Project Manager, In TIME – Innovation Technologies Information and Methodologies for the Earth, Spin-off of University of Rome “Tor Vergata”, *Alessandro Paregiani*, *Enrico Rocchi*, **Italy**

Global Trends in Waste Paper Generation Recycling Reuse and Disposal *Sravani Kalva*, Graduate Student, Saint Martin's University, *D. S. S. Mahamah*, Professor and Chair Civil Engineering Department, Saint Martin's University, **USA**

Materials Recovery and Recycling of Municipal Solid Waste: A Viable Alternative *Mohammed Dauda*, Associate Professor, National Agency For Science And Engineering Infrastructure (Naseni), Abuja, *Mohammed Ben Oumarou*, Researcher, Department of Mechanical Engineering, University of Maiduguri, Borno State, *Ibrahim Baba*, Student, Department of Mechanical Engineering, University of Maiduguri, Borno State, **Nigeria**

RFID Tags in Waste Management – Risks and Chances *Bastian Wens*, Scientific Staff, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, *Stefan Heinrichs*, Scientific Staff, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, *Thomas Pretz*, Head of department, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, *Nico Schmalbein*, **Germany**

Optimization of Operating Parameters of a Material Recovery Facility Using Lean Six Sigma *Matthew Franchetti*, Assistant Professor, The University of Toledo, **USA**

SESSION 1D

Case Studies 1

Quantifying Waste Disposal and Treatment Facilities in Queensland, Australia *Georgina Davis*, Adjunct Senior Lecturer, Griffith University, **Australia**

Post War Developments in Solid Waste Management Sector of Sri Lanka *Ajantha Perera*, Founder, National Program On Recycling of Solid Waste, Sri Lanka, **Sri Lanka**

Biodegradable Municipal Waste (BMW) Management Strategy: Ireland and the Czech Republic Compared *Anita Závodská*, Associate Professor, Barry University, *Anne Morrissey*, Lecturer, Dublin City University, *Libuše Benešová*, Assistant Professor, Charles University, **USA**

Nature-By-Nature Processes towards the King's Technology for Municipal Garbage Disposal in Petchaburi, Thailand *Kasem Chunkao*, Professor, College of Environment, Kasetsart University and Director of Royal LERD Project, *Pinion Prapuddham*, Associate Professor, College of Environment, Kasetsart University, *Onanong Phewnil*, Assistant Professor, College of Environment, Kasetsart University, **Thailand**

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

Break

11:10 a.m. – 1:10 p.m.

Sessions 2

SESSION 2A
Industrial Wastes 1

Simulation of an Industrial Hazardous Waste Treatment Featuring a Rotary Kiln and Grate Furnace Incinerator *Pan Ma*, Student, Zhejiang University, *Zengyi Ma*, Zhejiang University, *Jianhua Yan*, Zhejiang University, *Yong Chi*, *Kefa Cen*, **China**

Adsorption of Zn (II), Fe (II), Fe (III) and Cu (II) Ion onto Activated Carbon Derived from Eucalyptus Bark Sawdust: Surface Characterization, Isotherm Modeling and Studies on Process Parameter Optimization *Bishal Mishra*, Student, IIT Roorkee, India, *Chandrajit Balomajumder*, Associate Professor, IIT Roorkee, *Vijay Agarwal*, Professor, IIT Roorkee, **India**

Fluoride Emissions from Pidgeon Process for Magnesium Production *Laner Wu*, **China**

Preparing High Value-added Materials Directly from Melting Slag *Yu Li*, Assistant Professor, University of Science and Technology Beijing, *Daqiang Cang*, Deputy Director, University of Science And Technology Beijing, *Mao Yixin*, *Zhang Lingling*, **China**

Sulfoaluminate Cement Preparation with Desulfurization Gypsum and Red Mud *Wenlong Wang*, *Caina Yu*, **China**

SESSION 2B
Waste Generation and Composition

Biodegradability of The Organic Fraction Content from The Municipal Solid Waste Confined in a Closed Landfill *Otoniel Buenrostro*, Associate Professor, Universidad Michoacana de San Nicolás de Hidalgo, *Alfredo Nila*, Student, Universidad Michoacana de San Nicolás de Hidalgo, *Liliana Márquez*, Associate Professor, Universidad Michoacana de San Nicolás de Hidalgo, **Mexico**

Characteristics and Elemental Analysis of Discarded Produce from Supermarkets and Hypermarkets *Mohamed Hamoda*, Professor, Kuwait University, **Kuwait**

Seasonal Variations of Compost Characteristics from Municipal Solid Wastes of Mysore City, Karnataka, India *Shiddappa*, *Lagamappa Belagali*, Professor, University of Mysore, *Shyamala D C*, Student, University of Mysore, **India**

SESSION 2C
Composting and Biological Treatment

Hyperspectral Sensing Techniques for Mesophilic Anaerobic Reaction Monitoring and Control *Silvia Serranti*, Assistant Professor, Sapienza University of Rome - DICMA, *Andrea Fabbri*, PhD Student, Sapienza University of Rome - DICMA, *Giuseppe Bonifazi*, Full Professor, Sapienza University of Rome - DICMA, **Italy**

Anaerobic Co-Digestion of Faeces and Food Waste in Decentralized, Source-Separation-Based Sanitation Concepts *Rajinikanth Rajagopal*, Research Fellow, Residues And Resource Reclamation Centre (R3C), Nanyang Technological University, Singapore, *Mao Yu*, Visiting Faculty, Residues And Resource Reclamation Centre (R3C), Nanyang Technological University, Singapore, *Jun Wei Lim*, Student, Residues And Resource Reclamation Centre (R3C), Nanyang Technological University, Singapore, *Ivan Ho*, *Max Heinz Stegmann Rainer*, *Wang Jing-Yuan*, **Singapore**

Biowaste Quality and Its Effect on the Fertilizer Value of Compost *Nils Bauerschlag*, Scientific Staff, Department of Processing And Recycling I.A.R. Rwth Aachen University, *Anna Wagner*, Department of Processing And Recycling I.A.R. Rwth Aachen University, *Thomas Pretz*, Professor, Department of Processing And Recycling I.A.R. Rwth Aachen University, *Sebastian Kaufeld*, B.Sc., **Germany**

Effect of Plastic on Biodegradation of Municipal Solid Waste *Susmita Dutta*, Associate Professor, Department of Chemical Engineering, National Institute of Technology, Durgapur, *Debabrata Mukhopadhyay*, Assistant Professor, Department of Biotechnology, Bengal College of Engineering And Technology, *Jyotiprakash Sarkar*, Professor And Dean (Administration), Department of Chemical Engineering, National Institute of Technology, Durgapur, *Rahul Patra And Nilesh Halder*, **India**

Preliminary Design for Rotating Barrel Composting System for Sustainable Solid Waste Management in Benin Metropolis, Nigeria *Dennis Iyeke Igbinomwanhia*, Senior Lecturer And Head of Department., University of Benin, *Enoguese Igbinosun*, Student, University of Benin, Nigeria, *Possible Chinaza Orji*, Student, University of Benin, Nigeria, **Nigeria**

SESSION 2D

Research Advances 1

Removal of Chromium (Vi) from Tannery Effluents by Membrane-integrated Hybrid Treatment Process and Solid Waste Minimization *Jaya Sikder*, Assistant Professor, National Institute of Technology Durgapur, *Debashmita Mondal*, Student, National Institute of Technology Durgapur, *Madhubanti Bhattacharya*, Student, National Institute of Technology Durgapur, **India**

Removal of Hydrogen Sulfide (H₂S) Contaminant in Biogas by Utilizing Solid Waste Steel Chips from The Process of Turning *Tjokorda Gde Tirta Nindhia*, Professor, Udayana University, **Indonesia**

Ultrasound in Sludge Management: Principles and Research Observations *Ackmez Mudhoo*, Lecturer, Department of Chemical and Environmental Engineering, Faculty of Engineering, Reduit, University of Mauritius, *Romeela Romeela*, Professor, Department of Chemical and Environmental Engineering, Faculty of Engineering, Reduit, University of Mauritius, *Sibel Pamucku*, Professor, Department of Civil and Environmental Engineering, Lehigh University, *Reena Amatya Shrestha*, **Mauritius**

Batch Scale Study on Mineral Carbonation Achievable with Alkaline Waste Residue *Anjali Gupta*, Research Scholar, Indian Institute of Technology Delhi, *Arvind Kumar Nema*, Associate Professor, Indian Institute of Technology Delhi, **India**

Predicting the Crushing Strength of Cold-bonded Artificial Aggregates by Genetic Algorithms, *Faruk Geyik*, Assist Professor, Gaziantep University, *Mehmet Gesoğlu*, Associate Professor, Gaziantep University, *Erhan Güneysi*, Associate Professor, Gaziantep University, *Kasım Mermerdas and H.Oznur Oz*, **Turkey**

A General Survey and Discussion on the Medical Waste Treatments, *Joseph Chiang*, Professor, SUNY-Oneonta Department of Chemistry & Biochemistry, **USA**

SESSION 2E

Landfill 2

Tensile Strength of a Cementitious Borehole Seal Emplaced in the Vicinity of an Underground Waste Repository, *Haluk Akgun*, Professor, Middle East Technical University (METU), **Turkey**

State of Landfill Sites in National Capital Territory (Capital City Delhi) and their Impact on Groundwater Pollution, India, *Jagbir Singh*, Associate Prof., University of Delhi, Delhi, India, **India**

Preliminary Results from a Flow-Through Column Study on Leachate Augmentation with Enzyme, *P.A. Jayasinghe*, Centre for Environmental Engineering Research & Education (CEERE), Schulich School of Engineering, University of Calgary, *J.P.A. Hettiaratchi*, Centre for Environmental Engineering Research & Education (CEERE), Schulich School of Engineering, University of Calgary, *A.K. Mehrotra*, Centre for Environmental Engineering Research & Education (CEERE), Schulich School of Engineering, University of Calgary, **Canada**

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

Agricultural Wastes 1

Agricultural Waste Management in Cultivation Sub Sector *Homayoon Fakhim Ahmadi*, **Iran**

Economic Sustainability of a Dairy-Based Biomass Energy Project in California, *Mary Kay Camarillo*, Assistant Professor, University of the Pacific, *William T. Stringfellow*, Director, Ecological Engineering Research Program, University of the Pacific, *Jeremy S. Hanlon*, Staff Research Associate, University of the Pacific, *Michael B. Jue*, **USA**

Optimization of Enzymatic Hydrolysis of Sweet Potato (*Ipomoea Batatas*) Peel Via Response Surface Methodology *Eriola Betiku*, Senior Lecturer, Obafemi Awolowo University, *Olabode Olawale Akindolani*, Student, Obafemi Awolowo University, *Adebimpe Rafiat Ismaila*, Student, Obafemi Awolowo University, **Nigeria**

Production of Nutraceuticals from Citrus Fruit Processing Wastes using Supercritical Fluid Technology *Motonobu Goto*, Professor, Kumamoto University, Bioelectrics Research Center, *Masahiro Tanaka*, Researcher, ASCII Co. Ltd., *Armando Quitain*, Assistant Professor, Kumamoto University, *Mitsuru Sasaki*, *Ryuichi Fukuzato*, **Japan**

Environmental Impact of Waste from Stables in Two Training Centers in the Region of Curitiba-PR *Emanuel Orestes Da Silveira*, PhD Student, Federal University of Parana, *João Ricardo Dittrich*, Associate Professor, Federal University of Parana, *Keila Youko*

Fujii, Master Student, Federal University of Parana, **Brazil**

Effects of Rice Straw Compost on Phytoremediation-Repercussions Over Time

Muhammad Shafiq, Faculty/ Staff Member, University of the Punjab Lahore Pakistan,
Firdaus Bareen, Professor, Dept. of Botany University of the Punjab, **USA**

Experimental Study on Proper Loading Rate of Co-fermentation to a Cow Manure Biogas

Plant, *Kazuei Ishii*, Associate Professor, Graduate School of Engineering, Hokkaido University, *Toru Furuichi*, Professor, Graduate School of Engineering, Hokkaido University, *Yukihiro Ooishi*, Master student, Graduate School of Engineering, Hokkaido University, **Japan**

SESSION 3B

Landfill 3

A Review on Advanced Oxidation Processes (AOPs) for Treatment of Landfill Leachate

Yang Deng, Assistant Professor, Montclair State University, **USA**

An Artificial Neural Network Based Leachate Flow-Rate Estimator for a Municipal Solid Waste Landfill

Shoou-Yuh Chang, Samuel Massie Chair Professor, North Carolina A&T State University, *Xiaoju Tao*, Research Assistant, North Carolina A&T State University, **USA**

Comparison of Treatment Options for Landfill Leachate of High Organic Content

Liliana Marquez-Benavides, Lecturer-researcher, UMSNH, *Germán Cuevas-Rodríguez*, Lecturer-Researcher, Universidad de Guanajuato, *Arodi Bernal*, Associate Researcher, University de Guanajuato, *Ma. Consuelo Hernández-Berriel*, **Mexico**

Characterization of a Silica Alumina Based Backfill Material Compositod of Coal

Combustion Byproducts and Coal Refuse *Yuan Yao*, Student, Pacific Resources Research Center, University of the Pacific, *Henghu Sun*, Professor, Pacific Resources Research Center, University of the Pacific, **USA**

Formation of Disinfection By-Products during Chlorination of Landfill Leachate

Yang Deng, Assistant Professor, Montclair State University, *Nanzhu Li*, PhD Student, Montclair State University, **USA**

SESSION 3C

Recycling 2

Biosorption of Ammonia-Nitrogen from Aqueous Solution onto Low-Cost Corn Residues

Zainab Ismail, Associate professor, Baghdad University, *Basma Hameed*, Graduate Student, Baghdad University, **Iraq**

A Study to Evaluate Low Temperature Performance of Reclaimed Asphalt Pavement in

Hot Mix Asphalt at Different Degrees of Blending *Yusuf Mehta*, Associate Professor, Rowan University, *Sean Coffey*, Student, Rowan University, **USA**

Maximum Recovery of Recyclable Materials from Municipal Solid Waste Thanks to

State-of-The-Art Automated Separation Technology *Felix Hottenstein*, Sales Engineer, CP Group, *Hans Ouellet*, Senior Sales Engineer, CP Group, **USA**

Metals Mobilization During E-Waste Bioleaching Process: Effect of Rotation Speed *Luciana Yamane*, Ph.D. Student, University of São Paulo, *Denise Romano*, Professor, University of São Paulo, *Jorge Alberto Tenório*, Professor, University of São Paulo, **Brazil**

Optimization of Production of Cellulase from Brewer's Spent Grains By Solid-State Fermentation using Response Surface Analysis *Xiaomei Du*, Master Student, Qingdao University of Science and Technology, *Qingjie Guo*, Chair Professor, Qingdao University of Science and Technology, *Xuyun Wang*, Associate Professor, Qingdao University of Science and Technology, **P. R. China**

Composite Materials Recycling: Carbon Fiber Recovery using Benzyl Alcohol and Water in Subcritical and Supercritical Conditions *Rodolfo Morales Ibarra*, Student, Kumamoto University - Universidad Autonoma de Nuevo Leon, *Motonobu Goto*, Professor, Bioelectrics Research Center - Kumamoto University, *Antonio Garcia Loera*, Professor, Universidad Autonoma de Nuevo Leon - Facultad de Ingenieria Mecanica y Electrica, *Armando T. Quitain*, *Mitsuru Sasaki*, **Japan – Mexico**

Developing a Recycling Plan for an Elementary School, *Miriam Ward*, Student, Grove School of Engineering, The City College of New York, *Blake Wells*, Student, Grove School of Engineering, The City College of New York, *Vasil Diyamandoglu*, Faculty Advisor, Department of Civil Engineering, The Grove School of Engineering, The City College of New York, **United States**

SESSION 3D

Waste Management in Developing Regions

Solid Waste Master Plan for Anbar Province, Iraq *Stephen Reinfeldt*, Vice President - Global Waste Services Practice Leader, Aecom, *Donald Pirrung*, PE, Aecom, *Heather Cleveland*, PE, Aecom, **USA**

End-Of-Life Cell Phones in Brazil: How to Reduce Environmental Impact and Promote Metal Recycling. *Julio Cesar Worman*, Student, The University of Tokyo, *Kazuo Yamamoto*, Professor, The University of Tokyo, *Kensuke Fukushi*, Associate Professor, The University of Tokyo, *Prof. Fumiyuki Nakajima*, *Environmental Science Center*, *The University of Tokyo*, **Japan**

Impact of Municipal Solid Waste on Underground Water Sources in Nigeria: A Case Study of Lagos, *Anthony Kola-Olusanya*, Senior Lecturer, Osun State University, **Nigeria**

3:55 p.m. - 4:10 p.m.

Break

4:10 p.m. – 6:30 p.m.

Sessions 4

SESSION 4A

Energy Recovery

Economic Analysis of Greensboro City Waste to Power *Ransford Baidoo*, Research Associate, North Carolina Agricultural and Technical State University, *Matthew Todd*, Student, North Carolina Agricultural and Technical State University, *Harith Rojanala*,

Student, North Carolina Agricultural and Technical State University, **USA**

The Suitability of Waste Residue for Energy-from-Waste Technologies *Kate Ladeira Lima*, Student, Cardiff University, *Tony Griffiths*, Professor, Cardiff University, *Richard Marsh*, Lecturer, Cardiff University, **United Kingdom**

Thermal Investigation of Biochar-Lignite Blends during Co-Combustion *Zhengang Liu*, Research Fellow, National University of Singapore, *Augustine Quek*, Research Fellow, National University of Singapore, *Rajasekhar Balasubramanian*, Minerals, Metals And Materials Technology Centre, **Singapore**

Uranium Mining in Africa: Desperation for Alternative Power Generation *Babatunde Adebayo*, Senior Lecturer, Federal University of Technology, Akure, *Sunday, A Agbalajobi*, Lecurer II, *Adeola Adebayo*, Lecturer I, *Kabiru O. Arogundade*, **Nigeria**

SESSION 4B

Waste Management Policy

Defining Convenient Collection: An Application to Extended Producer Responsibility Frameworks *Travis Wagner*, Associate Professor, University of Southern Maine, **USA**

Environmental Ethics and Trends in Environmental Litigation *Ashraf Ghaly*, Professor, Union College, **USA**

The Regulatory and Financial Implications of Long-Term Persistence of Ammonia in Groundwater Decades after Landfill Closure *Marwan Sadat*, CEO, Sadat Associates, Inc., *Emery Coppola*, Hydrogeologist, Sadat Associates, Inc., *Il Kim*, Environmental Engineer, Sadat Associates, Inc., **USA**

U.S. Financial Incentives for Generating Energy from Waste *Ekwuniru C. Nwokeji*, Student, Southern University and A & M College, Baton Rouge, LA, *Chukwu Onu*, Professor of Environmental Engineering, Southern University and A & M College, Baton Rouge, LA, **USA**

Environmental Regulations and the Business of Waste in the United States *Ashraf Ghaly*, Professor, Union College, **USA**

SESSION 4C

Use of Wastes in Construction

Utilization of Industrial Effluent Treatment Plant (ETP) Sludge as Partial Replacement for Cement in Concrete *Shivanath Gandhirajan*, Student, Anna University, Chennai, India, *Arumugam Essaki*, Professor, Anna University, *Murugesan Velayutham*, Professor, Anna University, **India**

Evaluation of Suitability of Laterite, Cement and Sand for Brick Production *Babatunde Adebayo*, Senior Lecturer, Federal University of Technology, Akure, *Olalekan Afolabi*, Student, Fedral University of Technology, Akure, *Kabiru Arogundade*, Student, Fedral University of Technology, Akure, **Nigeria**

Effect of Oil Shale Residue on the Hydration of Red Mud-Fly Ash Cementitious Material *Xiaoming Liu*, Assistant Professor, University of Science And Technology Beijing, *Yu Li*, Assistant Professor, University of Science And Technology Beijing, *Daqiang Cang*, Professor, University of Science And Technology Beijing, *Henghu Sun*, **China**

Evaluation of Physical-Chemical Properties of Granular Ecomaterials from Marine Shells Powders and Analysis of Recycling Potential in Concrete *Charlotte Engelaere-Robillard*, Phd Student, Esitc-Caen, *Frédéric Becquart*, Esitc-Caen, *Mohamed Boutouil*, Esitc-Caen, *L. Leleyter* and *F. Baraud*, **France**

Toxicity Mitigation of Solid Waste Incinerator Ash via Geopolymerization *Erez Allouche*, Associate Professor, Louisiana Tech, *Kunal Kupwade-Patil*, Postdoctoral Research Associate, Louisiana Tech, *Rashedul Islam*, Ph.D. Student, Louisiana Tech, *Dr.Sven Eklund*, Associate Professor of Chemistry, Louisiana Tech, **USA**

Using Waste Powdered Sulfur for Production of Mercury Selective Adsorbents *Neda Asasian*, Ph.D Student, Department of Chemical Engineering/Amirkabir University of Technology, *Tahereh Kaghazchi*, Professor, Department of Chemical Engineering/Amirkabir University of Technology, **Iran**

Transport Properties of Plain and Silica Fume Concretes Incorporating Waste Tire Rubber, *Erhan Güneyisi*, Associate Professor, Gaziantep University, *Mehmet Gesoğlu*, Associate Professor, Gaziantep University, *Kasım Mermerdaş*, PhD Student, Gaziantep University, *Suleyman İpek*, **Turkey**

Using of Fly Ash and Blast Furnace Slag in the Production of Lightweight Aggregates Through Cold-Bonding Process, *Mehmet Gesoglu*, Associate Professor, Gaziantep University, *Erhan Güneyisi*, Associate Professor, Gaziantep University, *H.Öznur Öz*, PhD Student, Gaziantep University, **Turkey**

Immobilisation of a Waste Solution and Lead Smelting Slag in Fly Ash-Based Geopolymer, *Mary B. Ogundiran*, Lecturer I, University of Ibadan, *Henk W. Nugteren*, , Delft University of Technology, The Netherlands, *G. J. Witkamp*, Professor, Delft University of Technology, The Netherlands, **Nigeria**

SESSION 4D

Landfill 4

A Large-Scale Ramp Model Test on Composite Liner Systems *Lin Weian*, Engineering, Zhejiang University, *Zhan Liangtong*, Professor, Zhejiang University, *Chen Yunmin*, Zhejiang University, *Li Yuchao*, **China**

Maximizing Energy from Landfill *Chukwu Onu*, Professor, Southern University and A & M College, **USA**

Evaluation of Methane Generation Potential of MSW in a Closed Landfill *M.S. Hossain*, Associate Professor, University of Texas at Arlington, *Sonia Samir*, Graduate Student, University of Texas at Arlington, *Vance Kemler*, Director of Solid Waste, City of Denton Landfill, **USA**

Automatic Sorting of Mixed C&Dw Recycled Aggregates by Near-infrared Technology
Thomas Schnellert, Assistant Professor, Bauhaus-University Weimar, *Elske Linß*,
Assistant Professor, Bauhaus-University Weimar, *Horst-Michael Ludwig*, Head of Chair,
Bauhaus-University Weimar, **Germany**

Combining Fundamental Landfill Monitoring Data with Simple Models for Accurately Estimating Hydraulic Conductivity *Emery Coppola*, Hydrogeologist, Sadat Associates, Inc., *Marwan Sadat*, CEO, Sadat Associates, Inc., **USA**

Analysis of Landfill Gas Migration by use of Autonomous Gas Monitoring Platforms,
Fiachra Collins, Postdoctoral Researcher, CLARITY: Centre for Sensor Web Technologies, *Dylan Orpen*, Research Engineer, CLARITY: Centre for Sensor Web Technologies, *Cormac Fay*, PhD Researcher, CLARITY: Centre for Sensor Web Technologies, *Prof. Dermot Diamond*, **Ireland**

Application of RESRAD for the Assessment of Radioactive Waste Landfill on On-site and Offsite Residents, *Birhanu Mengistu*, Student, North Carolina A&T State University, *Shoou-Yuh Chang*, Professor, North Carolina A&T State University, **USA**

SESSION 4E **Case Studies 2**

Changing an Industrial Liquid Hazardous Waste Pond into National Park, *Aalia Al Shaalan*, Geological Researcher, Ministry of Electricity and Water, *Mohammad Al Sarawi*, Professor, Kuwait University - College of Science - Dept. of E&ES, **Kuwait**

6:00 p.m. – 7:00 p.m.

Posters 1

6:30 p.m. – 7:30 p.m

Reception

POSTER SESSION 1

Analysis of Gas Arising from Iron Ore Reduction by Hydrogen, *Girley Ferreira Rodrigues*, Student, University of São Paulo, *Eduardo Junca*, Student, University of São Paulo, *Victor Bridi Teles*, Student, University of São Paulo, *Jorge Alberto Soares Tenório and Denise Croce Romano Espinosa*, **Brasil**

Characteristics of Basic-Oxygen-Furnace Slags Treated with Steam and Autoclave Curing Processes, *Ying-Liang Chen*, Assistant Research Fellow, Sustainable Environment Research Center/National Cheng Kung University, *Juu-En Chang*, Professor, Department of Environmental Engineering/National Cheng Kung University, *Ming-Sheng Ko*, Assistant Professor, Department of Materials And Mineral Resources Engineering/National Taipei University of Technology, *Yu-Chuan Su; Yi-Chieh Lai*, **Taiwan**

Characteristics of Solid Fuel Derived from Fry-Dried Swine Excreta, *Tae-In Ohm*, Professor, Hanbat National University, *Jong-Seung Chae*, Research Professor, Hanbat National University, *Seung-Hyun Moon*, Senior Researcher, Korea Institute of Energy Research, **S. Korea**

Characterization of Dust Generated in Electric Arc Furnace, *Eduardo Junca*, Student,

University of São Paulo, *Denise Croce Romano Espinosa*, Professor, University of São Paulo, *Jorge Alberto Soares Tenorio*, Professor, University of São Paulo, **Brazil**

Comparison of the Forest Fertilizer Properties of Fly Ash Fractions from the 120 Mw Power Plant of a Fluting Board Mill Incinerating Peat and Forest Residues, *Hannu Nurmesniemi*, Environmental Manager, Stora Enso Oyj, Veitsiluoto Mill, *Risto Pöykiö*, Environmental Manager, City of Kemi, *Kati Manskinen*, M.Sc., Stora Enso Oyj, Heinola Fluting Mill, *Olli Dahl And Mikko Mäkelä*, **Finland**

Critical Assessment of Solid Waste Management System of Jeddah, Saudi Arabia, *Saleh F. Magram*, Associate Professor, King Abdullaziz University, **Saudi Arabia**

Effects of Subsurface Applying Poultry Litter in Pasture and No-Till Systems, *Daniel Pote*, Soil Scientist, USDA-ARS, *Thomas Way*, Agricultural Engineer, USDA-ARS, *Peter Kleinman*, Soil Scientist, USDA-ARS, *Philip Moore Jr.*, *Karamat Sistani*, and *Arthur Allen*, **USA**

Fate of Cerium Oxide (CeO₂) Nanoparticles in Landfill Leachate, *Casey Ezyske*, Master Student, Montclair State University, *Yang Deng*, Assistant professor, Montclair State University, **USA**

From Waste to Value: Calcium Carbonate Crystallization on the Basis of Waste Oil Shale Ash, *Olga Velts*, PhD Student, Tallinn University of Technology, *Mai Uibu*, Tallinn University of Technology, *Juha Kallas*, Tallinn University of Technology, *Rein Kuusik*, **Estonia**

Green Liquor Dregs: A Potential Soil Liming and Conditioning agent, *Kati Manskinen*, M.Sc., Stora Enso Oyj, Heinola Fluting Mill, *Risto Pöykiö*, Environmental Manager, City of Kemi, *Hannu Nurmesniemi*, Environmental Manager, Stora Enso Oyj, Veitsiluoto Mill, *Olli Dahl*, **Finland**

No Oxidation on Cvc Synthesized MnOx/TiO₂ and Effects of Precursors on the Surface Mn Species, *Eunseuk Park*, Student, *Sungmin Chin*, *Gwinam Bae*, *Jongsoo Jurng*, **Republic Of Korea**

Pretreatment of Chicken Feather Waste for Improved Biogas Production, *Gergely Forgacs*, PhD Candidate, University of Boras, **Sweden**

Pretreatment of Wool Based Textile Wastes for Enhanced Biogas Production, *Maryam Mohseni Kabir*, Researcher, University of Boras, *Gergely Forgacs*, Phd Candidate, Chalmers University of Technology, *Ilona Sarvari Horvath*, Associate Professor, University of Boras, **Sweden**

Public Perceptions of Animal Manure and Biosolids Land Application: Influences of Issue Awareness on Risk Perception, *Kevin Robinson*, Associate Professor, Department of Civil and Environmental Engineering, The University of Tennessee, *Lauren Raup-Plummer*, Graduate Student, Department of Civil & Environmental Engineering, The University of Tennessee, *Carolyn Robinson*, Professor, Director of Knoxville Nursing Programs, School of Nursing, King College, **USA**

Effect of Interaction Parameters on the Performance of Crumb Rubber Asphalt Binders,

Magdy Abdelrahman, Associate Professor, North Dakota State University, **USA**

Batch Scale Study on Mineral Carbonation Achievable with Alkaline Waste Residue, *Anjali Gupta*, Research Scholar, Indian Institute of Technology Delhi, *Arvind Kumar Nema*, Associate Professor, Indian Institute of Technology Delhi, **India**

Characterization of a Silica Alumina Based Backfill Material Composed of Coal Combustion Byproducts and Coal Refuse, *Yuan Yao*, Student, Pacific Resources Research Center, University of the Pacific, *Henghu Sun*, Professor, Pacific Resources Research Center, University of the Pacific, **USA**

Composite Materials Recycling: Carbon Fiber Recovery using Benzyl Alcohol and Water in Subcritical and Supercritical Conditions, *Rodolfo Morales Ibarra*, Student, Kumamoto University - Universidad Autonoma de Nuevo Leon, *Motonobu Goto*, Professor, Bioelectrics Research Center - Kumamoto University, *Antonio Garcia Loera*, Professor, Universidad Autonoma de Nuevo Leon - Facultad de Ingenieria Mecanica y Electrica, *Armando T. Quitain*, *Mitsuru Sasaki*, **Japan – Mexico**

Defining Virtuous Recycling Users Groups: A GIS-based Modelling Framework for the Management of a Market Incentive Program, *Maria Ioannilli*, Assistant Professor, Department of Civil Engineering, University of Rome “Tor Vergata” and In TIME – Innovation Technologies Information and Methodologies for the Earth, Spin-off of University of Rome “Tor Vergata”, *Stefano Luigi Mastrodonato*, Post Doctoral Student, Department of Civil Engineering, University of Rome “Tor Vergata”, *Gustavo Mizes*, Project Manager, In TIME – Innovation Technologies Information and Methodologies for the Earth, Spin-off of University of Rome “Tor Vergata”, *Alessandro Paregiani*, *Enrico Rocchi*, **Italy**

Development of Alternative Materials for Civil Construction with use of Waste of Pulp and Paper Industry, *Marisa Soares Borges*, PhD Student, Federal University of Parana, *Carlos Roberto Sanquetta*, Associate Professor, Federal University of Parana, *Emanuel Orestes Silveira*, PhD Student, Federal University of Parana, **Brazil**

End-Of-Life Cell Phones in Brazil: How to Reduce Environmental Impact and Promote Metal Recycling, *Julio Cesar Worman*, Student, The University of Tokyo, *Kazuo Yamamoto*, Professor, The University of Tokyo, *Kensuke Fukushi*, Associate Professor, The University of Tokyo, *Prof. Fumiyuki Nakajima*, *Environmental Science Center*, *The University of Tokyo*, **Japan**

Environmental Impact of Waste from Stables in Two Training Centers in the Region of Curitiba-PR, *Emanuel Orestes Da Silveira*, PhD Student, Federal University of Parana, *João Ricardo Dittrich*, Associate Professor, Federal University of Parana, *Keila Youko Fujii*, Master Student, Federal University of Parana, **Brazil**

Formation of Disinfection By-Products during Chlorination of Landfill Leachate, *Yang Deng*, Assistant Professor, Montclair State University, *Nanzhu Li*, PhD Student, Montclair State University, **USA**

Sustainability Comparison of Bioreactor Landfills and Traditional ‘Dry tomb’ Landfills, *Philip T. McCreanor*, Associate Professor, Director of Engineering Honors, Mercer University - School of Engineering, *Kevin G. Berry*, Project Engineer, Hodges, Harbin,

Newberry & Tribble, Inc., **USA**

Geochemistry of Heavy Metals in Urban Soils: An Environmental Study in the City of Tirana, Albania, *Agim Mazreku*, Director, Geological Survey of Albania, *Enton Bedini*, Sector chief, Geological Survey of Albania, *Isa Haklaj*, sector chief, Geological Survey of Albania, **Albania**

Three-Dimensional Numerical Simulation for Estimating Ground Water Flow and 1,4-dioxane Contamination at Aomori-Iwate Illegal Dumping Site in Japan, *Kazuei Ishii*, Associate Professor, Graduate School of Engineering, Hokkaido University, *Toru Furuichi*, Professor, Graduate School of Engineering, Hokkaido University, *Chihaya Iguro*, Master Student, Graduate School of Engineering, Hokkaido University, **Japan**

Purssian Blue Dissociation, Analysis and Biodegradation in Soil Sample, *neha Gupta*, Student, IIT Roorkee, *C.B Majumder*, Associate Professor, *V.K Agrawal*, Professor, IIT Roorkee, **India**

Role of Schools, Education in Low Carbon Lifestyles and Minimization of Wasteful Practices, *Leonard Sonnenschein*, President, World Aquarium and Conservation for the Oceans Foundation, *Prabhjot Sodhi*, National Coordinator, Gef Small Grants Program (SGP), United Nations Development Program (UNDP), Centre for Environment Education (CEE), **United States of America**

Degradation of Chlorobenzene in Aqueous Solution with Microwave- Energy Recovery Waste Catalytic, *Ching Kuei Hsu*, Student, Department of Safety, Health and Environmental Engineering, National Kaohsiung First University of Science and Technology, Taiwan., *Chih-Ju G Jou*, Director, Department of Safety, Health and Environmental Engineering, National Kaohsiung First University of Science and Technology, Taiwan., **R.O.C**

6:30 p.m. – 7:30 p.m

G4RC (Global Resources Recovery, Reuse, Recycling and Conversion), 2012 Organizing Workshop, **Moderator:** Iraj Zandi, Professor Emeritus of Systems & National Center Professor of Resource Management & Technology School of Engineering & Applied Science & Wharton School, University of Pennsylvania, **USA**

TUESDAY, MARCH 13

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

Conference check-in and registration

7:30 a.m. – 8:00 a.m.

Coffee

7:45 a.m. - 10:10 a.m.

Sessions 5

Session 5B begins at 7:45. Sessions 5A and 5C begin at 8:00

SESSION 5A

Workshop on Demolition Waste Recycling 1

Cement and Clean Aggregates from CDW: The C2CA Project, *Francesco Di Maio*, Assistant Professor, Delft University of Technology, *Peter Rem*, Associate Professor, Delft University of Technology, *Somi Lofti*, PhD Student, Delft University of Technology, *Silvia Serranti*, *Giuseppe Bonifazi*, *Vasilis Burganos*, *Fernando Cucchietti*, *Mingming Hu*, **The Netherlands**

Hyperspectral Imaging Based Platforms for Demolition Waste Characterization, Inspection and Quality Control: Hardware Configurations, Logics and Algorithms, *Giuseppe Bonifazi*, Full Professor, Sapienza - Università di Roma, *Silvia Serranti*, Assistant Professor, Sapienza - Università di Roma, **Italy**

Fates of End-Of-Life Concrete and their Economic Implications *Mingming Hu*, Researcher, CML - Institute of Environmental Sciences/Leiden University, *Francesco Di Maio*, Assistant Professor, Faculty of Civil Engineering and Geosciences/ Delft University of Technology, *Xi Lin*, PhD student, Faculty of Real Estate and Construction Management/Chongqing University, *Eric van Roekel*, **The Netherlands**

Construction Waste Recycling Technologies: How to Define and Assess Their Impact?, *Kossara Bozhilova-Kisheva*, Technical University of Denmark, *Stig I. Olsen*, Technical University of Denmark, **Denmark**

Using Single-shot Calibration Free Laser-induced Breakdown Spectroscopy to Determine the Chemical Composition of Different Types of Concrete, *H. Xia*, Delft University of Technology, *M.C.M. Bakker*, Delft University of Technology, **The Netherlands**

SESSION 5B

Modeling and Analysis

Determination of an Optimum Location for a Biomass Waste-to-Energy Facility *Olumuyiwa Lasode*, Reader, University of Ilorin, *Adeniyi Aremu*, Lecturer, University of Ilorin, *Ayokunle Balogun*, Doctoral Student, Lower Niger River Basin Development Authority, **Nigeria**

Energy Model for Effective Utilization of Solid Waste Resource *Iniyar Selvarasan*, Professor & Director, Institute for Energy Studies, Department of Mechanical

Engineering, *Suganthi Loganathan*, Professor & HOD, Department of Management Studies, Anna University, *Ranko Goic*, Professor, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split, Croatia, **India**

Energy Planning Models for the Implementation of Solid Waste Technology in the Commercial Energy Scene *Suganthi Loganathan*, Professor & HOD, Department of Management Studies, Anna University, *Iniyar Selvarasan*, Professor & Director, Institute for Energy Studies Anna University, *Maria Dicorato*, Assistant Professor, Politecnico di Bari, *Michele Trovato*, *Anand A Samuel*, **India**

Model Test Study on Performance of a sloping Capillary Barrier Cover, *Tony Liangtong Zhan*, Professor, Zhejiang University, *Yunmin Chen*, Professor, Zhejiang Univeristy, **China**

The Estimation of Langmuir Isotherm Parameters: Conventional and Errors-in-Variables Methods *Mohammad El-Khaiary*, Professor, Alexandria University, **Egypt**

Development of a Decision Making tool for Choice of Technology in Municipal Solid Waste Management for Local Self Government Bodies - A Case Study of Kerala, India. *Anitha Thampi*, Student, Centre For Technology Alternatives For Rural Areas(CTARA), Indian Institute For Technology Bombay (IITB), *Bakul Rao*, Associate Professor, Centre For Technology Alternatives in Rural Areas (CTARA), **India**

Quantifying Australia's Waste Workers: Demonstrating the Need for an Occupational Standard *Georgina Davis*, Director, Owner, **Australia**

Designing Waste Treatment Processes Based on Economic Aspects *Nico Schmalbein*, Scientific Staff, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, *Thomas Pretz*, Head of Department, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, *Stefan Heinrichs*, Scientific Staff, Department of Processing and Recycling (I.A.R.) - RWTH Aachen, **Germany**

AHP Method Applied to Hierarchy Determination of Municipal Solid Waste Treatment Alternatives, *Ana Lúcia Marchezetti*, Graduate Student, Parana Federal University, *Eloy Kavisly*, Associate Professor, Parana Federal University, *Cristina Borba Braga*, Associate Professor, Parana Federal University, **Brazil**

SESSION 5C

Environmental Impacts and Improvements

Potential of Impounded Fine Coal Refuse Slurry Breakthroughs into Underground Mines *Peter R. Michael*, Geologist, U.S. Office of Surface Mining, *Michael W. Richmond*, Civil Engineer, U.S. Office of Surface Mining, *Donald E. Stump*, Civil Engineer, U.S. Office of Surface Mining, *David L. Lane*, *Michael J. Superfesky*, **USA**

Laboratory-Scale Study of the Effect of Biogas on Plant Roots *Eduardo Baltierra-Trejo*, Postgraduate Student, UMSNH, *Liliana Marquez-Benavides*, Lecturer-Researcher, UMSNH, *J. Manuel Sanchez-Yanez*, Lecturer-Researcher, UMSNH, *Dr. Otoniel Buenrostro-Delgado*, **Mexico**

Estimation of Carbon Emissions from Municipal Solid Waste and the Determination of

the Impact of Recycling on Emissions *Matthew Franchetti*, Assistant Professor, The University of Toledo, **USA**

Total Reduction of So₂, Nox, Co₂, Ash Volatiles, Trace Metals, Dioxins/Furans from Coal and Solid Waste Combustion *Bert Zauderer*, President, Coal Tech Corp, **USA**

Waste Rag Pickers: Local Management of Waste, Plastics for Income Generation and Recycling - A Step Yowards Better Environment Practices in Cities of Delhi and Bhopal *Leonard Sonnenschein*, President, World Aquarium And Conservation For The Oceans Foundation, *Prabhjot Sodhi*, National Coordinator, Gef Small Grants Program (SGP), United Nations Development Program (UNDP), Centre For Environment Education (CEE), **USA**

Mitigation of Biofuels Impacts on the Food Supply, Environment and Energy Value, *Shakinaz El-Sheltawy*, Cairo University - Dept of Chemical Engineering, **Egypt**

Potential Environmental Benefits of Improving Recycling of Polyolefines – LCA of Magnetic Density Separation (MDS) Developed in the EU FP7 Funded Project W2Plastic, *Stig Irving Olsen*, Associate Professor, Technical University of Denmark, *Alexandra Bonou*, PhD. Student, Technical University of Denmark, **Denmark**

10:10 a.m. - 10:25 a.m.

Break

10:25 a.m. – 12:15 p.m.

Sessions 6

SESSION 6A

Workshop on Demolition Waste Recycling 2

Moderator: *Giuseppe Bonifazi*, Full Professor, Sapienza University Of Rome - DICMA, **Italy**

SESSION 6B

E-Waste

Recycle of Lead in E-Waste *Fu-Shen Zhang*, Professor, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, *Mingfei Xing*, Student, **China**

Research and Development of Equipment and Facilities for WEEE/E-Waste Management in Lagos-Nigeria, *Abdul Wahab Ogunbiyi*, Assistant Director, Lagos State Ministry of Works and Infrastructure, Alausa-Ikeja, Lagos, *Olasunkanmi Ojowuro*, Principal Mechanical Engineer, Lagos State Ministry of Physical Planning and Urban Development, *Adeshola Openibo-Adebosin*, Principal Technical Officer I, Lagos State Ministry of Transportation, **Nigeria**

SESSION 6C

Management of Specific Wastes

Potential Drying/Fractionation of Primary Paper Mill Sludge *Mikko Mäkelä*, Doctoral Candidate, Aalto University, School of Chemical Technology, *Annina Lähdeniemi*, Doctoral Candidate, Aalto University, School of Chemical Technology, *Risto Pöykiö*,

Environmental Manager, City of Kemi, *Dr. Hannu Nurmesniemi, Prof. Olli Dahl*,
Finland

Development of Alternative Materials for Civil Construction with use of Waste of Pulp and Paper Industry *Marisa Soares Borges*, PhD Student, Federal University of Parana, *Carlos Roberto Sanquetta*, Associate Professor, Federal University of Parana, *Emanuel Orestes Silveira*, PhD Student, Federal University of Parana, **Brazil**

Evaluating Performance of Tire-Derived Aggregates When used as Media for Leachate Collection and Drainage Systems *Marchus Mwai*, Student, University of Alberta, *Kristine Wichuk*, Research Associate, University of Alberta, *Daryl McCartney*, Professor, University of Alberta, **Canada**

Effect of Interaction Parameters on the Performance of Crumb Rubber Asphalt Binders *Magdy Abdelrahman*, Associate Professor, North Dakota State University, **USA**

Experimental Investigation in Developing New Composite Material from Paper and Textile industry Waste *Senthilkumar Shanmugamoorthy*, Professor, Department of Civil Engineering, K.S.R. College of Engineering, *Velumani Periasamy*, Assistant Professor, Department of Civil Engineering, K.S.R.College of Engineering, **India**

A Comparison Study of Bio-Electricity Generation by Using Kitchen Garbage and Bamboo Waste in Microbial Fuel Cell (Mfc) Method, *Md.Azizul Moqsud*, Civil Engineering Department, Kyushu University, *Kiyoshi Omine*, Civil Engineering Department, Kyushu University, *N. Yasufuku*, Professor, Civil Engineering Department, Kyushu University, **Japan**

Implementation of Global Product Classification, *Lorena Fortuna*, Doctoral Student, Department of Civil Engineering, City College of New York, *David Hirschler*, Deputy Director, Bureau of Waste Prevention Reuse and Recycling, New York City Department of Sanitation, *Vasil Diyamandoglu*, Assistant Professor, Department of Civil Engineering, The Grove School of Engineering, The City College of New York, **USA**

Development of a Methodology to Transpose Commercial Products to Materials, *Lorena Fortuna*, Doctoral Student, Department of Civil Engineering, City College of New York,, *David Hirschler*, Deputy Director, Bureau of Waste Prevention Reuse and Recycling, New York City Department of Sanitation, *Vasil Diyamandoglu*, Assistant Professor, Department of Civil Engineering, The City College of New York, **USA**

SESSION 6D

Modeling

Modeling, Computation of Kinetic Parameters and Identification of Products of Process in Soil Ozonation with Phenanthrene, *Jesus Rodriguez Aguilar*, Estudiante de Posgrado, Esique - IPN, *Tatiana Timoshina Lukianova*, Asesor Academico y Director de Proyecto, Esique - IPN, *Alejandro Garcia Gonzalez*, Director de Proyecto y Asesor Externo en Procesos de Simulacion y Control, Tecnologico de estudios superiores de Monterrey Campus Guadalajara., **MEXICO**

Critical Evaluation of Municipal Waste Management Options Available to Jeddah by

Integrating Waste Management Model (Iwm-2) *Nadia Abdulghaffar*, Assistant Professor, King Abdulaziz University, **Saudi Arabia**

Reversing the NIMBY Syndrome: An EcoComplex Model *Maria Alejandra Pena*, PhD Student, George Mason University, *Sharon deMonsabert*, Associate Professor, George Mason University, *Sean McBride*, PhD Student, George Mason University, **USA**

SESSION 6E **Research Advances 2**

The Importance of Zero Waste in Climate Action Plans, *Maggie Clarke*, Partner, Beyond Waste Solutions, **United States**

Effect of Pathogens from Untreated Sewage on Beaches and Human Health, *Alaa Fahad AL Kandari*, Geologist, Kuwait Oil Company (KOC), *Mohammad Al Sarawi*, Professor, Kuwait University, **Kuwait**

Purssian Blue Dissociation, Analysis and Biodegradation in Soil Sample, *Neha Gupta*, Student, IIT Roorkee, *C.B Majumder*, Associate Professor, *V.K Agrawal*, Professor, IIT Roorkee, **INDIA**

Biomedical Solid Waste and Prevailing Treatment Strategies, *Rajnish Shrivastava*, Director, National Institute of Technology Hamirpur, *Surjit Singh Katoch*, Associate Professor, National Institute of Technology Hamirpur, **India**

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

POSTER SESSION 2

Difficulties Encountered in Establishing Parameters for Global Monitoring of Activities in the Area of Social and Environmental Responsibility, *Andreia São Jose*, Student, Universidade do Estado do Rio de Janeiro, *Marco Figueiredo*, Professor, Universidade do Estado do Rio de Janeiro, **Brasil**

Incineration of Packaging Waste Management: Life Cycle Inventory (LCI) Analysis, *Rubén Aldaco*, Lecturer, Universidad de Cantabria, *Angel Irabien*, Professor, Universidad de Cantabria, *Maria Margallo*, P&H Student, Universidad de Cantabria, **Spain**

The Fenix Project: Obtaining Environmental Life Cycle Assessment (Lca) Results on Packaging Waste Management, *Rubén Aldaco*, Lecturer, Universidad de Cantabria, *Angel Irabien*, Professor, Universidad de Cantabria, *Maria Margallo*, P&H Student, Universidad de Cantabria, **Spain**

Material Characterization And Gasification Of Municipal Solid Waste, *Isam Janajreh*, Associate Professor, Masdar Institute of Science and Technology, *Syed Raza*, Student,

Masdar Institute, **United Arab Emirates**

A Stochastic, Multi-Objective, Mixed-Integer Optimization Model for Biosolids-Energy Management: Case Study for the District of Columbia Water and Sewer Authority, *Chalida U-tapao*, Student, University of Maryland, College Park, *Steven A. Gabriel*, Associate Professor, University of Maryland, College Park, *Christopher Peot*, Biosolids Manager, District of Columbia Water and Sewer Authority, *Mark Ramirez*, **United States**

Agricultural Biomass Valorization: Orange Residues Gasification Kinetics, *Astrid Altamar*, Student, Federal University of Santa Catarina, *Regina F.P.M. Moreira*, Associate Professor, Federal University of Santa Catarina, *Humberto J. José*, Associate Professor, Federal University of Santa Catarina, *Suelén Amorim*, *Valquiria Valbedi*, **Brazil**

Pyrometallurgical Treatment of Electric Arc Furnace Dust, *Felipe Fardin*, Student, University of São Paulo, *Jorge Tenório*, Professor, University of São Paulo, *Denise Espinosa*, Professor, University of São Paulo, *Prof. Dr. José Oliveira*, **Brazil**

Recovery of Organic Compounds from Waste Printed Circuit Boards using Supercritical Carbon Dioxide, *Yi-Chieh Lai*, Assistant Professor, Department of Bioenvironmental Engineering, Chung Yuan Christian University, *Hwa-Kwang Yak*, Associate Professor, Department of Chemistry, Chung Yuan Christian University, *Kuen-Song Lin*, Professor, Department of Chemical Engineering And Materials Science, *Dr. Ying-Liang Chen*, **Taiwan**

Recycling of Electric Arc Furnace Dust: Evaluation of the Addition in Hot Metal using Alumina Crucible, *Vicente Marques Sobrinho*, Associate Professor, IFES, *José Roberto de Oliveira*, Associate Professor, IFES, *Vitor Bridi Telles*, Student, USP, *Felipe Fardin Grillo*, *Prof. Dr. Jorge Alberto Soares Tenório*, *Prof. Dr. Denise Croce Romano Espinosa*, **Brazil**

Solidification Behavior and Control of Steel Slag in Marine Environment, *Wataru Nishijima*, Professor, Hiroshima University, *Hitomi Yano*, Student, Hiroshima University, *Satoshi Asaoka*, Researcher, Hiroshima University, *Tetsuji Okuda*, *Satoshi Nakai* And *Mitsumasa Okada*, **Japan**

Purssian Blue Dissociation, Analysis and Biodegradation in Soil Sample, *Neha Gupta*, Student, IIT. Roorkee, *C.B. Majumder*, Associate Professor, IIT Roorkee, *V.K Agrawal*, Professor, IIT Roorkee, **India**

Study on the Modification of Steel Slag by Calcium Lignosulfonate as Grinding Aids, *Xi Zhu*, *Min Zhou*, *Xuquan Huang*, *Hou Haobo*, *Zhang Wenjing*, **China**

Sustainability in Electroelectronic Industry: Fisical Process to Printed Circuit Board Recycling, *Viviane Tavares de Moraes*, Student, Polytechnic School of São Paulo University, *Denise Croce Romano Espinosa*, Professor, Polytechnic School of São Paulo University, *Jorge Alberto Soares Tenório*, Professor, Polytecnic School of São Paulo University, **Brazil**

The Release and Control of HCl During Two Stage thermal Treatment of a Single Rdf-5,

Jie Yu, Student, Hua Zhong University of Science & Technology, *Lushi Sun*, Associate Professor, Hua Zhong University of Science & Technology, *Jun Xiang*, Professor, Hua Zhong University of Science & Technology, *Song Hu*, *Sheng Su*, *Jianrong Qiu*, **China**

Trace Element Extractability from Fly Ash as a Function of Ph, *Mikko Mäkelä*, Doctoral Candidate, Aalto University, School of Chemical Technology, *Risto Pöykiö*, Environmental Manager, City of Kemi, *Hannu Nurmesniemi*, Environmental Manager, Stora Enso Oyj, Veitsiluoto Mill, *Prof. Olli Dahl*, M.Sc. (Tech.) *Gary Watkins*, **Finland**

A Large-Scale Ramp Model Test on Composite Liner Systems, *Lin Weian*, Engineering, Zhejiang University, *Zhan Liangtong*, Professor, Zhejiang University, *Chen Yunmin*, Zhejiang University, *Li Yuchao*, **China**

Construction and Demolition Management in Cities of Fars Province, *Nasser Taleb Beydokhti*, Professor, Shiraz University, Engineering School, *Habibollah Keshavarzi Shirazi*, Student, Shiraz University, Engineering School, *Mohammad Minousepehr*, Master of Science, Shiraz University, Engineering School, *Hamid Amiri*, **Iran**

Evaluation of Methane Generation Potential of MSW in a Closed Landfill, *M.S. Hossain*, Associate Professor, University of Texas at Arlington, *Sonia Samir*, Graduate Student, University of Texas at Arlington, *Vance Kemler*, Director of Solid Waste, City of Denton Landfill, **USA**

Experimental Investigation in Developing New Composite Material from Paper and Textile industry Waste, *Senthilkumar Shanmugamoorthy*, Professor, Department of Civil Engineering, K.S.R. College of Engineering, *Velumani Periasamy*, Assistant Professor, Department of Civil Engineering, K.S.R.College of Engineering, **India**

Laboratory-Scale Study of the Effect of Biogas on Plant Roots, *Eduardo Baltierra-Trejo*, Postgraduate Student, Umsnh, *Liliana Marquez-Benavides*, Lecturer-Researcher, Umsnh, *J. Manuel Sanchez-Yanez*, Lecturer-Researcher, Umsnh, *Dr. Otoniel Buenrostro-Delgado*, **Mexico**

Utilization of Fly Ash as a Carrier in Biofertilizer and Biopesticide Formulation of Chandrapura Thermal Power Station, India, *Neha Shreya*, Junior Research Fellow (Student), Indian School of Mines, Dhanbad, *Biswajit Paul*, Associate Professor, Indian School of Mines, Dhanbad, **India**

Study on New Biodegradable Material Made from Wastepaper, *Peishi Sun*, Professor, Yunnan University, *Chunhong Zhang*, *Xiaoyi Bi*, *Jie Wang*, *Futang Deng*, *Xiaodong He*, *Wenfeng Dai*, **China**

Granulation of Oil Shale Ashes and The Potentiality of use the Product in Agriculture, *Herki Hälvin*, MSc Student, Tallinn University of Technology, *TiiT Kaljuvee*, Tallinn University of Technology, *Rein Kuusik*, Tallinn University of Technology, **Estonia**

Biochemical Valorization of Organic Wastes, *Carlos Garcia*, Researcher Professor, CSIC (Spanish Research Council), *Teresa Hernandez*, Researcher Professor, CSIC (Spanish Research Council), **Spain**

Well Biofouling – A Multifaceted Treatment Approach For Both Geochemically and

Microbiologically Fouled Wells, *Il Kim*, Engineer, Sadat and Associates, Inc., *Marwan Sadat*, CEO, Sadat and Associates, Inc., **USA**

Different Pretreatment Method Influence on Corn Straw Saccharification for Dark Fermentation and Bio-hydrogen Production, *Yue Shi*, Associate Researcher, Harbin Engineering University College of Power & Energy Engineering, *Xiang-wen Sun*, Student, Harbin Engineering University College of Power & Energy Engineering, *Linchong Dai*, Student, Harbin Engineering University College of Power & Energy Engineering, *Mr.Kun ZHANG*, **China**

Thermal Decomposition and Emission Control of Dioxins During the Manufacturing Process of Ceramisite from Municipal Solid Waste Incineration Fly Ash, *Jianwei Wang*, Deputy Director, Tianjin ESUN Environmental Technology CO., LTD, *Haijun Zhang*, Associate Professor, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, *Tao Ji*, Director, Tianjin ESUN environmental Technology CO., LTD, *Shuguang Zhang*, **China**

Evaluation Of The Degree Of Blending Of Reclaimed Asphalt Pavement (Rap) Binder For Warm Mix Asphalt, *Luis Gaitan*, Student, Rowan University, *Yusuf Mehta*, Associate Professor, Rowan University, **USA**

Studies of a Hydrocyclone to Produce Clean Coal from Tuncbilek/Turkey Fine Lignite Tailings, *Selçuk Özgen*, Mineral Engineering, Department of Research and Development, General Directorate of Turkish Coal Enterprise (TKI), *Ömer Sezgin*, Ass. general manager, Department of Research and Development, General Directorate of Turkish Coal Enterprise (TKI), *Mustafa Ziyapak*, head of department, Department of Research and Development, General Directorate of Turkish Coal Enterprise (TKI), *Zeki Olgun*, *Cengiz Çelebi*, **Turkey**

Characterization Of Optical Storage Media Aiming Recycling, *Denis Massucatto*, Student, University of Sao Paulo, *Lidia Gomes Barbosa*, *Cláudio Parra de Lazzari*, *Prof. Jorge Alberto Soares Tenório*, *Prof. Denise Croce Romano Espinosa*, **Brazil**

1:15 p.m. – 2:15 p.m.

Luncheon

2:15 p.m. – 4:25 p.m.

Sessions 7

SESSION 7A

Ash Management

Admixture Stabilisation of KTPS Pond Ash *Hari Krishna Padavala*, Associate Professor, National Institute of Technology, Warangal, Ap, India, *Ramana Murty Varudu*, Associate Professor, National Institute of Technology, Warangal, Ap, India, **India**

Dynamic Response and Liquefaction Analysis under Seismic Waves of Ash Storage Dam after Third Sub Dam Added *Ming Li*, Lecturer, Northeastern University, *Li Liang*, Professor, Northeastern University, *Jiaxu Jin*, Student, Northeastern University, *Xin Li*, *Wenliang Guo*, **China**

Geotechnical Studies for Potential Applications of Pond Ash *Ramana Murty Varudu*, Associate Professor, Department of Civil Engineering, National Institute of Technology, Warangal, *Hari Krishna Padavala*, Associate Professor, National Institute of Technology, Warangal, **India**

Utilization of Fly Ash as a Carrier in Biofertilizer and Biopesticide Formulation of Chandrapura Thermal Power Station, India *Neha Shreya*, Junior Research Fellow (Student), Indian School of Mines, Dhanbad, *Biswajit Paul*, Associate Professor, Indian School of Mines, Dhanbad, **India**

SESSION 7B

Mining and Mineral Wastes

Incorporating Fluvial Geomorphic Landform Approaches for Valley-Fill Design in West Virginia *Leslie Hopkinson*, Assistant Professor, Civil and Environmental Engineering, West Virginia University, *Alison Sears*, Student, WVU, *John Quaranta*, Assistant Professor, Civil and Environmental Engineering, West Virginia University, **USA**

Neutralisation of Acid Mine Drainage using Magnesium Hydroxide and Barium Hydroxide *Vhahangwele Bologo*, Student, Tshwane University of Technology, *Johannes Maree*, Professor, Tshwane University of Technology, *Fritz Carlsson*, Co-Supervisor, Tshwane University of Technology, **South Africa**

Recovery of Calcium Carbonate from a Barium Sulphate-Calcium Carbonate Mixed Sludge *Timothy. T. Rukuni*, Student, Tshwane University of Technology, *Jannie Maree*, Professor & Rand Water Chair In Water Utilisation, Tshwane University of Technology, *Caliphs Zvinowanda*, Project Manager, Marlow Aquatec, **South Africa**

Treatment of Acid Mine Drainage using Ammonium Hydroxide *Mavis Dineo Maila*, Student, Tshwane University of Technology, *Johannes Phillipus Maree*, Professor, Tshwane University of Technology, *Leskey Mduduzi Cele*, Senior Lecturer, Tshwane University of Technology, **South Africa**

SESSION 7C

Sludge

Algae Biomass as a New Source of Co-Substrate in Fermentation Plants *Sebastian Schmuck*, Ph.D. Student, University of Duisburg-Essen, Faculty of Engineering Department of Urban Water And Waste Management, *Carlo Pozza*, Ph.D - Student, University of Duisburg-Essen, Faculty of Engineering, Department of Urban Water And Waste Management, *Thorsten Mietzel*, Post Doc., University of Duisburg-Essen Faculty of Engineering, Department of Urban Water And Waste Management, *Dr.-Ing. Ruth Braunstermann*, **Germany**

Research on the Optimum Mixing Condition of High Concentration Sludge in Anaerobic Digestion *Xiuqin Cao*, Beijing University of Civil Engineering & Architecture, *Dongfang Zhao*, *Caibin Li*, Chief Engineer, **P.R. China**

Thermogravimetric Analysis of Sewage Sludge Combustion in Oxygen-Enriched Environment, *Michał Gandor*, PhD. Student, Czestochowa University of Technology,

Jurand Bień, Czestochowa University of Technology, **Poland**

Beneficial Utilization Of Waterworks Sludge For Zinc Stabilization, *Kaimin Shih*, Assistant Professor, The University of Hong Kong, *Yuanyuan Tang*, PhD student, The University of Hong Kong, **Hong Kong, China**

SESSION 7D
Waste Utilization 2

Green Approach to Waste Management – Converting Sludge into Novel Resource *Joo-Hwa Tay*, Professor, Fudan University, *Kuan-Yeow Show*, Professor, Universiti Tunku Abdul Rahman, **China**

Recycling of Styrofoam Waste: Synthesis of Phenyl Thiosemicarbazone Surface,” *Ali Nawaz Siyal*, Lecturer (Organic Chemistry), Dr. M.A. Kazi Institute of Chemistry, University of Sindh, Jamshoro, *Ali N. Siyal*, **Pakistan**

Long Term Physical and Chemical Behaviors of Steel Slags in Sea Water and Sediment *Satoshi Asaoka*, Postdoctoral Fellow, Hiroshima University, *Hitomi Yano*, Master, Hiroshima University, *Tetsuji Okuda*, Assistant Professor, Hiroshima University, *Satoshi Nakai*, *Wataru Nashijima*, *Mitsumasa Okada*, **Japan**

Different Pretreatment Method Influence on Corn Straw Saccharification for Dark Fermentation and Bio-hydrogen Production, *Yue Shi*, Associate Researcher, Harbin Engineering University College of Power & Energy Engineering, *Xiang-wen Sun*, Student, Harbin Engineering University College of Power & Energy Engineering, *Linchong Dai*, Student, Harbin Engineering University College of Power & Energy Engineering, *Mr. Kun Zhang*, **China**

Damage Behaviour of Composite Materials under Impact Repetitive Load, *El-Habak M*, Professor, Cairo Univeristy, **Egypt**

SESSION 7E
Construction and Demolition Wastes

Use of Asphalt Millings as Structural Embankment *Swamy Basim*, Associate Professor, Central Connecticut State University, *Dorairaja Raghu*, Professor, New Jersey Institute of Technology, *S.V. Dinesh*, Professor, Siddaganga Institute of Technology, **USA**

Alternatives to Landfilling Gypsum Wallboard Waste *Joseph Laquatra*, Professor, Cornell University Department of Design and Environmental Analysis, *Mark Pierce*, Extension Associate, Cornell University, Department of Design and Environmental Analysis, **USA**

Construction and Demolition Management in Cities of Fars Province *Nasser Taleb Beydokhti*, Professor, Shiraz University, Engineering School, *Habibollah Keshavarzi Shirazi*, Student, Shiraz University, Engineering School, *Mohammad Minousepehr*, Master of Science, Shiraz University, Engineering School, *Hamid Amiri*, **Iran**

SESSION 7F
Recycling 3

Reduction of environmental impact of Municipal Solid Waste: Characterization and quantification of plastic films rejected in the recycling business and its use in biocomposites, *Adilson Roberto Gonçalves*, Professor, Escola de Engenharia de Lorena - University of Sao Paulo, Dept. Biotechnology, *Cibele Rosa Oliveira*, Student, Escola de Engenharia de Lorena - University of Sao Paulo, Dept. Biotechnology, **Brazil**

Recycled Glass As A Partial Replacement For Fine Aggrgate In Self Compacting Concrete, *Esraa Emam*, Assistant Professor, Housing and Building National Research Center, **Egypt**

4:25 p.m. – 4:40 p.m.
Break

4:40 p.m. – 6:40 p.m.
Sessions 8

SESSION 8A
Waste Collection

Eco-Friendly Electronic Monitoring System for Remanufacturing *Arun Vasantha Geethan Kathiresan*, Associate Professor, St.Joseph's College of Engineering, *Manikandan Vellakovil Kesavan*, Student, St.Joseph's College of Engineering, *Muthuswamy Vazhithunairaman*, Student, St.Joseph's College of Engineering, *Leo Jude Salvadore Joseph*, *Dr. Jose Swaminathan*, **India**

SESSION 8B
Research Advances 3

Phyto-extraction of Heavy Metals from Contaminated Soil Resulted from Hazardous Industrial Waste, *Al-Wafra*, Kuwait, *Ahmed Mubarak Al-Azemi*, Student, Kuwait University, *Mohammad Al Sarawi*, Professor, Kuwait University, **Kuwait**

Stabilization Of Hazardous Nickel And Copper Wastes Through Thermal Reactions With Clay Materials, *Kaimin Shih*, Assistant Professor, The University of Hong Kong, *Xiuqing Lu*, PhD student, The University of Hong Kong, **Hong Kong, China**

Development of Collagen Based Fracturing Fluid and the Study of Proppant Settling Characteristics, *Ramiro Magboo*, Student, Manhattan College, *Charity Njau*, Student, Manhattan College, **USA**

Roadside and Backyard Burnings of Municipal Solid Waste: Potential Environmental Sources of Heavy Metals, PCBs and PAHs, *Mary Bosedo Ogundiran*, Lecturer I, University of Ibadan, *Titilope Ayoola Ogunleye*, Student, University of Ibadan, *Ayodele Fabiyi*, Student, University of Ibadan, **Nigeria**

SESSION 8C

Waste Generation and Composition 2

Material Characterization And Gasification Of Municipal Solid Waste, *Isam Janajreh*, Associate Professor, Masdar Institute of Science and Technology, *Syed Raza*, Student, Masdar Institute, **United Arab Emirates**

SESSION 8D

Agricultural Wastes 2

Development of Biofuel Sustainability, *Shakinaz El-Sherbiny*, Assistant Professor, Dept of Chemical Engineering - Cairo University, **Egypt**

Conversion of Sorrel (Hibiscus Sabdariffa) Calyces to Glucose, *Olusegun Ayoola Ajayi*, Senior Lecturer, Department of Chemical Engineering, Ahmadu Bello University, Zaria. Kaduna State., *Adegboyegba Surajudeen Olawale*, Associate Professor, Department of Chemical Engineering, Ahmadu Bello University, Zaria. Kaduna State., *Sunday Sam Adefila*, Professor, Department of Chemical Engineering, Covenant University, Ota. Ogun State, **Nigeria**

Practice and Challenges of Farm Waste Waste Management, *Anthony Kola-Olusanya*, Senior Lecturer, Osun State University, *Jelili Olatunji*, Student, Lagos State University, **Nigeria**

SESSION 8E

Case Studies 3

Integrated Solid Waste Management (Iswm) Action: Options and Measures for Iswm in Nigeria, *Anthony Kola-Olusanya*, Senior Lecturer, Osun State University, *Samuel Odewumi*, Associate Professor, Same as Lead Author, **Nigeria**

Solid Waste Management in the Private Sectors Through Bot Projects in the State of Kuwait, *Yousif Habib Al-Monawer*, Assistant General Manager for Environmental Projects, Kuwait Municipality, *Mohammad Al Sarawi*, Professor, KUWAIT UNIVERSITY - COLLEGE OF SCIENCE, **Kuwait**

Integrated Municipal Solid Waste Management Through Public Awareness In Jaipur City: A Mathematical Approach, *Archana Gupta*, Associate professor, Rajdhani College of Engineering, **India**

Economic Analysis of Greensboro City Waste to Power, *Ransford Baidoo*, Research Associate, North Carolina Agricultural and Technical State University, *Abolghasem Shahbazi*, Professor, North Carolina Agricultural and Technical State University, *Matthew Todd*, Student, North Carolina AgrNorth Carolina Agricultural and Technical State University, *Harith Rojanala*, **United States**

6:45 p.m. – 7:45 p.m.

Closing Reception

WEDNESDAY MARCH 14

8:00 a.m. – 10:00 a.m.

Conference check-in and registration

8:00 a.m. – 9:00 a.m.

Coffee

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 – Waste-to-Energy, Transfer and WEEE Recycling

Covanta Delaware Valley Energy-from-Waste Facility

The Covanta Delaware Valley Energy-from-Waste facility, located in Chester, Pennsylvania is capable of processing up to 3,348 tons of municipal and commercial solid waste each day. The facility originally opened for commercial operation in 1992. The plant not only meets the municipal solid waste disposal of Delaware County, but also provides capacity for up to 800,000 tons of additional waste each year from surrounding counties. Advanced control systems constantly monitor combustion performance, energy output and emissions at the Delaware Valley facility.

Utilizing six boilers, each with a rated capacity of 558 tons per day, the Delaware Valley facility has the ability to process up to 3,348 tons of municipal and commercial waste which, in turn, generates up to 90 MW of clean, renewable power. Additionally, the facility recovers approximately 40,000 tons per year of ferrous and non ferrous metal for recycling that would otherwise be lost in landfills. This operation conserves valuable landfill space by reducing the waste processed into an inert ash residue that is approximately 10% of its original volume.

A tour of the facility will include a brief overview by operations staff followed by a walking tour through the facility. The walking tour will allow visitors to see:

- Tipping floor – the location where municipal solid waste is unloaded from transfer trailers
- Control room – the command center of the facility
- Turbine Deck – the power generating equipment
- Boiler Floor – the combustion and steam generation equipment

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.