Agenda Global Waste Management Symposium

Sunday, February 23, 2020

5:00pm to 7:00pm	**Welcome Reception**

Monday, February 24, 2020

7:00am	Registration Opens
7:30am - 8:45am	Continental Breakfast
8:45am - 10:00am	**Welcome & Keynote: Tara Hemmer, SVP, Waste Management (Indian Wells Ballroom)**
10:00am - 10:30am	Coffee Break

10:30am - 12:00pm	**Session One**	
Track A: Leachate Treatment I **Moderator: Brian Brazil,** Waste Management	**Track B: Characterizing Elevated Temperature Landfills** **Moderator: Mike Beaudoin,** Republic Services	**Track C: Waste Management Planning** **Moderator: Jeremy Morris,** Geosyntec Consultants
Life Cycle Cost Analysis of Landfill Leachate Ammonia Removal versus Recovery for POTW Discharge - **Sara Arabi**, HDR	*Field Data & Modeling of Heat Generation Rates in Municipal Solid Waste Landfill Located in Northeastern United States* - **Terry Johnson**, Waste Management	*Quantifying the Nuisance and Safety Aspects of Storage and Collection* - **Ronald Mersky**, Widener University
Leachate Scaling – Problems, Prevention, Cures - **Ivan Cooper**, Civil & Environmental Consultants	*Characterization of Florida Landfills with Elevated Temperatures* - **Ryan Joslyn**, Geosyntec Consultants	*Hennepin County's Zero Waste Challenge Program* - **Carolyn Collopy**, Hennepin County, Department of Environment and Energy
Integrated Electrochemical Landfill Leachate Solution for a Minnesota Landfill - **Steven Butel**, HTX Solutions, LLC	*Modelling Liquids Removal as an Elevated Temperature Mitigation Option for MSW Landfills* - **Michael Caldwell**, Waste Management	*Waste Characterization Study at a Municipal Solid Waste Landfill* - **Steven Wilsey**, GHD
Large-Scale Advanced Leachate Treatment System, Concept to Full Scale Performance Comparison - **Kevin Torrens**, Brown and Caldwell	*The effect of temperature on methane generation from solid waste excavated from landfills experiencing elevated temperatures* - **Sierra Schupp**, North Carolina State University	

12:00pm - 2:00pm	**Lunch & Poster Viewing - Lunch Speaker: Dr. Bryan Staley, President & CEO, EREF (Indian Wells Ball Room)**

Waste 360™ GWMS® Global Waste Management Symposium

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Monday, February 24, 2020

2:00pm - 3:30pm	**Session Two**	
Track A: PFAS Characterization **Moderator: Joe Benco,** Republic Services	**Track B: Waste Management Planning & Odor Control** **Moderator: Andy Nikodem,** Golder Associates	**Track C: Organics Management - Policy/Strategies** **Moderator: Kyle Muffels,** GHD
Leachate/POTW PFAS Nexus-Reality, Risks, and Solutions for Landfill Owners - **Kevin Torrens**, Brown and Caldwell	*Overview of ISWA's Global Initiative on Closing Dumps* - **James Law**, SCS Engineers	*Evaluating the Local Effects of California's Senate Bill 1383: Changes to Organic Waste Disposal & Impacts on Methane Generation, Recovery, and Emissions* - **Alexander Stege**, SCS Engineers
Emerging Contaminants and Surface Water: Per- and Polyfluoroalkyl Substances (PFAS) - **Laura Carpenter**, Brown and Caldwell	*Managing Illegal Dumping in the Big Data Era: Prospects and Challenges* - **Mark Milke**, University of Canterbury	*Food Waste Management Within the Food-Energy-Water Nexus* - **Debra Reinhart**, University of Central Florida
Per- and Polyfluoroalkyl Substances (PFAS) in Landfill Leachate and Municipal Wastewater - **Morton Barlaz**, North Carolina State University	*Why landfills smell and what can be done about it?* - **William Emmert**, Tetra Tech	*The Benefits of Digesting Food Waste at Water Resource Recovery Facilities: Results from the Goleta Sanitary District Pilot Project* - **James Dunbar**, Lystek
Occurrence, Distribution and Mitigation of PFAS in Landfill Leachate - **Renzun Zhao**, North Carolina A&T State University	*Growing Odor Concerns from Encroaching Development* - **Wilbert Yang**, Tetra Tech	

3:30pm - 4:00pm Coffee Break

4:00pm - 5:15pm	**Session Three**	
Track A: Managing Liquids in the Waste Column **Moderator: Greg Cekander,** Waste Management	**Track B: Environmental Assessment of Organics Management** **Moderator: Kristin Kinder,** Wastequip	**Track C: Measuring/Enhancing Methane Potential** **Moderator: Jeffrey Young,** Weaver Consultants Group
Managing Liquids in Landfills: Technical and Operational Considerations - **Mike Beaudoin**, Republic Services	*Life-Cycle Optimization to Develop and Assess of Sustainable Organic Waste Management Strategies* - **James Levis**, North Carolina State University	*Impacts of Moisture Enhancement Strategies on Biogas Generation in Municipal Solid Waste* - **Christopher Bareither**, Colorado State University
The Successful Remediation of over 30 feet of Leachate on the Liner System at the SPSA Regional Landfill - **Jeffrey Murray**, HDR	*Life-Cycle Modeling of Nutrient and Energy Recovery through Mixed Waste Processing Systems* - **James Levis**, North Carolina State University	*Effect of TAV5 ratios on methane generation and lignin degradation* - **Hoda Rahimi**, University of Texas at Arlington
Geotechnical Concerns associated with Liquids in Landfills - **Tim Mitchell**, Civil & Environmental Consultants		*Evaluation of Alternate Inocula for Biochemical Methane Potential Testing* - **Sierra Schupp**, North Carolina State University

5:15pm - 6:45pm Reception & Poster Viewing

Tuesday, February 25, 2020

7:00am - 8:15am Continental Breakfast

8:30am - 10:00am **Session Four**

Track A: PFAS Treatment **Moderator: Stephanie Bolyard,** EREF	**Track B: Landfill Covers** **Moderator: Ryan Kamp,** Chesapeake Containment Systems	**Track C: Assessing Heat Generation in Landfills** **Moderator: Craig Benson,** University of Virginia
PFAS Treatment Technologies: ITRC Consensus View - **Jeffrey Pintenich**, Brown and Caldwell	*Real-world Performance of Engineered Turf Final Cover System under Extreme Weather Conditions* - **Ming Zhu**, Watershed Geosynthetics	*Energy Analysis of Elevated Temperature Landfill Processes at the Laboratory Scale* - **Marco Castaldi**, City College, City University of New York
PFAS Treatment - The Devil we know and Need to Manage - **Viraj de Silva**, SCS Engineers	*Suitability of un-composted grass clippings and biosolids as biocovers for biological methane removal from landfills* - **Gomathy Radhakishna Iyer**, SCS Engineers	*Experimental Measurement of Heat Production from Al Corrosion under Landfill-Relevant Conditions* - **Zisu Hao**, North Carolina State University
Emerging Technologies for Emerging Contaminants - PFAS and Others - **Ivan Cooper**, Civil & Environmental Consultants	*Florida's First Exposed Geomembrane Cover Final Closure – Regulatory Approval through Construction* - **Tobin McKnight**, Jones Edmunds & Associates	*Development of methods to measure heat released from ash hydration and car bonation in landfills* - **Asmita Narode**, North Carolina State University
	Subsurface Failure of Final Cover Systems - **Amy Knight**, Civil & Environmental Consultants	*Field Testing of Municipal Waste Combustor Ash for Heat Generation Potential* - **Michael Van Brunt**, Covanta

10:00am - 10:30am Coffee Break

10:30am - 12:00pm **Session Five**

Track A: Leachate Treatment II **Moderator: Bob Gardner,** SCS Engineers	**Track B: Landfill Emissions** **Moderator: Amy Banister,** Waste Management	**Track C: Sustainable Materials Management** **Moderator: Tracie Bills,** SCS Engineers
Impact of Landfill Leachate Matrix on Nitrogen Removal Process with Heterogeneous Community of Heterotrophs and Autotrophs in a Sequencing Batch Reactor - **Harsh Patel**, North Carolina A&T State University	*Lessons Learned At Three Landfills Complying with NSPS XXX Emission Control Requirements* - **Wes Younger**, Trinity Consultants	*Sustainability of Recyclable Materials* - **Bryan Staley** Environmental Research & Education Foundation
Single Stage Partial Nitritation/ANAMMOX in Treatment of Landfill Leachate - **Ramesh Goel**, University of Utah	*Drone Based Surface Emissions Monitoring* - **David Barron**, Sniffer Robotics	*A 5-Year Outlook on the Consumer Goods Market: A Case Study on the Sustainability-driven Waste Market Transformation* - **Susanna Cagle**, ENGIE Insight
Leachate Treatment Pilot Study using MBR and Electrocoagulation for reduction of COD and Ammonia and for increasing Ultraviolet Transmittance - **Jason Lewandowksi**, OBG Part of Ramboll	*Drone-Based Gas Mapping LiDAR for Methane Concentration Mapping and Whole Landfill Emissions Monitoring* - **Michael Thorpe**, Bridger Photonics, Inc.	*Potential use of MSW incineration ash as a kiln feed replacement in Portland cement manufacture* - **Linda Monroy**, Lee County Solid Waste Division
Comparative Study on the Nature and Characteristics of Dissolved Organic Matter in Leachate from Two Landfills - **Florentino De la Cruz**, North Carolina State University	*Predictive Modeling of Hydrogen Sulfide Generation by Using Historical data on Waste Disposal and Hydrogen Sulfide Collection* - **Morton Barlaz**, North Carolina State University	

Tuesday, February 25, 2020

12:00pm - 1:30pm **Lunch & Poster Viewing - Lunch Speaker: Michael E. Hoffman, Managing Director-Group Head Diversified Industrials, Stifel**

1:30pm - 3:00pm	**Session Six**	
Track A: Landfill Liners **Moderator: Nick Yafrate,** Geosyntec Consultants	**Track B: Landfill Gas Management** **Moderator: David Penoyer,** Republic Services	**Track C: Management Strategy Impacts on Leachate** **Moderator: Steve Menoff,** Civil & Environmental Consultants
Effects of Aggressive Leachates and Elevated Temperatures on the Hydraulic Conductivity of Bentonite-Polymer Composite Geosynthetic Clay Liners - **Sarah Gustitus-Graham**, University of Virgina	*The WAG: An Innovation in Landfill Gas Data Analysis* - **Raymond Huff**, SCS Engineers	*Cost and Environmental Impacts of Co-Treatment of Centrate and Leachate for Nitrogen/Phosphorus Management* - **Debra Reinhart**, University of Central Florida
Effect of Inorganic Salts Solutions on Polymer Elution from a Bentonite-Polymer GCL - **Christian Wireko**, FAMU-FSU College of Engineering	*Automated Landfill Gas Collection Improves Operations and Increases Revenue for one of the Largest High-BTU Landfill-Gas-to-Energy Operations in the US* - **Nicole Neff**, Loci Controls	*Effect of Food Waste Diversion on Leachate Quality* - **Florentino De la Cruz**, North Carolina State University
Hydraulic Conductivity and Attenuation of Bentonite-Polymer Composite Geosynthetic Clay Liners Permeated With Bauxite Liquor from China - **Jiannan (Nick) Chen**, University of Virginia	*From waste to energy: Landfill gas purification using zeolitic imidazolate framework composites* - **Fangyuan Tian**, California State University Long Beach	*Long Term Impacts of Recirculation of RO Concentrate from MSW Leachate Treatment on Leachate Concentration* - **Patrick Stanford**, Rochem Americas, Inc.
Performance-Based Evaluation of Alternative Liners for Wisconsin Landfills - **Craig Benson**, University of Virginia	*Landfill and Digester Gas Upgrading to CNG and RNG* - **Kyle Muffels**, GHD	

3:00pm - 3:30pm Coffee Break

3:30pm - 5:00pm	**Session Seven**	
Track A: Life Cycle Assessment **Moderator: Mike Michels,** Tetra Tech	**Track B: Liquid Waste Management** **Moderator: Kurt Shaner,** Waste Connections	**Track C: Waste to Resources: Thermal Conversion & Landfill Mining** **Moderator: Matt Stutz,** Weaver Consultant Group
A Generalized Non-Linear Life-Cycle Optimization Framework for Developing and Assessing Sustainable Solid Waste Management Strategies - **James Levis**, North Carolina State University	*Using the Liquid Release Test to Evaluate Wet Wastes and Solidification Effectiveness* - **Eric Chiado**, Civil & Environmental Consultants	*FastOx® Gasification: An Integrated Solution to Zero Waste* - **Meredith Roberts,** Sierra Energy
Comparison of Organic Waste Management Options in Terms of Air Quality and GHG Impacts - **Patrick Sullivan**, SCS Engineers	*Exploration and Production Landfill Waste Stability* - **Harold Barber**, Civil & Environmental Consultants	*Landfill Mining – converting waste from an environmental liability into a resource for energy recovery* - **Andrew Evans**, The Regional Municipality of Durham
An Assessment of the Dynamic Global Warming Impact Associated with Long-Term Emissions from Landfills - **James Levis**, North Carolina State University	*Implications of Solid and Liquid Waste Co-Disposal on Biodegradation and Biochemical Compatibility* - **Christopher Bareither**, Colorado State University	*Landfill Mining – Suitability, Practical Considerations, Technical Issues, Solutions and Costs* - **Paul Dewaele**, Golder Associates (Canada)

5:00pm - 6:30pm Reception & Poster Viewing

Wednesday, February 26, 2020

7:00am - 8:15am Continental Breakfast

8:30am - 9:45am **Session Eight**

Track A: Coal Ash/CCR Management **Moderator: Eric Chiado,** Civil & Environmental Consultants	**Track B: Landfill Operations** **Moderator: Bruce Schmucker,** Clark-Floyd Landfill	**Track C: Composting** **Moderator: Kelly Kincella,** Waste Connections
Coal Ash regulations and permitting of the Coal-Fired Power Plants: United States Environmental Protection Agency (EPA) Region 6 Perspectives - **Richard Huggins, Jr.** and **Golam Mustafa**, United States Environmental Protection Agency	*Hydrologic Modeling Associated with Permitting a Landfill Expansion* - **Rick Buffalini**, Civil & Environmental Consultants	*Finding a Balance: Managing CASP Permitting Requirements versus Operational Objectives* - **Maura Dougherty**, Weaver Consultants Group
Organic Material Management at Closure of CCR Units - **Melissa Setz**, Geosyntec Consultants	*Making a Case for Caissons* - **Matt Stutz**, Weaver Consultants Group	*Closing the Loop: Food Waste Composting in Prince George's County, Maryland* - **Roy McGrath**, Maryland Environmental Service
Effect of coal combustion residual (CCR) leachates on hydraulic conductivity of bentonite-polymer geosynthetic clay liners - **Kuo Tian**, George Mason University	*Achieving Compliance with Low Emission Flares* - **Darrell Thompson**, APTIM	*Can a high quality compost be made from mixed municipal solid waste, similar in quality as compost derived from source separated organics?* - **Luc De Baere**, Organic Waste Services (OWS)

9:45am - 10:00am Coffee Break

10:00am - 12:00pm **Session Nine: Fugitive Air Emissions Workshop**

Workshop Chair/Moderator: **Roger Green**, Waste Management

- *Overview of Regulatory and Policy Drivers Pertaining to Methane Emissions: current state and future direction* – **Amy Banister**, Waste Management; **Raymond Huff**, SCS Engineers ; **Niki Wuestenberg**, Republic Services
- *Current State of Practice for Emissions Measurement* – **Roger Green**, Waste Management
- *California's Super Emitters: a summary of NASA's work to characterize point source methane emissions from solid waste operations* – **Dan Cusworth**, NASA
- *Current State of Research for Emissions Measurement and Modeling, (Panel)* - **Morton Barlaz**, North Carolina State University; **Jean Bogner**, University of Illinois-Chicago; **Tarek Abichou**, Florida State University
- *Where do we go from here? What does current research tell us? What research gaps exist? (Discussion)* – Moderated by **Roger Green**, Waste Management