



A&WMA's 106th Annual Conference & Exhibition Towards Sustainability

June 25-28th, 2013 | Hyatt Regency Chicago | Chicago, Illinois

Final Program



AIR & WASTE MANAGEMENT
ASSOCIATION

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WELCOME FROM THE A&WMA PRESIDENT



Sara J. Head

Welcome to Chicago, where the Air & Waste Management Association is holding its 106th Annual Conference & Exhibition, one of the world's premier conferences for environmental professionals. This is an extremely valuable opportunity to connect and share information with those in government, industry, consulting, law firms, and academia.

This year's conference and exhibition will once again present the best and latest technical information about environmental regulatory programs, research, and technology and their application to solve environmental management challenges. Technical Program Chair, Patricia Brush, Technical Program Vice Chair, Dale Kalina, Technical Program Vice Chair, Paul Farber, and the Technical Council, are to be congratulated on another great program - and we can't fail to mention the efforts of our session chairs and the many platform and poster presenters.

This year's conference theme is Towards Sustainability and we are honored to have two leaders in corporate sustainability serve as our keynote speakers. Bob Langert, McDonald's Vice President of CSR & Sustainability will discuss "Why Corporate Social Responsibility? Lessons Learned from the Front Lines," and John Bradburn, General Motor's Manager of Waste-Reduction Efforts will share his insights on "General Motors - Beyond Sustainability."

A&WMA's 43rd Annual Critical Review presentation will discuss the regulation and control of ozone-depleting substances in "Stratospheric Ozone, Global Warming, and the Principle of Unintended Consequences—An Ongoing Science and Policy Success Story" presented by Marcel L. Halberstadt and Nathan Borgford-Parnell.

We are rolling out a new mobile website this year that will help you plan your personal conference schedule so you won't miss the presentations that are of most interest to you. Visit <http://www.eventscribe.com/2013/awma/> to try it out now!

I am proud to be a part of this esteemed Annual Conference, which I believe successfully showcases what A&WMA is all about: providing a neutral forum for the open discussion and debate on important environmental issues. If you are not currently a member of A&WMA, I encourage you to stop by the Association Resource Center and Bookstore or to chat with your fellow attendees who are members, to learn more about the wide range of benefits A&WMA offers our more than 5,000 members.

If you are already an A&WMA member, I hope you'll take full advantage of the opportunity this conference affords to connect with your fellow members and offer your insights into future programs and services. You can get involved in planning next year's Annual Conference & Exhibition in Long Beach, California by attending technical committee meetings. We're always looking for new perspectives and ideas, and most of our councils and committees hold their annual meetings during the week. Everyone is encouraged to attend these meetings to participate or just observe how things work. Check the program schedule for meeting days and times.

I would like to especially thank David Rieser, General Conference Chair, and Lawrence Fieber, General Conference Vice Chair, as well as this year's Local Host Committee team, our dedicated A&WMA Staff, as well as all our generous sponsors and exhibitors. Without their support and hard work this conference would not be possible.

Learn, network, and have fun exploring Chicago. As the 3rd most populous city in the United States, Chicago has a rich history with lots to see and do. Thank you for joining us, and I hope you enjoy your time at the best conference and exhibition in our industry!

A handwritten signature in black ink that reads "Sara J. Head". The signature is written in a cursive style.

Sara J. Head
A&WMA President

WELCOME

From the General Conference Chair and Vice Chair



David L.
Rieser



Lawrence L.
Fieber

On behalf of the Local Host Committee, we welcome you to Chicago and to the 106th Annual Conference & Exhibition. Thank you for choosing to spend this week with us in Chicago, one of the most beautiful and exciting cities in the world.

This year's Annual Conference is being held just steps from the first permanent settlement in Chicago. Originally swampy and fetid, the area was already at the center of a great transportation network and grew exponentially as the Industrial Revolution manufactured new products to a growing country. Today, Chicago remains a vast manufacturing and intermodal hub with an unmatched ability to move goods seamlessly among water, rail, ground and air. As a vibrant center for global business leaders in finance, insurance, logistics, medical research and law, Chicago offers breathtaking architecture and seamless public transit befitting its world-class corporations.

Chicago clearly embodies our theme for this year's conference: "Towards Sustainability." Mayor Rahm Emanuel established a firm goal of making Chicago one of the greenest cities in the world and has worked toward meeting that goal through the Sustainable Chicago 2015 action plan. Many of Chicago's corporations embrace sustainability with equal passion.

We will begin our week with an extraordinary speaker, Bob Langert, Vice President of CSR and Sustainability for McDonald's Corporation. Langert will discuss how McDonald's seeks to implement sustainability practices across its international platform, including its suppliers, vendors and franchisees. On Wednesday morning, we are thrilled to host our second keynote speaker John Bradburn, General Motor's Manager of Waste-Reduction Efforts, who will speak about how GM is moving up the waste minimization hierarchy from treatment and disposal, through recycling, to reuse and elimination. Following this, Marcel Halberstadt and Nathan Borgford-Parnell will present the 43rd Annual Critical Review discussing "Stratospheric Ozone, Global Warming and the Principle of Unintended Consequences—An Ongoing Science and

Policy Success Story." Thursday, we will have an exciting plenary featuring federal and state perspectives from Region 5 leadership and a panel, including several Region 5 state environmental directors.

We know you want to make some new friends and have fun while here in Chicago. In addition to our serious business, there will be time to network with old and new friends. Tuesday evening you will be entertained with Chicago food and music at a Grand Reception in the Grand Hyatt's beautiful Crystal Ballroom. Be sure to join the technical tours of the world-famous Fermilab and Argonne National Laboratory, as well as the Jardine Water Treatment Plant, one of the largest in the country, and located less than a mile from the hotel. For social sightseeing, we have a Grand Chicago tour, including a trip up the Hancock Tower, a tour following the path of the best-selling book "Devil in the White City", and a boat tour along the Chicago River to see some of the city's stunning architecture.

As your hosts, Lawrence and I would also like to take this opportunity to thank everyone who has helped make this event a success. First, we would like to thank our sponsors and exhibitors and encourage you to meet them and find out more about their work. Second, we would like to thank all of the members of the Local Host Committee and other volunteers from the Lake Michigan States Section, who made an extraordinary commitment of their time and resources to plan this event. We also appreciate the help and support of A&WMA leadership, including our current President Sara Head and Past Presidents, Merlyn Hough and Jeffry Muffat. We're also most grateful to A&WMA's professional staff, including Executive Director (and new Grandpa) Jim Powell. He and the headquarters staff have done so much to make this event possible.

Together, we have worked hard to develop a sustainability-focused technical program that includes numerous panels and posters about the latest approaches to solving sustainability issues. We sincerely hope you enjoy every moment in the Windy City!

David L. Rieser
General Conference Chair

Lawrence L. Fieber, P.G.
General Conference Vice Chair

2013 Annual Conference & Exhibition Sponsors

A&WMA gratefully acknowledges our sponsors for their generous support of the 106th Annual Conference & Exhibition.

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A&WMA gratefully acknowledges our sponsors for their generous support of the 106th Annual Conference & Exhibition.

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With world class technical expertise, leading edge technology and innovative project delivery around the world, AECOM's environmental practice helps industry and government meet their business goals –achieving compliance, reducing or eliminating risks and managing impacts. We provide advisory and technical services to address critical air quality and climate change issues, restore habitats and water quality, protect natural and cultural resources, plan and permit new facilities, maintain compliance, cost effectively manage residuals and wastes, and cleanup and close contaminated sites and restore them for reuse. We leverage the full resources of AECOM's global business and 45,000 staff operating in 140 countries.



Consolidated Analytical Systems

CAS provides expertise in the design, manufacturing, integration and support of monitoring systems for use in ambient air, industrial fence line and natural gas pipeline sectors. The CAS Team believes that focusing on the details without losing sight of the scope is the integral piece of a successful project. With a combined 70 years supporting industries and regulators, we understand the challenges from design to operation. Our passion stems from our desire to provide turn-key solutions to our clients. This approach ensures a precise, cost-effective, properly implemented project. Through dedication, commitment, integrity, and hard work, our Team is ready to serve you.



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Navistar International Corporation produces International brand commercial trucks, military vehicles, diesel engines, school buses, motor homes, and vans. It is also a private-label designer and manufacturer of diesel engines for the pickup truck, van, and SUV markets. Additional information is available at www.navistar.com



Tisch Environmental

Tisch Environmental, Inc., (TEI) produces a broad range of pollution measuring instruments for all types of industrial, service and governmental applications. TEI is a family business located in the Village of Clevel, Ohio. TEI employes skilled personnel who average over 20 years of experience each in the design, manufacture, and support of air pollution monitoring equipment. Our modern well-equipped factory, quality philosophy and experience have made TEI the supplier of choice for air pollution monitoring equipment. Now working on the fourth generation, TEI has state-of-the-art manufacturing capability and is looking into the future needs of today's environmental professionals.

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ARCADIS

ARCADIS provides consultancy, design, engineering and management services in infrastructure, water, environment and buildings. We enhance mobility, sustainability and quality of life in the built and natural environments. With 16,000 employees and more than \$2.7 billion in revenues, the company has an extensive international network supported by strong local market positions.



Burns & McDonnell Engineering Company, Inc.

Founded in 1898, Burns & McDonnell is a 100 percent employee-owned, full-service engineering, architecture, construction, environmental and consulting solutions firm with more than 4,000 professionals in more than 20 offices. Services include Air quality control, Architecture, Aviation, Business consulting, Construction, Defense facilities, Drinking water, Electrical transmission and distribution, Energy services, Environmental, Environmental studies and permitting, Facilities design, Healthcare and research facilities, Industrial, Information technology, Power generation, Process design, Program management, Security, Surface transportation, Sustainability, Telecommunications, Wastewater and Watershed services.

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Enablon is the world's leading provider of Sustainability Management solutions. More than 1,000 global companies and 1,000,000 users worldwide use Enablon software solutions to manage environmental and social performance, minimize risks and improve profitability. Enablon provides on-premises and SaaS solutions and an advanced online sustainability network called Wizness. Through its partnership network, Enablon operates in more than 160 countries.



Environmental Resources Management (ERM)

Environmental Resources Management (ERM) is the world's leading provider of environmental, health and safety, risk and social consulting services. We deliver innovative and sustainable solutions helping clients address the wide range of environmental and social pressures they face. In North America, ERM has over 250 dedicated air quality and climate change professionals assisting clients with projects as diverse as leading a complex industrial source through the hurdles associated with changes to the NAAQS and NSR program to developing responses greenhouse gas and carbon management policies and regulations.



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San Francisco-based Pacific Gas and Electric Company is one of the largest combination natural gas and electric utilities in the Country. The 20,000 employees of the company carry out our primary business-the transmission and delivery of natural gas and electric service to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California.

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BMW Manufacturing Co.

BMW

BMW Manufacturing Co. is a subsidiary of BMW Group in Munich, Germany and is the global producer of the BMW X3 and X5 Sports Activity Vehicle as well as the X6 Sports Activity Coupe. BMW Group has been recognized as the most sustainable automobile company worldwide for the seventh consecutive year by the Dow Jones Sustainability Indexes, and the South Carolina factory is ranked No. 4 by the U.S. Environmental Protection Agency in the agency's Top 20 One-Site Green Power Partners. For more information on BMW's commitment to sustainability, visit www.bmwusfactory.com.



AIR & WASTE MANAGEMENT
ASSOCIATION
Canadian Prairie & Northern Section

Canadian Prairie and Northern Section of A&WMA

The Canadian Prairie and Northern Section was formed in 1987 after a long affiliation with the Pacific Northwest International Section. The Canadian Prairie and Northern Section is geographically one of the largest sections of the A&WMA, encompassing the provinces of Alberta, Saskatchewan, Manitoba, Nunavut, and the Northwest Territories. It is our vision to be the premier organization promoting air and waste management within our geographical region. Our mission is to promote the advancement of knowledge relating to air and waste management issues, provide a forum for the exchange of information on these issues, provide professional development opportunities for its members, and further the objectives of the A&WMA.



Capital Power Corporation

Capital Power (TSX: CPX) is a growth-oriented North American power producer headquartered in Edmonton, Alberta, Canada. The company develops, acquires, operates and optimizes power generation from a variety of energy sources. Capital Power owns more than 3,600 megawatts of power generation capacity at 16 facilities across North America. An additional 595 megawatts of owned generation capacity is under construction or in advanced development in Alberta and Ontario.



CH2M Hill

Employee-owned CH2M HILL is a global leader in full-service consulting, design, design-build, operations and program management services for public and private clients. With US\$7 billion in revenue and 28,000 employees worldwide, we deliver innovative, practical, sustainable solutions, helping clients develop and manage infrastructure and facilities that improve efficiency, safety and quality of life. CH2M HILL has long been recognized as an industry-leading program management, construction management and design firm as ranked by Engineering News-Record (2012) and has been named a leader in sustainable engineering and environmental services providers by Verdantix.



Golder Associates

Founded in Canada in 1960, we are a global company providing consulting, design, and construction services for earth, environment, and energy. Our purpose, "Engineering Earth's Development, Preserving Earth's Integrity" demonstrates our commitment to service, technical excellence, and sustainability. From 160 offices located in Africa, Asia, Australasia, Europe, North America and South America, more than 7,000 employees help our clients manage their environmental and engineering activities in a technically sound, economically viable, and socially responsible manner.



Lakes Environmental Software

Lakes Environmental Software is internationally recognized for its technologically advanced environmental modeling software and data products. Since 1995 we remain dedicated to providing industry and the regulatory community with exceptional service and cost effective environmental IT solutions. Our products increase productivity, reduce errors, and provide unique solutions in an ever-increasing regulatory constrained world. Expertise includes: Air Dispersion Modeling, Emissions Inventory, Regulatory Permit and Compliance Solutions, Custom IT Solutions, Real-Time and Forecast Modeling Solutions, Meteorological Data Processing (e.g. MM5/WRF), and Training. Lakes Environmental is dedicated to continuously investigating new areas of research to provide our users with superior state-of-the-art software solutions and data services.



Mid-Atlantic States Section of A&WMA

The Mid-Atlantic States Section of the Air and Waste Management Association (MASS-A&WMA) is a professional non-profit association of engineers and scientists working in the environmental field, with a particular focus on issues related to air and waste. The Association strives to provide an opportunity to enhance the profession by providing opportunities for its members to network with other professionals, exchange technical information, facilitate interaction among policy makers and the regulated community, facilitate the awareness of academic and applied research as it pertains to the protection of the environment, and to provide consulting companies with an opportunity to raise awareness among the environmental community about their services and expertise.



Much Shelist, P.C.

Much Shelist is a Chicago-based, full-service business law firm with approximately 85 attorneys, delivering senior-level counsel for clients that demand high value. The firm's Environmental, Regulatory & Redevelopment Law practice group represents all sizes of manufacturers, consultants, developers, lenders and other clients in a broad range of environmental matters, including legislative; regulatory; compliance and law enforcement; corporate, commercial and real estate transactions; construction; litigation; governmental and private cost-recovery actions; environmental insurance coverage; and remediation of contaminated sites. Industries served include power generation, chemicals, petroleum, steel, railways, food and consumer products, financial services, waste management and insurance. For more, visit www.muchshelist.com.



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Schiff Hardin LLP is a general practice law firm with strong capabilities in a variety of legal disciplines and a total commitment to client service. Founded in Chicago in 1864, Schiff Hardin has since expanded to eight other offices throughout the United States. We are often called upon to advise individuals, corporations and agencies in a wide range of legal matters and transactions. Litigation is our largest and most diverse practice area, and we provide a variety of topnotch legal services, including environmental counseling and advocacy. Schiff Hardin's Environmental Group is thoroughly experienced in environmental compliance, litigation, remediation, transactional matters, and rulemaking.



United Airlines

United Airlines, with the world's most comprehensive global route network, is committed to leading commercial aviation as an environmentally responsible company by taking actions today that shape an environmentally sustainable future. Through United's Eco-Skies program, our sustainability commitment focuses on reducing fuel use and improving fuel efficiency of our fleet, advancing alternative fuels, improving the sustainability of products and our facilities and responsibly managing wastes generated by our business activities, and working together with our co-workers and stakeholders to promote accountability and protect the environment while achieving our business goals. For more information on United's commitment to environmental sustainability, visit www.united.com/ecoskies.

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We are environmental lawyers who understand the science and rule-makings behind your air quality, brownfields, litigation and waste management issues to provide practical solutions. With more than 600 attorneys and other legal professionals, Barnes & Thornburg LLP serves clients worldwide from offices in Atlanta, Delaware, Chicago, Indiana, Los Angeles, Michigan, Minneapolis, Ohio and Washington, D.C. Our deep bench of environmental attorneys represents business, governmental and utility clients of all sizes, and go the extra mile to help resolve your complex legal needs. Find out more at WWW.btlaw.com.

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Bingham McCutchen has more than 1,000 lawyers in 14 offices in the U.S., Europe and Asia. We focus on litigation, corporate and finance and serve clients primarily in the energy, financial and technology industries. Ranked "Environmental Law Firm of the Year" by *U.S. News*, Bingham maintains one of the nation's most experienced environmental groups with over 50 lawyers practicing environmental law exclusively, including former government officials and business leaders in the environmental area. Our clients include energy and manufacturing companies, municipalities and trade associations, who look to us to provide environmental litigation, compliance, counseling, permitting and transactional support for projects worldwide.



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Conestoga-Rovers & Associates has been involved in all aspects of Air and Waste Management since its establishment in 1976, providing practical, innovative and effective services in such areas as: Air Quality and Greenhouse Gas Management, Multi Media Environmental Permitting, Compliance and Auditing, Environmental Data Management, Solid Waste Facility Siting, Design and Permitting, Waste and Byproduct Management and Auditing, Health and Safety Training, Industrial Hygiene, Remedial Investigations and Construction, Due Diligence, Ecological Services, Facility Decommissioning Services, and Emergency Response Management. At CRA, we are dedicated to working closely with our clients to develop and implement responsive and cost effective solutions.



**AIR & WASTE MANAGEMENT
ASSOCIATION**
East Central Section

East Central Section of A&WMA

The mission of the East Central Section the Air & Waste Management Association is to provide leadership in the fields of air pollution control and waste management, provide a neutral forum to discuss environmental issues, and to serve its membership and the public consistent with the mission and objectives of the Air & Waste Management Association. The East Central Section is comprised of 5 Chapters, specifically East Michigan, Indiana, Kentucky, Northern Ohio and Southwest Ohio.



**AIR & WASTE MANAGEMENT
ASSOCIATION**
Louisiana Section

Louisiana Section of the Air and Waste Management Association

The Louisiana Section of the Air and Waste Management Association is 320 members strong located throughout the state. Meetings are held every other month and the two day Fall Conference in October is very successful. The Section is especially proud of its Young Professional group which includes several members active at the international level. We are very excited to have been selected as the host for ACE 2016 and we look forward to sharing the progress New Orleans has made in recovering from Hurricane Katrina. Laissez le bon temps rouler!



Environmental Services

PSC Environmental Services

As a national environmental services company with over 3,000 employees and 48 locations, PSC provides hazardous waste services, transportation, technical labpack, industrial cleaning, remediation, and on-site assistance. As a service-oriented company PSC focuses on technical knowledge, accessibility, and accuracy in our operations from profile through invoice delivery.



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Brown, Hay & Stephens, LLP

Brown, Hay & Stephens, LLP, has roots dating back to 1828, and is recognized as the oldest law firm in Illinois. Just 10 years after Illinois gained statehood, our founder, John Todd Stuart, opened our firm in Springfield. Many of Illinois' finest attorneys, including a young Abraham Lincoln, joined Stuart in the practice of law during the ensuing years. In 1921, the firm adopted the name of Brown, Hay & Stephens. Through many changes in partners and the legal environment over the past 180 years, we have remained committed to providing exceptional legal counsel and representation for businesses, government entities, and individuals in a diverse range of legal disciplines.



engineers | scientists | innovators

Geosyntec

Geosyntec, established in 1983, is a multidisciplinary engineering firm with a mission of providing high quality, cost-effective environmental consulting, engineering design, feasibility study, and construction quality assurance oversight services to public and private clients. We provide high-level consulting services across a range of practices including site assessment and remediation of commercial/ industrial sites for soil, sediments, surface water and groundwater. We currently have a staff of nearly 1,000 engineers, scientists, and related technical and project support staff in 50 offices throughout the United States and in Canada, Malaysia, Australia, and the United Kingdom.



Hodge Dwyer & Driver

Hodge Dwyer & Driver is believed to be the only downstate Illinois law firm with a practice devoted to environmental law. The goal of the firm is to assist clients in attaining and maintaining compliance with the increasingly complex maze of environmental laws and regulations. Hodge Dwyer & Driver represents clients in compliance counseling and regulatory matters, as well as in litigation before state and federal courts and agencies. Hodge Dwyer & Driver helps its clients by gaining a thorough understanding of their situations, assisting in developing goals for resolving whatever issues they face, and applying its attorneys' experience, skill and creativity to reach those goals.



Southwest Section of A&WMA

The Southwest Section of the Air & Waste Management Association encompasses a large geographic area with six active chapters in the states of Texas and Oklahoma. In June 2012, the Southwest Section was proud to host the 105th Annual Conference and Exhibition of the A&WMA in the City of San Antonio, Texas.

106TH ANNUAL CONFERENCE & EXHIBITION LOCAL HOST COMMITTEE

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Science of the Anthropocene

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Anne Kapuscinski and David R. Peart, *Dartmouth*

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HYATT REGENCY CHICAGO MAP



EAST TOWER

WEST TOWER

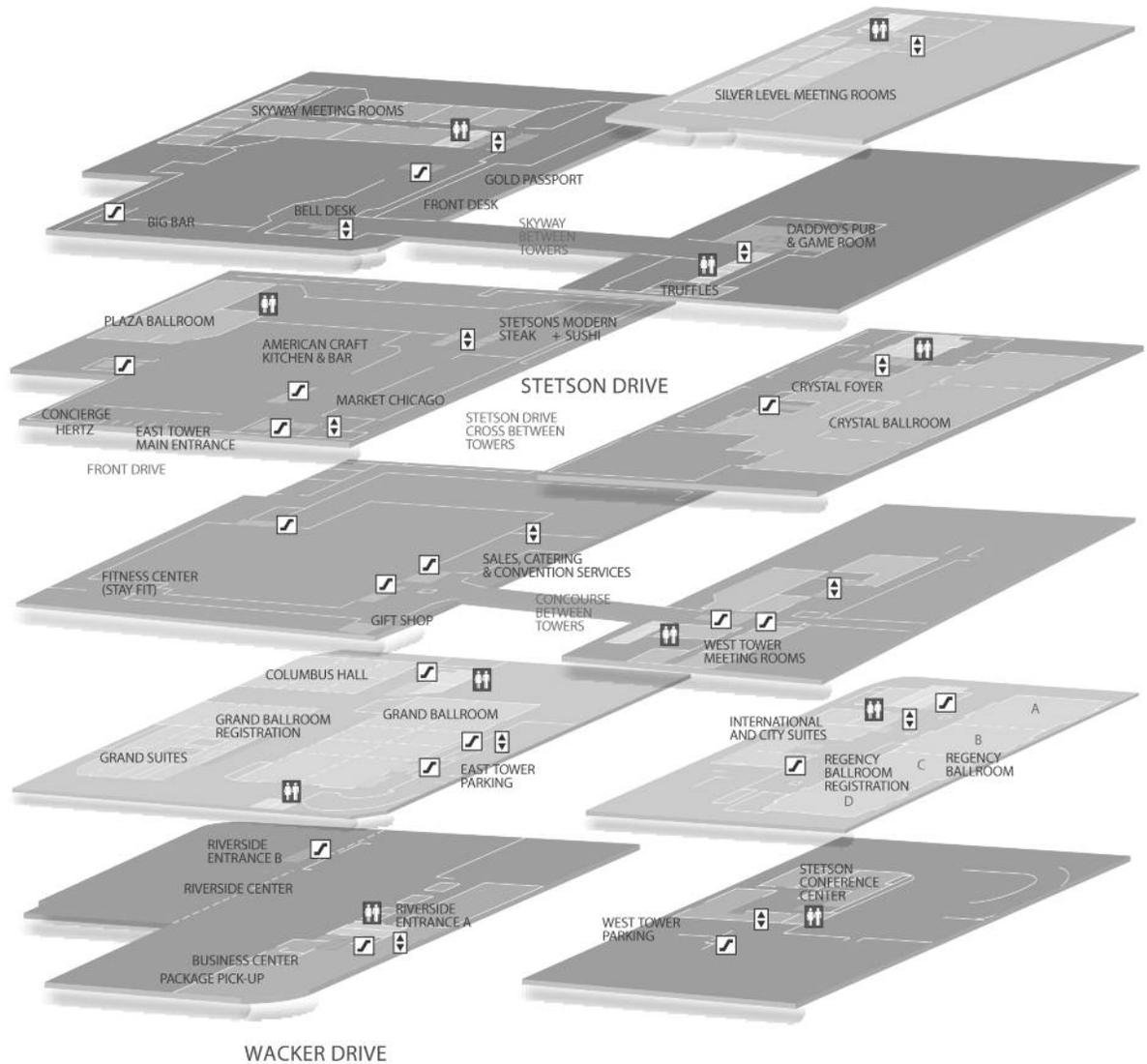
Blue Level

Green Level

Bronze Level

Gold Level

Purple Level



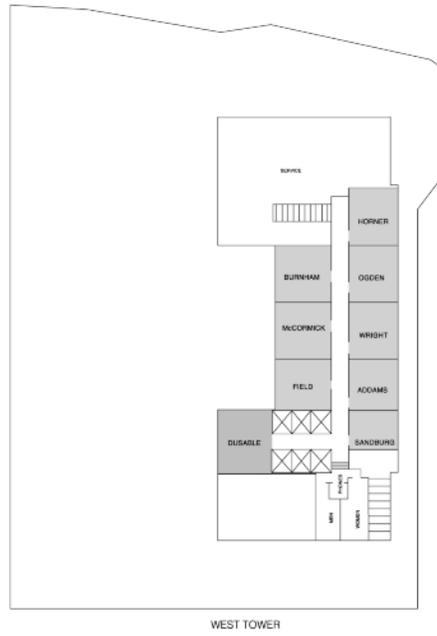
ESCALATORS, ELEVATORS AND RESTROOMS are indicated on each floor. Elevators are conveniently located throughout the hotel for guests with disabilities or where no escalator is present.

CROSSING BETWEEN TOWERS: Cross between towers via the Blue Level Skyway or the Concourse on the Bronze Level. You may also cross on the Green Level via the crosswalk on Stetson Drive.

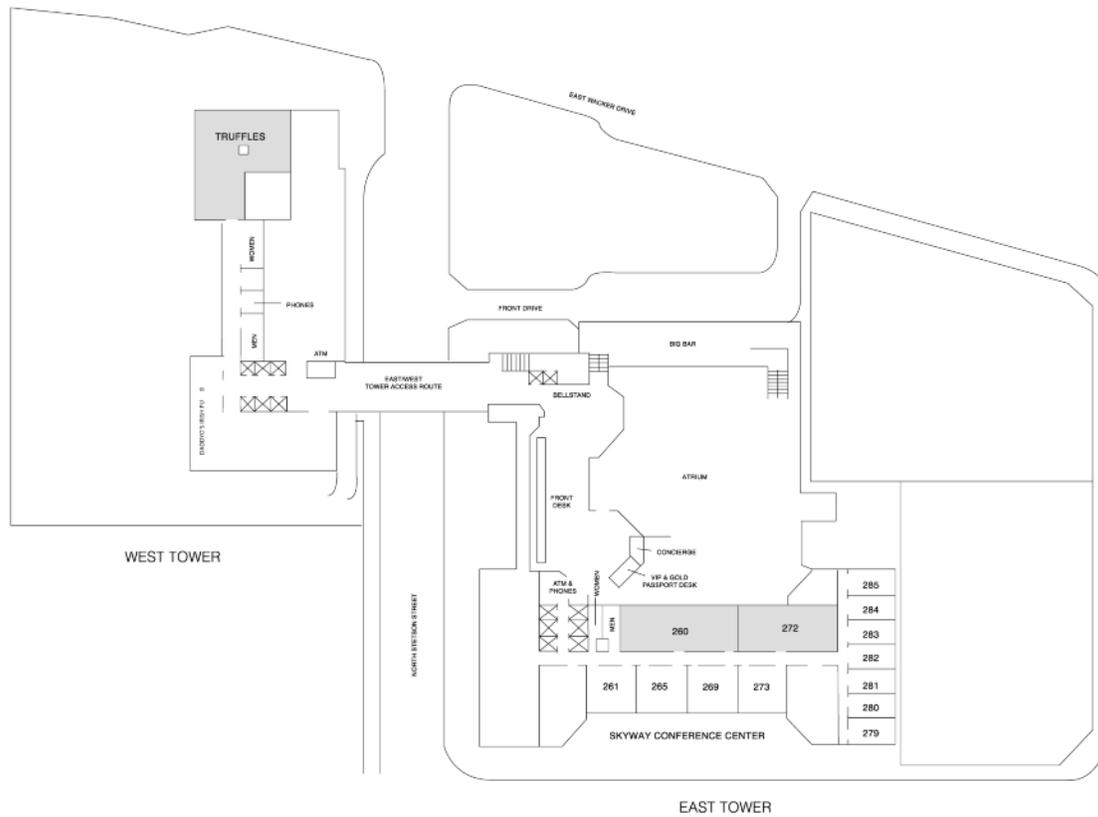
	ELEVATORS
	ESCALATORS AND STAIRS
	RESTROOMS

HYATT REGENCY CHICAGO MAP

SILVER LEVEL, WEST TOWER

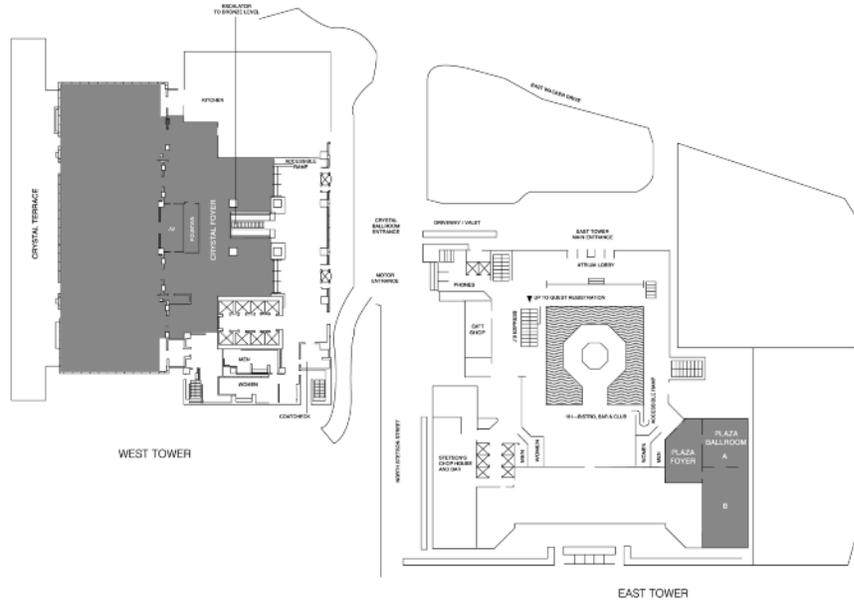


BLUE LEVEL, WEST AND EAST TOWERS

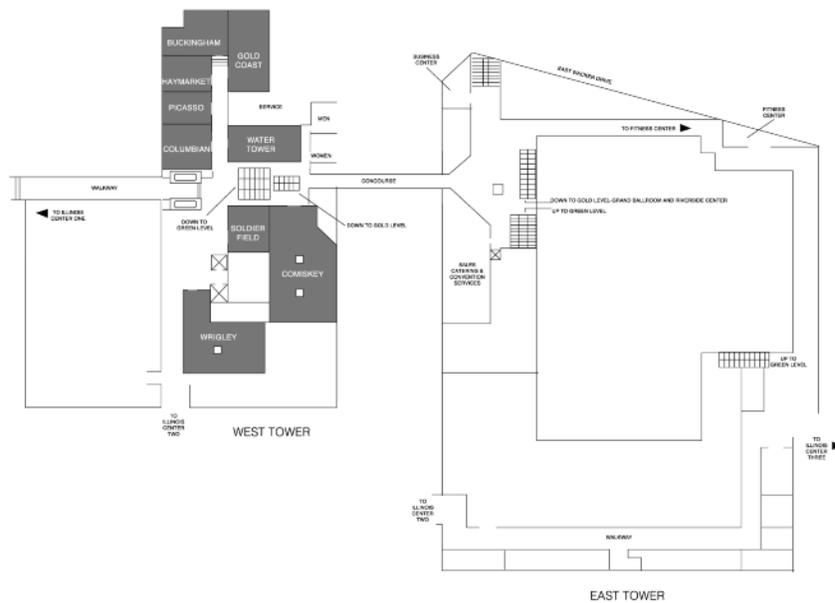


HYATT REGENCY CHICAGO MAP

GREEN LEVEL, WEST AND EAST TOWERS

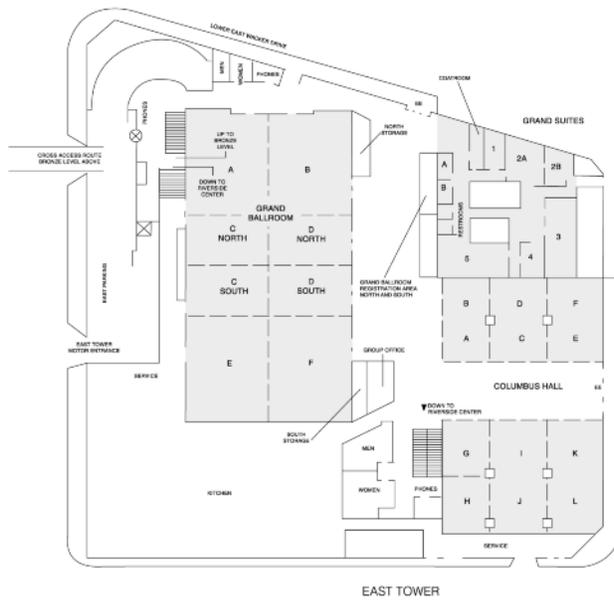


BRONZE LEVEL, WEST AND EAST TOWERS

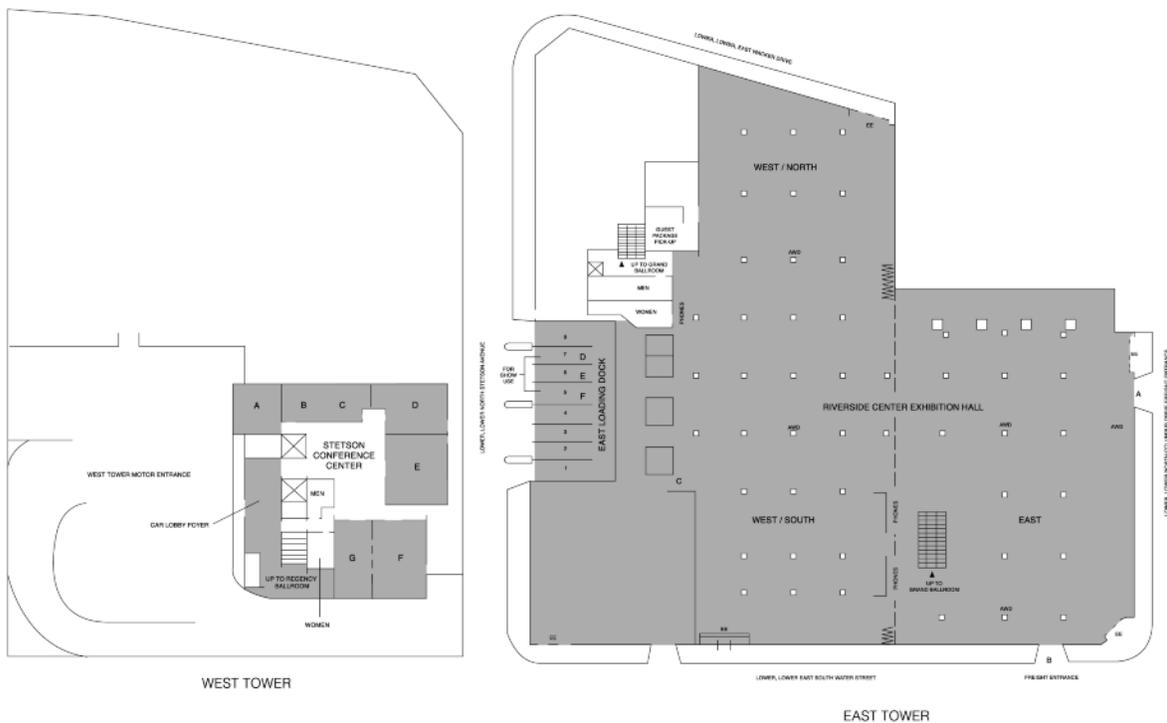


HYATT REGENCY CHICAGO MAP

GOLD LEVEL, EAST TOWER



PURPLE LEVEL, WEST AND EAST TOWERS



DAILY SCHEDULE AT-A-GLANCE

TIME	EVENT	LOCATION		
SATURDAY - JUNE 22		Room Name	Tier Level	East/West
2:00 PM - 6:00 PM	Finance Committee Meeting	Soldier Field	Bronze	West
SUNDAY - JUNE 23		Room Name	Tier Level	East/West
7:00 AM - 5:00 PM	Annual Conference Registration	Grand Registration	Gold	East
8:00 AM - 5:00 PM	Board of Directors Meeting	Gold Coast	Bronze	West
8:00 AM - 5:00 PM	AIR 284: Boilers, Process Heaters, and Air Quality Requirements	Water Tower	Bronze	West
8:00 AM - 5:00 PM	AIR-286: Fundamentals of Air Quality Modeling	Haymarket	Bronze	West
8:00 AM - 5:00 PM	AIR-298: An Introduction to the Calpuff Modeling	Picasso	Bronze	West
8:00 AM - 5:00 PM	EMGM 285: Environmental Health Risk and Hazard Risk Calculations	Columbian	Bronze	West
8:00 AM - 5:00 PM	GEN 100: Environmental Practices Review/GENESMP 100: Environmental, Science Management and Policy Review	Soldier Field	Bronze	West
MONDAY - JUNE 24		Room Name	Tier Level	East/West
7:00 AM - 5:00 PM	Annual Conference Registration	Grand Registration	Gold	East
7:30 AM - 8:30 AM	Joint Councils' Breakfast	Comiskey	Bronze	West
8:00 AM - 12:00 PM	EMGM 130: Introduction to Environmental Forensics	Ogden	Silver	West
8:00 AM - 5:00 PM	AIR 295: Air Quality Engineering	Burnham	Silver	West
8:00 AM - 5:00 PM	AIR 299: AERMOD Air Dispersion Modeling	McCormick	Silver	West
8:00 AM - 5:00 PM	GEN 100: Environmental Practices Review/GENESMP 100: Environmental, Science Management and Policy Review	Field	Silver	West
8:00 AM - 5:00 PM	AIR 182: Air Permitting – The Basics	Horner	Silver	West
8:00 AM - 5:00 PM	EMGM 351: Project Management Essentials for Environmental, Health, and Safety Professionals	Wright	Silver	West
8:30 AM - 5:00 PM	Young Professional Advisory Council Meeting	Haymarket	Bronze	West
8:30 AM - 5:00 PM	Technical Council Meeting	Wrigley	Bronze	West
8:30 AM - 5:00 PM	Sections & Chapters Council Meeting	Gold Coast	Bronze	West
9:00 AM - 1:00 PM	Exhibitor Appreciation Break	Riverside Center	Purple	East
9:30 AM - 11:30 AM	EI-1 Federal Facilities APIMS Training	Water Tower	Bronze	West
9:30 AM - 6:30 PM	A&WMA Scholarship Golf Open at White Pines Golf Club	Bus departs at 9:30 am from Wacker Drive/East Tower Entrance of the Hyatt		
12:00 PM - 1:00 PM	Joint Councils' Lunch	Comiskey	Bronze	West
1:00 PM - 5:00 PM	Federal Facilities Roundtable EI-1	Water Tower	Bronze	West
2:00 PM - 3:00 PM	Exhibitors' Advisory Committee Meeting	Buckingham	Bronze	West
5:00 PM - 6:00 PM	2013 Meets 2014	Buckingham	Bronze	West
6:00 PM - 7:00 PM	EPA Alumni Reception	Soldier Field	Bronze	West
TUESDAY - JUNE 25		Room Name	Tier Level	East/West
7:00 AM	Yoga	Skyway 260	Blue	East
7:00 AM - 5:30 PM	Annual Conference Registration	Grand Registration	Gold	East
7:00 AM - 10:00 AM	Monitors Room SET UP	Grand Ballroom A	Gold	East
7:30 AM - 8:45 AM	Social Program Breakfast	Picasso	Bronze	West
8:00 AM - 9:00 AM	Student Welcome Breakfast	Plaza Ballroom B	Green	East
8:00 AM - 10:30 AM	Education Council Meeting	Columbian	Bronze	West
8:00 AM - 11:30 AM	Student Poster Set Up	Riverside Center	Purple	East
8:00 AM - 9:00 AM	Young Professional Mentor Breakfast	Buckingham	Bronze	West
8:30 AM - 4:00 PM	Tour of Two US Department of Energy Laboratories	Bus departs at 8:30 am from Wacker Drive/East Tower Entrance of the Hyatt		
9:15 AM - 10:15 AM	Keynote Presentation	Grand Ballroom E F	Gold	East
9:30 AM - 3:00 PM	Chicago Grand Tour with Hancock Tower	Bus departs at 9:30 am from Wacker Drive/East Tower Entrance of the Hyatt		
10:15 AM - 11:50 AM	Technical Council Town Hall Meeting	Grand Ballroom B	Gold	East
10:30 AM - 5:30 PM	Exhibition Hours	Riverside Center	Purple	East
10:30 AM - 11:30 AM	Exhibition Grand Opening / Session Break	Riverside Center	Purple	East
10:30 AM - 5:30 PM	Internet Café	Riverside Center	Purple	East
10:30 AM - 5:30 PM	Association Resource Center and Bookstore	Riverside Center	Purple	East
10:30 AM - 5:30 PM	The Hub	Riverside Center	Purple	East
10:30 AM - 11:30 AM	Joint Meeting of the Publications Committee, Editorial Advisory Committee, and Editorial Review Board	Wrigley	Bronze	West

DAILY SCHEDULE AT-A-GLANCE

10:30 AM - 1:15 PM	The Committee for the Professional Development of Women Luncheon and Meeting	Comiskey	Bronze	West
11:00 AM - 12:00 PM	Academic Career Preparation Workshop	Plaza Ballroom B	Green	East
11:00 AM - 1:30 PM	Lunch Available in Exhibit Hall	Riverside Center	Purple	East
11:00 AM - 4:00 PM	Wellness Center	Riverside Center	Purple	East
11:30 AM - 1:30 PM	EM Editorial Advisory Committee	Wrigley	Bronze	West
12:30 PM - 1:15 PM	MONITORS PM INSTRUCTION	Grand Ballroom A	Gold	East
12:30 PM - 5:00 PM	Technical Program Resource Center	Grand Ballroom A	Gold	East
1:00 PM - 3:00 PM	Membership Committee of the Board of Directors	Buckingham	Bronze	West
1:20 PM - 5:40 PM	Technical Sessions	Refer to Page 58		
1:20 PM - 5:40 PM	Mini-Symposium: Power Generation: Current Trends and Future Sustainability	Grand Ballroom B	Gold	East
1:30 PM - 3:00 PM	Education Council Meeting	Columbian	Bronze	West
1:30 PM - 4:00 PM	Editorial Review Board	Wrigley	Bronze	West
2:00 PM - 5:00 PM	Student Poster Judging	Riverside Center	Purple	East
2:00 PM - 5:00 PM	Technical Poster Setup	Riverside Center	Purple	East
3:00 PM - 4:00 PM	Session Break / Exhibition	Riverside Center	Purple	East
3:00 PM - 4:00 PM	Scholarship Trustees	Skyway 261	Blue	East
4:00 PM - 5:00 PM	Publications Committee	Wrigley	Bronze	West
5:00 PM - 6:00 PM	Scouting Jamboree Committee	Buckingham	Bronze	West
6:00 PM - 6:30 PM	A&WMA Annual Business Meeting	Comiskey	Bronze	West
6:30 PM - 8:00 PM	Grand Reception	Crystal Ballroom	Green	West
8:00 PM - 10:00 PM	Chicago Architecture Student Tour (by invitation)	Wacker Drive/East Tower Entrance of the Hyatt Regency Hotel		
WEDNESDAY - JUNE 26		Room Name	Tier Level	East/West
6:30 AM - 9:30 AM	SASS Breakfast (South Atlantic States Section)	Off-Site at Hotel Burnham/Atwood Cafe		
7:00 AM - 8:30 AM	Southwest Section Member Roundup	Columbian	Bronze	West
7:00 AM - 6:30 PM	Annual Conference Registration	Grand Registration	Gold	East
7:00 AM - 6:30 PM	Technical Program Resource Center	Grand Ballroom A	Gold	East
7:00 AM - 5:00 PM	Monitors Room	Grand Ballroom A	Gold	East
7:00 AM - 7:45 AM	AM INSTRUCTION			
7:30 AM - 8:30 AM	AAEES/AEESP/A&WMA Meet and Greet Lecture and Breakfast	Comiskey	Bronze	West
7:30 AM - 8:45 AM	Social Program Breakfast	Picasso	Bronze	West
8:00 AM - 8:45 AM	Keynote Presentation	Grand Ballroom E F	Gold	East
8:45 AM - 12:30 PM	Devil in the White City Bus Social Tour	Bus departs at 8:45 am from Wacker Drive/East Tower Entrance of the Hyatt		
9:00 AM - 11:50 AM	Critical Review Presentation	Grand Ballroom E F	Gold	East
9:00 AM - 4:00 PM	Great Lakes Environmental Education Workshop	Buckingham	Bronze	West
9:00 AM - 5:00 PM	IPEP Exams	Soldier Field	Bronze	West
9:00 AM - 11:00 AM	Career Panel Discussion	Plaza Ballroom	Green	East
9:30 AM - 12:00 PM	Jardine Water Treatment Technical Tour	Group to meet in Lobby at 9:30 am		
9:30 AM - 6:30 PM	Exhibition Hours	Riverside Center	Purple	East
9:30 AM - 6:30 PM	Association Resource Center and Bookstore	Riverside Center	Purple	East
9:30 AM - 6:30 PM	The Hub	Riverside Center	Purple	East
9:30 AM - 6:30 PM	Internet Café	Riverside Center	Purple	East
10:00 AM - 10:40 AM	Session Break / Exhibition	Riverside Center	Purple	East
10:00 AM - 11:50 AM	Technical Poster Session	Riverside Center	Purple	East
10:00 AM - 11:50 AM	Technical Poster Presentation Room	Columbus H	Gold	East
11:00 AM - 1:30 PM	Lunch Available in Exhibit Hall	Riverside Center	Purple	East
11:00 AM - 6:00 PM	Wellness Center	Riverside Center	Purple	East
11:15 AM - 12:00 PM	Speed Networking	Plaza Ballroom	Green	East
11:30 AM - 1:30 PM	Past Presidents' Brunch	Wrigley	Bronze	West
11:50 AM - 1:20 PM	Technical Council Division and TCC Meetings	Refer to Page 18		
12:30 PM - 1:15 PM	MONITORS PM INSTRUCTION	Grand Ballroom A	Gold	East
1:20 PM - 5:20 PM	Technical Sessions	Refer to Page 68		
1:20 PM - 5:20 PM	Mini-Symposium: Power Generation: Current Trends and Future Sustainability	Grand Ballroom B	Gold	East
2:00 PM - 4:00 PM	Honors & Awards Ceremony Rehearsal	Grand Ballroom E F	Gold	East

DAILY SCHEDULE AT-A-GLANCE

2:30 PM - 3:30PM	Critical Review Committee	Gold Coast	Bronze	West
3:00 PM - 3:40 PM	Session Break / Exhibition	Riverside Center	Purple	East
4:00 PM - 5:00 PM	Sensenbaugh Committee Meeting	Columbian	Bronze	West
5:00 PM - 6:30 PM	Networking Reception	Riverside Center	Purple	East
5:00 PM - 6:00 PM	Student Awards Ceremony & Reception	Plaza Ballroom	Green	East
6:00 PM - 7:00 PM	Councils' Reception (by invitation)	Truffles	Blue	West
7:00 PM - 9:30 PM	Student/YP Social (ticket required)	Off Site at Hub 51		
8:00 PM - 10:00 PM	Chicago Architecture Student Tour (by invitation)	Located across from the Hyatt		
THURSDAY - JUNE 27		Room Name	Tier Level	East/West
7:30 AM - 5:00 PM	Annual Conference Registration	Grand Registration	Gold	East
7:30 AM - 5:00 PM	Technical Program Resource Center	Grand Ballroom A	Gold	East
7:00 AM - 5:00 PM	Monitors Room	Grand Ballroom A	Gold	East
7:00 AM - 7:45 AM	AM INSTRUCTION			
7:30 AM - 8:45 AM	Social Program Breakfast	Picasso	Bronze	West
8:00 AM - 11:50 AM	Technical Sessions	Refer to Page 82		
8:00 AM - 9:30 AM	Program Development Task Force	Plaza Ballroom B	Green Level	East
8:00 AM - 9:40 AM	Plenary Session Part I: Sustainability from Federal and State Perspectives	Columbus KL	Gold	East
8:30 AM - 9:30 AM	Exhibitors Meeting	Riverside Center	Food Court	
8:30 AM - 12:00 PM	IPEP Board of Trustee Meeting	Columbian	Bronze	West
9:30 AM - 12:00 PM	Exhibition Hours	Riverside Center	Purple	East
9:30 AM - 12:00 PM	Association Resource Center and Bookstore	Riverside Center	Purple	East
9:30 AM - 12:00 PM	Internet Café	Riverside Center	Purple	East
9:30 AM - 12:00 PM	The Hub	Riverside Center	Purple	East
9:40 AM - 10:10 AM	Session Break / Exhibition	Riverside Center	Purple	East
9:45 AM - 11:30 AM	The Official Chicago Architecture Foundation River Cruise	Located across from the Hyatt		
10:10 AM - 11:50 AM	Plenary Session Part II: Midwest Air Quality Regulators	Columbus KL	Gold	East
10:10 AM - 5:40 PM	Mini-Symposium: Power Generation: Current Trends and Future Sustainability	Grand Ballroom B	Gold	East
12:00 PM - 5:00 PM	Exhibits Teardown	Riverside Center	Purple	East
12:15 PM - 1:45 PM	Honors & Awards Ceremony and Luncheon	Grand Ballroom E F	Gold	East
1:15 PM - 2:00 PM	MONITORS PM INSTRUCTION	Grand Ballroom A	Gold	East
2:00 PM - 5:40 PM	Technical Sessions	Refer to Page 82		
2:30 PM - 3:30 PM	Student Chapters Exchange	Plaza Ballroom B	Green	East
2:30 PM - 3:30 PM	Gathering for IPEP Regional Coordinators and Committee Members	Columbian	Bronze	West
3:40 PM - 4:00 PM	Session Break	Grand Foyer	Gold	East
3:40 PM - 4:00 PM	Solicited Sessions Organization Meeting	Columbus AB	Gold	East
4:00 PM - 5:00 PM	IPEP Annual Meeting	Soldier Field	Bronze	West
5:45 PM - 7:05 PM	ET Division / TCC Meeting	Columbus G	Gold	East
FRIDAY - JUNE 28		Room Name	Tier Level	East/West
7:00 AM - 8:00 AM	Technical Council Meeting	Plaza Ballroom	Green	East
7:30 AM - 12:00 PM	Annual Conference Registration	Grand South Registration	Gold	East
7:30 AM - 12:00 PM	Technical Program Resource Center	Grand Ballroom A	Gold	East
7:30 AM - 12:00 PM	Monitors Room	Grand Ballroom A	Gold	East
7:30 AM - 7:45 AM	AM INSTRUCTION			
8:00 AM - 11:50 AM	Technical Sessions	Refer to Page 99		
9:40 AM - 10:10 AM	Session Break	Grand Foyer	Gold	East

CONTINUING EDUCATION CREDITS

Conference attendees may be eligible for continuing education credits (eg. PDHs, CLEs) based upon their participation in events. See page 25 for more information.



TECHNICAL COUNCIL AND TECHNICAL COORDINATING COMMITTEE MEETINGS

Technical Council provides the technical expertise to determine and produce the technical programs at annual meetings and specialty conferences; report on state-of-the-art technology and on environmental issues; and peer-review articles and publications. The Council is divided into four groups: Basic and Applied Sciences, Environmental Management, Sustainability, Resource Conservation & Waste Management, and Industrial, Government, and Public Sectors. These groups are comprised of nine divisions; the divisions are further divided into technical coordinating committees (TCCs). It is at this level that members are rewarded with the most opportunities for technical and managerial exchange.

In 2013, the Technical Council has reorganized the divisions of the technical coordinating committees (TCCs). This reorganization is as follows:

Divisions

AS	Applied Sciences Division	AB-7, AE-1, AE-2, AO-1, AO-2, AO-3, AM-1, AM-3, AM-4 & AM-5
BS	Basic Sciences Division	AB-1, AB-2, AB-3 & AB-6
IP&S	Industrial Processes and Sectors Division	EI-3, EI-4, EI-5 & EI-6
GF&PS	Government Facilities and Public Sectors Division	EI-1, EI-2, EI-7 & ITF-11
EE	Effects and Exposure Division	AT-3, EE-1, EE-5 & EE-6
PA	Program Administration Division	EP-1, EP-2, EP-3, EP-4, EP-5 & EP-8
T	Transportation Division	ET-1, ET-2 & ET-3
S&RC	Sustainability and Resource Conservation Division	WM-1, ES-1, ES-4 & ES-5
WM	Municipal, Medical & Hazardous Waste Management Division	WM-3, WM-4, WR-1 & WR-2

Please refer to the charts below identifying your new division and the location of the Technical Council Meetings. Meetings will occur on a Division basis only this year unless otherwise noted.

TCC Division	BS	AS	GF&PS	T	WM	S&RC	IP&S	PA	EE
Meeting Room	Grand Ballroom B	Columbus KL	Columbus IJ	Columbus H	Columbus G	Columbus AB	Columbus CD	Columbus EF	Grand Suite 3

GET INVOLVED! To become involved in one or more of the TCCs, attend one of the committee meetings here in Chicago or contact the appropriate Division chair, attend a Division meeting or visit the Technical Council Booth if interested.

Below is the schedule of Technical Council meeting times and locations.

Monday, June 24, 2013

8:30 am – 5:00 pm
 Technical Council Meeting
 Wrigley (Bronze Level / West Tower)

Tuesday, June 25, 2013

10:15 am - 11:50 am
 "Town Hall Meeting" – Division/TCC Joint Meeting
 Grand Ballroom B (Gold Level / East Tower)

Wednesday, June 26, 2013

11:50 am – 1:20 pm
 Division and TCC Meetings
 See locations in the above chart.

Thursday, June 27, 2013

3:40 pm – 4:00 pm
 Solicited Sessions Organization Meeting
 Any members who wish to plan specific panel and platform sessions for the 2014 Annual Conference should attend this very short coordination session.
 Columbus AB (Gold Level / East Tower)

Friday, June 28, 2013

7:00 am – 8:00 am
 Technical Council Meeting
 Plaza Ballroom (Green Level / East Tower)

Old TCC	Old TCC Title	New Division	New Division Title
AB-1	Particulate Matter	BS	Basic Sciences Division
AB-2	Chemistry	BS	Basic Sciences Division
AB-3	Meteorology	BS	Basic Sciences Division
AB-6	Visibility and Radioactive Balance	BS	Basic Sciences Division
AB-7	Indoor Air Quality	AS	Applied Sciences Division
AE-1	Control of Particulate and Associated Acid Gases	AS	Applied Sciences Division
AE-2	Control of Solvents, Odors and Gases	AS	Applied Sciences Division
AM-1	Emission Factors and Inventories	AS	Applied Sciences Division
AM-3	Ambient Monitoring	AS	Applied Sciences Division
AM-4	Source Monitoring	AS	Applied Sciences Division
AM-5	Data Management and Analysis	AS	Applied Sciences Division
AO-1	Techniques of Optical Sensing for the Environment and Industry	AS	Applied Sciences Division
AO-2	Applied Optical Sensing	AS	Applied Sciences Division
AO-3	Optical Sensing for Leak Detection	AS	Applied Sciences Division
AT-1	Toxic Emissions, Releases, Response and Strategies (TERRAS)		
AT-3	Health and Environmental Effects	EE	Effects and Exposure Division
EE-1	Health Effects & Exposure	EE	Effects and Exposure Division
EE-5	Risk Assessment/Management	EE	Effects and Exposure Division
EE-6	Odors	EE	Effects and Exposure Division
EI-1	Federal Facilities	GF&PS	Government Facilities and Public Sectors Division
EI-2	Power Generation	GF&PS	Government Facilities and Public Sectors Division
EI-3	Industrial Furnaces and Boilers	IP&S	Industrial Processes and Sectors Division
EI-4	Chemical/Petroleum Sources	IP&S	Industrial Processes and Sectors Division
EI-5	Cement Lime & Non-Metallic Mineral Processing	IP&S	Industrial Processes and Sectors Division
EI-6	Metal Industries	IP&S	Industrial Processes and Sectors Division
EI-7	Renewable Energy	GF&PS	Government Facilities and Public Sectors Division
EP-1	Policy and Regulations	PA	Program Administration Division
EP-2	Economics, Partnering, and Environmental Leadership	PA	Program Administration Division
EP-3	Legal/Liability	PA	Program Administration Division
EP-4	Facility Permitting and Siting	PA	Program Administration Division
EP-5	Public Participation	PA	Program Administration Division
EP-8	Environmental Health and Safety Management Systems	PA	Program Administration Division
ES-1	Pollution Prevention	S&RC	Sustainability and Resource Conservation Division
ES-4	Sustainability	S&RC	Sustainability and Resource Conservation Division
ES-5	Climate Change Strategies	S&RC	Sustainability and Resource Conservation Division
ET-1	Transportation: On and Off Road Mobile Sources	T	Transportation Division
ET-2	Land Use and Transportation Policies	T	Transportation Division
ET-3	Transportation/Community Noise and Vibration	T	Transportation Division
ITF-11	Indigenous Environmental Affairs	GF&PS	Government Facilities and Public Sectors Division
WM-1	Resource Conservation, Zero Waste Systems, and Recycling	S&RC	Sustainability and Resource Conservation Division
WM-3	Solid Waste Processing, Energy Recovery, Bioenergy, and Alternative Fuels	WM	Municipal, Medical & Hazardous Waste Management Division
WM-4	Medical Waste	WM	Municipal, Medical & Hazardous Waste Management Division
WR-1	Site Characterization, Investigation and In-situ Remediation / Redevelopment	WM	Municipal, Medical & Hazardous Waste Management Division
WR-2	Management and Treatment of Hazardous, Radioactive and Mixed Wastes	WM	Municipal, Medical & Hazardous Waste Management Division

GENERAL INFORMATION

Registration Hours

Grand Registration (Gold, East)

Sunday, June 23	7:00 am – 5:00 pm
Monday, June 24	7:00 am – 5:00 pm
Tuesday, June 25	7:00 am – 5:30 pm
Wednesday, June 26	7:00 am – 6:30 pm
Thursday, June 27	7:30 am – 5:00 pm
Friday, June 28	7:30 am – 12:00 pm

Chicago Local Host Booth:

Grand Ballroom Foyer

Monday, June 24	7:00 am – 5:00 pm
Tuesday, June 25	7:00 am – 5:30 pm
Wednesday, June 26	7:00 am – 6:30 pm
Thursday, June 27	7:30 am – 5:00 pm
Friday, June 28	7:30 am – 12:00 pm

Business Center

The AVT Business Center is located inside the Hyatt Regency Chicago on the Purple Level, East Tower.

AVT Business Center

151 East Wacker Drive
Chicago, IL 60601
Phone: (312) 239-4410
Fax: (312) 239-4414

Hours of Operation

Monday - Sunday 7:00 am - 7:00 pm

Technical Program Booth:

Grand Ballroom Foyer (Gold, East)

Technical Program – How Can We Make It Better?

How do I find experts in my field to talk to one-on-one? How can I learn about innovative techniques months before the Annual Conference? How can I help plan a great session for next year's Annual Conference? Stop by the Technical Program Booth in the Grand Ballroom Foyer (Gold, East) to learn more from the Technical Council leaders and find out how you can participate in developing the Technical Program.

Hours:

Tuesday – Thursday 8:00 am – 3:00 pm

Exhibition Hours

Riverside Center (Purple, East)

Tuesday, June 25	10:30 am – 5:30 pm
Wednesday, June 26	9:30 am – 6:30 pm
Thursday, June 27	9:30 am – 12:00 pm

Association Resource Center and Bookstore: Riverside Center Exhibition Hall – Booth 711

The Association Resource Center and Bookstore will be open during Exhibition Hours.

Monitor Room: Grand Ballroom A (Gold, East)

For those of you that have been assigned to monitor a technical session, please report to the monitor room to receive your materials and instructions. Plan to attend the instructional session on the same day as your monitor duties. If you are monitoring a morning session, attend the 7:00 am – 7:45 am training session (offered daily). Afternoon monitors should attend the 12:30 pm – 1:15 pm training session (offered Tuesday-Thursday).

Technical Program Resource Center: Grand Ballroom A (Gold, East)

Do you have a session that you want to propose for next year's annual conference? Come by the Technical Program Resource Center to share your ideas for the 2014 Technical Program.

Tuesday, June 25	11:00 am – 5:00 pm
Wednesday, June 26	8:00 am – 5:00 pm
Thursday, June 27	8:00 am – 5:00 pm
Friday, June 28	8:00 am – 12:00 pm

Lunch: Exhibition Hall Riverside Center (Purple, East)

Join your fellow attendees, exhibitors, and sponsors for lunch and some down time in the Exhibit Hall. (Redeem your \$5 tickets)

Tuesday, June 25	11:00 am – 1:30 pm
Wednesday, June 26	11:00 am – 1:30 pm

Session Breaks: Exhibit Hall & Technical Sessions Hallway



Tuesday, June 25	10:30 am – 11:30 am 3:00 pm – 4:00 pm
Wednesday, June 26	10:00 am – 10:40 am 3:00 pm – 3:40 pm
Thursday, June 27	9:40 am – 10:10 am 3:40 pm – 4:00 pm*
Friday, June 28	9:40 am – 10:10 am*

KEYNOTE PRESENTATION

Tuesday, June 25 • 9:15 am - 10:15 am
Grand Ballroom EF (Gold, East)



Why Corporate Social Responsibility? Lessons Learned from the Front Lines

Bob Langert
McDonald's Vice President,
CSR & Sustainability

McDonald's is a global company with the opportunity to influence many activities through its supply-chain

including agricultural, logistics, food processing, food preparation, delivery and waste handling. Bob Langert has been instrumental in getting one of the best known companies in the world to collaborate with all of its stakeholders to focus on sustainability, nutrition and well-being, and environmental responsibility and to bring that focus to its employees, its supply chain and the community at large. The results have been outstanding and while McDonald's tends to keep its sustainability efforts under the radar, Langert will tell us how they got there.

Langert leads McDonald's global sustainability efforts, working with McDonald's system to grow business by making a positive difference in society. McDonald's has Five Sustainability Pillars: Food, Sourcing, Community, People and Planet. Langert and his team collaborate with McDonald's leadership to integrate sustainability in day-to-day operations and decision-making. His team is responsible for ongoing sustainability reporting and works with a variety of external stakeholders.

He joined McDonald's system in 1983, holding management positions in logistics and packaging purchasing in the 1980s. In the 1990s, he had responsibilities for the environment, energy management, animal welfare, Ronald McDonald's Children's Charities and emerging issues' management. He has a masters degree in business from Northwestern University, Evanston, Illinois, and a bachelor's degree from Lewis University, Romeoville, IL.

KEYNOTE PRESENTATION

Wednesday, June 26 • 8:00 am – 8:45 am
Grand Ballroom EF (Gold, East)



General Motors – Beyond Sustainability

John Bradburn
General Motor's Manager of
Waste-Reduction Efforts

In 2010 General Motors (GM) committed to nine resource conservation and environmental stewardship initiatives for 2020. Among these were 20% reductions in energy usage

and carbon intensity; 15% reduction in water intensity; 10% reductions in waste and VOC's from painting; achievement of 100 landfill free manufacturing sites; and attaining Wildlife Habitat Certification, where feasible. Bradburn will share examples of how GM is moving up the waste minimization hierarchy from treatment and disposal, through recycling, to reuse and elimination.

John Bradburn is manager of waste-reduction efforts at General Motors. In this role, he leads the company's landfill-free initiative, which has resulted in 105 GM operations around the world that reuse, recycle, and convert to energy all wastes from daily operations. He is an established expert in waste reduction and recycling, and frequently mentors other companies pursuing zero-waste goals.

Under his leadership, GM recycled or reused 90 percent of waste generated globally through various resource conservation efforts in 2012. Between 2000 and 2010, the company reduced nonrecycled manufacturing waste by 73 percent.

Bradburn has worked for GM for more than 35 years. He earned a Master of Science degree in hazardous waste management from Wayne State University in Detroit in 1995 and a Bachelor of Science degree from Northern Michigan University. He is a Certified Hazardous Materials Manager.

43rd ANNUAL CRITICAL REVIEW

Wednesday, June 26 • 9:00 am - 11:50 am
Grand Ballroom (Gold, East)

A Presentation of the 43rd Annual A&WMA Critical Review:

'Stratospheric Ozone, Global Warming, and the Principle of Unintended Consequences—An Ongoing Science and Policy Success Story' by Stephen O. Andersen, Marcel L. Halberstadt, and Nathan Borgford-Parnell

Presented by Nathan Borgford-Parnell and Marcel L. Halberstadt

Sponsored by Much Shelist, P.C.

M U C H S H E L I S T

About the Authors/Presenters



Stephen O. Andersen, Ph.D., worked for 23 years for the U.S. Environmental Protection Agency in a variety of positions, including Deputy Director of the Stratospheric Ozone Protection Division and Director of Strategic Climate Projects in the Climate Protection Partnerships Division. At EPA, he

helped negotiate the Montreal Protocol; started the first industry-government partnerships, including cooperative research projects with the Motor Vehicle Manufacturers Association (MVMA), the Society of Automotive Engineers (SAE), and the Mobile Air Conditioning Society (MACS); managed the transition from CFC-12 or HFC-134a refrigerants; and co-chaired the Mobile Air Conditioning Climate Protection Partnership (MACCPP). He is currently director of research at the Institute for Governance & Sustainable Development (IGSD) and the co-chair of the Montreal Protocol Technology and Economic Assessment Panel. Unfortunately, Dr Andersen has a prior engagement and will be unable to join us for the presentation.



Marcel L. Halberstadt, Ph.D., retired in 1998 from the American Automobile Manufacturers Association (AAMA), where he supported industry committees dealing with regulatory issues addressing automotive emissions and fuel economy, ozone depletion and greenhouse gases and their

effect on air quality and the environment. He was

involved in the development of environmental policy at the local, state, national and international level. With Stephen O. Andersen and Stephen Seidel at EPA, he participated in the first project authorized under The Cooperative Research Act of 1984, which encouraged government-industry research in the public interest by reducing potential antitrust liabilities of research joint ventures when the work is undertaken in the public interest. Dr. Halberstadt also helped craft voluntary agreements that accelerated the introduction of ozone-safe refrigerants for motor vehicle air conditioning. He is currently a consultant and the Associate Director of the Michigan Retired Engineer Technical Assistance Foundation (RETAF), a not for profit group that assists small businesses in improving their pollution prevention and energy conservation efforts.



Nathan Borgford-Parnell, JD, MIA, is a law fellow with the Institute for Governance & Sustainable Development specializing in climate policy and science and the mitigation of short-lived climate pollutants, he is the Principal at Valkyrie Energy, a renewable energy consulting

firm, and former Peace Corps volunteer in Albania (2003-2005).

About the Review

In 1974, M. Molina and F. Sherwood warned that chlorofluorocarbons (CFCs) were destroying the stratospheric ozone layer that protects Earth from ultraviolet radiation that causes skin cancer and cataracts, suppresses the human immune system, and damages agricultural crops and ecosystems. The U.S. public reacted quickly to the 1974 warning with boycotts so successful that sales of CFC hair-spray and deodorant crashed long before the U.S. government banned these uses in 1978. In the decade after the 1974 warning, scientists documented the buildup and long lifetime of CFCs in the atmosphere; found the chemical proof that CFCs break down in the stratosphere, catalytically depleting ozone; and worked persistently to motivate the public and policy-makers to take action. In response to overwhelming scientific evidence, United Nations negotiations came to agreement on the Vienna Convention for the Protection of the Ozone Layer in 1985 and the Montreal Protocol in 1987. Today, 38 years after the ozone warning and 25 years after the signing of the Montreal Protocol, 97% of almost 100 ozone-depleting chemicals have been phased out worldwide, the stratospheric ozone layer is on its way to recovery, and a growing coalition of nations supports expanded use of the protocol to address hydrofluorocarbon greenhouse gases.

This Critical Review sets the stage by describing the historic widespread use of various ozone-depleting substances (ODSs), summarizes the evolution of control measures and compliance under the Montreal Protocol and national legislation, reviews estimates of environmental effects that were avoided by the global phase-out of ODSs, and then presents a detailed critical review of five separate market transformations over the last 100 years in automobile refrigeration and air conditioning technology that were driven by scientific concern for health and environment.

Following the review presentation, a panel of invited experts will critique the presentation and the authors' conclusions, and will offer their views on the topic. Invited discussants will provide different perspectives on aspects of stratospheric ozone protection and international environmental management. They will agree (or disagree) with the narrative and conclusions of the review author and of one another. They will identify additional issues and offer alternative commentary.

Invited Discussants:



Samuel L. Altshuler,
Senior Private
Consultant



Alan C. Lloyd,
International
Council on Clean
Transportation



Peter Zalzal,
Environmental
Defense Fund

Join the Discussion

Comments also will be solicited from the floor and from written submissions to the Critical Review Committee Chair. The Chair will then synthesize these points into a Discussion Paper that will be published in the October 2013 issue of *Journal of the Air & Waste Management Association*.

Comments should be submitted in writing to A. Gwen Eklund, Critical Review Committee Chair, at geklund@trcsolutions.com by no later than **July 20, 2013**.

Critical Review Committee

Get involved with the Critical Review Committee and help further our scientific understand by attending the Annual meeting of the Critical Review Committee on

Critical Review Committee (2012–2013)

A. Gwen Eklund, Chair
George M. Hidy, Immediate Past Chair (2009–2012)
Samuel L. Altshuler
Patricia A. Brush, Technical Council Chair
Judith C. Chow, Past Chair (2001–2008)
Luis Diaz-Robles
Prakash Doraiswamy
Marcel Halberstadt
Michael T. Kleinman
Naresh Kumar
Dan L. Mueller, Liaison to the Technical Council
Peter K. Mueller
Thomas Overcamp
Abhilash Vijayan
John G. Watson, Past Chair (1994–1997)

Wednesday, June 26 • 2:30 pm – 3:30 pm
Gold Coast (Bronze Level, West)

PLENARY SESSION PART I: SUSTAINABILITY FROM FEDERAL AND STATE PERSPECTIVES

Sponsored by Geosyntec

Thursday, June 27

8:00 am - 9:40 am

Columbus KL (Gold, East)



The plenary will feature panel discussions by the United States Environmental Protection Agency (EPA) and state environmental agency leaders. We are excited to welcome Susan Hedman, Region 5 Regional Administrator, who will be joined on the panel by Illinois EPA Director Lisa Bonnett, Ohio EPA Director Dan Wyant,

and Wisconsin DNR Air and Waste Division Administrator Pat Stevens. This discussion will focus on the environmental issues, challenges, programs, and initiatives for all media within the Midwest States.

PLENARY SESSION PART II: MIDWEST AIR QUALITY REGULATORS

Sponsored by Geosyntec

Thursday, June 27

10:10 am - 11:50 am

Columbus KL (Gold, East)



The second part of the plenary session will feature the directors of the state air programs in Region 5 discussing air pollution issues and the states' activities in areas such as the development and implementation of new regulations, the impacts of revised National Ambient Air Quality Standards on attainment status, and state, regional, and federal air policy issues. This panel of senior managers from EPA and state environmental agencies and EPA will provide a unique opportunity to learn about the latest in the environmental programs in the Midwest States and will provide an overview of upcoming changes in the regulatory landscape for the region. Attendees will be afforded a chance to hear directly from the policy-makers in the area and provide a forum

for discussion of developing environmental issues, including the opportunity for attendees to pose questions to the panelists on topics of interest to the audience.

Panelists:

- John Mooney, U.S. EPA Region 5
- Laurel Kroack, Illinois Environmental Protection Agency
- Keith Baugues, Indiana Department of Environmental Management
- G. Vinson Hellwig, Michigan Department of Environmental Quality
- Bart Sponseller, Wisconsin Department of Natural Resources
- Rob Kaleel, Lake Michigan Air Directors Consortium

MINI-SYMPOSIUM: POWER GENERATION: CURRENT TRENDS AND FUTURE SUSTAINABILITY

Sponsored by the A&WMA and

Electric Power Research Institute

Tuesday, June 25 – Thursday, June 27

Grand Ballroom B (Gold, East)



A special 2.5 day mini-symposium on U.S. power generation, with an emphasis on environmental issues and future sustainability, is being held as part of the Annual Conference. This mini-symposium of papers, posters, and panel discussions presents a unique opportunity to highlight recent developments within a sector important for both environmental management and the American economy. The mini-symposium consists of a single track of

sequential sessions addressing issues facing power generation and is coordinated with related sessions to avoid time conflicts. Topics to be addressed will include control technology advancements, regulatory challenges, renewable power, sustainability issues, and greenhouse gas reduction. The mini-symposium format offers focused learning opportunities and enhanced interactions with attendees with common interest in these important topic areas.

PROFESSIONAL DEVELOPMENT COURSES

Courses include a course manual, and coffee breaks from 10:00 am - 10:30 am and 3:00 pm - 3:30 pm. Please note that courses do not include any meals. Registration is available all day for courses.

Visit the main registration area for pricing, full course descriptions, and to register. Course and Annual Conference attendees may request a certificate of participation. This certificate may be eligible for Continuing Education Units (CEUs) and in some cases Continuing Legal Education (CLE) and/or Professional Engineering (P.E.) credit.

Half-day courses consist of 3.5 contact hours and one-day courses consist of 7 contact hours. Credit for the Annual Conference will be awarded on a daily basis. To verify your

attendance and to obtain instructions on how to request a certificate of participation, you should visit the registration desk or see your course instructor.

A&WMA is an accredited provider of CLE in Pennsylvania (Provider #947). CLE accreditation requirements and reporting fees vary from state to state. For information regarding CLE credit, please contact Gloria Henning, A&WMA Education Programs Associate at glenning@awma.org or by phone at 412-904-6021.

COURSE TITLE	INSTRUCTORS	ROOM	DATE	TIME
AIR-284: BOILERS, PROCESS HEATERS, AND AIR QUALITY REQUIREMENTS	Leo Stander, BCEE, Stander Environmental Engineering	Water Tower (Bronze, West)	Sunday, June 23	8:00 am-5:00 pm
AIR-286: FUNDAMENTALS OF AIR QUALITY MODELING	Dr. Paolo Zannetti, QEP, EnviroComp Consulting, Inc. and The EnviroComp Institute	Haymarket (Bronze, West)	Sunday, June 23	8:00 am-5:00 pm
AIR-298: AN INTRODUCTION TO THE CALPUFF MODELING SYSTEM	Jesse The', Ph.D., P.Eng, President, Lakes Environmental Cristiane The', M.Sc.	Picasso (Bronze, West)	Sunday, June 23	8:00 am-5:00 pm
EMGM-285:ENVIRONMENTAL HEALTH RISK AND HAZARD RISK CALCULATIONS	Ryan Dupont, Ph.D., Professor of Civil and Environmental Engineering, Utah Water Research Laboratory at Utah State University Louis Theodore, Professor of Chemical Engineering, Graduate Program Director- Manhattan College	Columbian (Bronze, West)	Sunday, June 23	8:00 am-5:00 pm
GEN-100:ENVIRONMENTAL PRACTICES REVIEW / GENESMP-100: ENVIRONMENTAL SCIENCE MANAGEMENT AND POLICY REVIEW	James R. Donnelly, QEP, Principal, J.R. Donnelly Consulting	Solider Field (Bronze, West)	Sunday, June 23/ Monday, June 24	8:00 am-5:00 pm
AIR-182: AIR PERMITTING – THE BASICS	Leo Stander, BCEE, Stander Environmental Engineering	Horner (Silver, West)	Monday, June 24	8:00 am-5:00 pm
AIR-295: AIR QUALITY ENGINEERING	Mark Rood, Ph.D., BCEE, Professor of Environmental Engineering, University of Illinois, Urbana	Burnham (Silver, West)	Monday, June 24	8:00 am-5:00 pm
AIR-299: AERMOD AIR DISPERSION MODELING	Jesse The', Ph.D., P.Eng, President, Lakes Environmental Cristiane The', M.Sc.	McCormick (Silver, West)	Monday, June 24	8:00 am-5:00 pm
EMGM-130:INTRODUCTION TO ENVIRONMENTAL FORENSICS	Walter Shields, Ph.D., Director, Environmental and Earth Sciences Practice Russ Ogle, Ph.D., Exponent	Ogden (Silver, West)	Monday, June 24	8:00 am-12:00 pm
EMGM-351:PROJECT MANAGEMENT ESSENTIALS FOR ENVIRONMENTAL, HEALTH, AND SAFETY PROFESSIONALS	David Elam CIH, CMQ/OE, PMP, QSTO (I-IV) Summa Consultants, Inc	Wright (Silver, West)	Monday, June 24	8:00 am-5:00 pm

YOUNG PROFESSIONAL EVENTS

Young Professional Mentor Breakfast

Sponsored by: Sargent & Lundy, LLC
Tuesday, June 25 • 8:00 am – 9:00 am
Buckingham (Bronze, West)

This professional networking breakfast is designed to provide young professionals and recent graduates with the opportunity to network and be mentored by an environmental professional. For established professionals, this is a great opportunity to network with and mentor young professionals and recent graduates. The Young Professional Mentor Breakfast was first held in San Antonio in 2012. **Pre-registration was required for this event.** Ticket required.



Honors & Awards Ceremony & Luncheon

Sponsored by 3M and Navistar
Thursday, June 27 • 12:15 pm – 1:45 pm
Grand Ballroom E F (Gold, East)

A&WMA honors its young professionals with two special awards: The Outstanding Young Professional Award and the Young Professional Best Paper Award. Come support your colleagues as they are honored at this luncheon. Ticket required.



YOUNG PROFESSIONAL/STUDENT JOINT EVENTS

Young Professional/Student Career Panel Discussion

Sponsored by the East Central Section of A&WMA
Wednesday, June 26 • 9:00 am – 11:00 am
Plaza Ballroom (Green, East)

Hear from a panel of government, industry, consulting, and non-government leaders as they share their career experiences. This panel will empower students and young professionals (YPs) with advice about current job markets, and provide other YPs with suggestions for revitalizing their career paths. This panel is co-organized by the American Academy of Environmental Engineers and Scientists, Association of Environmental Engineering and Science Professors, and A&WMA.

Panelists include:

- Paul R. Anderson, P.E., Associate Professor, Illinois Institute of Technology
- William S. Hass, LEED AP, Director of Energy Programs, CB&I
- Cecil Lue-Hing, D.SC, P.E., DEE, President, Cecil Lue-Hing & Associates
- Bharat Mathur, U.S. EPA Region 5
- Brad Waldron, Caesars Entertainment

The panel will be followed by a short Q&A session with the panelists and information about the membership benefits of each organization.



Speed Networking

Sponsored by the East Central Section of A&WMA
Wednesday, June 26 • 11:15 am – 12:00 pm
Plaza Ballroom (Green, East)

The Speed Networking event will take place immediately after the conclusion of the Young Professional/Student Career Panel Discussion. YPs are invited to engage in speed networking with students, answer questions, provide perspectives, and help students get the inside track on what it's like being a practicing environmental professional



Young Professional/Student Networking Reception

HUB 51
51 W Hubbard Street, Chicago, IL 60654
Sponsored by United Airlines
Wednesday, June 26 • 7:00 pm – 9:30 pm
Students - \$15, Young Professionals - \$20, Professionals - \$35

A networking reception geared specifically for young professionals and students. Everyone is invited to network with young professionals, students, and A&WMA leadership over appetizers and drinks at the HUB 51, located in Chicago's lively and energetic River North neighborhood. The Chicago Tribune has categorized HUB 51 as "hip," "energetic," and "hard to resist." Ticket required.



Please note: A&WMA recognizes young professionals as those members who are 35 years of age or younger.

STUDENT EVENTS

Student Welcome Breakfast

Sponsored by Canadian Prairie and Northern Section of A&WMA and Mid-Atlantic States Section of A&WMA
 Tuesday, June 25 • 8:00 am - 9:00 am
 Plaza Ballroom B (Green, East)

Students participating in the Student Paper Competition or Student Poster Competition are invited to meet and network with fellow students from around the world. Poster setup guidelines rules will be reviewed.



Academic Career Preparation Workshop

Sponsored by the Southwest Section of A&WMA
 Tuesday, June 25 • 11:00 am - 12:00 pm
 Plaza Ballroom B (Green, East)

Students interested in pursuing jobs in academia are invited to learn about the academic job search process and how to prepare for an academic job. This is also an opportunity to meet with university representatives.



Student Poster Competition

Sponsored by Canadian Prairie and Northern Section of A&WMA and Mid-Atlantic States Section of A&WMA
 Tuesday, June 25 • 2:00 pm - 5:00 pm
 Riverside Center (Purple, East)

Visit the exhibit hall to watch as students present their posters to the judges during this year's Student Poster Competition. The competition recognizes student posters to be the best among those considered in the undergraduate, master's and doctoral categories. Awards for exceptional posters will be provided at the Student Awards Ceremony & Reception on Wednesday, June 26.



Chicago Architecture Tour

Tuesday, June 25 • 8:00 pm - 10:00 pm

This year, we will have a two-hour architectural boat cruise that is free for registered students. Students will network with other students and academicians while taking in the great sights of Chicago by boat. If you are a student registering on-site, please stop by the registration desk to receive your Student Boat Ride ticket.

Tour will meet by the Wacker Drive/East Tower Entrance of the Hyatt Regency Hotel at 7:45 pm and walk as a group to the boat: Wendella Boats, 400 North Michigan Avenue, Chicago, IL 60611. The walk should take approximately 15 minutes. The boat will depart at 8:00 pm and return at 10:00 pm.

Student Awards Ceremony & Reception

Sponsored by Burns & McDonnell
 Wednesday, June 26 • 5:00 pm - 6:00 pm
 Plaza Ballroom (Green, East)

All students and professionals participating with the Student Program are invited to the Student Awards Ceremony and Reception, which will honor exceptional students who have received scholarships, platform paper awards, and poster paper awards.



Student Chapter Exchange

Thursday, June 27 • 2:30 pm - 3:30 pm
 Plaza Ballroom B (Green, East)

Join your fellow students, Education Council representatives, and A&WMA staff for the Student Chapter Exchange to network and exchange ideas about A&WMA's Student Chapters. Learn what it means to be a part of a student chapter or get tips on how to form a chapter of your own.

In Memory of A&WMA Member Peter B. Desrochers

The Mid-Atlantic States Section of A&WMA would like to commemorate the life of longtime friend and A&WMA member, Peter B. Desrochers.

As an active member of A&WMA since 1995, Mr. Desrochers served as Chair of the Mid-Atlantic States Section in 2011 and Vice Chair in 2010. He was born on March 28, 1951, in Torrington, CT. Desrochers received an A.S. from Northwestern Community College; a B.S. in environmental science, math, and chemistry from Quinnipiac University; and an M.S.E. from Rensselaer Polytechnic Institute.

He was employed by the Dormitory Authority of the State of New York as an environmental engineer. Desrochers was a champion of the environment his entire life, an avid outdoorsman, a New York State Guide, and a fan of everything science fiction. He will be greatly missed by all who had the good fortune to know him.

TECHNICAL TOURS

Tour Two U.S. Department of Energy Laboratories: Argonne National Laboratory and Fermilab

Sponsored by BMW

Tuesday, June 25 • 8:30 am – 4:00 pm

Tour bus departs at 8:30 am from the Wacker Drive/East Tower Entrance of the Hyatt Regency Hotel

Pre-registration was required for this tour.

Round-trip transportation and boxed lunch are included. All visitors must present valid identification. Ticket required.



BMW Manufacturing Co.

Jardine Water Treatment

Sponsored by BMW

Wednesday, June 26 • 9:30 am – 12:00 pm

Tour group will meet in the main lobby of the Hyatt Regency and will walk approximately one mile to the site.

Pre-registration was required for this tour.

Individuals with disabilities are encouraged to take a short cab ride to the plant and meet up with the group outside. All visitors must present valid identification. Ticket required.



BMW Manufacturing Co.

CHICAGO TOURS

Chicago Grand Tour with Hancock Tower

Tuesday, June 25 • 9:30 am – 3:00 pm

Tour bus departs at 9:30 am from the Wacker Drive/East Tower Entrance of the Hyatt Regency Hotel

Pre-registration was required for this tour.

Tour is 5-1/2 hours. Lunch is on your own. Ticket required.

Devil in the White City Bus Tour

Wednesday, June 26 • 8:45 am – 12:30 pm

Tour bus departs at 8:45 am from the Wacker Drive/East Tower Entrance of the Hyatt Regency Hotel

Pre-registration was required for this tour.

There will be a brief stop at the Chicago Architecture Foundation for some background information prior to the start of the bus tour. Tour is 3-1/2 hours. Ticket required.

The Official Chicago Architecture Foundation River Cruise

Thursday, June 27 • 9:45 am – 11:30 am

Tour will meet in the main lobby of Hyatt Regency Hotel at 9:45 am and will walk as a group to Mercury Cruise Lines dock (SE corner of Michigan Avenue & Wacker Drive).

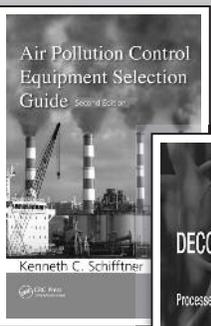
Pre-registration was required for this tour.

This is one of the most picturesque tours so don't forget your camera! The tour is 90 minutes. Ticket required.

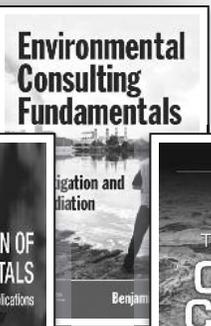


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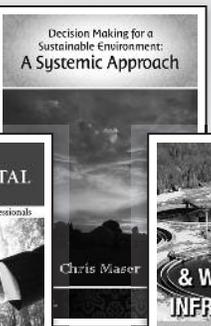
Air Pollution Control Equipment Selection Guide



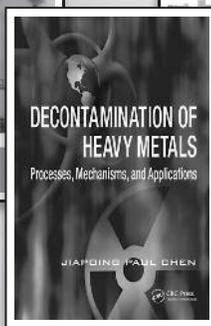
Environmental Consulting Fundamentals



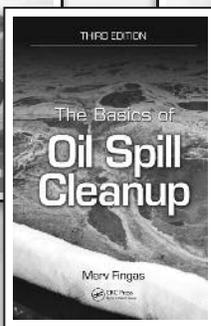
Sustainable Solid Waste Management



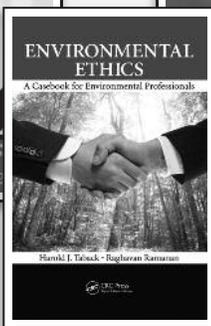
Decision Making for a Sustainable Environment: A Systemic Approach



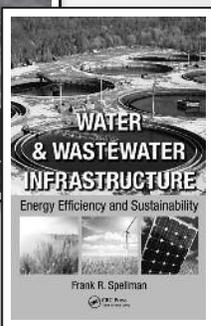
DECONTAMINATION OF HEAVY METALS



The Basics of Oil Spill Cleanup



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NETWORKING EVENTS

**Event included with full conference registration.*

A&WMA Scholarship Golf Open

White Pines Golf Club
500 W Jefferson Avenue, Bensenville, IL 60106
Monday, June 24 • 9:30 am – 6:30 pm
Shot Gun Start
Bus Departs at 9:30 am from Hyatt Regency
(Wacker Drive/East Tower Entrance)

Chicago is filled with many award winning golf venues, and this year's choice for the A&WMA Scholarship Golf Open has been a favorite of golfers since 1928! Set in bucolic DuPage County, approximately 25 miles west of downtown Chicago, White Pines presents the classic mid-American golf course layout: mature Elms, streams and ponds, and an array of both challenging and generous landing areas. While the primary objective is to raise monies for the A&WMA Scholarship Fund, this will be a fun-filled day and outstanding networking opportunity to kick off the week. The event includes chipping/putting greens, green fee and cart, box lunch prior to the shotgun start, and sit-down BBQ dinner and awards on the beautiful outdoor patio after the event. There will be a raffle for door prizes and several games and awards to reward skill (and the clever use of string). Plan to take the bus from the Hyatt departing at 9:30 am or arrive by car by approximately 10:30 am for check-in, practice and lunch. Ticket required.

Yoga

Tuesday, June 25 • 7:00 am
Skyway 260 (Blue Level, East Tower)
Price: \$15 donation

A&WMA is offering a one-time yoga class. Start your day off with increasing your strength, flexibility, and concentration. Release any tension or stress and go about the rest of your day with brilliance. A donation of \$15 is appreciated and will go toward the Living Well Cancer Resource Center, which is dedicated to providing people with cancer and their families and friends, the support and educational services they need when going through this difficult time. Ticket required.

The Committee for the Professional Development of Women Luncheon and Workshop

Sponsored by Capital Power Corporation
Tuesday, June 25 • 10:30 am – 1:15 pm
Comiskey (Bronze, West)
Price: \$45

Kick off the conference by attending the Committee for the Professional Development of Women luncheon and workshop. This event will include a hands-on, skills-building workshop focused on coalition building, followed by lunch and a keynote address by A&WMA President Sara Head, Vice President, AECOM, and dynamic panel discussion, moderated by Paula McLemore, Director, Corporate HSE at Parker Drilling, on coalition building in the environmental field. The Committee's goal is to draw upon the unique perspectives and talents of women to further the goals of the Association and to mentor women in the profession. Everyone is encouraged to attend! Ticket required.



Grand Reception*

Sponsored by Pacific Gas & Electric and AECOM
Tuesday, June 25 • 6:30 pm – 8:00 pm
Crystal Ballroom (Green, West)
Price: \$50

Come enjoy the unique flavors of Chicago at the Grand Reception! There will be samples of all the famous local cuisines. Selections may include Italian Beef, Deep Dish Pizza or the famous Chicago Hot Dogs (no ketchup allowed!). This year's event will be held in the Hyatt Regency Chicago's beautiful Crystal Ballroom, which offers a spectacular view of the Chicago River and Michigan Avenue. Local entertainment will be there to treat guests to fabulous live music. Plus, don't forget to stop by the Photo Booth, sponsored by Williams, and create a lasting memory!



Support the A&WMA Scholarship Fund!

Scholarship Raffle Drawing for iPads

Tuesday, June 25 • During the Grand Reception (winners need not be present to win)

Help support future environmental scientists and leaders by participating in the Scholarship Raffle Drawing! This Year's prizes are two iPads donated by Clean Air Engineering, Inc. Tickets will be sold June 23-25 at the registration desk and at the 2013 and 2014 Local Host Committee booths. On Tuesday, June 25 tickets will be available at the A&WMA Bookstore Booth #711 in the Exhibit Hall as well as at the Grand Reception. The cost of the tickets will be: 1 for \$5 or 5 for \$20. Two Winners will be drawn at the Grand Reception. You need not be present to win; prizes can be claimed at the registration desk. All proceeds directly benefit the A&WMA Scholarship Fund.

NETWORKING EVENTS

*Event included with full conference registration.

AAEES/AEESP/A&WMA Meet & Greet Lecture and Breakfast

Wednesday, June 26 • 7:30 am - 8:30 am
Comiskey (Bronze, West)

All academicians (e.g., students, professionals, and contributors to A&WMA's educational programs) are welcome to this great opportunity to hear Dr. Leon L. Shaw, Professor of Materials Engineering, Rowe Family Endowed Chair Professor in Sustainable Energy, and Director, Center of Energy Storage and Conversion, from Illinois Institute of Technology. He will give a presentation about "Challenges and Opportunities in Reducing Air Pollution via Electric and Fuel-Cell Vehicles." In addition enjoy a continental breakfast, and network with your colleagues.

Networking Reception*

Sponsored by Tisch Environmental and Consolidated Analytical Systems (CAS)
Wednesday, June 26 • 5:00 pm – 6:30 pm
Riverside Center (Purple, East)

Network with industry professionals and delight in some Chicago appetizers and drinks. Each attendee will receive a complimentary drink! Learn about the latest environmental products and services while you explore the booths and displays. Don't miss your chance to win some great prizes in this year's attendee give-away program and don't forget to stop by The Hub and see what is new and exciting.



Annual Honors & Awards Ceremony and Luncheon*

Sponsored by 3M and Navistar
Thursday, June 27 • 12:15 pm – 1:45 pm
Grand Ballroom E F (Gold, East)
Price: \$50

Join A&WMA members at this popular luncheon as they recognize the accomplishments of outstanding individuals, organizations, and companies. Ticket required.

3M NAVISTAR®



Lake Michigan Fun Run

Wednesday, June 26 • 7:00 am
Price: \$25

Grab your running shoes and join your colleagues for a scenic tour of Chicago! Follow a 3 or 5 mile course that takes you along the beautiful shore of Lake Michigan with a spectacular views of Chicago and its skyline. This event is open to runners and walkers of all abilities. Each participant will receive a commemorative t-shirt. Ticket required.



ALL ABOUT A&WMA AND COUNCILS

Get Involved with A&WMA

At A&WMA, we depend on our volunteers to provide the foundation and expertise that sets us apart from other environmental associations. In order to continue to offer conferences, programs, and webinars that cover the latest topics, we rely on our members to take an active role in the Association by:

- Sitting on the Board of Directors or becoming a local Section or Chapter officer
- Writing and presenting a paper at the Annual Conference & Exhibition
- Contributing to a specialty conference
- Developing a webinar or being a panelist
- Teaching a professional development course
- Submitting a technical paper to the *Journal*, or an article to *EM*
- Participating in a council or committee

Volunteers can serve on each of our four councils: Technical, Education, Sections and Chapters, or Young Professional Advisory. Attend a council meeting on-site at the Annual Conference to learn more!

Technical Council

Monday, June 24 • 8:30 am - 5:00 pm
Wrigley (Bronze Level, West Tower)
Friday, June 28 • 7:00 am - 8:00 am
Plaza Ballroom (Green Level, East Tower)

The Technical Council provides the technical expertise to determine and produce the technical programs at annual meetings and specialty conferences; report on state-of-the-art technology and on environmental issues, peer-review articles and publications. The Council is divided into four groups: Basic and Applied Sciences, Environmental Management, Sustainability, Resource Conservation & Waste Management, and Industrial, Government, and Public Sectors. These groups are comprised of nine divisions; the divisions are further divided into technical coordinating committees (TCCs). Stop by the Technical Program Booth in the Grand Ballroom Foyer (Gold, East) to learn more about opportunities to participate.

Education Council

Tuesday, June 25 • 8:00 am - 10:30 am • 1:30 pm - 3:00 pm
Columbian (Bronze Level, West Tower)

A&WMA offers a variety of products and services to help meet the professional development and educational needs of environmental professionals, university students, and the general public. The Educational Council plays a key role in the development and dissemination of these products and services.

Sections and Chapters Council

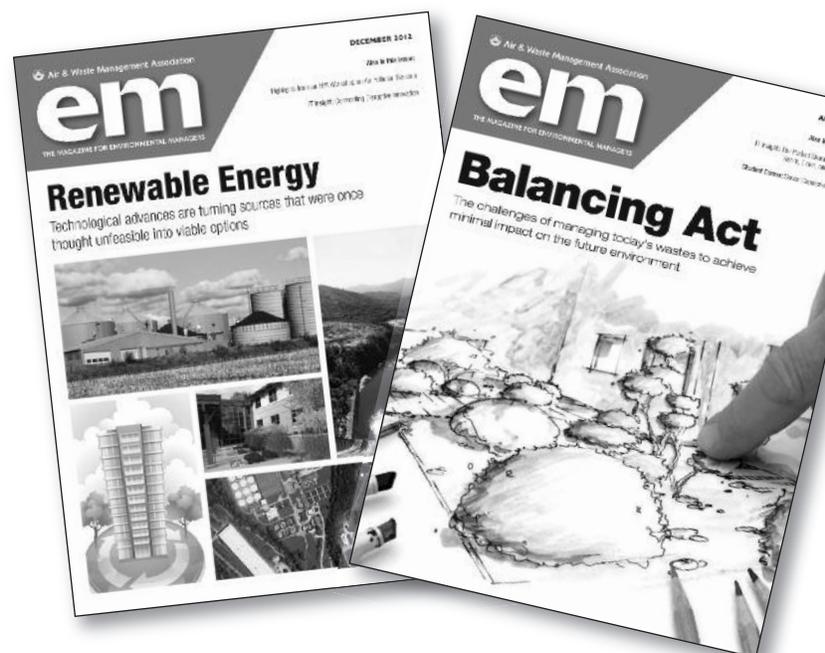
Monday, June 24 • 8:30 am - 5:00 pm
Gold Coast (Bronze Level, West Tower)

The Sections and Chapters Council enables, encourages, and ensures strong sections and chapters to fulfill the core purpose of the Association at the local level while communicating closely with Association leadership. It is comprised of a Chair, Vice Chair, two Committee Chairs, several advisors, and one representative from each Section and Chapter of the Association.

Young Professional Advisory Council

Monday, June 24 • 8:30 am - 5:00 pm
Haymarket (Bronze Level, West Tower)

The Young Professional Advisory Council strives to recruit, retain, and engage YPs as well as advise other councils and the board on services and activities to attract young professionals (YPs). This Council also facilitates the integration of student members into the Association upon graduation.



COMMITMENT TO THE ENVIRONMENT

As an association of environmental professionals, we strive to make our conferences and events as environmentally friendly as possible. The site of the 2013 Annual Conference & Exhibition, the Hyatt Regency Chicago, is committed to sustainable practices and reducing its carbon impact on the environment.

Environmental consciousness is a key focus for Hyatt Regency Chicago. The Green Team at Hyatt Regency Chicago is continuously working to develop an increasing degree of environmental awareness, while working to decrease any negative effects our operation has on the environment.

Here are a few of the Hyatt Regency Chicago's Green Initiatives:

Energy Conservation

- High efficiency compact fluorescent lighting in guest rooms
- Programmable lighting controls, dimming systems and occupancy sensors in all meeting/function space
- Exterior lighting programmed to reduce unnecessary usage

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- Computerized programmable HVAC system to optimize efficiency and reduce unnecessary heating and cooling through public areas, offices, and meeting space
- Custom programmed laundry operating system to maximize efficiency while reducing energy, water, and chemical consumption
- Double-pane insulated guest room windows; Lobby atrium equipped with UV protective film

Water Conservation

- Faucet aerators with a flow rate of 2 GPM (1.0 GPM in newly renovated West Tower guest rooms) installed in all guest room and public area restrooms; motion sensor equipped faucets in public area restrooms
- Low-flow showerheads with a flow rate of 2.5 GPM installed in all guest rooms
- Low-flow toilets with a flow rate of 3.5 GPF (1.28 gallon flush in newly renovated West Tower guest rooms) installed in all guest room and public area restrooms

Recycling Program

- Contract with an established recycling business – Premier Waste & Recycling
- Removing 25% of hotel garbage from landfills through our commingled recycling program
- Recycle cardboard, glass, newspaper, office paper, plastics, aluminum, tin, light bulbs and batteries, as well as participate in a mercury waste-recycling program of spent fluorescent lamps

Other Environmental Initiatives

- Use environmentally sensitive cleaning products
- All ware-washing chemicals replaced with environmentally safe products
- Facial and toilet tissue produced from 80% post-consumer recycled content; Paper towels are 40% PCRC
- Eliminating paper towels in public restrooms through installation of high-efficiency hand-dryers
- Paperless check-in/out process has reduced printing of 500,000 sheets of paper annually
- Voluntary towel and sheet reuse program allows guests to determine if, and how often, towels and sheets are replaced during their stay
- Approximately 200 lb per month of unused soap, shampoo, conditioner, and toilet paper donated to The Resource Center for distribution to those in need in the Chicago area
- Catering sets include reusable linens, flatware, and china
- Digital signage system reduces use of printed materials from the hotel and in-house groups

A&WMA THANKS ITS ORGANIZATIONAL MEMBERS FOR THEIR SUPPORT AND PARTICIPATION

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ADVANCED RECONNAISSANCE CORPORATION
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Bay Area Air Quality Management District
BC Ministry Of Environment
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Bingham McHale, LLP
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BREEZE/Trinity Consultants
California Air Resources Board
Capital Power Corporation
Capital Regional District
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Colorado Springs Utilities
Conestoga-Rovers and Associates
Consumers Energy
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Department of Air Quality
Desert Research Institute
Dow Chemical Company
DSG Solutions, LLC
DTE Energy Services
Duke Energy
Dúrr Brasil
Eastern Research Group, Inc.
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EHS Technology Group, LLC
Eli Lilly and Company
Entergy Corp
ENVIRON International Corporation
Environmental Quality Management
Environmental Resources Management
Epsilon Associates, Inc.
Fishbeck, Thompson, Carr & Huber, Inc.
Flint Hills Resources
GAI Consultants, Inc.
Georgia-Pacific, LLC
Golder Associates, Inc.
Gopher Resource
Grande Cache Coal Corporation
GZA GeoEnvironmental, Inc.
Hennepin County
Herman Miller, Inc.
Huntington Ingalls Industries
Idaho Department of Environmental Quality
Indiana Department of Environmental Management
Intrinsic Environmental Sciences, Inc.
IPR - EMS
Journal Of The Air & Waste Management Association
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Key Environmental, Inc.
KS Dept. Of Health & Environment
Kuwait Petroleum Corporation (KPC)
Lake Michigan Air Director's Consortium
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Lakes Environmental Software
Lane Regional Air Protection Agency
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A&WMA membership is an invaluable asset for all environmental professionals. For questions or more information on the advantages of becoming an A&WMA member, please contact a member services representative at info@awma.org or +1-412-232-3444.

EXHIBITION

WHAT'S HAPPENING ON THE EXHIBIT FLOOR

THE EXHIBIT HALL IS LOCATED IN THE RIVERSIDE CENTER (PURPLE, EAST)

	Tuesday	Wednesday	Thursday
EXHIBIT HALL HOURS	10:30 am – 5:30 pm	9:30 am – 6:30 pm	9:30 am – 12:00 pm
LUNCH BREAKS Join your fellow attendees, exhibitors, and sponsors for lunch and some down time in the Exhibit Hall. (Redeem your \$5 ticket)	11:00 am – 1:30 pm	11:00 am – 1:30 pm	
REFRESHMENT BREAKS	10:30 am – 11:30 am 3:00 pm – 3:40 pm	10:00 am – 10:40 am 3:00 pm – 3:40 pm	9:40 am – 10:10 am
	 SCHIFFHARDIN ^{LLP}	 BARNES & THORNBURG ^{LLP} btlaw.com	 Trinity Consultants
		 AIR & WASTE MANAGEMENT ASSOCIATION Louisiana Section	 Whirlpool CORPORATION
NETWORKING RECEPTION		5:00 pm – 6:30 pm	
		 CAS CONSOLIDATED ANALYTICAL SYSTEMS	 TISCH ENVIRONMENTAL
A&WMA BOOKSTORE	10:30 am – 5:30 pm	9:30 am – 6:30 pm	9:30 am – 12:00 pm

EXHIBIT HALL GRAND OPENING

Tuesday, June 25 • 10:30 am - 11:30 am
Riverside Center (Purple, East)

Join your fellow attendees and presenters for a continental breakfast sponsored by Schiff Hardin at the Grand Opening of the Exhibit Hall immediately following the Keynote.. It's the perfect opportunity to meet with leading environmental professionals showcasing their latest products and services, providing inspiration and ideas to take away. The first 100 people in attendance will receive a gift!

EXHIBITOR NETWORKING RECEPTION

Wednesday, June 26 • 5:00 pm – 6:30 pm
Riverside Center (Purple, East)

Join more than 135 exhibitors and thousands of attendees for food, cocktails, and networking! Each attendee receives a complimentary drink!



EXHIBIT HALL HIGHLIGHTS:

WELLNESS CENTER

De-stress yourself by getting a massage! Attendees connect and recharge at the Wellness Center. Professional massage therapists provide an upper body massage on a special massage chair. They will relax relax the classic tension areas of the neck, back, shoulders and arms and help attendees feel more welcome, appreciated, refreshed, alert and energized. Foot Massage Stations are included.

Hours for relaxation are:

Tuesday, June 25 - 11:00 am - 4:00 pm
Wednesday, June 26 - 11:00 am - 6:00 pm



THE HUB

Feeling a little competitive?? Take on your fellow attendees at the foosball table! The Hub provides a casual environment to meet up with your colleagues, continue conversations between sessions or check in with the office.

INTERNET CAFÉ

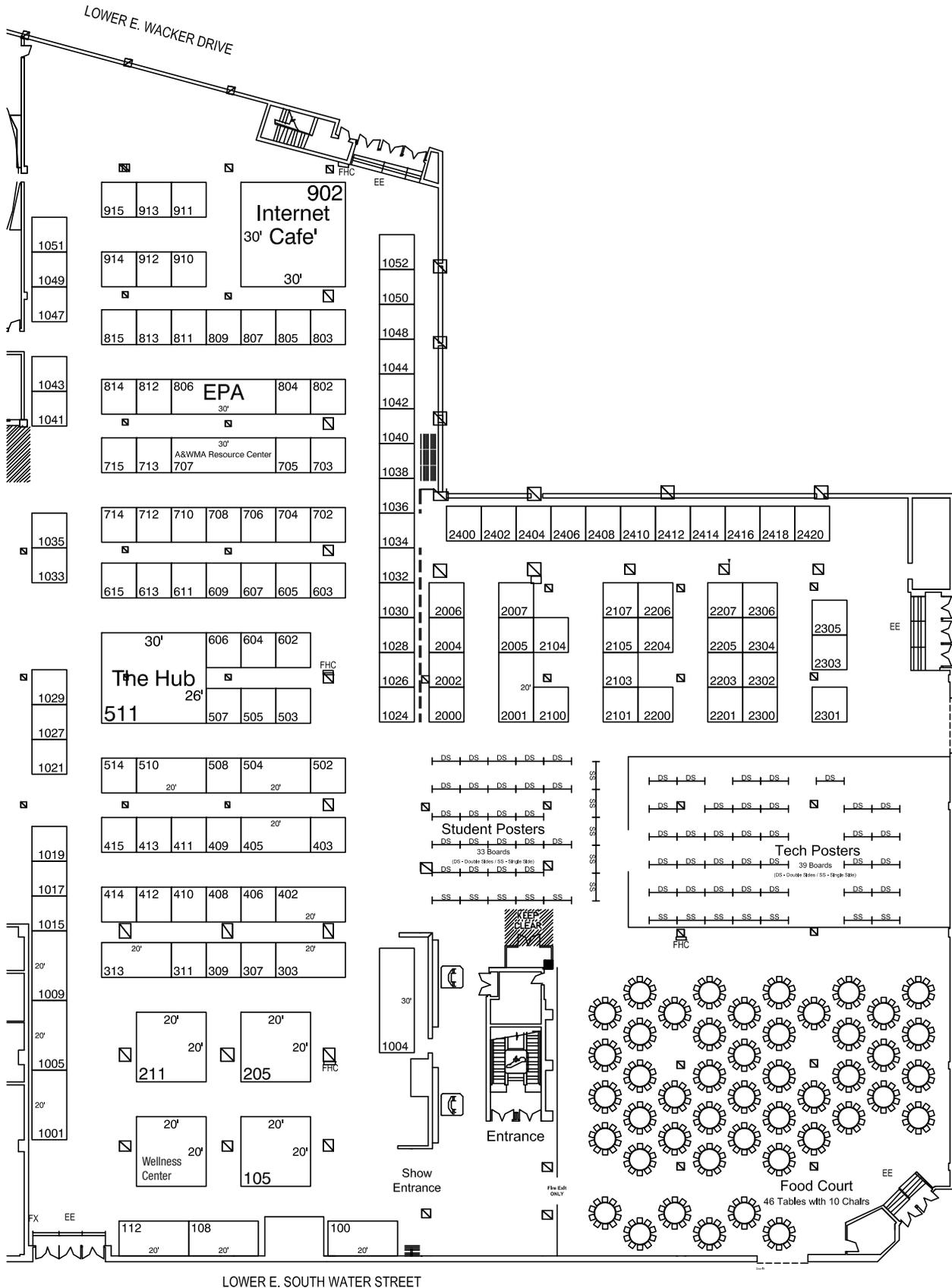
Conveniently located in the Exhibit Hall (900 aisle), the internet café is available for you to access the Internet or check your email between technical sessions.

ATTENDEE PRIZE GIVEAWAY

Visit at least ten (10) participating exhibitors during the 106th Annual Conference & Exhibition, and you could win up to \$300 in prize money! Check your attendee tote bag for your playing card!



EXHIBIT HALL FLOOR PLAN



Exhibition

EXHIBITORS BY COMPANY

2B Technologies, Inc.	813	Covanta 4Recovery, L.P.	814	Mostardi Platt	1015
ABUTECH LLC	2002	Dakota Software Corporation.	704	Munters - Des Champs Products	1026
Adwest Technologies, Inc.	311	DSG Solutions, LLC	1040	MWV Specialty Chemicals	413
AECOM	313	ECO PHYSICS, INC.	409	Natural Resource Group	1047
Agilaire, LLC	1036	ECP - Environmental Consultancy and Planning	2006	Ohio Lumex Co.	2404
AIHA Registry Programs	2201	EISENMANN Corporation	2104	Oris Solutions, LLC	803
Air Compliance Testing	811	EKTO Manufacturing Corporation	703	Ormantine USA Ltd., Inc.	611
Air Cycle Corporation	914	EMRC.	602	Pace Analytical Services, Inc.	1019
Air Quality Services, LLC	410	Enablon	2001	Pittcon 2014	2105
Air/Compliance Consultants Inc.	411	Entech Instruments, Inc.	2301	Pollution Engineering Magazine.	2005
Airgas Inc.	1021	Envionics Inc.	507	Pollution Equipment News/Rimbach Publishing, Inc.	911
AirMetrics	802	Environmental Quality Management, Inc.	807	Praxair	1035
Airtech Environmental Services Inc	2303	EPA Alumni Association	806	Process Combustion Corporation	1050
AMCEC Inc.	915	EQ - The Environmental Quality Company.	2101	PSC Environmental Services, LLC	108
AMEC Environment and Infrastructure.	408	ERG	1041	QSEM Solutions	910
American Ecotech	406	ERM (Environmental Resources Management)	504	R.M. Young Company.	603
Analitica Strumenti S.R.L.	2410	ESC Lab Sciences	2204	Restek Corporation	1027
Apex Instruments, Inc	2400	EUEC 2014	2007	RTP Environmental Associates Inc.	205
ARA Computing	2200	Exponent, Inc.	607	S P T C., Ltd.	715
ARCADIS U.S., Inc.	1009	Fab-Tech Inc.	604	Sabio Instruments	615
Arizona Instrument LLC	613	Field Environmental Instruments, Inc.	706	Sage Environmental Consulting.	713
Axetris AG	2100	Fuel Tech, Inc.	1044	SAIC.	112
Barr Engineering Company	505	GaiaTech, Inc.	712	Sartorius Corporation.	2107
Baseline-MOCON, Inc.	1029	Gasmet Technologies, Inc.	414	Siemens Industry, Inc.	2300
BGI Inc.	1028	Golder Associates	1004	SKC Inc.	2000
BioDepronix, LLC	815	Grimm Technologies, Inc.	1033	STAT Analysis Corporation	804
Bloomberg BNA	405	Groundwater & Environmental Services, Inc. (GES)	1052	Sustainability Business Management, LLC	708
Board of EHS Auditor Certifications (BEAC)	1048	Gulf Coast Environmental Systems, LLC	710	TANN Corporation	2402
Bruker Optics, Inc.	1030	H2NS Environmental, Inc.	508	Taylor & Francis Inc.	1038
Burns & McDonnell Engineering Company, Inc.	605	Historical Information Gatherers, Inc. (HIG)	1049	Tetra Tech	2408
California Analytical Instruments, Inc.	2207	Illinois Institute of Technology - Stuart School of Business	1032	The Avogadro Group, LLC	1051
Campbell Scientific, Inc.	412	ILMO Specialty Gases	805	Thermo Scientific.	403
Casella CEL, Inc.	2103	IPR/EMS.	609	Tisch Environmental, Inc.	105
CB&I.	912	J.U.M. Engineering.	702	TRC Environmental Corporation.	1001
Center for Toxicology and Environmental Health, LLC (CTEH).	913	Lakes Environmental Software	1005	Tri-Mer Corporation	812
CH2M HILL	402	Met One Instruments Inc.	502	Trinity Consultants	307
CHROMATOTEC	705	Met One Instruments Inc.	503	Turner EnviroLogic.	2406
Citation Technologies Inc.	606	METCO & TestAmerica.	303	University of Denver	1042
Civil & Environmental Consultants, Inc.	1043	MeteoStar and Sabio Divisions of Sutron Corporation.	514	URG Corp.	1034
CleanAir Engineering, Instrument Rental, Express, Opsis	100	Met-Pro Environmental Air Solutions	1017	URS Corporation	1024
CMC Solutions, LLC	714	Millennium Instruments, Inc.	510	Whitlow Enterprises.	2203
Conestoga-Rovers & Associates, Inc.	415	MKS Instruments.	2004	Wood Buffalo Environmental Association.	809
Cornerstone Environmental Group, LLC	309				

EXHIBITORS BY BOOTH

CleanAir Engineering, Instrument Rental, Express, Opsis	100	CHROMATOTEC	705	Praxair	1035
Tisch Environmental, Inc.	105	Field Environmental Instruments, Inc.	706	Agilaire, LLC	1036
PSC Environmental Services, LLC	108	Sustainability Business Management, LLC	708	Taylor & Francis Inc.	1038
SAIC	112	Gulf Coast Environmental Systems, LLC	710	DSG Solutions, LLC	1040
RTP Environmental Associates Inc.	205	GaiaTech, Inc.	712	ERG	1041
METCO & TestAmerica	303	Sage Environmental Consulting	713	University of Denver	1042
Trinity Consultants	307	CMC Solutions, LLC	714	Civil & Environmental Consultants, Inc.	1043
Cornerstone Environmental Group, LLC	309	S P T C., Ltd.	715	Fuel Tech, Inc.	1044
Adwest Technologies, Inc.	311	AirMetrics	802	Natural Resource Group	1047
AECOM	313	Oris Solutions, LLC	803	Board of EHS Auditor Certifications (BEAC)	1048
CH2M HILL	402	STAT Analysis Corporation	804	Historical Information Gatherers, Inc. (HIG)	1049
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AMEC Environment and Infrastructure	408	Wood Buffalo Environmental Association	809	SKC Inc.	2000
ECO PHYSICS, INC.	409	Air Compliance Testing	811	Enablon	2001
Air Quality Services, LLC	410	Tri-Mer Corporation	812	ABUTEK LLC	2002
Air/Compliance Consultants Inc.	411	2B Technologies, Inc.	813	MKS Instruments	2004
Campbell Scientific, Inc.	412	Covanta 4Recovery, L.P.	814	Pollution Engineering Magazine	2005
MWV Specialty Chemicals	413	BioDeptronix, LLC	815	ECP - Environmental Consultancy and Planning	2006
Gasmet Technologies, Inc.	414	QSEM Solutions	910	EUEC 2014	2007
Conestoga-Rovers & Associates, Inc.	415	Pollution Equipment News/Rimbach Publishing, Inc.	911	Axetris AG	2100
Met One Instruments Inc.	502	CB&I	912	EQ - The Environmental Quality Company	2101
Met One Instruments Inc.	503	Center for Toxicology and Environmental Health, LLC (CTEH)	913	Casella CEL, Inc.	2103
ERM (Environmental Resources Management)	504	Air Cycle Corporation	914	EISENMANN Corporation	2104
Barr Engineering Company	505	AMCEC Inc.	915	Pittcon 2014	2105
EnviroNics Inc.	507	TRC Environmental Corporation	1001	Sartorius Corporation	2107
H2NS Environmental, Inc.	508	Golder Associates	1004	ARA Computing	2200
Millennium Instruments, Inc.	510	Lakes Environmental Software	1005	AIHA Registry Programs	2201
MeteoStar and Sabio Divisions of Sutron Corporation	514	ARCADIS U.S., Inc.	1009	Whitlow Enterprises	2203
EMRC	602	Mostardi Platt	1015	ESC Lab Sciences	2204
R.M. Young Company	603	Met-Pro Environmental Air Solutions	1017	California Analytical Instruments, Inc.	2207
Fab-Tech Inc.	604	Pace Analytical Services, Inc.	1019	Siemens Industry, Inc.	2300
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Sabio Instruments	615	Bruker Optics, Inc.	1030	Tetra Tech	2408
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EKTO Manufacturing Corporation	703	Grimm Technologies, Inc.	1033		
Dakota Software Corporation	704	URG Corp.	1034		

EXHIBITOR DESCRIPTIONS

2B Technologies, Inc......813

2100 Central Avenue, Suite 105

Boulder, CO 80301

Phone: 303-273-0559

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Air Quality Services, LLC (AQS) provides regulatory compliant, air-related environmental services to the industrial and utility sectors, including: a wide variety of stack testing methodologies (meeting AETB certification requirements), permitting, air dispersion modeling, CEMS/COMS O&M and integration, ambient air monitoring, and related support services. AQS also maintains MICCS safety certification.

EXHIBITOR DESCRIPTIONS

Air/Compliance Consultants Inc.....411
Jill Merrill
1050 William Penn Highway
Pittsburgh, PA 15236
Phone: 412-826-3636
Fax: 412-826-3640
www.air-comp.com

Air/Compliance Consultants, Inc. is a leading provider of environmental compliance and source testing services in North America. Our experience is broad and includes source and ambient air testing, LDAR, fugitive emissions monitoring, permitting, equipment specification, indoor air, odor, IH, ambient air sampling, dispersion modeling, air emission inventory and SARA reporting, greenhouse gas reporting, compliance auditing and regulatory compliance support. We provide our clients with the best value for their Environmental dollar by keeping quality high and overhead low.

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Phone: 630-860-4740
Fax: 847-258-3755
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Airtech Environmental Services Inc. is a full-service environmental consulting firm that is 100% involved in the sampling, analysis, monitoring, and consulting of

stationary source air emissions. With minimal impact on productivity, Airtech is committed to providing these services as cost effectively as possible in a safe and timely manner.

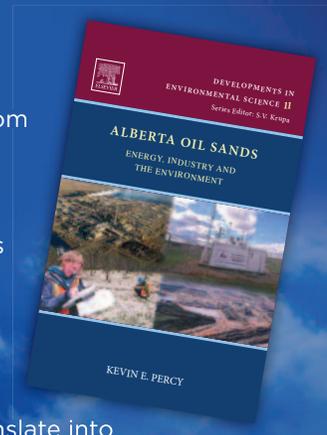


WBEA publishes book that synthesizes years of air monitoring results in the Athabasca Oil Sands Region

The Wood Buffalo Environmental Association (WBEA) has published a detailed book that, for the first time, synthesizes the results and concepts of WBEA's scientifically enhanced environmental monitoring work...

Alberta Oil Sands: Energy, Industry and the Environment

- Includes work and contributions from a team of multi-disciplinary senior scientists from Canada, the United States and Europe.
- Features many noteworthy findings based on WBEA's on-the-ground, integrated suite of measurements that by design link the air and terrestrial systems.
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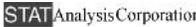
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Whitlow Enterprises.....2203

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www.smokeschool.net**

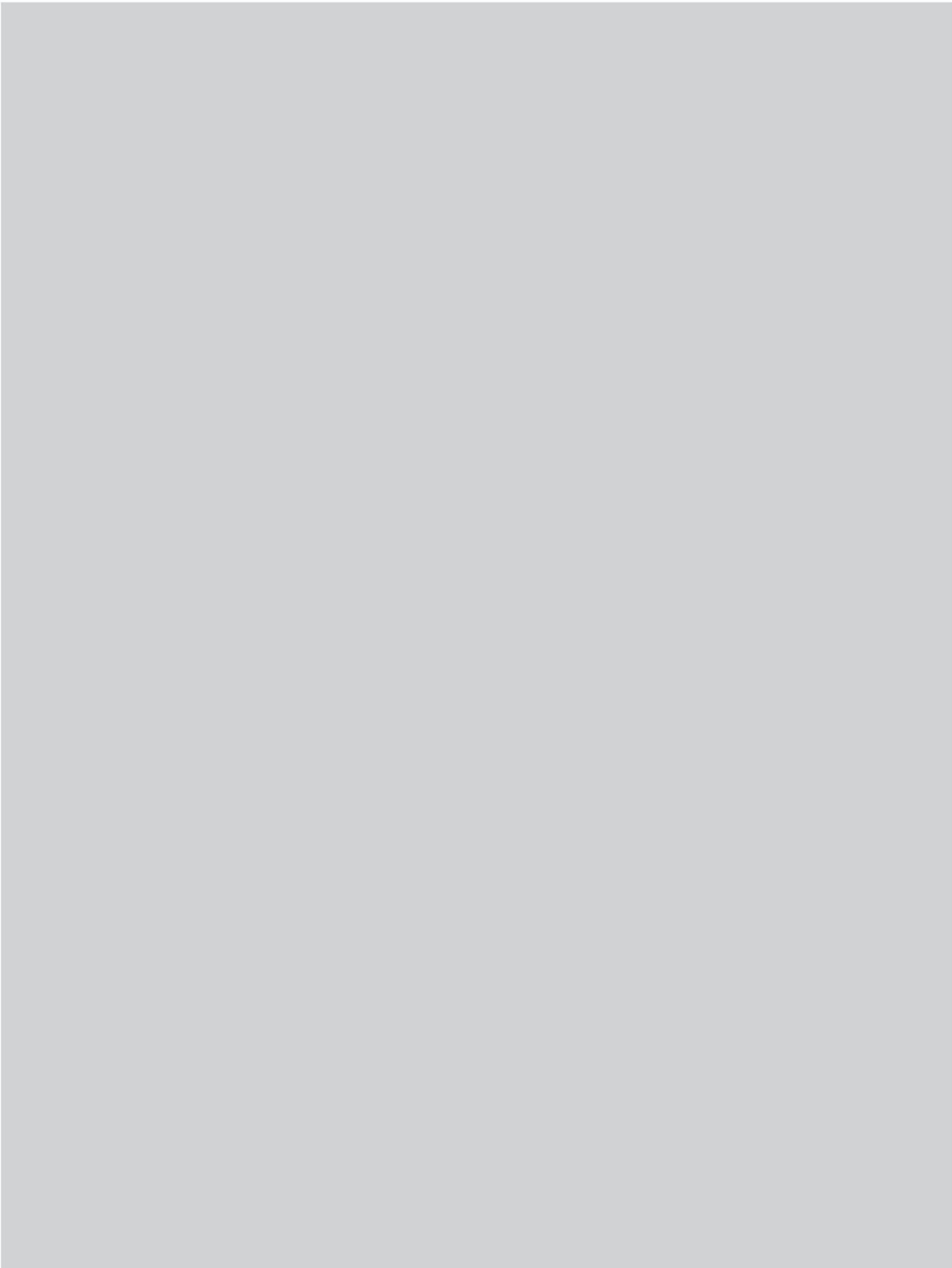
After retiring from the Louisiana DEQ, George Whitlow decided to begin a smoke school that is fun and stress free. This was the beginning of Whitlow Enterprises! Whitlow Enterprises is run by president and CEO, George Whitlow and his wife, Angela Whitlow. Today Whitlow trains in over 20 states, housing two offices—one in Indiana and the home office in West Monroe, Louisiana, issuing over 75,000 visible emissions certificates!

Wood Buffalo Environmental Association809

**#100-330 Thickwood Blvd.
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Canada**

**Phone: 780-799-4420
Fax: 780-715-2016
Email: info@wbea.org
www.wbea.org**

Wood Buffalo Environmental Association monitors the environment of the Regional Municipality of Wood Buffalo in north-eastern Alberta, including the Athabasca Oil Sands Region. WBEA's multi-stakeholder membership comprises Aboriginal, Environmental, Government and Industry sectors. WBEA is committed to reporting accurate and timely high quality data from Air, Terrestrial and Human Exposure Monitoring to ensure stakeholders have the information they need to make informed environmental decisions.



TECHNICAL SESSIONS

LETTER FROM TECHNICAL PROGRAM CHAIR AND VICE CHAIR

Members of the Lake Michigan States Section and the Technical Council of the International A&WMA have developed an outstanding technical program for the 106th A&WMA Annual Conference and Exhibition, as we continue our mission with this year's theme of "Towards Sustainability" in Chicago, Illinois. If you are looking for an opportunity to keep up to date on the latest regulations, latest technologies and activities associated with air modeling, air measurement, green house gases, sustainability, waste, environmental and risk management, or any number of environmental hot topics, this year's Annual Conference is the place to find it, with platform, poster, and panel sessions beginning Tuesday afternoon and running through Friday morning.

One of Chicago's leading companies, McDonald's, is a strong proponent of sustainability and will kick off the program on Tuesday morning by telling us how their teams work on 5 Sustainability Pillars; Food, Sourcing, Community, People, and Planet. Bob Langert, McDonald's Vice President of CSR and Sustainability, will present this year's first Keynote address. Our second Keynote address will take place on Wednesday morning and will feature John Bradburn, General Motor's Manager of Waste-Reduction Efforts, who will discuss General Motor's commitment to resource conservation, including the company's landfill-fill initiatives.

This will be followed on Wednesday morning by A&WMA's Critical Review, a featured session at each Annual Conference. You will not want to miss this year's review "Stratospheric Ozone, Global Warming, and the Principle of Unintended Consequences – An Ongoing Science and Policy Success" presented by Marcel L. Halberstadt and Nathan Borgford-Parnell.

Thursday morning, the conference will be highlighted by two featured plenary sessions, opening with a panel of State Directors of the environmental agencies in USEPA's Region V, followed by a second panel focusing on air pollution issues, featuring the Director's of the air programs in the Midwest states.

This year's Technical Program has been expanded and strengthened to include industry tracks related to Chemicals, General Industry, Electric Power, Oil & Gas, Transportation, and Renewable Energy. We are especially excited to offer a multi-session "Mini-Symposium" on power generation, including topics such as regulatory challenges to the US power industry, renewable power generation, control technology for power plants, greenhouse gas issues, and sustainability in the power sector.

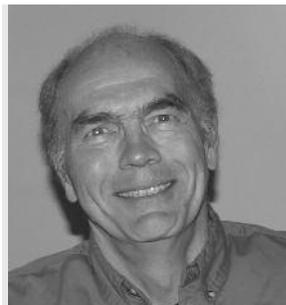
What better place to showcase the A&WMA than in Chicago, with its government research facilities at Argonne National Laboratory and the Fermi National Accelerator Laboratory, the Jardine Water Purification Plant, the largest capacity water filtration plant in the world (see Technical tours) and it's architecture, history and culture (see Social tours). The Lake Michigan States Section has worked long and hard to make this meeting not only technically sound, but an enjoyable and memorable experience for you and your families. After enriching your mind with the latest technical information, take time to relax and stroll along the Magnificent Mile to window-shop at the variety of boutiques and stores along Michigan Avenue or enjoy the views of the city from the Lake Michigan lakefront or from a thousand feet up at the Willis or John Hancock Towers. Enjoy some of Chicago's world famous restaurants – from Chicago-style hot dogs and deep-dish pizza to Michelin Star dining and everything in between. Take in some of the many cultural opportunities the city has to offer – museums, a world-class aquarium and zoos, classical music concerts in Grant Park, blues and jazz in local clubs, fireworks on Navy Pier – and much, much, more.

We are convinced that you will find this year's A&WMA's 106th Annual Conference and Exhibition an unforgettable experience – come enjoy the Windy City.



Pat Brush

2013 Technical Program Chair
VP, HSE, Security, Quality, and
Risk Management
Air Liquide E&C World Business Unit



Dale Kalina

2013 Technical Program Vice Chair
Environmental Partners, Inc.



Paul Farber

2013 Technical Program Vice Chair
Sargent & Lundy

2013 TECHNICAL PROGRAM GRID - TUESDAY, JUNE 25

Tuesday, June 25, 2013							
Industry Focus	Session ID	Session Title	TCC(s)*	Time	Format	Room	
Starting at 9:15 am							
		Keynote Presentation		9:15 am- 10:15 am		GRAND BALLROOM EF	
Starting at 10:30 am							
		Exhibit Hall Open		10:30 am- 11:30 am		RIVERSIDE CENTER	
11:00 am-1:30 pm Lunch							
1:20 pm-3:00 pm							
	YOUN-TuesPM1	ACE 101: Conference Introductory Panel for Young Professionals	YP	1:20 pm- 3:00 pm	Panel	GRAND SUITE 3	
	AIRS-TuesPM1	Biomass Combustion Measurements	AM-1	1:20 pm- 2:20 pm	Platform	COLUMBUS H	
	EDUC-TuesPM1	Challenges in Environmental Education, Training, and Outreach	EDC	1:20 pm- 3:00 pm	Panel	WATER TOWER	
	SUST-TuesPM1	Climate Change Impact-Part 1	ES-5	1:20 pm- 2:40 pm	Platform	COLUMBUS CD	
	AIRS-TuesPM1	Control of Solvents, Odors and Gases	AE-2	1:20 pm- 3:00 pm	Platform	GRAND C NORTH	
	REGU-TuesPM1	Implementing the PM2.5 New Source Review (NSR) Program	EP-1	1:20 pm- 3:00 pm	Panel	COLUMBUS IJ	
	AIRS-TuesPM1	NAAQS Compliance Issues	AB-3	1:20 pm- 2:40 pm	Platform	COLUMBUS KL	
	AIRS-TuesPM1	PM Measurements & Control	AB-1	1:20 pm- 3:00 pm	Platform	COLUMBUS EF	
	MINI-TuesPM1	Power Plant Control Technology- Part 1 (FGD)	AE-1, El-2	1:20 pm- 3:00 pm	Platform	GRAND B	
	INDU-TuesPM1	Recent Issues in the Chemical and Refining Industries	EI-4	1:20 pm- 3:00 pm	Panel	GRAND SUITE 5	
	WAST-TuesPM1	Waste Management Policy and Programs	WM-1	1:20 pm- 3:00 pm	Platform	COLUMBUS G	
3:00 pm-4:00 pm Session Break							
4:00 pm-5:40 pm							
	O&GS-TuesPM2	Ambient Air Quality Studies of Oil and Gas Production Areas in North America	AM-3	4:00 pm- 5:20 pm	Platform	COLUMBUS AB	
	AIRS-TuesPM2	Atmospheric Chemistry/Deposition	AB-2	4:00 pm- 5:40 pm	Platform	COLUMBUS KL	
	REGU-TuesPM2	Bay Area AQMD Local Scale Air Quality Management	EP	4:00 pm- 6:00 pm	Panel/Platform	GRAND SUITE 3	
	SUST-TuesPM2	Climate Change Impact-Part 2	ES-5	4:00 pm- 5:20 pm	Platform	COLUMBUS CD	
	FEDS-TuesPM2	Compliance at Federal Facilities	EI-1	4:00 pm- 5:20 pm	Platform	GRAND SUITE 5	
	H&EE-TuesPM2	Health & Environmental Effects of Air Toxics	AT-3	4:00 pm- 5:40 pm	Platform	COLUMBUS EF	
	INDU-TuesPM2	Issues Affecting the Petrochemical and Refining Industries	EI-4	4:00 pm- 5:20 pm	Platform	WATER TOWER	
	REGU-TuesPM2	NSR Reform- Recent Developments and Issues	EP-1	4:00 pm- 5:40 pm	Panel	COLUMBUS IJ	
	MINI-TuesPM2	Power Plant Control Technology-Part 2 (Hg)	AE-1, El-2	4:00 pm- 5:00 pm	Platform	GRAND B	
	MINI-TuesPM2	Mini-Symposium Poster Presentations	AE-1, El-2	5:00 pm - 6:00 pm	Poster	GRAND B	
	WAST-TuesPM2	Recycling Case Studies and Challenges	WM-1	4:00 pm- 5:40 pm	Platform	COLUMBUS G	
	H&EETuesPM2	Risk Assessment/Management: Methods and Techniques	EE-5	4:00 pm- 5:40 pm	Platform	COLUMBUS H	
	LOCA-TuesPM2	Sustainability - Case Studies of Chicago-Area Companies	ITF, ES-4	4:00 pm- 5:40 pm	Panel	GRAND C NORTH	

*Technical Coordinating Committees – Please refer to page 18 for more information on the A&WMA's Technical Council and their meeting times

Program Key			Program Key		
Session ID	Industry/Environmental Focus		Session ID	Industry/Environmental Focus	
 AIRS	Air-Measurements and Basic Science		 O&GS	Oil & Gas Exploration and Production	
 EDUC	Education		 REGU	Regulatory	
 ENER	Renewable Energy		 SUST	Sustainability	
 FEDS	Federal		 TRAN	Transportation	
 H&EE	Health & Environmental Effects		 WAST	Waste Management	
 INDU	Heavy Industry and General Manufacturing		 LOCA	Local Topic	
 MINI	Mini-symposium on Power Generation		 YOUN	Young Professionals	

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Air Liquide E&C World Business Unit

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TECHNICAL PROGRAM CHAIR
Dale Kalina
Environmental Partners, Inc.

TECHNICAL PROGRAM VICE CHAIR
Paul Farber
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TECHNICAL SESSIONS

Tuesday, June 25, 2013

ACE 101: Conference Introductory Panel for Young Professionals

YOUN-TuesPM1

Room: Grand Suite 3



6/25/2013 1:20 PM

Panel

TCC: YP

Chair: Josh Marteny, Dixon Environmental

Co-Chair: Amy Martinez, CBI

A common statement by YPs (and other first-time ACE attendees) – especially those who attend alone – is that the variety of topics and events hosted by the ACE conference can be overwhelming.

This panel is intended to provide insight from YPs with a few years of ACE experience regarding each of the following:

1. Ways to meet new people and find others with similar interests,
2. An introduction to technical councils, technical sessions, and the A&WMA organizational structure,
3. Tips on finding a mentor within the organization,
4. An introduction to the YP program and YPAC, and other helpful hints.

Panelists:

- Joshua Marteny, Dixon Environmental
- Amy Martinez, CBI
- Holly Krutka, ADA ES
- Malissa Wood, A&WMA
- Sameer Sane, ERM
- Paul Siebert, Weston Solutions, Inc.
- Julie Craig, PFSCM

Biomass Combustion Measurements

AIRS-TuesPM1

Room: Columbus H

6/25/2013 1:20 PM

Platform

TCC: AM-1

Chair: Ken Walsh, SAIC

1:20 PM

Emission Factors for PM_{2.5} Generated From the Combustion of Eucalyptus Globulus and Obliqua Nothofagus on Ideal Conditions Using a Controlled Combustion Chamber 3CE

Paper#: 13277

F. Cereceda¹, F. Guerrero², V. Vidal², F. Cubillos³, L. A. Diaz-Robles⁴; ¹Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Valparaiso, ²Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, ³Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Villa Alemana, ⁴Catholic University of Temuco, Chile, Temuco

1:40 PM

Rapid Changes in Particle Size Distributions of Fresh Biomass Smoke Measured in the Laboratory and Field

Paper#: 13349

C. M. Carrico¹, V. R. Scheetz², S. M. Kreidenweis³, P. J. DeMott³, G. R. McMeeking³, E. Levin, S. Nakao, R. Yokelson; ¹AECOM, Inc., Fort Collins, CO, ²AECOM, Inc., ³Colorado State University

2:00 PM

Physic-chemical Characterization of the 11 Most Used Trees in Chile for Residential Wood Combustion

Paper#: 12902

L. A. Diaz-Robles¹, X. Petit-Breuilh², J. Fu³, G. Reed³, C. Lagos⁴, D. Sergio, C. A. Varela⁴, F. Cereceda-Balic; ¹Catholic University of Temuco, Chile, Temuco, ²Catholic University of Temuco, Temuco, ³University of Tennessee, Knoxville, TN, ⁴Catholic University of Temuco

Challenges in Environmental Education, Training, and Outreach

EDUC-TuesPM1

Room: Water Tower

6/25/2013 1:20 PM

Panel

TCC: EDC

Chair: Ashok Kumar, The University of Toledo

Co-Chair: Raghavan Ramanan, IIT Stuart School of Business

This panel session will cover a variety of topics related to challenges in delivering environmental education, training, and outreach related to topics of environmental education accreditation, distance learning, sustainability, ethics, entrepreneurship, and engineering curriculum.

Panelists:

- Deborah Jackman, Milwaukee School of Engineering
- Ashok Kumar, The University of Toledo
- Raghavan Ramanan, IIT Stuart School of Business
- Trudy Heller, Executive Education for the Environment
- Srikar Velagapudi, The University of Toledo

Climate Change Impact - Part 1

SUST-TuesPM1

Room: Columbus CD

6/25/2013 1:20 PM

Platform

TCC: ES-5

Chair: C. Flint Webb, SAIC

Co-Chair: Lauren Miller, CDM Smith

1:20 PM

More Intense and Frequent Heat Waves Under Representative Community Pathways in the 21st Century

Paper#: 13244

Y. Gao¹, J. Fu¹, J. Drake², J. Lamarque³; ¹University of Tennessee, Knoxville, TN, ²University of Tennessee, ³National Center for Atmospheric Research

TECHNICAL SESSIONS (continued)

1:40 PM

High Resolution Modeling Studies of Extreme Weather Events

Paper#: 13284

J. Fu¹, Y. Gao¹, J. Drake², J. Lamarque³; ¹University of Tennessee, Knoxville, TN, ²University of Tennessee, ³National Center for Atmospheric Research

2:00 PM

The Evaluation of the Benefits from GHG Reduction by the Analysis of Cost from Weather-Related Disaster and the Value of Human Life Year in Taiwan

Paper#: 12884

H. Lin¹, C. Tseng², L. Yu², Y. Shih²; ¹National Taipei University of Technology, Taipei, ²National Taipei University of Technology

2:20 PM

The New Climate Normal: Observed Changes in the Intensity and Frequency of Extreme Weather Events

Paper#: 13321

G. Derevianko, H. W. Balentine; AECOM, Camarillo, CA

Control of Solvents, Odors and Gases

AIRS-TuesPM1

Room: Grand C North

6/25/2013 1:20 PM

Platform

TCC: AE-2

Chair: Rakesh Govind, University of Cincinnati

Co-Chair: Jim Boswell, Met Pro Corporation

1:20 PM

Two-Dimensional Modeling of Volatile Organic Compounds (VOCs) Adsorption onto Beaded Activated Carbon

Paper#: 13308

D. T. Tefera¹, Z. Hashisho², J. Philips³, J. Anderson⁴, M. Nichols⁵; ¹University of Alberta, Department of Civil and Environmental Engineering, Edmonton, AB T6G 2W2, Canada, AB, ²Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB, ³Ford Motor Company, Environmental Quality Office, Dearborn, MI 48126 USA, ⁴Ford Motor Company, Research and Advanced Engineering, Dearborn, MI 48121 USA, ⁵Ford Motor Company, Research and Advanced Engineering, Dearborn, MI

1:40 PM

Is There a Viable Alternative to Method 24 for Determining Volatile Organic Compounds (VOC) Content for Water-based Coatings and Adhesives?

Paper#: 13384

C. E. Anderson, M. Hult; 3M, St. Paul, MN

2:00 PM

Acetones Removal with Fe Doped Titanium Nano Tube Photocatalysts Prepared from Slag Iron in Steel Plant

Paper#: 12723

C. Chang¹, Y. Lin², C. Ma³; ¹National Ilan University, ²yunronglin@gmail.com, I-Lan, ³St. Mary's Medicine Nursing and Management College

2:20 PM

Treatment of Mixture of n-Hexane, Benzene, and Methanol in an Integrated Scheme of Cyclic Adsorption/ Desorption Beds and Trickle Bed Air Biofilter

Paper#: 12893

A. Zehraoui¹, G. Sorial, PhD²; ¹University of Cincinnati, Cincinnati, OH, ²University Of Cincinnati, Cincinnati, OH

2:40 PM

Impact of Process Variables on Solvent Concentrator Performance: A Case Study

Paper#: 13222

J. D. Perry; MWV Specialty Chemicals, North Charleston, SC

Implementing the PM2.5 New Source Review (NSR) Program

REGU-TuesPM1

Room: Columbus IJ

6/25/2013 1:20 PM

Panel

TCC: EP-1

Chair: Gary McCutchen, RTP Environmental Associates, Inc.

Co-Chair: Rahul Thaker, NCDENR Division of Air Quality

Although the first PM2.5 NAAQS was promulgated more than a decade ago, EPA had, until 2009, allowed use of PM10 as a surrogate for PM2.5 in conducting the analyses required for PSD and nonattainment area permits. The panel will discuss the problems and progress associated with implementing the program.

Panelists:

- Gary McCutchen, RTP Environmental Associates, Inc.
- Raj Rao, US EPA
- Bill Wehrum, Hunton & Williams LLP

TECHNICAL SESSIONS (continued)

NAAQS Compliance Issues

AIRS-TuesPM1
Room: Columbus KL

6/25/2013 1:20 PM

Platform
TCC: AB-3

Chair: Justin Walters, Southern Company
Co-Chair: Ryan Gesser, ERM

1:20 PM

Challenges for Modeling Compliance With Short-term SO₂, NO₂, and PM_{2.5} Ambient Standards

Paper#: 12825

R. Paine, D. Heinold; AECOM, Chelmsford, MA

1:40 PM

Early Experiences with EMVAP Implementation and Testing

Paper#: 12827

R. Paine¹, R. Hamel¹, D. Heinold¹, E. Knipping², N. Kumar³; ¹AECOM, Chelmsford, MA, ²EPRI, Washington, DC, ³EPRI, Palo Alto, CA

2:00 PM

Evaluation of Combining Hourly Background Concentrations with Model Predicted Concentrations

Paper#: 13187

M. B. Newman, D. R. Murray; TRC, Windsor, CT

2:20 PM

Weight of Evidence Analysis for Attributing Monitored Sulfur Dioxide Exceedances to Emission Source Zones

Paper#: 13326

S. N. Feinberg¹, V. Yadav², J. R. Turner¹; ¹Washington University in St. Louis, Saint Louis, MO, ²Washington University in St. Louis

PM Measurements & Control

AIRS-TuesPM1
Room: Columbus EF

6/25/2013 1:20 PM

Platform
TCC: AB-1

Chair: Mike Meyer, BGI USA
Co-Chair: Kip Carrico, AECOM

1:20 PM

Examination of Inter-Instrumental Variability of Organic and Elemental Carbon Thermal Optical Analysis by STN and IMPROVE_A protocols

Paper#: 12749

P. Doraiswamy¹, J. Flanagan, E. Poitras, A. Khlystov, J. Rkm², M. Richards; ¹RTI International, ²RTI

1:40 PM

Analysis of High PM_{2.5} in the Reno, Nevada Urban Area

Paper#: 13367

M. C. Green, K. Dick, D. Inouye; Desert Research Institute, Reno, NV

2:00 PM

Atmospheric Concentrations of PM₁₀ and Radioisotopes in Air at Aldama, Mexico

Paper#: 13217

M. Y. Montelongo¹, E. F. Herrera Peraza²; ¹Centro de Investigación en Materiales Avanzados, S.C., Chihuahua, ²Centro de Investigación en Materiales Avanzados (CIMA), Chihuahua

2:20 PM

Advanced ESP Designs for Black Liquor Recovery Boilers

Paper#: 14204

G. J. Grieco¹, M. Johnson², S. Blankenship, R. Gillies; ¹Air Consulting Associates, LLC, Morris Plains, NJ, ²Southern Environmental, Inc., Pensacola, FL

2:40 PM

Effectiveness of Wind Fences to Reduce Fugitive Particulate Emissions from Material Piles: A Computational Fluid Dynamics Study

Paper#: 12857

L. L. Schulman¹, C. G. DesAutels², B. Kolts³; ¹Exponent, Natick, MA, ²Exponent, ³FirstEnergy Corporation, Akron, OH

Power Plant Control Technology-Part 1 (FGD)

MINI-TuesPM1
Room: Grand B

6/25/2013 1:20 PM

Platform
TCC: AE-1, EI-2

Chair: Connie Senior, ADA-ES, Inc.
Co-Chair: Peter Belmonte, ERM

1:20 PM

Welcome to the Mini-Symposium

J. Koehler; ERM, Walnut Creek, CA

1:40 PM

ReACT – A New Multi-Pollutant Control Technology

Paper#: 12919

K. Anderson¹, M. Lagerstrom², J. Anderson¹; ¹Wenck Associates, Inc., Woodbury, MN, ²Integrays Business Support LLC, Green Bay, WI

2:00 PM

Extending the Lifespan & Improving the Efficiency of Matured FGD Systems: Benefits & Challenges

Paper#: 13369

M. Walsh, A. Scholeck; Attendee, Lebanon, PA

TECHNICAL SESSIONS (continued)

2:20 PM

Constituent Release from Fixated Scrubber Sludge with Lime Using Characterization-based Leaching Tests

Paper#: 13242

A. C. Garrabrants¹, D. S. Kosson¹, K. J. Ladwig²; ¹Vanderbilt University, Nashville, TN, ²Electric Power Research Institute

2:40 PM

The Use of Dry Sorbent Injection (DSI) and Resulting Impacts on Coal Combustion Residue

Paper#: 13357

M. Schantz¹, M. Sewell²; ¹Lhoist North America, Louisville, CO, ²Lhoist North America

Recent Issues in the Chemical and Refining Industries

INDU-TuesPM1

Room: Grand Suite 5

6/25/2013 1:20 PM

Panel

TCC: EI-4

Chair: Ed Fiesinger, Zephyr Environmental Corporation

Co-Chair: Ken Weiss, ERM

Numerous air issues are impacting the chemical and refining industries. The Reciprocating Internal Combustion Engine (RICE) MACT has been finalized. The EPA has issued a report addressing the parameters of properly designed and operated flares. EPA has undertaken a new initiative addressing enforcement on flare operations. EPA is now processing applications for the PSD permitting of greenhouse gases (GHG) for those states without delegation. This panel will have presenters, both regulated industry and regulator, who will address these issues, giving the audience the status of each and how the regulator and regulated industry are addressing them.

Panelists:

- David Wall, Trinity Consultants
- Scott Evans, Clean Air Engineering
- Mary Ellen Ternes, McAfee and Taft
- Pat Sorensen, ERM
- Matt Paulson, Baker Botts

Waste Management Policy and Programs

WAST-TuesPM1

Room: Columbus G

6/25/2013 1:20 PM

Platform

TCC: WM-1

Chair: Ning Ai, University of Illinois at Chicago

Co-Chair: Maggie Clarke, Maggie Clarke Environmental

1:20 PM

A Sustainable Approach to Waste Management: Shifting to Resource Management:

Paper#: 12744

C. Chao¹, J. Chang²; ¹WRC International, Zug, ²Department of Environmental Engineering, National Cheng Kung University

1:40 PM

Beneficial use of Municipal Solid Waste in Latin America: two options for sustainable development

Paper#: 13067

J. A. Martinez Sepulveda; Universidad EAN, Bogota

2:00 PM

How Market Instruments Would Control Waste Generation in the Developing World? Applying the Co-benefit Approach to Emerging Economic Countries

Paper#: 12994

T. A. Kurniawan, L. Lahrita; United Nations University-Institute of Advanced Studies (UNU-IAS), Yokohama

2:20 PM

Towards Sustainable Supply Chains

Paper#: 12960

J. C. Wollmuth; CH2M HILL, Chicago, IL

2:40 PM

Carbon Reduction Through Eco-industrial Networking

Paper#: 13055

Y. Huang¹, C. Chao², Y. Fukushima³; ¹Sustainable Environmental Research Center, National Cheng Kung University, Tainan City, ²WRC International, Zug, ³Department of Environmental Engineering, National Cheng Kung University

Ambient Air Quality Studies of Oil and Gas Production Areas in North America

O&GS-TuesPM2

Room: Columbus AB

6/25/2013 4:00 PM

Platform

TCC: AM-3

Chair: Leonard Nelms, Tetra Tech

Co-Chair: Shagun Bhat, ENVIRON

4:00 PM

Spatial and Temporal Distributions of Methane and VOC in the Pinedale Anticline

Paper#: 12962

R. A. Field, J. Soltis, S. Murphy, D. Montague; University of Wyoming, Laramie, WY

4:20 PM

Mobile Measurement of Methane and Hydrogen Sulfide at Natural Gas Production Site Fence Lines in the Texas Barnett Shale

Paper#: 12859

G. R. Eapi¹, M. S. Sabnis², M. L. Sattler¹; ¹University of Texas at Arlington, Arlington, TX, ²University of Texas at Arlington

TECHNICAL SESSIONS (continued)

4:40 PM

Semi-continuous Measurements of Inorganic Gases and PM_{2.5} Composition in the Athabasca Oil Sands Region

Paper#: 13134

Y. Hsu; Wood Buffalo Environmental Association, Fort McMurray, AB

5:00 PM

The Effects of Oil and Gas Exploration and Production Waste Streams on Landfill Emissions

Paper#: 13160

M. K. Stutz¹, A. Nagaraj¹, R. Karanjekar²; ¹Weaver Boos Consultants, Fort Worth, TX, ²Weaver Boos Consultants

Atmospheric Chemistry/Deposition

AIRS-TuesPM2

Room: Columbus KL

6/25/2013 4:00 PM

Platform

TCC: AB-2

Chair: Vera Samburova, Desert Research Institute

Co-Chair: Francisco Cereceda, Universidad Técnica Federico Santa María

4:00 PM

Model Estimations of Mercury Deposition and Evasion: Great Lakes

Paper#: 13008

S. L. Grant¹, P. Lin, P. Lin, K. C. Crist¹, M. Kim²; ¹Ohio University, Athens, OH, ²Ohio University, Greensboro, NC

4:20 PM

Development of Mechanism of Atmospheric Degradation of Naphthalene Based on Master of Chemical Mechanism (MCM, V3.1)

Paper#: 13208

Y. Chen¹, J. Wenger², J. Cao³; ¹Institute of Earth Environment, Xi'an, ²University College Cork, ³Institute of Earth Environment, Chinese Academy of Sciences

4:40 PM

Application of Passive Samplers for Determination of Ozone and Ozone Precursor's Distribution in the Lake Tahoe Basin

Paper#: 13196

B. Zielinska, A. Bytnerowich, A. W. Gertler, M. MacDaniel, J. Burley; Desert Research Institute, Reno, NV

5:00 PM

Analysis of Water-Soluble Organic Compounds in Atmospheric Aerosols

Paper#: 13177

V. Samburova¹, L. Mazzoleni², A. Laskin³, A. Hallar⁴, B. Zielinska¹; ¹Desert Research Institute, Reno, NV, ²Michigan Technological University, ³Pacific Northwest National Laboratory, ⁴Desert Research Institute

5:20 PM

Raman Spectroelectrochemical Study of Adsorption of N₂O at Salt Polyaniline

Paper#: 13347

L. Y. Quiñones¹, C. J. Navarro Gomez², B. Trujillo-Navarrete³, E. F. Herrera Peraza⁴; ¹Instituto Tecnológico De Chihuahua 2, ²Junta Municipal de Agua y Saneamiento de Chihuahua, Chihuahua, ³ITESM campus Chihuahua y CIMAV, Chihuahua, ⁴Centro de Investigación en Materiales Avanzados (CIMAV), Chihuahua

Bay Area AQMD Local Scale Air Quality Management

REGU-TuesPM2

Room: Grand Suite 3

6/25/2013 4:00 PM

Panel/Platform

TCC: EP

Chair: Stan Hayes, ENVIRON

4:00 PM

Analyzing Local Air Quality and Infill Development

Paper#: 13163

H. Hilken¹, P. T. Martien¹, V. Lau², D. Vintze³; ¹Bay Area Air Quality Management District, San Francisco, CA, ²Bay Area Air Quality Management District, ³Bay Air Quality Management District

4:20 PM

Identifying Areas Impacted by Air Pollution in the San Francisco Bay Area

Paper#: 13149

P. T. Martien¹, D. Fairley², V. Lau², S. Tanrikulu², S. Reid³; ¹Bay Area Air Quality Management District, San Francisco, CA, ²Bay Area Air Quality Management District, ³Sonoma Technology

4:40 PM

A Near-roadway Risk Screening Tool for Urban Planners

Paper#: 12914

D. M. Holstius¹, P. T. Martien², E. Seto³, S. Reid⁴, V. Lau⁵, A. Fanai, D. Vintze⁶, H. Hilken²; ¹UC Berkeley School of Public Health, Berkeley, CA, ²Bay Area Air Quality Management District, San Francisco, CA, ³UC Berkeley School of Public Health, ⁴Sonoma Technology, ⁵Bay Area Air Quality Management District, ⁶Bay Air Quality Management District

5:00 PM

The San Francisco Community Risk Reduction Plan

Paper#: 13165

P. T. Martien¹, V. Lau², R. Bhatia³, J. Range⁴, T. H. Rivard⁵; ¹Bay Area Air Quality Management District, San Francisco, CA, ²Bay Area Air Quality Management District, ³San Francisco Department of Public Health, ⁴San Francisco Planning Department, ⁵San Francisco Department of Public Health, San Francisco, CA

TECHNICAL SESSIONS (continued)

5:20 PM

Local-scale Measurement Studies and Comparison of Modeled Risk Assessments of Industrial Sources in Residential Neighborhoods

Paper#: 13164

E. Stevenson¹, D. Fairley², B. Bateman²; ¹Bay Area Air Quality Management District, San Francisco, CA, ²Bay Area Air Quality Management District

5:40 PM

Local-Scale Measurements: West Oakland Monitoring Study

Paper#: 13162

E. M. Fujita¹, D. Campbell², P. Arnott³, P. Martien⁴, V. Lau⁴; ¹Desert Research Institute, Reno, NV, ²Desert Research Institute, ³University of Nevada, ⁴Bay Area Air Quality Management District

Climate Change Impact-Part 2

SUST-TuesPM2

Room: Columbus CD

6/25/2013 4:00 PM

Platform

TCC: ES-5

Chair: C. Flint Webb, SAIC

Co-Chair: Lauren Miller, CDM Smith

4:00 PM

Assessment of the Effect of Climate Change on the Suez Canal

Paper#: 12448

M. W. Risk¹, A. W. Gertler²; ¹Egyptian Environmental Affairs Agency (EEAA), Cairo, ²Desert Research Institute, Reno, NV

4:20 PM

Greenhouse Gas (GHG) Emissions and Global Warming Potential (GWP) of Ozone Projects in Egypt

Paper#: 12447

M. W. Risk¹, E. Lewis²; ¹Egyptian Environmental Affairs Agency (EEAA), ²Ozone Unit, (EEAA), Cairo, Egypt

4:40 PM

Measurements of Vertical Profiles of CO₂ in the Atmospheric Boundary Layer at a Suburban Site in Summer

Paper#: 12762

Y. Li¹, K. Du¹, Z. Xing², C. Mu¹; ¹Institute of Urban Environment, Chinese Academy of Sciences, Xiamen 361021, China, ²Institute of Urban Environment, Chinese Academy of Sciences, Xiamen 361021, China

5:00 PM

On-line, Cryogen-free Monitoring of Trace-level Ultra-Volatile Compounds

Paper#: 13536

N. M. Watson, D. Wevill; Markes International, Llantrisant

Compliance at Federal Facilities

FEDS-TuesPM2

Room: Grand Suite 5

6/25/2013 4:00 PM

Platform

TCC: EI-1

Chair: Frank Castaneda, United States Air Force

Co-Chair: David Kumar, United States Air Force

4:00 PM

Implementation of a Sustainable Enterprise Environmental Compliance Information Management Solution in the Air Force

Paper#: 13314

B. Allred¹, F. Castaneda²; ¹Northrop Grumman Information Systems, Clearfield, UT, ²Air Force Civil Engineer Center, Lackland AFB, TX

4:20 PM

Treatment of Chelated Industrial Wastes Using Sulfur Redox Chemistry

Paper#: 13554

M. McFarland¹, V. Sackmann²; ¹Utah State University, ²75th ABW/CES-IWTP Hill Air Force Base, Utah

4:40 PM

Demonstrating Compliance with CAA 118(d) in the Air Force

Paper#: 13293

B. Allred¹, F. Castaneda²; ¹Northrop Grumman Information Systems, Clearfield, UT, ²Air Force Civil Engineer Center, Lackland AFB, TX

5:00 PM

Challenges in Maintaining Title V Compliance at a Large Federal Facility (Tinker Air Force Base)

Paper#: 13267

B. P. Daniel¹, B. Ziebro², M. Wheeler³; ¹CH2M Hill, Tinker AFB, OK, ²BZ Solutions, Norman, OK, ³Tinker AFB (72 ABW/CEAN), Tinker AFB, OK

Health & Environmental Effects of Air Toxics

H&EE-TuesPM2

Room: Columbus EF

6/25/2013 4:00 PM

Platform

TCC: AT-3

Chair: Suresh Santanam, Syracuse University

Co-Chair: Kevin Eldridge, Weston Solutions, Inc.

4:00 PM

The Importance of Varying Spatial Levels in GIS Analysis of Environmental Epidemiological Data

Paper#: 13584

S. Senkayi¹, M. L. Sattler²; ¹US Environmental Protection Agency, ²University of Texas at Arlington, Arlington, TX

TECHNICAL SESSIONS (continued)

4:20 PM

Radioactive Elements in Coal Combustion Products

Paper#: 13225

W. R. Roy¹, K. J. Ladwig²; ¹Natural Resource Technology, Inc., Urbana, IL, ²Electric Power Research Institute

4:40 PM

Nanotechnology - What's So Big About the Small Stuff?

Paper#: 13167

W. C. Looney; AECOM, Milwaukee, WI

5:00 PM

Spatiotemporal Dispersion Modeling of the Impact of Copper Smelter Emissions on the Surrounding Communities

Paper#: 13312

M. Dehabadi, M. Dehabadi; Sharif University of Technology

5:20 PM

Hazard Waste Management Programs in Egypt

Paper#: 12490

M. W. Risk¹, F. Abu Shouk¹, A. W. Gertler²; ¹Egyptian Environmental Affairs Agency (EEAA), Cairo, ²Desert Research Institute, Reno, NV

Issues Affecting the Petrochemical and Refining Industries

INDU-TuesPM2

Room: Water Tower

6/25/2013 4:00 PM

Platform

TCC: EI-4

Chair: Ed Fiesinger, Zephyr Environmental Corporation

Co-Chair: Ken Weiss, ERM

4:00 PM

Flare Enforcement - Review of Recent USEPA Flare Enforcement Actions

Paper#: 13098

T. M. Boley; Sage Environmental Consulting, LP, Kennesaw, GA

4:20 PM

Refinery Flares Under New NSPS Ja and Implications

Paper#: 13105

K. Holm; Sage Environmental Consulting, LP, Kennesaw, GA

4:40 PM

Paradigm Shift Regarding Flare Combustion Efficiency

Paper#: 12525

D. G. Kopp; Sage Environmental Consulting, LP

5:00 PM

Winning the President Environmental Stewardship Award Four Times - What is Next?

Paper#: 13198

E. M. El-ayoubi; Saudi Aramco - Abqaiq Plants

NSR Reform-Recent Developments and Issues

REGU-TuePM2

Room: Columbus IJ

6/25/2013 4:00 PM

Panel

TCC: EP-1

Chair: Gary McCutchen, RTP Environmental Associates, Inc.

Co-Chair: Ken Weiss, ERM

NSR permitting will be affected by EPA policy regarding greenhouse gases and implementation policy on a number of issues, including the PM2.5 National Ambient Air Quality Standard, the aggregation rule, and other issues. A panel of experts will discuss major developments in NSR, point out ways that facility operations could be affected by these developments, and identify issues that remain unsettled.

Raj Rao, US EPA

Bill Wehrum, Hunton & Williams LLP

Gary McCutchen, RTP Environmental Associates, Inc.

Ken Weiss, ERM

Power Plant Control Technology-Part 2 (Hg)

MINI-TuesPM2

Room: Grand B

6/25/2013 4:00 PM

Platform

TCC: AE-1, EI-2

Chair: Connie Senior, ADA-ES, Inc.

Co-Chair: Peter Belmonte, ERM

4:00 PM

The Influence of Surface Oxygen Complexes on Mercury Adsorption Behavior of Activated Carbon

Paper#: 13115

J. Luo, Z. Wang, Q. Niu, L. Zhang; College of the Environment & Ecology, Xiamen, Fujian

4:20 PM

Evaluation of Mercury Control Technologies While Oxy-firing Coal

Paper#: 13271

A. R. Fry¹, B. Van Otten², B. Adams, J. Wendt, G. D. Silcox³; ¹Reaction Engineering

International, Salt Lake City, UT, ²Reaction Engineering International, ³University of Utah

4:40 PM

Adsorption Kinetics of Mercuric Chloride Vapor on Cupric Chloride-impregnated Activated Carbon Sorbent

Paper#: 13320

X. Li¹, J. Lee¹, Z. Liu²; ¹University of Cincinnati, Cincinnati, OH, ²University of Cincinnati

TECHNICAL SESSIONS (continued)

Mini-Symposium Poster Presentations

MINI-TuesPM2
Room: Grand B

5:00-6:00 PM

Posters

TCC: AE-1, EI-2

(Mini-Symposium Poster Presentations with Authors Present.
Posters will remain in room from Tues PM1 through Thurs PM2)

Investigation on Commercial Zeolite Adsorbents for CO₂ Capture at Various Concentrations

Paper#: 12891

I. Tao¹, H. Bai¹, S. Li²; ¹Institute of Environmental Engineering, National Chiao Tung University, Hsinchu, ²Green Energy and Environment Research Laboratories, Environmental & Safety Technology Division, Industrial Technology Research Institute, Hsinchu

Low NO_x Coal Combustion Using a Horizontal Cyclone Combustor

Paper#: 12952

S. Shim¹, S. Jeong¹, S. Lee²; ¹Korea Institute of Machinery and Materials, ²Chungbuk National University

Preparation of Platinum-based Catalysts for Fuel Cell Using a Supercritical Fluid Deposition Method: Effects of Reaction Parameters

Paper#: 12889

Y. Lai¹, Y. Chen², M. Chen³; ¹Center for General Education & Supermicro Mass Research and Technology Center, Kaogsiung, ²Sustainable Environment Research Center, National Cheng Kung University, Tainan, ³Department of Chemistry, Chung Yuan Christian University

Recycling Case Studies and Challenges

WAST-TuesPM2

Room: Columbus G

6/25/2013 4:00 PM

Platform

TCC: WM-1

Chair: Chih Chao, WRC International/Sustainable Environment Research

Co-Chair: Sam Vigil, CA Poly. State University

4:00 PM

Assessing the Role of Convenience in Successful Source Separation: Case Studies in the Educational, Institutional, and Commercial Sectors

Paper#: 13560

C. Franklin; WeCare Organics, LLC., Syracuse, NY

4:20 PM

Challenges in Recovering Plastics from Durable Goods in Industrial and Medical Waste Streams

Paper#: 13338

E. Tam¹, S. Sawyer-Beaulieu¹, T. Purdy²; ¹University of Windsor, Civil and Environmental Engineering, Windsor, ON, ²University of Windsor, Civil and Environmental Engineering

4:40 PM

Developing a Sustainable Management Framework of Organic Waste in Eastern Taiwan

Paper#: 12769

M. Su¹, N. Kao², Y. Chen³; ¹National Dong Hwa University, Shoufeng, ²Kun Shan University, Tainan, ³Department of Natural Resources and Environmental Studies, National Dong Hwa University, Shoufeng, Hualien

5:00 PM

Life Cycle Assessment for US Scrap Tire Treatment Methods

Paper#: 12318

R. Feraldi¹, S. Cashman², M. Huff², L. Raahauge³; ¹Franklin Associates, A Division of ERG, Fayetteville, AR, ²Franklin Associates, A Division of ERG, ³Genan Business & Development A/S

5:20 PM

Utilization of Rice Husk (Agricultural Waste) and Used Expanded Polystyrene (Inorganic Waste) in the Production of Particleboards.

Paper#: 12922

I. Ubaldo Espinosa¹, G. D. Singh², E. Trim¹, P. Jaikissoon¹; ¹Faculty of Technology, ²Environmental Protection Agency, Guyana, East Bank Essequibo

Risk Assessment/Management: Methods and Techniques

H&EE-TuesPM2

Room: Columbus H

6/25/2013 4:00 PM

Platform

TCC: EE-5

Chair: Scott Weaver, ERM

Co-Chair: Heidi Rous, PCR Services Corporation

4:00 PM

Healthy Communities Elements: Using Air Dispersion Modeling in Planning Land Use Growth within Communities

Paper#: 12978

M. Hendrix; Atkins North America, Hesperia, CA

TECHNICAL SESSIONS (continued)

4:20 PM

Application of AERMOD to Model Air Toxics Impacts from an Intermodal Freight Facility

Paper#: 13214

S. Zemba¹, C. D. Porter²; ¹CDM Smith, Cambridge, MA, ²Cambridge Systematics, Inc., Cambridge, MA

4:40 PM

Combined Use of AERMOD and GIS Methods for Human Health Risk Assessment

Paper#: 13157

A. Bhat, G. J. Schewe; Trinity Consultants, Covington, KY

5:00 PM

Geocoding and Exposure Errors for Residences near Highways: Application of AERMOD in Detroit, Michigan.

Paper#: 13257

R. Ganguly¹, S. Batterman², M. Snyder³, V. Isakov⁴, C. Against Asthma; ¹Environmental Health Sciences, School of Public Health, University of Michigan, ²University of Michigan, Ann Arbor, ³USEPA, ⁴USEPA, Research Triangle Park, NC

5:20 PM

Update on the Use of Health Impact Assessments for U.S. Project Approvals

Paper#: 13307

M. Weaver¹, J. Baldino²; ¹ERM, Pasadena, CA, ²ERM, Marina Del Rey, CA

Sustainability - Case Studies of Chicago-Area Companies

LOCA-TuesPM2

Room: Grand C North

6/25/2013 4:00 PM

Panel

TCC: ITF, ES-4

Chair: George Nassos, George P. Nassos & Associates

Presentations will be made by representatives of Chicago-area firms identifying their sustainability initiatives, the results and the environmental, social and economic benefits. An integral part of the presentations will be the planning process employed for the sustainability concept to be accepted by management. Speakers will represent small and large firms from the service and manufacturing industries in the greater Chicago area.

Panelists:

- Ron Meissen, Baxter International
- Menno Enters, Walgreen Co.
- Burt Klein, PortionPac Corporation
- Dennis Aust, CharterMast Partners

2013 TECHNICAL PROGRAM GRID - WEDNESDAY, JUNE 26

Wednesday, June 26, 2013						
Industry Focus	Session ID	Session Title	TCC(s)*	Time	Format	Room
Starting at 8:00 am						
		Keynote Presentation		8:00 am- 8:45 am		GRAND BALLROOM EF
		Critical Review – Stratospheric Ozone, Global Warming, and the Principle of Unintended Consequences – An Ongoing Science and Policy Success		9:00 am- 11:50 am		GRAND BALLROOM EF
10:00 am-10:40 am Session Break						
10:00 am-11:50 am						
		Technical Poster Session – Sponsored by Golder Associates		10:00 am- 11:50 am		RIVERSIDE CENTER
11:00 am-1:30 pm Lunch						
1:20 pm-3:00 pm						
	REGU-WedPM1	EPA Regulatory Priorities for 2013-2014	EP-1	1:20 pm- 3:00 pm	Panel	COLUMBUS IJ
	LOCA-WedPM1	Extended Producer Responsibility: Where are we?	EP	1:20 pm- 3:00 pm	Panel	GRAND C NORTH
	AIRS-WedPM1	Indoor Air Quality: Control Methodologies and Case Studies	AB-7	1:20 pm- 3:00 pm	Platform	COLUMBUS H
	AIRS-WedPM1	Optical Sensing for Source and Ambient Monitoring	AO, AM-4	1:20 pm- 2:40 pm	Platform	GRAND SUITE 5
	AIRS-WedPM1	Particulate, Acid Gas, and NOx Control	AE-1, EI-2	1:20 pm- 2:40 pm	Platform	GRAND SUITE 3
	AIRS-WedPM1	PM Modeling & Characterization-Part 1	AB-1	1:20 pm- 2:40 pm	Platform	COLUMBUS EF
	MINI-WedPM1	Renewable Power	EI-2, WM-3	1:20 pm- 2:40 pm	Platform	GRAND B
	SUST-WedPM1	Resource Sustainability and Life Cycle Assessment	ES-4	1:20 pm- 3:00 pm	Platform	WATER TOWER
	LOCA-WedPM1	The 'Greening' of Stormwater and Sewage Management in Major Metropolitan Areas: Case Studies of Midwestern Cities	LHC, WM-3	1:20 pm- 3:00 pm	Panel	COLUMBUS KL
	O&GS-WedPM1	Water Use and Reuse Associated with Unconventional Oil and Gas Exploration and Production	EI	1:20 pm- 3:00 pm	Panel	COLUMBUS AB
	WAST-WedPM1	Zero Waste Systems: Economics, Funding, and Payback	WM-1, ES-4	1:20 pm- 3:00 pm	Panel	COLUMBUS G
3:00 pm-3:40 pm Session Break						
3:40 pm-5:20 pm						
	AIRS-WedPM2	Air Pollution Exposure and Effects	EE-1	3:40 pm- 5:20 pm	Platform	COLUMBUS IJ
	INDU-WedPM2	Air Toxics Regulations and Control- Part 1	AT-1	3:40 pm- 5:40 pm	Platform	WATER TOWER
	WAST-WedPM2	Chicago Waste to Profit Network	WM-1	3:40 pm- 5:20 pm	Panel	COLUMBUS G
	SUST-WedPM2	Climate Change Strategies	ES-5	3:40 pm- 5:20 pm	Platform	COLUMBUS CD
	AIRS-WedPM2	CO2 Capture: Adsorption Processes	AE-1, EI-2	3:40 pm- 5:00 pm	Platform	GRAND SUITE 3
	H&EE-WedPM2	Control of Solvents, Odors and Gases	AE-2	3:40 pm- 5:40 pm	Platform	COLUMBUS H
	LOCA-WedPM2	How are Multiple Sources in an Air Shed Managed and Considered?	EP	3:40 pm- 5:20 pm	Panel	GRAND C NORTH
	LOCA- Wed PM2	Legal Issues Impacting Mid-America	LHC, EP-3	3:40 pm- 5:20 pm	Panel	COLUMBUS KL
	AIRS-WedPM2	Measurement of Air Pollutant Source Emissions	AM-4	3:40 pm- 5:20 pm	Platform	GRAND SUITE 5
	AIRS-WedPM2	PM Modeling & Characterization- Part 2	AB-1	3:40 pm- 5:20 pm	Platform	COLUMBUS EF
	MINI-WedPM2	Regulatory Challenges in U.S. Power Generation	EP-1, EI-2	3:40 pm- 5:40 pm	Platform	GRAND B

*Technical Coordinating Committees – Please refer to page XX for more information on the A&WMA's Technical Council and their meeting times

Program Key			Program Key		
Session ID	Industry/Environmental Focus	Icon	Session ID	Industry/Environmental Focus	Icon
 AIRS	Air-Measurements and Basic Science		O&GS	Oil & Gas Exploration and Production	
 EDUC	Education		REGU	Regulatory	
 ENER	Renewable Energy		SUST	Sustainability	
 FEDS	Federal		TRAN	Transportation	
 H&EE	Health & Environmental Effects		WAST	Waste Management	
 INDU	Heavy Industry and General Manufacturing		LOCA	Local Topic	
 MINI	Mini-symposium on Power Generation		YOUN	Young Professionals	

TECHNICAL SESSIONS (continued)

Wednesday, June 26, 2013

Technical Poster Session

Room: Exhibit Hall
10:00 – 11:50 AM

Applied Sciences

Ammonia Emissions from Native Soils (and Vegetation)

Paper#: 12472
M. M. Milligan¹, K. J. Walsh², A. M. Hasen²; ¹SAIC, Raleigh, NC, ²SAIC

Analysis of June and July 2012 High Ozone Levels in the Southeastern US

Paper#: 13372
R. Brown¹, D. Garver²; ¹US EPA Region 4, Atlanta, GA, ²US EPA Region 4

Characteristics of Surface O₃ over Qinghai Lake Area in Northeast Tibetan Plateau, China

Paper#: 13205
S. Zhenxing, Q. Wang; Xi'an Jiaotong University, China, Xi'an

Characterization of Sinter Plant Stack Emissions Related to Plume Visibility

Paper#: 13249
G. C. England, G. Correa Abreu, L. Correa Magalhaes, B. Enne Correa da Silva, S. M. Pinto, R. Henrique Pedrini, M. Edgardo Surignar, B. E. Dumdei, PhD, M. De Moura; ENVIRON International Corporation, Irvine, CA

Comparing the Real-time Performance of Aethalometer AE51 with AE31 at a Traffic Site

Paper#: 12758
Y. Cheng¹, M. Lin²; ¹Department of Safety, Health and Environmental Engineering, Ming Chi University of Technology, New Taipei, ²Department of Safety, Health and Environmental Engineering, Ming Chi University of Technology

Computational Tools Development for Handle of Environmental Databases Study Case, Urban Agriculture System in México City

Paper#: 13232
C. E. Carreon¹, E. Gutierrez², E. Perez¹, R. Tovar; ¹CIEMAD-IPN, México, D.F., ²Centro Interdisciplinario de Investigaciones y Estudios Sobre Medio Ambiente y Desarrollo, IPN, Mexico, DF

Effect of Ozone Concentration and Relative Humidity on Adsorption/Photocomposition Efficiency of Gaseous Odorous Compounds via Cu-Mesoporous Titania

Paper#: 12808
Y. Lin; Department of Environmental Engineering and Health, Yuanpei University, Hsin-Chu city, TAIWAN

Equilibrium of 17 Volatile Organic Compounds in a Closed System

Paper#: 13556
J. Woo¹, N. Kang², Y. Kim³; ¹Korea Research Institute of Standards and Science(KRISS), Daejeon, ²KRISS, ³Korea Research Institute of Standards and Science, Daejeon

Evaluation of Combustion Gases and Particle Matter Emission from a Vehicle Using Diesel and Biodiesel Under NEDC Driving Cycle

Paper#: 13291
F. Cereceda¹, M. Lapuerta², R. Ballesteros³, B. Zielinska⁴, V. Vidal⁵, V. Vidal⁵; ¹Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Valparaíso, ²Universidad de Castilla-La Mancha, Ciudad Real, ³Universidad de Castilla-La Mancha, ⁴Desert Research Institute, Reno, NV, ⁵Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María

Investigation of Black Carbon Emission Factors from Gasoline Vehicles Under Different Vehicle Driving Conditions

Paper#: 12946
Y. Wang¹, K. DU², S. Zhao³, Z. Xing⁴, C. Mu², C. Mu²; ¹Institute of Urban Environment, Chinese Academy of Sciences, ²Institute of Urban Environment, Chinese Academy of Sciences, Xiamen 361021, China, ³Institute of Urban Environment, Chinese Academy of Sciences, ⁴Institute of Urban Environment, Chinese Academy of Sciences, Xiamen 361021, China

Measurement of Gas and Particulate Amines at a Dairy Operation

Paper#: 13506
P. J. Silva; USDA-ARS, Bowling Green, KY

Methane Emissions from Landfill in Mexico Using Satellite Images

Paper#: 12822
J. A. Cortez¹, E. Gutierrez², L. R. Tovar², R. Diaz; ¹Centro Interdisciplinario de Investigaciones y Estudios sobre Medio Ambiente y Desarrollo, Mexico, ²Centro Interdisciplinario de Investigaciones y Estudios Sobre Medio Ambiente y Desarrollo, IPN, Mexico, DF

Performance of a New Dry Sampler for Isocyanates

Paper#: 12911
J. L. Brown¹, O. I. Shimelis¹, E. R. Barrey¹, M. R. Halpenny², K. L. Schultz¹; ¹Sigma-Aldrich/Supelco, Bellefonte, PA, ²Bellefonte, PA

Pesticide Application Emissions Inventory Enhancement Project

Paper#: 12910
J. A. Maldonado¹, T. Pella², C. Wu³, H. C. Lindquist⁴; ¹TranSystems Corporation, Springfield, VA, ²CenSARA, ³Minnesota Pollution Control Agency, St. Paul, MN, ⁴TranSystems Corporation, Redwood City, CA

TECHNICAL SESSIONS (continued)

Seasonal Variation of Black Carbon and Particle Number Levels in Taipei Urban Area: A Five Years Long-term Observation

Paper#: 12756

Y. Cheng¹, M. Lin², Y. Kao², J. Liu³; ¹Department of Safety, Health and Environmental Engineering, Ming Chi University of Technology, New Taipei, ²Department of Safety, Health and Environmental Engineering, Ming Chi University of Technology, ³Department of Environmental Monitoring and Information Management, Environmental Protection Administration

Study on Particulates and VOCs Removal with TiO₂ Non-woven Filter Prepared by Electrospinning

Paper#: 13611

Y. Chuang¹, C. Chang¹, G. Hong², F. Cheng; ¹National Ilan University, ²St. Mary's Medicine, Nursing and Management College

Utilizing Nonparametric Wind Regression to Determine Potential Source Contributions in Gary, IN

Paper#: 13021

M. Rizzo, F. Lname³; Environmental Protection Agency - Region 5, Chicago, IL

Basic Sciences

A Pilot Study to Characterize Particulate Matter Inside and Outside a Farm House Located near Biosolids Applied Fields

Paper#: 13033

S. Velagapudi¹, A. Kumar²; ¹The University of Toledo, Toledo, Ohio, ²The University of Toledo, Toledo, Ohio, Toledo, OH

Analysis of Particulate Matter from the Exhaust of Biodiesel Transit Buses under Idling Conditions

Paper#: 13431

H. Omidvarborna¹, A. Kumar², D. Kim¹, K. Shandilya; ¹University of Toledo, Toledo, OH, ²The University of Toledo, Toledo, Ohio, Toledo, OH

CHNS Analysis of Aerosols on a Modified Thermal/Optical Carbon Analyzer: System Setup and Calibration Protocol

Paper#: 70006

Y. Xufei

Development of an Operational Regime by Using the Joint Probability of Adverse Meteorological Conditions and Emission Variations at the Ontario Power Generation Nanticoke GS

Paper#: 13001

L. Hong

Development of Certified Reference Materials for Low ppm-level Hydrogen Sulfide

Paper#: 13540

Y. Kim¹, J. Woo², N. Kang³, G. Heo³, J. Lee⁴, S. Oh; ¹Korea Research Institute of Standards and Science, Daejeon, ²Korea Research Institute of Standards and Science(KRISS), Daejeon, ³Korea research institute of Standards and Science, Daejeon, ⁴Chungnam National University, Daejeon

Elemental Profiles and Fingerprints of Fugitive Dusts in Chinese Deserts

Paper#: 13204

R. Zhang¹, J. Cao²; ¹Institute of Earth Environment, Chinese Academy of Sciences, China, ²Institute of Earth Environment, Chinese Academy of Sciences

Green Belt versus Wind Fence - A Comparison of Dust Emission Control Efficiency Using Computational Fluids Dynamics Modeling at the ArcelorMittal Tubarão Coal Yard.

Paper#: 13179

B. E. Silva¹, L. C. Magalhaes², G. C. Abreu², A. Lyrio³, G. Muleski; ¹ArcelorMittal Tubarão, ²ArcelorMittal Tubarão, Serra - ES, ³Ecosystem Cons. em Meio Ambiente Ltda

Field, PM_{2.5} Chemical Speciation, and Source Attribution Studies Lead to Voluntary Measures that Successfully Reduce Neighborhood PM_{2.5} Levels North of the Houston Ship Channel

Paper#: 13020

R. J. Tropp¹, S. D. Kohl², A. L. Chen¹, D. W. Sullivan³, J. H. Price⁴; ¹Desert Research Institute, Reno, NV, ²Desert Research Institute, Reno, ³The University of Texas at Austin, Austin, TX, ⁴Texas commission on Environmental Quality, Austin, TX

Influence of Particulate Matter Air Pollution on High Mountain Glaciers: Concentration and Size Distribution Determination

Paper#: 13288

F. Cereceda¹, V. Vidal², M. I. Funes³, F. Guerrero², V. Vidal²; ¹Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Valparaiso, ²Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, ³Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Quillota

Sensitivity Analysis of Area Source Dispersion Models in Predicting Near-field Concentrations

Paper#: 13101

P. Nimmatoori¹, A. Kumar²; ¹The University of Toledo, Toledo, OH, ²The University of Toledo, Toledo, Ohio, Toledo, OH

TECHNICAL SESSIONS (continued)

Spatial and Seasonal Variations of Mass and Chemical Composition for PM10 in Xi'an, China

Paper#: 13210

T. Zhang¹, J. Cao²; ¹Institute of Earth Environment, Chinese Academy of Sciences, Xi'an, ²Institute of Earth Environment, Chinese Academy of Sciences

Volatilization from Dredged Material: Comparison of Modeling Results to Monitoring Results

Paper#: 12823

R. Parmelee, S. Dunn, T. Berceli-Boyle, G. Stephenson, P. Bluestein; ARCADIS, Highlands Ranch, CO

Effects & Exposure

Expired Drugs: An Emerging Environmental Problem

Paper#: 13391

E. Ramirez-Lara¹, S. Gracia-Vasquez², I. Camacho-Mora³, Y. Gracia-Vasquez¹, A. I. Ramirez Castillo⁴; ¹Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, San Nicolás de los Garza, Nuevo León, ²Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, San Nicolás de los Garza, Nuevo León, ³Universidad Autónoma de Nuevo León, Facultad de Ciencias Químicas, Nuevo León, ⁴Faculty of Biology, UANL, México, San Nicolás de los Garza

Leaching Characteristics of Recycled Asphalt Pavement Used as Road Base

Paper#: 13170

J. Ma¹, T. Edil², C. Benson³, J. Chen⁴, S. Bradshaw⁴; ¹School of Environment, Beijing Normal University, Beijing, ²Department of Civil and Environmental Engineering, College of Engineering, University of Wisconsin-Madison, ³Department of Civil and Environmental Engineering, College

Industrial, Government, and Public Sectors

Assessment of Common Pollutants in Air and Soil Around Asphalt Manufacturing Company in Owerri Imo State

Paper#: 13059

M. L. Udochi¹, M. U. Dike², N. Joseph; ¹Institutional Education, Owerri, ²Institution

NAAQS Emission Modeling Impacts to Businesses

Paper#: 12918

T. Mumm

Municipal, Medical & Hazardous Waste Management

Alkaline Hydrolysis of Explosives in Contaminated Soils from Shooting and Artillery Ranges in South Korea

Paper#: 13212

S. Oh, D. Shin, H. Yoon; University of Ulsan, Ulsan

Anaerobic Removal of Disinfection By-product Using Trickle bed Bio-filtration

Paper#: 12842

G. Sorial, PhD¹, E. Sahle-Demessie, PhD, A. Aly Hassan, PhD, B. Mezgebe²; ¹University Of Cincinnati, Cincinnati, OH, ²University of Cincinnati, Cincinnati, OH

Anaerobic Treatment and Hydrocarbon Seepage Control Using Stream Morphology

Paper#: 12529

J. Binder; Burns & McDonnell Engineering, Kansas City, MO

Assessment of Climate Change Mitigation Actions in Mexico

Paper#: 13317

V. Mugica¹, L. Ramos², A. Hernández-Moreno², J. Figueroa², M. Torres²; ¹Universidad Autónoma Metropolitana-Azcapotzalco, México City, ²Universidad Autónoma Metropolitana-Azcapotzalco, Mexico City

Comparison of the Antibacterial Efficiency of Ozone and Plasma System

Paper#: 13195

H. Hung¹, C. Chang², B. Ni, B. Ni, F. Chen; ¹Department of Environmental Engineering and Health, Yuanpei University, Hsinchu, ²Department of Environmental Engineering and Health, Yuanpei University

Conditioning of Waste Sludge with Microbial Flocculant M-C11

Paper#: 12992

J. Liu¹, J. Ma², Y. Yang³, Y. Liu¹; ¹Environmental science, Beijing, ²School of Environment, Beijing, ³Environmental science

Determination and Validation of a Simple Analytical Method for Quantitative Determination of Volatile Methyl Siloxanes

Paper#: 12993

D. Kim, S. Lee; Seoul National University of Science and Technology, Seoul

In-Situ Waste Characterization and Disposal, Phase I Non-Time Critical Removal Action in the Lower Passaic River

Paper#: 12846

B. R. Bonkoski¹, R. L. Parmelee², S. Dunn; ¹Arcadis, Portland, OR, ²ARCADIS

TECHNICAL SESSIONS (continued)

Memory Effect by Long-period Continuous Adsorption Method for Dioxin Sampling from Municipal Waste Incinerator and Sinter Plant

Paper#: 13526

S. Lin¹, F. Chang², L. Wang³, G. Chang-Chien²; ¹Super Micro Mass Research and Technology Center, Cheng Shiu University, Kaohsiung, ²Super Micro Mass Research and Technology Center, Cheng Shiu University, ³Department of Civil Engineering and Engineering Informatics, Cheng Shiu University

Phosphate Removal from Aqueous Solution Using Slag and Fly Ash

Paper#: 12847

S. M. Ragheb¹, E. Ragheb²; ¹Building & Housing National Resreash Center, Cairo, ²Agricultural Research center

Solidification/Stabilization of Municipal Solid Waste Incinerator Fly Ashes by Using Geopolymer Materials

Paper#: 13570

Ming-Sheng Ko, Y. Chen, W. P.Shou

Program Administration & Transportation

Automation of Air Quality Permitting and Compliance to Increase Efficiency Consistency and Industry Service

Paper#: 12488

J. Chiladakis¹, J. A. Williams², J. Roselle³, J. A. Williams², J. Chiladakis¹, J. Roselle³; ¹Bay Area Air Quality Management District, San Francisco, ²Bay Area Air Quality Management District, San Francisco, CA, ³Bay Area Air Quality Management District

Complexity of Reciprocating Internal Combustion Engine (RICE) Rules (40 CFR 63 Subpart ZZZZ) - An Industry Perspective

Paper#: 13193

B. A. Storey¹, R. V. Iyer²; ¹Golder Associates Inc., Gainesville, FL, ²Golder Associates, Inc, Gainesville, FL

Highway Air Quality Modeling on Mac OS X

Paper#: 13354

M. Claggett; Unaffiliated, Santa Fe, NM

Sustainability and Resource Conservation

Carbon Capture Storage and Utilization Using Algae

Paper#: 12712

O. D. Hurtado; SNC LAVALIN INC., Environment Division, Calgary, AB

Control of Airborne Microorganisms in Swine Manure Composting Using Naturally Derived Control Agents

Paper#: 12888

D. Kim, K. Kim, I. Kim, G. Oh; Seoul National University of Science and Technology, Seoul

Developing an Enhancing Awareness Program of Electronic Waste Recycling in Taiwan

Paper#: 13569

Y. Chen, M. Su; Department of Natural Resources and Environmental Studies, NDHU

Evaluating Solar Glare Impacts From Proposed Solar Projects at Airports

Paper#: 12509

P. DeVita¹, S. Barrett²; ¹Harris Miller Miller & Hanson Inc., Burlington, MA, ²Harris Miller Miller & Hanson Inc.

Grow Your Garden (Shrink Your Carbon Footprint)

Paper#: 12923

H. Eliff¹, R. H. Osa²; ¹Environmental Resources Management, Rolling Meadows, IL, ²Environmental Resources Management, Rolling Meadows, IL of Engineering, University of Wisconsin-Madison, WI, ⁴Department of Civil and Environmental Engineering, College of Engineering, Univecity of Wisconsin-Madison

Sorption of Copper Ions by a Tobermorite-Based Sorbent Synthesized from Desulfurization Slag

Paper#: 12950

Y. Chen¹, J. Chang², M. Ko³, Y. Lai⁴; ¹Sustainable Environment Research Center, National Cheng Kung University, Tainan, ²Department of Environmental Engineering, National Cheng Kung University, ³Department of Materials and Mineral Resources Engineering, National Taipei University of Technology, ⁴Center for General Education & Supermicro Mass Research and Technology Center, Kaogsiung

Study of the Possibility of Reuse of the Landfill Waste by the BMP Test, AT4

Paper#: 13396

J. Chung¹, H. Gong², S. Kim³, K. Oh⁴, . Lim⁵; ¹Department of Environmental Engineering, Asan,Chungnam, ²Department of Semiconductor & Display Engineering, Hoseo University, Asan, Chungnam, ³Bio & Environmental Center, Hoseo Universtity, Asan, Chungnam, ⁴Department of Fusion Technology for Climate Change, Hoseo University, Asan, Chungnam, ⁵Department of Environmental Engineering, Hoseo University, Asan, Chungnam

Teaching Sustainability, One Rag at a Time

Paper#: 12409

T. J. Hogan; Northern Illinois University, DeKalb, IL

EPA Regulatory Priorities for 2013-2014

REGU-WedPM1

Room: Columbus IJ

6/26/2013 1:20 PM

Panel

TCC: EP-1

Chair: David Jordan, ERM

EPA staff are working on new regulatory initiatives in a number of different areas. This panel will provide USEPA with the opportunity to present an update on the status of these initiatives. A state/local representative and industry representative will offer their perspectives on EPA's priorities.

TECHNICAL SESSIONS (continued)

Panelists:

- Janet McCabe, USEPA (invited)
- Laurel Kroack, Illinois Environmental Protection Agency
- Linda Farrington, Eli Lilly and Company

Extended Producer Responsibility: Where are we?

LOCA-WedPM1

Room: Grand C North

6/26/2013 1:20 PM

Panel

TCC: EP

Chair: Tej Gidda, CRA

Panelists:

- Tej Gidda, CRA
- Duncan Bury, EPR
- Paul Steenhof, Canada Standards Association Group

Indoor Air Quality: Control Methodologies and Case Studies

AIRS-WedPM1

Room: Columbus H

6/26/2013 1:20 PM

Platform

TCC: AB-7

Chair: Suresh Santanam, Syracuse University

Co-Chair: Mike McGinley, St. Croix Sensory, Inc.

1:20 PM

High-temperature Short-time Disinfection of Bioaerosols Using Infrared Radiation

Paper#: 13087

B. Damit¹, C. Wu², M. Yao³; ¹University of Florida, ²University of Florida, Gainesville, FL, ³Peking University

1:40 PM

Evaluation of the Foamed Nickel Photocatalyst Filters on the Efficiency of HCHO and TVOC Removal

Paper#: 12931

S. Liu¹, C. Tseng², H. Wang², Y. Chao², S. Kang²; ¹National Taipei University of Technology, Taipei, ²National Taipei University of Technology

2:00 PM

Evaluation the Ventilation Enhancement at the Office Building in Electronics Industry

Paper#: 12990

Y. Wang¹, K. Huang², C. Tseng², H. Wang², Y. Shih², S. Kang², S. Kang²; ¹National Taipei University of Technology, Taipei, ²National Taipei University of Technology

2:20 PM

Application and Validation of an Indoor Air Quality Model in an Industrial Building

Paper#: 13247

T. Wang; Weaver Boos Consultants North Central, LLC, Chicago, IL

2:40 PM

Dynamic Sampling of Cabin VOCs during the Mission Operations Test of the Deep Space Habitat

Paper#: 13365

J. Cornish¹, O. Monje²; ¹Gasmet Technologies, Bellingham, WA, ²NASA

Optical Sensing for Source and Ambient Monitoring

AIRS-WedPM1

Room: Grand Suite 5

6/26/2013 1:20 PM

Platform

TCC: AO, AM-4

Chair: Chang-fu Wu, National Taiwan University

Co-Chair: Shagun Bhat, ENVIRON

1:20 PM

Measurement of Plume Opacity using Smartphones and the Digital Optical Method (DOM)

Paper#: 12336

W. Yuen¹, M. J. Rood², S. Koloutsou-Vakakis³, K. Mattison; ¹University of Illinois, Urbana, IL, ²Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL, ³University of Illinois at Urbana-Champaign, Urbana, IL

1:40 PM

Effects of Targeted Emissions Reductions on Steel Mill Sinter Plant Stack Plume Visibility

Paper#: 13251

G. C. England¹, G. C. Abreu², L. C. Magalhaes², S. M. Pinto², R. H. Pedrini², I. Soella, G. Yarwood³, B. Dumdei, M. Moura; ¹ENVIRON International Corporation, Irvine, CA, ²ArcelorMittal Tubarão, Serra - ES, ³ENVIRON

2:00 PM

Aeromap: LiDAR as a Tool for Dust Mapping, Monitoring, and Control

Paper#: 13519

D. Cantin¹, S. Turbide¹, J. Joy², P. Cottin¹, F. Châteauneuf³; ¹INO, Quebec, PQ, ²National Institute for Occupational Safety and Health, Pittsburgh, PA, ³INO, Quebec City, PQ

2:20 PM

Using Lidar to Measure Whole Facility Particulate Emissions

Paper#: 13602

M. Wojcik¹, K. D. Moore¹, R. Martin², J. Hatfield³, J. Preuger³; ¹Space Dynamics Laboratory, North Logan, UT, ²Utah State University, ³National Laboratory for Agriculture and the Environment

TECHNICAL SESSIONS (continued)

Particulate, Acid Gas, and NOx Control

AIRS-WedPM1

Room: Grand Suite 3

6/26/2013 1:20 PM

Platform

TCC: AE-1, EI-2

Chair: Tom Turner, Turner EnviroLogic

Co-Chair: Bob Soffle

1:20 PM

Baghouse Failures: Applying the Weibull Distribution to Estimate Bag Failure Emissions as a Function of Time

Paper#: 12112

R. R. Dupont¹, J. D. McKenna², L. Theodore³; ¹Utah Water Research Laboratory, Utah State University, Department of Civil and Environmental Engineering, Logan, UT, ²ETS, Inc., Roanoke, VA, ³Theodore Tutorials and Mahanttan College, East Williston, NY

1:40 PM

Absorption of Nitric Oxide into Ammoniacal Cobalt(II)

Solution: Effect of Oxygen

Paper#: 13322

Z. Tan¹, H. Yu²; ¹Department of Mechanical and Mechatronics Engineering, University of Waterloo, Waterloo, ON, Canada, ²University of Waterloo, Waterloo, ON

2:00 PM

Catalytic NO Oxidation by Aluminosilicate Molecular Sieves

Paper#: 12406

Z. Zhang¹, J. D. Atkinson², M. J. Rood³, Z. Yan⁴, H. Song; ¹State Key Laboratory of Heavy Oil Processing, Key Laboratory of Catalysis CNPC, China University of Petroleum, Qingdao 266580 CHINA, Urbana, IL, ²Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, ³Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL, ⁴State Key Laboratory of Heavy Oil Processing, Key Laboratory of Catalysis, CNPC, China University of Petroleum, Qingdao 266580 CHINA

2:20 PM

Reducing Sulfur Emissions from Refinery Fuel Gas, Sulfur Recovery and Tail Gas Applications

Paper#: 12510

M. Pham¹, J. Chen², R. G. Kunz³, J. D. McKenna⁴, P. P. Norton⁵; ¹South Coast Air Quality Management District, Diamond Bar, CA, ²South Coast Air Quality Management District, ³RGK Environmental Consulting, L.L.C., Hillsborough, NC, ⁴ETS, Inc., Roanoke, VA, ⁵Norton Engineering Consultants, Inc., Boonton, NJ

PM Modeling & Characterization-Part 1

AIRS-WedPM1

Room: Columbus EF

6/26/2013 1:20 PM

Platform

TCC: AB-1

Chair: Howard Balentine, AECOM

Co-Chair: Jim Flanagan, RTI International

1:20 PM

The Effect of Vertical Layer Collapsing in Air Quality Modeling

Paper#: 12542

S. Lee¹, J. Cassmassi, X. Zhang²; ¹South Coast Air Quality Management District, Diamond Bar, CA, ²SCAQMD

1:40 PM

Source Apportionment of Ultrafine Particles in Temuco, Chile, Using Chemical Mass Balance Receptor Modeling and MOUDI Sampling

Paper#: 12908

L. A. Diaz-Robles¹, C. Gaete², C. A. Varela², J. Fu³, G. Reed³, F. Cereceda-Balic, P. Wakabayashi; ¹Catholic University of Temuco, Chile, Temuco, ²Catholic University of Temuco, ³University of Tennessee, Knoxville, TN

2:00 PM

Semi-Continuous Metals Monitoring and Source Apportionment in the Industrial Midwest

Paper#: 13155

M. P. Caudill¹, M. Rizzo², J. McGrath³; ¹U.S. Environmental Protection Agency, Chicago, IL, ²Environmental Protection Agency - Region 5, Chicago, IL, ³U.S. Environmental Protection Agency

2:20 PM

Source Apportionment of PM_{2.5} For Supporting Control Strategies in the Monterrey Metropolitan Area, Mexico

Paper#: 13190

G. Meija¹, M. Martinez-Cinco²; ¹TECNOLOGICO DE MONTERREY, Monterrey, Nuevo Leon, Mexico, ²Universidad Michoacana San Nicolas de Hidalgo

Renewable Power

MINI-WedPM1

Room: Grand B

6/26/2013 1:20 PM

Platform

TCC: EI-2, WM-3

Chair: Alan Gertler, Desert Research Institute

Co-Chair: David Minott, Arc5 Environmental Consulting

TECHNICAL SESSIONS (continued)

1:20 PM

Developing a Renewable Energy Portfolio at a Wastewater Treatment Plant with Power Purchase Agreements

Paper#: 12036

J. Pompa¹, P. Cambiaso²; ¹Inland Empire Utilities Agency, Chino, CA, ²Inland Empire Utilities Agency

1:40 PM

Inside the Fence Renewable Energy - Turn Your Power Load into an Asset

Paper#: 12917

M. Zebell¹, J. Clancy²; ¹Environmental Resources Management, WI, ²Godfrey & Kahn, S.C., Milwaukee, WI

2:00 PM

Biomass Gasification - A Sustainable Energy Alternative

Paper#: 13356

H. G. Rao; Rao Consulting Services Inc., Barrington, IL

2:20 PM

Siting of Solar Power Projects on Brownfields: How Much Environmental Diligence is 'Due' and Lessons Learned

Paper#: 11729

C. M. Denton¹, B. A. Douglas², J. G. Entin³; ¹Barnes & Thornburg LLP, Grand Rapids, MI, ²Barnes & Thornburg LLP, Atlanta, GA, ³ENVIRON International Corporation, Princeton, NJ

Resource Sustainability and Life Cycle Assessment

SUST-WedPM1

Room: Water Tower

6/26/2013 1:20 PM

Platform

TCC: ES-4

Chair: Juan Gil Donato, West Texas A&M University

Co-Chair: Val Dzitsiuk, AAI Corporation

1:20 PM

GEAR Tool: A Customizable Greenhouse Gas Reduction Strategy Decision Support Tool

Paper#: 13000

L. M. Miller; CDM Smith, Cambridge, MA

1:40 PM

Assessment of Alternative Organic Waste Treatment Methods from a Life Cycle Greenhouse Gas Perspective - Anaerobic Digestion versus Incineration of Source-separated Organics

Paper#: 13013

M. Radulescu¹, T. Gidda², T. Bogoslawski²; ¹P.Geo, Windsor, ON, ²P.Eng., Waterloo, ON

2:00 PM

Environmental Footprinting of Beef Production in Alberta - A Life Cycle Analysis

Paper#: 13028

M. Radulescu¹, T. Gidda², T. Bogoslawski²; ¹P.Geo, Windsor, ON, ²P.Eng., Waterloo, ON

2:20 PM

What is ISO 14040 and Why Environmental Professionals Should Know/Use Life Cycle Assessment (LCA)

Paper#: 13474

S. Blenis; Entec Services, Mobile, AL

2:40 PM

Sustainability and Large Scale Aerobic Processing of Organic Waste

Paper#: 12450

R. Aho; MCSWMA A&WMA member, Marquette, MI

The Greening of Stormwater and Sewage Management in Major Metropolitan Areas: Case Studies of Midwestern Cities

LOCA-WedPM1

Room: Columbus KL

6/26/2013 1:20 PM

Panel

TCC: LHC, WM-3

Chair: James Harrington, Green SEED Energy

Co-Chair: Lee Lundberg, Veolia Water NA

Metropolitan waste water and storm water districts have traditionally devoted their efforts to collecting and treating their wastes through conventional civil engineering works. More recently, progressive districts such as those presenting here have added substantial emphasis on sustainable practices to control air pollution, solid waste, energy consumption and production, as well as reducing the impacts of storm water runoff on and from their operations. This panel will highlight how three different urban areas in the Lake Michigan basin have and are approaching sustainability within their service areas including their visions for the futures of their agencies.

High-level representatives of each of the three districts will provide insight into their approaches in addressing these issues.

Panelists:

- James Harrington, Green SEED Energy
- David St. Pierre, The Water Reclamation District of Greater Chicago
- Keven Shafer, Milwaukee Metropolitan Sewerage District
- Eric Horvath, Director of Public Works
- Luis Montestruque (EmNetm LLC) - Invited

TECHNICAL SESSIONS (continued)

Water Use and Reuse Associated with Unconventional Oil and Gas Exploration and Production

O&GS-WedPM1

Room: Columbus AB



6/26/2013 1:20 PM

Panel

TCC: EI

Chair: Cindy Smiley, Smiley Law Firm

Experts representing a diversity of perspectives will discuss current technical and regulatory issues associated with the sourcing, usage, treatment and management of water used in unconventional oil and gas exploration and production activities. Panelists will discuss water quality and water quantity issues associated with hydraulic fracturing in shale plays, and they will share their observations and experiences in various geographic areas within the United States.

Panelists:

- Moderator: Cindy Smiley, Smiley Law Firm
 - Dan Mueller, EDF
 - Michael Ziri, Illinois Department of Natural Resources
 - John Williams, Terra Services
 - Richard Bowers, GSI Environmental
 - Walter Dale, Halliburton
-

Zero Waste Systems: Economics, Funding, and Payback

WAST-WedPM1

Room: Columbus G

6/26/2013 1:20 PM

Panel

TCC: WM-1, ES-4

Chair: Maggie Clarke, Maggie Clarke Environmental

Co-Chair: Chih Chao, WRC International/Sustainable Environment Research

Waste-To-Energy and landfills represent technologies that one can visualize and execute calculations on financial returns, making it easier to attract investments. A city might want to undertake zero waste, but a WTE company has complete information on cost for each year and how much of the waste stream they can take. Zero waste, on the other hand, is a concept and policy approach, which requires a mixture of legislative, billing, programmatic, and technological measures including legislative prevention initiatives (bans, design for environment, Extended Producer Responsibility), improved billing (e.g., Pay-as-you-throw), reuse (centers, exchanges, etc), recycling and composting (collection, processing), involving public-private partnerships, advanced education, mandates, enforcement, etc. to make it happen. There is no zero waste company or any calculation of costs and because participation is a wild card, the amount and type of discards taken by each program, legislative initiative, is also uncertain.

In order to know when a breakeven would take place for any particular town is very important information. In the absence of compelling mandates with fines, and without information on return on investment, most towns might not risk undertaking zero waste.

Panelists:

- Maggie Clarke, Maggie Clarke Environmental
 - Juri Freeman, Skumatz Economic Research Associates
 - Ann Nicklin, Building Materials Reuse Association
 - William Merry, Monterey Regional Waste Management District
 - Chih Chao, WRC International/Sustainable Environment Research
-

Air Pollution Exposure and Effects

AIRS-WedPM2

Room: Columbus IJ

6/26/2013 3:40 PM

Platform

TCC: EE-1

Chair: Jim Morrow, J.W. Morrow

Co-Chair: Bhaskar Kura, The University of New Orleans

3:40 PM

Improving Exposure Estimates of Traffic-Related Air Pollutants

Paper#: 13241

S. Batterman¹, M. Breen², R. Ganguly³, J. Burke⁴, T. Robins, T. Lewis, V. Isakov, M. Synder, E. Ramirez, W. Brakefield-Caldwell; ¹University of Michigan, Ann Arbor, ²USEPA, ³Environmental Health Sciences, School of Public Health, University of Michigan, ⁴USEPA, Durham, NC

4:00 PM

Sensitivity Analysis of Dispersion Model Results in the NEXUS Health Study due to Uncertainties in Traffic-related Emissions Inputs

Paper#: 13328

M. Snyder¹, S. Arunachalam², V. Isakov³, D. Heist⁴, S. Batterman⁵, K. Talgo, R. Ganguly⁶, P. Harbin, R. Ganguly⁶, P. Harbin; ¹U.S. EPA, Research Triangle Park, NC, ²Institute for the Environment, The univeristy of North Carolina, ³USEPA, Research Triangle Park, NC, ⁴U.S. EPA, ⁵University of Michigan, Ann Arbor, ⁶Environmental Health Sciences, School of Public Health, University of Michigan

4:20 PM

Comparison of Predicated Exposures versus Ambient Fine Particulate Matter Concentrations

Paper#: 12828

H.C. Frey¹, W.Jiao², ¹Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC, ²North Carolina State University, Raleigh, NC

4:40 AM

Comprehensive Ozone Forecasting Model Using Neural Networks

Paper#: 13003

G. R. Eapi, M. T. Manry, M. L. Sattler; University of Texas at Arlington, Arlington, TX

TECHNICAL SESSIONS (continued)

5:00 PM

Climate Change Effects on Aero-allergenic Pollen Dynamics in US

Paper#: 13617

Y. Zhang¹, L. Bielory², P. Georgopoulos¹; ¹EOHSI, A Joint Institute of UMDNJ-RW Johnson Medical School & Rutgers University, ²Center for Environmental Prediction, Rutgers University, Springfield, NJ

Air Toxics Regulations and Control-Part 1

INDU-WedPM2

Room: Water Tower

6/26/2013 3:40 PM

Platform

TCC: AT-1

Chair: Paul Siebert, Weston Solutions, Inc.

Co-Chair: Kevin Eldridge, Weston Solutions, Inc.

3:40 PM

Boiler MACT: The Risk of Delay and the Logistics of Meeting Emission Limits

Paper#: 13240

F. Webb¹, P. Josephson²; ¹SAIC, McLean, VA, ²U.S. Army Environmental Command, Fort Sam Houston, TX

4:00 PM

Area Source NESHAP Implementation Challenges

Paper#: 13574

C. Blume¹, K. Kwok²; ¹GaiaTech, Inc., Chicago, IL, ²GaiaTech, Inc.

4:20 PM

Risk-Based Regulation of Air Toxics

Paper#: 13230

J. Duckett; SNC-Lavalin America Inc, Pittsburgh, PA

4:40 PM

Mechanisms on Adsorption of Vapor-Phase HgCl₂ with Innovative Composite Activated Carbons Impregnated with Na₂S and SO

Paper#: 12757

I. Ie¹, H. Shen, C. Yuan², W. Chen³, C. Hung⁴; ¹Institute of Environmental Engineering, National Sun Yat-Sen University (No. 70, Lian-hai Road, Kaohsiung City 804, Taiwan, R.O.C.), Kaohsiung, ²Kaohsiung, ³Institute of Environmental Engineering National Sun Yat-sen University 70, Lian-Hi Road, Kaohsiung 804, Taiwan R.O.C, ⁴+886-7-6011000 ext 2320

5:00 PM

Adsorptive Destruction of Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans Using Functionalized Activated Carbon

Paper#: 12466

J. D. Atkinson¹, P. Hung², Z. Zhang³, M. Chang², Z. Yan⁴, M. J. Rood⁵; ¹Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, ²Graduate Institute of Environmental Engineering, National Central University, Chungli City, TAIWAN, ³State Key Laboratory of Heavy Oil Processing, Key

Laboratory of Catalysis CNPC, China University of Petroleum, Qingdao 266580 CHINA, Urbana, IL, ⁴State Key Laboratory of Heavy Oil Processing, Key Laboratory of Catalysis, CNPC, China University of Petroleum, Qingdao 266580, CHINA, ⁵Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL

5:20 PM

Best Management Practices to Prevent and Control Hydrogen Sulfide Emissions at Landfills that Accept Gypsum Drywall

Paper#: 13209

J. T. Powell, S. Sikora, T. Tolaymat, T. Townsend, C. Northeim; Innovative Waste Consulting Services, LLC, Gainesville, FL

Chicago Waste to Profit Network

WAST-WedPM2

Room: Columbus G

6/26/2013 3:40 PM

Panel

TCC: WM-1

Chair: Kieran Sikdar, US BCSD

Originally started in 2006, the Chicago Waste to Profit Network has diverted 182,000 tons of waste from landfills and saved, eliminated 127,000 metric tons CO₂e and saved companies \$17 million in the Chicago region. The concept of Waste to Profit is that one company's waste can become another company's resource. Matching by-product streams from one facility with users at another creates new revenues or savings, and potential social and environmental benefits. Our diverse industrial network utilizes a synergy facilitation process that has been developed and refined by the U.S. Business Council for Sustainable Development over the last 20 years. Through the application of standardized tools and processes, a wide range of material synergies are identified for project participants to reuse waste or undervalued resources that results in reduced CO₂ emissions and raw material consumption while conserving energy and landfill space. The Chicago Waste to Profit Network is actively recruiting project participants and is excited about moving into the next phase of synergy project identification and implementation.

- Fairmount Minerals
- ArcelorMittal
- Testa Produce
- Goose Island Beer
- Schulze & Burch Biscuit Co
- Engineered Glass Products

TECHNICAL SESSIONS (continued)

Climate Change Strategies

SUST-WedPM2

Room: Columbus CD

6/26/2013 3:40 PM

Platform

TCC: ES-5

Chair: Lauren Miller, CDM Smith

3:40 PM

Implementing and Tracking Sustainability Performance at the Community Level

Paper#: 12856

A. Pellegrin¹, M. Peters², L. Kelley³, K. Barnett⁴, ¹CDM Smith, New Orleans, LA, ²CDM Smith, Chicago, IL, ³CDM Smith, Cambridge, MA, ⁴City of Denton, Texas

4:00 PM

Carbon Tax and 'Cap-and-Trade' Systems and its Cost and Price Effect on U.S. Refining and Marketing (Revised 2013)

Paper#: 11679

B. Smalling; The Law Office of C. William Smalling, PLLC, Houston, TX

4:20 PM

Greenhouse Gas Monitoring in a Refinery Setting: Technical and Financial Considerations in a Capped Framework

Paper#: 13311

M. Weaver¹, J. Baldino²; ¹ERM, Pasadena, CA, ²ERM, Marina Del Rey, CA

4:40 PM

The Greening of Chevy in the Hole

Paper#: 13036

J. Parker¹, M. Dawson², S. Montle³; ¹Environmental Consulting & Technology, Lansing, MI, ²Sand Creek Consultants, Inc., Amherst, WI, ³Center for Community Progress, Flint, MI

5:00 PM

Optimization Modeling for Green Supply Chain Planning

Paper#: 12244

M. Franchetti, B. Elahi; The University of Toledo, Toledo, OH

CO₂ Capture: Adsorption Processes

AIRS-WedPM2

Room: Grand Suite 3

6/26/2013 3:40 PM

Platform

TCC: AE-1, EI-2

Chair: Sharon Sjoström, ADA-ES, Inc.

Co-Chair: Darlene Radcliffe, August Mack Environmental, Inc.

3:40 PM

Post Combustion CO₂ Capture Using Solid Sorbents

Paper#: 11516

S. Sjoström¹, S. Sjoström², T. Starns², M. Dillon², H. Krutka; ¹ADA-ES, Inc., Highlands Ranch, CO, ²ADA-ES, Inc.

4:00 PM

Adsorption of CO₂ on Amine-impregnated Activated Carbon

Paper#: 13273

A. Gholidoust saraidashti¹, Z. Hashisho²; ¹student, Edmonton, AB, ²Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB

4:20 PM

A Low Cost, High Capacity Regenerable Sorbent for Post Combustion CO₂ Capture

Paper#: 13331

A. Jayaraman¹, G. Alptekin², S. Dietz², R. Copeland², A. Rao³; ¹TDA Research, Inc, Wheat Ridge, CO, ²TDA Research, Inc, ³Advanced Power & Energy Program, University of California, Irvine

4:40 PM

Dissolution Kinetics of Magnesium Hydroxide for CO₂ Separation from Coal-Fired Power Plants

Paper#: 13325

H. Bharadwaj¹, J. Lee², T. Keener²; ¹University of Cincinnati, ²University of Cincinnati, Cincinnati, OH

Control of Solvents, Odors and Gases

H&EE-WedPM2

Room: Columbus H

6/26/2013 3:40 PM

Platform

TCC: AE-2

Chair: Rakesh Govind, University of Cincinnati

Co-Chair: Jim Boswell, Met Pro Corporation

3:40 PM

Effect of the Adsorbate Kinetic Diameter on the Accuracy of the Dubinin-Radushkevich Equation for Modeling Adsorption of Organic Vapors on Activated Carbon

Paper#: 13255

M. Jahandar Lashaki¹, M. Fayaz², S. Niknaddaf³, Z. Hashisho⁴; ¹Department of Civil and Environmental Engineering, University of Alberta, Edmonton, AB, ²Civil and Environmental Engineering Department, University of Alberta, Edmonton, ³Civil and Environmental Engineering Department, University of Alberta, ⁴Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB

TECHNICAL SESSIONS (continued)

4:00 PM

Effect of Adsorption Carrier Gas on the Irreversible Adsorption of a Mixture of Organic Vapors

Paper#: 13298

M. Jahandar Lashaki¹, S. Kamravaei, P. Shariaty², M. Fayaz³, S. Kamravaei, M. Fayaz³, Z. Hashisho⁴, J. H. Phillips⁵, J. E. Anderson⁶, M. Nichols⁶; ¹Department of Civil and Environmental Engineering, University of Alberta, Edmonton, AB, ²Civil and Environmental Engineering Department, University of Alberta, ³Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB, ⁴Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB, ⁵Ford Motor Company, Environmental Quality Office, ⁶Ford Motor Company, Research and Advanced Engineering, Dearborn, MI

4:20 PM

Comparison of Conductive and Microwave Heating for the Regeneration of Beaded Activated Carbon

Paper#: 13299

M. Fayaz¹, P. Shariaty², Z. Hashisho³, J. Phillips⁴, J. E. Anderson⁵; ¹Civil and Environmental Engineering Department, University of Alberta, Edmonton, ²Civil and Environmental Engineering Department, University of Alberta, ³Civil and Environmental Engineering Department, University of Alberta, Edmonton, AB, ⁴Ford Motor Company, Environmental Quality Office, Dearborn, MI 48126 USA, ⁵Ford Motor Company, Research and Advanced Engineering, Dearborn, MI

4:40 PM

Oxidation of DMS (Dimethyl Sulfide) in Waste Gases by Chlorine Oxidation Followed by Activated Carbon Reductive Adsorption

Paper#: 13496

C. Wu, M. Chou, C. Chen; Institute of Environmental Engineering, National Sun Yat-sen University., Kaohsiung

5:00 PM

Characterization of Physical/Chemical Properties of Carbon Nanotubes and Granular Activated Carbon

Paper#: 13018

R. Gangupomu¹, M. L. Sattler², D. Ramirez³; ¹Civil Engineering, University of Texas at Arlington, Arlington, TX, ²Civil and Environmental Engineering, University of Texas at Arlington, ³Environmental Engineering, Texas A&M University -Kingsville

5:20 PM

Effects of Activated Carbon Fiber Cloth's Physical Structure, Chemical Composition, and Adsorbed Material on Its Electrical Resistance

Paper#: 12476

D. L. Johnsen¹, H. Emamipour¹, M. J. Rood²; ¹University of Illinois at Urbana-Champaign, ²Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL

How are Multiple Sources in an Air Shed Managed and Considered?

LOCA-WedPM2

Room: Grand C North

6/26/2013 3:40 PM

Panel

TCC: EP

Moderator: Rob Kemp, AMEC

Panelists:

- Rob Kemp, AMEC - Alberta
- Kathy Preston, Metro Vancouver
- Cindy Toth, Town of Oakville

Legal Issues Impacting Mid-America

LOCA-Wed PM2

Room: Columbus KL

6/26/2013 3:40 PM

Panel

TCC: LHC, EP-3

Chair: Patricia Sharkey, Environmental Law Counsel, P.C.

New and evolving environmental laws, regulations and policies, coupled with new and evolving technologies, can create landmines or opportunities for real estate transactions, project developers and environmental compliance. This panel will delve into some of the hot topics that environmental lawyers and their clients are confronting in the industrial Midwest heartland, identify how and when these issues arise, and analyze the competing legal arguments and policy interests of the parties involved. Three leading Midwestern environmental lawyers will provide insights on an array of new legal issues, including permitting, compliance and programmatic issues that can limit or encourage the development and implementation of clean, innovative and energy efficient technologies and projects, implications of new USEPA and state vapor intrusion programs for remedial action and property transactions, and issues arising in contaminated property, RCRA corrective action and groundwater remediation litigation in the Midwest.

Panelists:

- Patricia Sharkey, Environmental Law Counsel, P.C.
- Thomas Dimond, Ice Miller LLP
- Charles Denton, Barnes & Thornburg, LLP

TECHNICAL SESSIONS (continued)

Measurement of Air Pollutant Source Emissions

AIRS-WedPM2

Room: Grand Suite 5

6/26/2013 3:40 PM

Platform

TCC: AM-4

Chair: Chris Rogers, AMEC

Co-Chair: Bethany Moffat, CoorsTek, Inc.

3:40 PM

Mercury Continuous Emissions Monitoring at Energy-from-Waste Facility

Paper#: 13152

W. Liu¹, N. Johnson²; ¹CDM Smith, Tampa, FL, ²Hillsborough County

4:00 PM

Evidence of Mercury Loss During Acid Digestion of Activated Carbon for Dry Sorbent Trap and Suggested Digestion Method

Paper#: 13595

S. Lee, W. H. Howe; Apex Instruments Inc., Fuquay-Varina, NC

4:20 PM

Emission Characterization for Solid Waste Open Burning in Thailand

Paper#: 13203

K. T. Nguyen¹, C. Theimjarat¹, D. Permandi¹, P. Mekwichai¹, J. Chow², N. Thanh Hang; ¹Asian Institute of Technology, Pathumthani, ²Desert Research Institute, Reno

4:40 PM

Development of VOCs Model Speciation Profiles for the Solvent Utilization Sector in Korea

Paper#: 12462

Y. Sunwoo, Y. Ma, S. Kim, D. Han, J. Kim; Konkuk University

5:00 PM

Stack Testing: Best Practices for Environmental Managers

Paper#: 13481

J. T. Sutton; Entec Services, Inc., Pelham, AL

PM Modeling & Characterization-Part 2

AIRS-WedPM2

Room: Columbus EF

6/26/2013 3:40 PM

Platform

TCC: AB-1

Chair: Prakash Doraiswamy, RTI International

Co-Chair: Jenny Hand, Colorado State University

3:40 PM

Relative Importance of Microclimate and Traffic on "Effective Emission Factor"

Paper#: 13088

M. S. Liang, T. C. Keener; University of Cincinnati, Cincinnati, OH

4:00 PM

Urban Excess Estimates in PM_{2.5} Speciated Aerosol Concentrations Using the CSN and IMPROVE Networks

Paper#: 12854

J. L. Hand¹, B. Schichtel², W. Malm³, M. Pitchford⁴, N. Frank⁵; ¹Colorado State University, Fort Collins, CO, ²NPS, ³Colorado State University, ⁴Desert Research Institute, ⁵EPA

4:20 PM

Chemical Composition and Sources of PM_{2.5} and TSP Collected at Qinghai Lake

Paper#: 13199

N. Zhang, J. Cao; Institute of Earth Environment, Chinese Academy of Sciences

4:40 PM

Aerosol Particles at a High-Altitude Site in Southeast Tibetan Plateau, China: Implication of Pollution Transport from South Asia

Paper#: 13201

Z. Zhao; Institute of Earth Environment, Chinese Academy of Science

5:00 PM

Measurement of Aerosol Optical property in Hong Kong Rural Area

Paper#: 13566

S. Lee, Y. GAO, Y. Huang, P. Yau, S. Lai; The Hong Kong Polytechnic University

TECHNICAL SESSIONS (continued)

Regulatory Challenges in U.S. Power Generation

MINI-WedPM2
Room: Grand B

6/26/2013 3:40 PM

Platform

TCC: EP-1, EI-2

Chair: Jordan Haywood, Siemens Energy, Inc.

Co-Chair: Dan Weiss, Duke Energy

3:40 PM

A Discussion of the Environmental Regulatory Landscape for U.S. Electric Power Generators

Paper#: 13052

J. D. Kinsman; Edison Electric Institute, Washington, DC

4:00 PM

The Environmental Regulatory Landscape Impacting the Power Sector, What Does it All Mean? The EGU MACT Conundrum 2.1, A Hypothetical Case Study

Paper#: 13058

P. T. Belmonte¹, R. G. Fraser²; ¹Environmental Resources Management, Houston, TX, ²Environmental Resources Management, Boston, MA

4:20 PM

Air Permitting Challenges for Combined Cycle Power Plants

Paper#: 13303

J. Flannery; ERM, Phoenixville, PA

4:40 PM

Air Quality Permitting Factors in Site Selection for Natural Gas Combined Cycle Power Plants

Paper#: 13245

D. Shotts, C. Adduci; TRC, Lyndhurst, NJ

5:00 PM

The US War on Coal - Does It Even Matter?

Paper#: 12955

S. Sane; ERM, Chicago, IL

5:20 PM

GHG BACT Analysis for Natural Gas Combined Cycle Power Plants – Issues and Trends

Paper#: 13060

D. Shotts, C. Adduci; TRC, Lyndhurst, NJ

2013 TECHNICAL PROGRAM GRID - THURSDAY, JUNE 27

Thursday, June 27, 2013						
Industry Focus	Session ID	Session Title	TCC(s)*	Time	Format	Room
8:00 am-9:40 am						
	AIRS-ThursAM1	Compliance and Inventories	AM-5	8:00 am- 9:00 am	Platform	GRAND SUITE 3
	SUST-ThursAM1	GHG Inventories & Reporting	ES-5	8:00 am- 10:00 am	Platform	COLUMBUS CD
	AIRS-ThursAM1	Indoor Air Quality: Emerging Tools & Techniques	AB-7	8:00 am- 9:20 am	Platform	COLUMBUS H
	TRAN-ThursAM1	Land Use and Transportation Policies to Combat Climate Change	ET-2	8:00 am- 9:40 am	Platform/Panel	GRAND SUITE 5
	REGU-ThursAM1	Plenary Session Part I: Sustainability from Federal and State Perspectives		8:00 am- 9:40 am	Plenary	COLUMBUS KL
	REGU-ThursAM1	Regulatory Approaches to GHG Emissions and Air Toxics	EP-1	8:00 am- 9:20 am	Platform	COLUMBUS IJ
	ENER-ThursAM1	Renewable Energy and Alternative Fuels	ES-4	8:00 am- 9:20 am	Platform	COLUMBUS EF
	REGU-ThursAM1	Toxic Air Emissions Torts - Defense and Plaintiff's Perspectives on the Role and Challenges of Expert Testimony	EP-3	8:00 am- 9:40 am	Panel	COLUMBUS AB
9:40 am-10:10 am						
Session Break						
10:10 am-11:50 am						
	AIRS-ThursAM2	Air Dispersion Modeling Studies and Research	AB-3	10:10 am- 11:30 am	Platform	COLUMBUS IJ
	INDU-ThursAM2	Air Toxic Emissions	AT-1	10:10 am- 11:10 am	Platform	GRAND SUITE 3
	TRAN-ThursAM2	Empirical Data for Vehicle Emissions Models	ET-1	10:10 am- 12:00 pm	Platform	GRAND SUITE 5
	SUST-ThursAM2	GHG Inventories, Reporting & Reduction	ES-5	10:10 am- 11:50 am	Platform	COLUMBUS CD
	REGU-ThursAM2	Important Updates on the Indoor Inhalation/Vapor Intrusion Pathway - Technical, Legal and Regulatory Aspects of U.S. EPA's Final Vapor Intrusion Guidance and Illinois Rule Amendments	EP-3	10:10 am- 11:50 am	Panel	COLUMBUS AB
	WAST-ThursAM2	Landfills, Digestion, and Composting: Technology; Environmental Management; Energy and Product Recovery	WM-3	10:10 am- 11:30 am	Platform	COLUMBUS G
	INDU-ThursAM2	Nanomaterials: Health Concerns, Measurement and Regulation	AT-3	10:10 am- 11:50 am	Panel	WATER TOWER
	REGU-ThursAM2	Plenary Session Part II: Midwest Air Quality Regulators		10:10 am- 11:50 am	Plenary	COLUMBUS KL
	WAST-ThursAM2	Site Characterization, Investigation and In-situ Remediation	WR-1	10:10 am- 11:30 am	Platform	COLUMBUS H
	MINI-ThursAM2	Sustainability in Power Generation	ES-4, EI-2	10:10 am- 11:50 am	Panel	GRAND B
2:00 pm-3:40 pm						
	REGU-ThursPM1	A Look at the Clean Air Act: Past, Present and Future	EP	2:00 pm- 3:40 pm	Panel	COLUMBUS AB
	AIRS-ThursPM1	Air Pollution 101 A - Acid Gases NOx and VOC Control	AE-1	2:00 pm- 3:40 pm	Panel	COLUMBUS CD
	INDU-ThursPM1	Air Toxics Regulations and Control - Part 2	AT-1	2:00 pm- 3:40 pm	Panel	WATER TOWER
	WAST-ThursPM1	Avoiding The Heavy Hand Of CERCLA: Practical Actions & Evolving Issues in the Real World	WR-1	2:00 pm- 3:40 pm	Panel	COLUMBUS H
	SUST-ThursPM1	Corporate Sustainability Strategies- Part 1	ES-4	2:00 pm- 3:20 pm	Platform	COLUMBUS EF
	AIRS-ThursPM1	Deposition Measurements	AM-3, AB-2	2:00 pm- 3:20 pm	Platform	GRAND SUITE 3
	AIRS-ThursPM1	Dispersion Modeling Issues	AB-3	2:00 pm- 3:40 pm	Platform	COLUMBUS IJ
	MINI-ThursPM1	Greenhouse Gas Issues in Power Generation	ES-5, EI-2	2:00 pm- 3:40 pm	Panel	GRAND B
	TRAN-ThursPM1	Modeling Exposures of Transportation Sources	ET-1	2:00 pm- 2:40 pm	Platform	GRAND SUITE 5
	AIRS-ThursPM1	PM Regulatory Analysis & Permitting	AB-1	2:00 pm- 3:20 pm	Platform	COLUMBUS KL
	H&EE-ThursPM1	Risk Assessment/Management: Recent Experience - Part 1	EE-5	2:00 pm- 3:40 pm	Platform	BUCKINGHAM
	WAST-ThursPM1	Waste-to-Energy and Co-Disposal	WM-3	2:00 pm- 3:40 pm	Platform	COLUMBUS G
3:40 pm-4:00 pm						
Session Break						
4:00 pm-5:40 pm						
	AIRS-ThursPM2	Air Pollution Control 101-B: Particulate and Mercury Control	AE-1	4:00 pm- 5:40 pm	Panel	COLUMBUS CD
	AIRS-ThursPM2	Ammonia and Reactive Nitrogen Studies	AM-3, AB-2	4:00 pm- 5:00 pm	Platform	GRAND SUITE 3
	WAST-ThursPM2	Bioenergy: Technology; Feedstocks; Deployment	WM-3	4:00 pm- 5:40 pm	Platform	COLUMBUS G
	SUST-ThursPM2	Corporate Sustainability Strategies- Part 2	ES-4	4:00 pm- 5:40 pm	Platform	COLUMBUS EF
	AIRS-ThursPM2	Dispersion and Meteorological Issues	AB-3	4:00 pm- 6:00 pm	Platform	COLUMBUS IJ
	AIRS-ThursPM2	Measurement Techniques and Emission Estimates of Airborne Pollutants	AM-3	4:00 pm- 5:40 pm	Platform	COLUMBUS KL
	TRAN-ThursPM2	Onroad and Nonroad Vehicle Emission Measurements	ET-1	4:00 pm- 5:40 pm	Platform	GRAND SUITE 5
	MINI-ThursPM2	Review of Mini-Symposium Sessions	EI-2	4:00 pm- 5:40 pm	Panel	GRAND B
	H&EE-ThursPM2	Risk Assessment/Management: Recent Experience - Part 2	EE-5	4:00 pm- 5:40 pm	Platform	BUCKINGHAM
	WAST-ThursPM2	Treatment and Management of Hazardous Wastes	WR-2	4:00 pm- 5:20 pm	Platform	COLUMBUS H
	REGU-ThursPM2	Update of Environmental Laws, Rules and Cases	EP-3	4:00 pm- 5:40 pm	Panel	COLUMBUS AB

*Technical Coordinating Committees – Please refer to page XX for more information on the A&WMA's Technical Council and their meeting times

Program Key		Program Key	
Session ID	Industry/Environmental Focus	Session ID	Industry/Environmental Focus
 AIRS	Air-Measurements and Basic Science	 O&GS	Oil & Gas Exploration and Production
 EDUC	Education	 REGU	Regulatory
 ENER	Renewable Energy	 SUST	Sustainability
 FEDS	Federal	 TRAN	Transportation
 H&EE	Health & Environmental Effects	 WAST	Waste Management
 INDU	Heavy Industry and General Manufacturing	 LOCA	Local Topic
 MINI	Mini-symposium on Power Generation	 YOUN	Young Professionals

TECHNICAL SESSIONS (continued)

Thursday, June 27, 2013

Compliance and Inventories

AIRS-ThursAM1

Room: Grand Suite 3

6/27/2013 8:00 AM

Platform

TCC: AM-5

Chair: Sarah Hoffman, HDR, Inc.

8:00 AM

Data Acquisition and Handling System (DAHS) Emissions Compliance and Regulatory Audit Recipe for Large Combustion Units Equipped with Continuous Emission Monitoring Systems (CEMS) and Continuous Opacity Monitoring Systems (COMS)

Paper#: 13178

D. Suess¹, S. Gregory², R. Thompson¹; ¹DSG Solutions, LLC, Seattle, WA, ²DSG Solutions, LLC, Gardner, MA

8:20 AM

Novel Data Analysis Technique Used to Evaluate NO_x and CO₂ Continuous Emissions Data

Paper#: 13173

S. A. Guerra, N. Slade, D. Lane, R. Carter, E. Peltier, G. Marotz; Wenck Associates Inc., Woodbury, MN

8:40 AM

Verification of Stationary Combustion Sources Reported to the EPA Greenhouse Gas Reporting Program

Paper#: 13615

J. Goldsmith, M. Hakos, S. Boone, S. Hogan, M. Hannan; RTI International, Washington, DC

GHG Inventories & Reporting

SUST-ThursAM1

Room: Columbus CD

6/27/2013 8:00 AM

Platform

TCC: ES-5

Chair: Ed Fiesinger, Zephyr Environmental Corporation

8:00 AM

State and Federal Greenhouse Gas (GHG) Reporting Best Practices and Lessons Learned Through the Report Verification Process

Paper#: 13296

E. N. Clardy¹, A. Ting¹, G. Gregory¹, D. Suess², S. Gregory¹; ¹DSG Solutions, LLC, Gardner, MA, ²DSG Solutions, LLC, Seattle, WA

8:20 AM

Comprehensive Greenhouse Gases Inventory for the State of Ohio

Paper#: 13009

S. Ghosh¹, M. Kim², K. Crist¹; ¹Ohio University, Athens, OH, ²Ohio University, Greensboro, NC

8:40 AM

Development of an Emission Estimation Tool for GHG and Criteria Pollutant Emissions from Underground Coal Mines in Colorado

Paper#: 13327

H. W. Balentine, S. Shah, G. Derevianko, A. Doud; AECOM, Camarillo, CA

9:00 AM

GHG Biogenic CO₂ Exclusion

Paper#: 13661

S. A. Guerra¹, M. Westereng², A. Lawler; ¹Wenck Associates Inc., Woodbury, MN, ²Wenck Associates, Inc., Woodbury, MN

9:20 AM

Air Pollutant Emissions from Bioenergy Feedstock Production In 2022 in Relation to National Emissions Inventory

Paper#: 13683

Y. Zhang, A. Carpenter, N. Fisher, G. A. Heath; National Renewable Energy Laboratory, Golden, CO

9:40 AM

Greenhouse Gas Emissions from Barnett Shale Gas Production and Processing: From Volatile Organic Compound Inventory to Greenhouse Gas Life Cycle Assessment

Paper#: 13684

J. Meldrum, G. A. Heath, N. Fisher; National Renewable Energy Laboratory, Golden, CO

Indoor Air Quality: Emerging Tools & Techniques

AIRS-ThursAM1

Room: Columbus H

6/27/2013 8:00 AM

Platform

TCC: AB-7

Chair: Michael McGinley, St. Croix Sensory, Inc.

Co-Chair: Suresh Santanam, Syracuse University

8:00 AM

Dispersion Modeling for Safe Design of Laboratory Ventilation Systems

Paper#: 12858

D. Heinold, O. Kostrova; AECOM, Chelmsford, MA

TECHNICAL SESSIONS (continued)

8:20 AM

An Analysis of the Relationship Between Indoor Environmental Quality and Productivity

Paper#: 12243

M. Franchetti; *The University of Toledo, Toledo, OH*

8:40 AM

Formaldehyde Emissions from Wood Coatings

Paper#: 13139

G. A. Gimlen, G. A. Gimlen, D. Belik; *Bay Area Air Quality Management District, San Francisco, CA*

9:00 AM

Relationship Between Strontium, Sulfur, and Reactive Sulfur Gases: Imported and Domestic Drywall

Paper#: 12394

J. R. Kominsky; *Environmental Quality Management, Inc., Cincinnati, OH*

Land Use and Transportation Policies to Combat Climate Change

TRAN-ThursAM1

Room: Grand Suite 5

6/27/2013 8:00 AM

Platform/Panel

TCC: ET-2

Chair: John Holtzclaw, Sierra Club

Co-Chair: Walter Arenstein, Writac Consulting

8:00 AM

Idling Reduction: An Easy Way to Reduce Air Pollution from Vehicles

Paper#: 13470

L. Gaines, P. Weikersheimer; *Argonne National Laboratory, Argonne, IL*

8:20 AM

Energy Security and Greenhouse Gas Emissions of Natural Gas Heavy-Duty Commercial Trucking

Paper#: 13680

M. Rood Werypy¹, D. Santini, A. Burnham², J. Han³, T. Wallner, M. Laughlin, L. Grannis, L. Granns; ¹Argonne National Laboratory, ²Argonne National Laboratory, ³Argonne National Lab

8:40 AM

Greenhouse Gas (GHG) Emissions from the Transportation Sector in Egypt

Paper#: 12446

M. W. Risk, T. Shalaby; *Egyptian Environmental Affairs Agency (EEAA), Cairo*

9:00 AM

Looking at the Future of Cities Through the Lens of the Past – New York City Goals for Cleaner Air, Lower Greenhouse Gas Emissions, and More Energy Efficiency

Paper#: 12851

G. G. Schattanak; *Parsons Brinckerhoff, New York, NY*

9:20 AM

Discussion

Plenary Session Part I: Sustainability from Federal and State Perspectives

REGU-ThursAM1

Room: Columbus KL

Geosyntec 
consultants
engineers | scientists | innovators

6/27/2013 8:00 AM

Panel

The plenary will feature panel discussions by the United States Environmental Protection Agency (EPA) and state environmental agency leaders. We are excited to welcome Susan Hedman, EPA Region 5 Administrator, who will be joined on the panel by Illinois EPA Director Lisa Bonnett, Michigan DEQ Director Dan Wyant, and Wisconsin DNR Air and Waste Division Administrator Pat Stevens. This discussion will focus on the sustainability issues, challenges, programs, and initiatives within the Midwest States.

Regulatory Approaches to GHG Emissions and Air Toxics

REGU-ThursAM1

Room: Columbus IJ

6/27/2013 8:00 AM

Platform

TCC: EP-1

Chair: David Jordan, ERM

8:00 AM

Case Study – Greenhouse Gas Prevention of Significant Deterioration Permitting for a New Natural Gas Fired Boiler

Paper#: 13250

P. D. Cobb; *Golder Associates Inc, Gainesville, FL*

8:20 AM

A Climate-Killing Regional Transportation Plan (RTP) Winds Up in Court: Background and Remedies

Paper#: 13309

M. R. Bullock; *Sierra Club and the Democratic Party, Oceanside, CA*

8:40 AM

Air Toxics Regulations and Control: A 12-month Regulatory Rewind

Paper#: 13223

J. D. Marteny, T. Dillow; *Dixon Environmental, Baltimore, MD*

9:00 AM

Developing an Environmental Regulatory Register for Oil and Gas Operators Entering New Basins

Paper#: 13269

C. L. Campbell, M. Mills; *CDM Smith*

Thursday,
June 27

Technical Program

TECHNICAL SESSIONS (continued)

Renewable Energy and Alternative Fuels

ENER-ThursAM1
Room: Columbus EF

6/27/2013 8:00 AM

Platform

TCC: ES-4

Chair: Debbie Mulrooney, DuPont

Co-Chair: Gary Elliott, Lafarge North America

8:00 AM

Modeling of Methane Migration and Oxidation in Biochar-amended Landfill Cover Soil

Paper#: 12862

T. Xie¹, K. R. Reddy², C. Wang³; ¹School of Environment, Tsinghua University, Chicago, IL, ²Department of Civil & Materials Engineering, University of Illinois at Chicago, Chicago, IL, ³School of Environment, Tsinghua University

8:20 AM

Energy Requirements to Capture and Liquefy Isobutane in an Electrothermal Swing Adsorption System

Paper#: 12253

K. E. Mallouk¹, M. J. Rood²; ¹University of Illinois, Urbana, IL, ²Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL

8:40 AM

Effects of Dissolved Inorganic Carbon and Mixing on Growth and Total Lipid Formation of *Chlorella vulgaris*

Paper#: 13330

J. Kim¹, J. Lee², T. Lu³; ¹University of Cincinnati, ²University of Cincinnati, Cincinnati, OH, ³Black & Veatch Corporation

9:00 AM

Use of Sodium Bicarbonate for Efficient Carbon and Water Management for Autotrophic Microalgae Cultivation in Open Pond System

Paper#: 13336

J. Kim¹, J. Lee², T. Lu³; ¹University of Cincinnati, ²University of Cincinnati, Cincinnati, OH, ³Black & Veatch Corporation

Toxic Air Emissions Torts — Defense and Plaintiff's Perspectives on The Role and Challenges of Expert Testimony

REGU-ThursAM1
Room: Columbus AB

6/27/2013 8:00 AM

Panel

TCC: EP-3

Chair: Charles Denton, Barnes & Thornburg, LLP

Co-Chair: Joseph Madonia, Barnes & Thornburg

Tort claims in Court are an increasingly common response to exposures from permitted air emissions. Whether the claims are of direct inhalation of air pollutants or ingestion of soil previously impacted by deposition of particulates from air emissions, the defense of these claims presents difficult challenges in identifying alternate causation issues, modeling issues and determination of appropriate background levels. In addition, exposure and dose reconstruction efforts are likely to be particularly challenging in this context, sometimes requiring the analysis of multiple models, each of which builds upon the other, with very little actual data available to support the claims.

This moderated panel of experienced environmental litigators with a veteran expert witness will identify some of the most common types of claims, highlight the key technical and scientific issues, summarize current legal trends (including expert witness testimony qualifications) that will impact the defense of these claims and provide suggestions for how to prepare a successful defense.

Panelists:

- Joseph Madonia, Barnes & Thornburg LLP
- John Iwanski, Trinity Consultants
- David Sullivan, Sullivan Environmental Consulting
- Robert Shields, Doffermyre, Shields, Canfield & Knowles

Air Dispersion Modeling Studies and Research

AIRS-ThursAM2
Room: Columbus IJ

6/27/2013 10:10 AM

Platform

TCC: AB-3

Chair: Pete Catizone, TRC

Co-Chair: Asami Tanimoto, Camp, Dresser & McKee

10:10 AM

Characterizing PM_{2.5} Sources for Regional and Local Modeling in a Nonattainment Area

Paper#: 13131

J. Maranche; Allegheny County Health Department, Pittsburgh, PA

TECHNICAL SESSIONS (continued)

10:30 AM

Prognostic Meteorological Data & AERMOD: A Case Study Using MMIF

Paper#: 13231

M. T. Hammer; Lakes Environmental Software, Allen, TX

10:50 AM

Sensitivity of Fugitive Sources in AERMOD Using SHARP

Paper#: 13451

G. J. Schewe, C. Elder; Trinity Consultants, Covington, KY

11:10 AM

AERMOD Low Wind Speed Issues: Review of New Model Release

Paper#: 12865

J. A. Connors, R. Paine, S. Hanna; AECOM, Chelmsford, MA

Air Toxic Emissions

INDU-ThursAM2

Room: Grand Suite 3

6/27/2013 10:10 AM

Platform

TCC: AT-1

Chair: Chun Wu, Minnesota Pollution Control Agency

Co-Chair: Kevin Eldridge, Weston Solutions, Inc.

10:10 AM

Characterization of Hg Speciation and Release from Cement Kiln Baghouse Filter Dust

Paper#: 12761

J. Wang¹, J. Hayes¹, C. Wu², T. Townsend¹, J. Schert¹; ¹University of Florida, ²University of Florida, Gainesville, FL

10:30 AM

Addition of the Oil and Gas Extraction Sector to Toxic Release Inventory Reporting Requirements - Short and Long-Term Challenges

Paper#: 13329

C. R. Romo; Baker Botts LLP, Austin, TX

10:50 AM

Source Apportionment of Polycyclic Aromatic Hydrocarbons in the High Altitude Mountains of Taiwan

Paper#: 12786

M. Su¹, N. Kao², C. Tsai³; ¹National Dong Hwa University, Shoufeng, ²Kun Shan University, Tainan, ³Department of Natural Resources and Environmental Studies, National Dong Hwa University, UH Alien

Empirical Data for Vehicle Emissions Models

TRAN-ThursAM2

Room: Grand Suite 5

6/27/2013 10:10 AM

Platform

TCC: ET-1

Chair: David Cooper, University of Central Florida

Co-Chair: H. Christopher Frey, North Carolina State University

10:10 AM

Selective Catalytic Reduction of Nitric Oxide Over Cerium Doped Activated Carbons

Paper#: 12944

A. Athappan, M. L. Sattler; Civil and Environmental Engineering, University of Texas at Arlington

10:30 AM

Novel Exhaust Treatment Catalyst for Diesel Engines

Paper#: 13337

G. Alptekin¹, A. Jayaraman², M. Dubovik¹, M. Cesario³; ¹TDA Research, Inc, ²TDA Research, Inc, Wheat Ridge, CO, ³TDA Research

10:50 AM

A Methodology for Generating Emission Factors at an International Port of Entry

Paper#: 12792

T. M. Sosa¹, H. Yang², K. R. Cheu², V. Valenzuela³, W. Li², G. Pinal, A. Romo; ¹University of Texas at El Paso, El Paso, TX, ²University of Texas at El Paso, ³Texas Commission on Environmental Quality Region 6, El Paso, TX

11:10 AM

Sensitivity of Emissions Predictions Based on Global Positioning System-based Cycle Data and Assumptions of Idle Cutpoints

Paper#: 12983

Y. Xu, R. Guensler, M. Rodgers; Georgia Institute of Technology

11:30 AM

A New Approach of Establishing Speed Correction Factor Curves for Heavy-duty Diesel Vehicles Based on On-road Test Results

Paper#: 13093

R. Huang¹, S. Zhang², Y. Wu³; ¹School of Environment Tsinghua University, Beijing, ²School of Environment Tsinghua University, ³School of Environment, Tsinghua University

11:50 AM

Estimated Trends in Pollutant Emissions for Light-duty Passenger Vehicles in China from 2010 to 2030

Paper#: 13237

X. Wu¹, Y. Wu², S. Zhang, S. Zhang, M. Yu; ¹School of Environment, Tsinghua University, Beijing, ²School of Environment, Tsinghua University

Thursday,
June 27

Technical Program

TECHNICAL SESSIONS (continued)

GHG Inventories, Reporting & Reduction

SUST-ThursAM2

Room: Columbus CD

6/27/2013 10:10 AM

Platform

TCC: ES-5

Chair: Ed Fiesinger, Zephyr Environmental Corporation

Co-Chair: Juan Gil Donato, West Texas A&M University

10:10 AM

Data Quality Challenges and Opportunities with Greenhouse Gas Emissions Reporting in the US and Implications for Future Policy to Mitigate Climate Change

Paper#: 12979

R. Narasimhan, J. Quinn, N. Sullivan, J. Quinn; Environmental Resources Management (ERM)

10:30 AM

Quantification Originated Nitrous Oxide in Soil Columns

Paper#: 13319

C. J. Navarro Gomez¹, E. F. Herrera Peraza², L. Y. Quiñones³, C. Barraza⁴, B. Trujillo, L. Rodriguez, H. Navarro; ¹Junta Municipal de Agua y Saneamiento de Chihuahua, Chihuahua, ²Centro de Investigacion en Materiales Avanzados (CIMA), Chihuahua, ³Instituto Tecnológico De Chihuahua 2, ⁴Maestra

10:50 AM

Evaluating the Potential of Various Biochars to Mitigate Methane Emissions from Landfills

Paper#: 12982

B. Sadasivam¹, K. R. Reddy²; ¹University of Illinois at Chicago, Chicago, IL, ²Department of Civil & Materials Engineering, University of Illinois at Chicago, Chicago, IL

11:10 AM

Guyana's Consumption of Ozone Depletion Substances

Paper#: 13151

I. Ubaldo Espinosa¹, D. Holder², G. D. Singh³; ¹Faculty of Technology, ²Faculty of Technology, University of Guyana, ³Environmental Protection Agency, Guyana, East Bank Essequibo

11:30 AM

Generation of Electrical Energy in SOL Coqueria by Process Heat Recovery - A Clean Development Mechanism Experience

Paper#: 12995

J. Reis da Silva¹, G. C. Abreu², C. Delpupo, L. Salvatico, L. C. Magalhaes²; ¹ArcelorMittal Tubarao, Serra, ES, ²ArcelorMittal Tubarão, Serra - ES

Important Updates on the Indoor Inhalation/Vapor Intrusion Pathway - Technical, Legal and Regulatory Aspects of U.S. EPA's Final Vapor Intrusion Guidance and Illinois Rule Amendments

REGU-ThursAM2

Room: Columbus AB

6/27/2013 10:10 AM

Panel

TCC: EP-3

Chair: David Gillay, Barnes & Thornburg LLP

Vapor intrusion ("VI") is the migration of volatile chemicals from contaminated soil and groundwater into buildings. This emerging and evolving inhalation "pathway" presents significant challenges and complicates environmental remediation and Brownfield development projects, real estate transactions, and management of commercial/industrial real estate portfolios. VI issues are far-reaching and will affect thousands of site assessments across the country. Successfully dealing with VI issues requires an understanding of the complex science, rapidly changing state and federal regulatory landscapes, and evolving legal doctrines that may increase your liabilities. This presentation provides a quick snapshot of recent developments and overview of key regulatory and legal issues to help you manage these issues. Specifically, U.S. EPA is set to release its newly revised VI guidance later this year and Illinois EPA is close to adopting important TACO amendments for assessing the VI pathway, referred to as the indoor inhalation.

Panelists:

- David Gillay, Barnes & Thornburg LLP
 - Rob Uppencamp, Arcadis U.S., Inc.
 - George Losonsky, Alliance for Site Closure, LLC
 - Gary King, Arcadis U.S., Inc.
-

Landfills, Digestion, and Composting: Technology; Environmental Management; Energy and Product Recovery

WAST-ThursAM2

Room: Columbus G

6/27/2013 10:10 AM

Platform

TCC: WM-3

Chair: David Greene, SCS Engineers

Co-Chair: Sam Vigil, CA Poly. State University

10:10 AM

Hydraulic Conductivity of Geosynthetic Clay Liners Permeated with Leachates from Coal Combustion Products

Paper#: 13188

C. H. Benson; Office of Sustainability, University of Wisconsin, Madison, Madison, WI

TECHNICAL SESSIONS (continued)

10:30 AM

Two-Phase Flow Modeling of Leachate Injection Effects on Stability of Bioreactor Landfill Slopes

Paper#: 12826

R. Giri¹, K. R. Reddy²; ¹University of Illinois at Chicago, Chicago, IL, ²Department of Civil & Materials Engineering, University of Illinois at Chicago, Chicago, IL

10:50 AM

Recovery of Anaerobic Digesters upon Hydraulic Shock-loading Through Addition of Compost and Leachate

Paper#: 12947

S. Ghanimeh¹, M. El-Fadel², P. Saikaly³; ¹Department of Civil and Environmental Engineering, Notre Dame University, Zouk Mosbeh, ²Department of Civil and Environmental Engineering, American University of Beirut, Beirut, ³Desalination and Reuse Research Center, and Division of Biological and Environmental Science and Engineering, King Abdullah University of Science and Technology, Thuwal 23955-6900, Saudi Arabia, Thuwal

11:10 AM

Sustainability in an Urban Environment Through Anaerobic Digestion

Paper#: 13016

A. Macaulay; Eisenmann Corporation, Crystal Lake, IL

Nanomaterials: Health Concerns, Measurement and Regulation

INDU-ThursAM2

Room: Water Tower

6/27/2013 10:10 AM

Panel

TCC: AT-3

Chair: Yevgen Nazarenko, Rutgers, the State University of New Jersey

Many nanomaterials possess special chemical, physical and electrical properties due to their size characteristics. The advances in the development of engineered nanomaterials with unique valuable properties are leading to their introduction into various areas of application. As a consequence, environmental and human exposure occurs. Researchers identified various adverse reactions that occur at the cellular and systemic levels following contact with certain engineered nanomaterials.

The different forms of nanoobjects in nanomaterials present a challenge for the analysis and measurement, and new techniques and approaches are being developed for use in both the nanotechnology development and manufacturing as well as environmental and health risk assessment research. Specific regulations or legal guidelines are gradually emerging, impacting the development and commercial application of nanotechnologies. At the same time, we still have a very limited understanding of the potential for exposure to nanomaterials and resulting health effects, which is critical for the regulation advancement.

The panelists' reports will shed light on the current state of the art and prospects of nano-aerosol analysis and measurement and instrumental approaches to assessment of inhalation exposure to airborne nanomaterials from nanotech consumer products as well as the current state of nanotechnologies regulation development and implementation in the US and the EU and the efforts in this direction elsewhere in the world. In particular, nanotechnology-based consumer products and the potential problems they pose for the public health and how the prospective regulations can potentially reduce it will be described.

Panelists:

- Yevgen Nazarenko, Rutgers, the State University of New Jersey
- Jim Alwood, EPA
- Richard Cavallere, TSI

Plenary Session Part II: Midwest Air Quality Regulators

REGU-ThursAM2

Room: Columbus KL

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6/27/2013 10:10 AM

Panel

The second part of the plenary session will feature the directors of the state air programs in Region 5 discussing air pollution issues and the states' activities in areas such as the development and implementation of new regulations, the impacts of revised National Ambient Air Quality Standards on attainment status, and state, regional, and federal air policy issues. This panel of senior managers from EPA and state environmental agencies and EPA will provide a unique opportunity to learn about the latest in the environmental programs in the Midwest States and will provide an overview of upcoming changes in the regulatory landscape for the region. Attendees will be afforded a chance to hear directly from the policy-makers in the area and provide a forum for discussion of developing environmental issues, including the opportunity for attendees to pose questions to the panelists on topics of interest to the audience.

Panelists:

- John Mooney, U.S. EPA Region 5
- Laurel Kroack, Illinois Environmental Protection Agency
- Keith Baugues, Indiana Department of Environmental Management
- G. Vinson Hellwig, Michigan Department of Environmental Quality
- Bart Sponseller, Wisconsin Department of Natural Resources
- Rob Kaleel, Lake Michigan Air Directors Consortium

Thursday,
June 27

Technical Program

TECHNICAL SESSIONS (continued)

Site Characterization, Investigation and In-situ Remediation

WAST-ThursAM2

Room: Columbus H

6/27/2013 10:10 AM

Platform

TCC: WR-1

Chair: Harish Rao, Rao Consulting Services, Inc.

10:10 AM

An Evaluation of EPA Methods to Estimate Aqueous Diffusion Coefficients and Understanding the Potential Impact of Diffusion in Contaminant Transport and Remediation

Paper#: 13429

M. J. Hamper; GZA GeoEnvironmental, Warrenville, IL

10:30 AM

Evaluation of the Potential for Adaptation of 'Lippia Berlandieri' in Soils Contaminated with Heavy Metals

Paper#: 12987

L. M. Rodriguez Vazquez¹, E. F. Herrera Peraza², M. L. Franco Soto¹, L. A. Lozoya Marquez², M. Solís Lozoya, L. Sáenz Macías, E. Torres Carrillo, H. Avalos Loya, M. Hernandez Esparza, D. Acosta Slane, M. Nuñez Torres, R. Silva Vázquez; ¹Instituto Tecnológico de Parral, Hidalgo del Parral, ²Centro de Investigación en Materiales Avanzados (CIMA), Chihuahua

10:50 AM

Investigation of Plant Species for Phytoremediation of Mixed Contaminants in Soil

Paper#: 12915

R. A. Chirakkara¹, K. R. Reddy²; ¹UIC, Chicago, IL, ²Department of Civil & Materials Engineering, University of Illinois at Chicago, Chicago, IL

11:10 AM

Characterization of Landfill Leachates over Long Term Landfilling: A Size Distribution and Hydrophobicity Study

Paper#: 13192

A. Gupta, R. Zhao, J. Novak, C. Goldsmith; Virginia Tech, Blacksburg, VA

Sustainability in Power Generation

MINI-ThursAM2

Room: Grand B

6/27/2013 10:10 AM

Panel

TCC: ES-4, EI-2

Chair: Alan Gertler, Desert Research Institute

Co-Chair: Peter Belmonte, ERM

Electricity is an essential component of modern society, yet its generation creates environmental, societal, and financial impacts. In this panel session, panelists representing a cross-section of the electric power industry will examine the current status of and future initiatives in electric power sustainability, including minimizing environmental impacts, maximizing future reliability, diversifying energy sources, and balancing societal/cost impacts to maintain power grid stability in an environmentally-sound manner and foster economic development.

Panelists:

- Mike Miller, EPRI
 - Gregory Ryan, DTE Energy
 - Stephan Capps, Bonneville Power Administration
 - Tim Riordan, American Electric Power
-

A Look at the Clean Air Act: Past, Present and Future

REGU-ThursPM1

Room: Columbus AB

6/27/2013 2:00 PM

Panel

TCC: EP

Chair: Howard Feldman, API

Co-Chair: Julian Levy, Levy Environmental Consulting, Ltd.

It is now 23 years since the passage of the Clean Air Act Amendments of 1990. The nation's air quality has improved dramatically and will continue to improve due to regulations and technologies already in place. A diverse panel of air quality policy experts will identify those measures that have provided the greatest benefits to public health and environmental improvement and explore and discuss potential rulemakings and/or changes to the Clean Air Act that might benefit our society. The expert panelists will also share their outlook for air quality regulation for the next few years.

Panel Moderator:

- Julian Levy, Jr., Levy Environmental Consulting, Ltd.

Panelists:

- Howard Feldman, American Petroleum Institute
 - Vince Hellwig, Michigan DEQ
 - John Walke, Natural Resources Defense Council
 - Jeff Holmstead, Bracewell & Giuliani
-

Air Pollution 101 A - Acid Gases NOx and VOC Control

AIRS-ThursPM1

Room: Columbus CD

6/27/2013 2:00 PM

Panel

TCC: AE-1

Chair: Arijit Pakrasi, Shaw Environmental Inc.

Co-Chair: Minh Pham, SCAQMD

TECHNICAL SESSIONS (continued)

Under the Clean Air Act, the U.S. EPA (EPA) establishes national ambient air quality standards (NAAQS) for six common air pollutants including carbon monoxide (CO), ground level ozone (O₃), lead, nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter (PM, PM₁₀ and PM_{2.5}) to protect public health and the environment. In parallel with this effort, the EPA, states, and local air pollution agencies have developed and set increasingly stringent emission standards to reduce the emissions of primary air pollutants NO_x, SO_x, PM, PM₁₀, PM_{2.5}, as well as volatile organic compound (VOC), a precursor of ozone, and other types of acid gases from numerous types of industrial, commercial and residential sources.

The industries are asked to install and operate myriad of air pollution control devices (APCD), air pollution control methods and tactics to reduce harmful air pollutants and achieve cleaner air. As a result, the air quality in the U.S. has improved significantly since 1980. The emissions have dropped more than 50% between 1980 and 2011 despite the increase in gross domestic products, vehicle miles traveled and the U.S. population.

In this section, the panel will discuss the fundamentals of control of acid gases, NO_x, and VOC in a workshop format. This section will serve well as an introduction course or a refresher course for environmental professionals at all levels.

Panelists:

- Arijit Pakrasi, ERM
- Minh Pham, South Coast Air Quality Management District
- Rod Gravley, Tri-Mer Corporation

Air Toxics Regulations and Control-Part 2

INDU-ThursPM1

Room: Water Tower

6/27/2013 2:00 PM

Panel

TCC: AT-1

Chair: Paul Siebert, Weston Solutions, Inc.

Co-Chair: Kevin Eldridge, Weston Solutions, Inc.

This panel will provide an update on the development and implementation of MACT standards and other air toxic regulatory approaches, including control measures to achieve MACT. Updates of ongoing litigation and recent court decisions will also be addressed. Case studies of standards implementation and compliance will also be presented. These updates and case studies will facilitate implementation and compliance by industry and regulators.

Panelists:

- Paul Siebert, Weston Solutions, Inc.
- US Environmental Protection Agency (Invited)
- Humberto Bravo, National University of Mexico
- Tiffany Dillow, Dixon Environmental
- Drew McClay, Citizens Energy Group

Avoiding The Heavy Hand Of CERCLA: Practical Actions & Evolving Issues in the Real World

WAST-ThursPM1

Room: Columbus H

6/27/2013 2:00 PM

Panel

TCC: WR-1

Chair: Charles Denton, Barnes & Thornburg, LLP

Panel session will explore the current state of the practical application of CERCLA's "Continuing Obligations" using real-world scenarios, and various strategies for maintaining CERCLA's liability protections currently at use in the field, including the use of Continuing Obligations (CO) Plans, CO field investigation, and CO monitoring. The Panel will consist of an attorney, an attorney/technical specialist, and an environmental scientist, all of whom have advised clients on many CO efforts, and two of whom were on the ASTM 2790-11 development team.

Key Takeaways:

- CERCLA protections are flexible, and often can be accomplished in many ways.
- Liability protections require "due care" / "due diligence" even after property purchase, though such actions may not be burdensome.
- Despite the unsettled legal landscape for CERCLA liability protections, practical guidelines and strategies exist to implement BFPP protections.

Panelists:

- Tim Haley, Barnes & Thornburg LLP
- Gary Klepper, Conestoga-Rovers Associates
- A.J. Birkbeck, American Brownfields Assurance Company, Inc.

Corporate Sustainability Strategies-Part 1

SUST-ThursPM1

Room: Columbus EF

6/27/2013 2:00 PM

Platform

TCC: ES-4

Chair: Kiet Pham, Spectra Energy

Co-Chair: Val Dzitsiuk, AAI Corporation

2:00 PM

Case Study: One Company's Journey in Maturing their Environmental Management System

Paper#: 13302

R. Seguy, A. Eaton; CH2M HILL, Chicago, IL

TECHNICAL SESSIONS (continued)

2:20 PM

Toward Sustainable Energy Use – ISO 50001 Energy Management Systems to Save Money, Improve Positioning in Your Market

Paper#: 12813

J. Haried; Ernst & Young LLC, Chicago, IL

2:40 PM

A Review of Scope 3 GHG Emission Calculation Results Among Leading Electronics Manufacturers and Discussion of China's Evolving Energy & GHG Regulations' Impacts On These Manufacturers' Future Activities & Performance.

Paper#: 12838

R. Piccioni, A. Burwell ; ERM, Walnut Creek, CA

3:00 PM

Linking Tangible Sustainability Goals with Improved Organizational Performance

Paper#: 13026

V. Ivanova; CH2M HILL, Englewood, CO

Deposition Measurements

AIRS-ThursPM1

Room: Grand Suite 3

6/27/2013 2:00 PM

Platform

TCC: AM-3, AB-2

Chair: Ken Walsh, SAIC

Co-Chair: Vera Samburova, Desert Research Institute

2:00 PM

Atmospheric Deposition in Durham, North Carolina

Paper#: 13110

A. Werner¹, K. Morrison², W. Gray², M. Woolfolk³, S. Knies⁴, ¹AMEC Environmental & Infrastructure, Inc., Durham, NC, ²AMEC Environment & Infrastructure, Inc., ³City of Durham Stormwater Services, Durham, NC, ⁴City of Durham Stormwater Services

2:20 PM

Nitrogen Studies at the CASTNET Site at Beaufort, North Carolina

Paper#: 13353

C. Rogers¹, K. Mishoe², G. L. Price³, M. Stewart², K. Howell²; ¹AMEC, Inc., Jacksonville, FL, ²AMEC, Inc., ³AMEC Environmental and Infrastructure, Inc., Newberry, FL

2:40 PM

Nine Years of Wet Deposition Evaluation in the Coast of the Gulf of Mexico

Paper#: 13054

R. Sosa¹, H. Bravo², A. Alarcon³, M. Torres³, P. Sanchez⁴, M. Jaimes¹; ¹Universidad Nacional Autonoma de Mexico, Mexico, D.F., ²Universidad Nacional Autonoma de México, Distrito Federal, ³UNAM, Mexico, D.F., ⁴Universidad Nacional autonoma de México, Distrito Federal

3:00 PM

Evaluation the Impact of Transport off Pollution Caused by Particulate Matter and Atmospheric Aerosols on Snow in Andes Glacier

Paper#: 13285

F. Cereceda¹, G. Cassasa², V. Vidal², F. Guerrero², M. I. Funes³; ¹Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Valparaiso, ²Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, ³Centro de Tecnologías Ambientales - Universidad Técnica Federico Santa María, Quillota

Dispersion Modeling Issues

AIRS-ThursPM1

Room: Columbus IJ

6/27/2013 2:00 PM

Platform

TCC: AB-3

Chair: George Schewe, Trinity Consultants

Co-Chair: Tony Schroeder, Trinity Consultants

2:00 PM

Hybrid Plume/Grid PM2.5 Attainment Demonstration Modeling For the Allegheny County, PA PM2.5 SIP

Paper#: 13045

R. E. Morris¹, J. Jung², B. Koo², A. J. Sadar³, J. Maranche³; ¹ENVIRON International Corporation, Novato, CA, ²ENVIRON International Corporation, ³Allegheny County Health Department, Pittsburgh, PA

2:20 PM

Regional Ozone, Particulate Matter and Visibility Source Apportionment Modeling of the Western United States

Paper#: 13046

R. E. Morris¹, T. Moore²; ¹ENVIRON International Corporation, Novato, CA, ²Western Regional Air Partnership

2:40 PM

Refined PM2.5 NAAQS Inventories for Use in AERMOD

Paper#: 13085

A. J. Schroeder, B. A. Myer; Trinity Consultants, Indianapolis, IN

3:00 PM

Transition from AERMOD to CALPUFF - Parametric Study

Paper#: 13616

A. Pakrasi¹, A. Isaac²; ¹ERM, Houston, TX, ²CB&I, Monroeville, PA

Managing Continuing Obligations' for Brownfields Purchasers and Developers Under New

3:20 PM

Screening Approach to Account for Secondary PM2.5 in Stationary Source Modeling

Paper#: 12861

J. A. Connors, R. Paine, D. Heinold, G. Moore; AECOM, Chelmsford, MA

TECHNICAL SESSIONS (continued)

Greenhouse Gas Issues in Power Generation

MINI-ThursPM1
Room: Grand B

6/27/2013 2:00 PM

Panel
TCC: EI-2

Chair: Dan Weiss, Duke Energy

Co-Chair: Paul Farber, P. Farber & Associates, LLC

In this panel session, panelists representing a cross-section of stakeholders will examine the current status of greenhouse gas reporting and management within the electric power industry, and discuss potential future impacts on greenhouse gas reductions and regulatory directions.

Panelists:

- John Kinsman, Edison Energy Institute
 - Mike Miller, Electric Power Research Institute
 - Rebecca Stanfield, Natural Resources Defense Council
 - Nick Irwin, Southern Company
-

Modeling Exposures of Transportation Sources

TRAN-ThursPM1
Room: Grand Suite 5

6/27/2013 2:00 PM

Platform
TCC: ET-1

Chair: Brandon Graver, North Carolina State University

Co-Chair: David Cooper, University of Central Florida

2:00 PM

A Multi-pollutant Evaluation of Traffic Exposure Classes Used in the Near-Road Exposures and Effects of Urban Air Pollutants Study (NEXUS)

Paper#: 13097

S. D. Bereznicki¹, J. Burke², K. Dionisio³, C. Croghan³, S. Batterman⁴, S. Batterman⁴; ¹USEPA, Research Triangle Park, NC, ²USEPA, Durham, NC, ³USEPA, ⁴University of Michigan, Ann Arbor

2:20 PM

Improving Health Benefit Estimation of Air Pollutant Emission Reductions for Transportation Projects

Paper#: 13215

C. D. Porter¹, S. Zemba²; ¹Cambridge Systematics, Inc., Cambridge, MA, ²CDM Smith, Cambridge, MA

PM Regulatory Analysis & Permitting

AIRS-ThursPM1
Room: Columbus KL

6/27/2013 2:00 PM

Platform
TCC: AB-1

Chair: Chuck McDade, University of California

Co-Chair: Joe Adlhoch, Air Resource Specialists, Inc.

2:00 PM

Fine Particulate Pollution on the Wasatch Front - Technical and Regulatory Challenges in Creating the PM2.5 State Implementation Plan

Paper#: 13510

P. R. Barickman; Utah Division of Air Quality, Salt Lake City, UT

2:20 PM

PM2.5 SIP Development: A Decade of Progress in Southwestern Pennsylvania

Paper#: 13130

J. Maranche, A. J. Sadar; Allegheny County Health Department, Pittsburgh, PA

2:40 PM

Aggregating Facilities in Air Permitting with a Frac Sand Production Case Study

Paper#: 13220

J. Martin¹, T. Henning²; ¹Short Elliott Hendrickson (SEH), Sheboygan, WI, ²Trinity Consultants, Inc., Sheboygan, WI

3:00 PM

The Regional Haze Rule Reasonable Progress Report Project for 116 Western Class I Areas

Paper#: 13582

E. Vanden Hoek, E. Vanden Hoek; Air Resource Specialists, Inc., Fort Collins, CO

Risk Assessment/Management: Recent Experience - Part 1

H&EE-ThursPM1
Room: Buckingham

6/27/2013 2:00 PM

Platform
TCC: EE-5

Chair: Scott Weaver, ERM

Co-Chair: Heidi Rous, PCR Services Corporation

2:00 PM

Managing the Air Quality Impacts of a Global Diversified Mining Company

Paper#: 11398

F. Turatti; Rio Tinto, South Jordan, UT

2:20 PM

Inhalation Risk Assessment for Ambient Air Toxic Concentrations Monitored in Berks County, Pennsylvania

Paper#: 13038

G. L. Biebuyck, J. G. Wickstrom; Liberty Environmental, Reading, PA

2:40 PM

Coal Ash Material Safety - A Health Risk-Based Evaluation of USGS Coal Ash Data from Five US Power Plants

Paper#: 12192

L. J. Bradley; AECOM, Chelmsford, MA

TECHNICAL SESSIONS (continued)

3:00 PM

Preliminary Study of Screening-Level of Ecological Risk Assessment of Polycyclic Aromatic Hydrocarbons in the Sediments of Harbors

Paper#: 12803

N. Kao¹, M. Su²; ¹Kun Shan University, Tainan, ²National Dong Hwa University, Shoufeng,

3:20 PM

Evaluation of Increased Health Risks Associated to PM10 and PM2.5 Pollution in the Monterrey Metropolitan Area.

Paper#: 13343

G. M. Meija¹, C. Lerma²; ¹TECNOLOGICO DE MONTERREY, Monterrey, Nuevo Leon, ²ITESM

Waste-to-Energy and Co-Disposal

WAST-ThursPM1

Room: Columbus G

6/27/2013 2:00 PM

Platform

TCC: WM-3

Chair: David Minott, Arc5 Environmental Consulting

Co-Chair: David Greene, SCS Engineers

2:00 PM

Disposal of Liquid Wastes through Direct Injection at Municipal Waste Combustion Facilities

Paper#: 13229

J. M. Gorrie, G. Phillips, K. Stepsus; Covanta Energy

2:20 PM

Combustion of Biosolids at a Waste-to-Energy Facility: Florida Case Study

Paper#: 13279

C. S. Hibbard¹, W. Liu², P. Hauck; ¹CDM Smith Inc., Cambridge, MA, ²CDM Smith, Tampa, FL

2:40 PM

Assessment of Fuel Quality Parameters of Sewage Sludge Samples from Different Treatment Schemes

Paper#: 13260

O. Atak¹, A. T. Atimtay², D. Sanin; ¹Middle East Technical Universtiy, Ankara, Turkey, ²Middle East Technical University

3:00 PM

Development of a Chemical Kinetic Model for a Biosolids Fluidized-bed Gasifier

Paper#: 12468

W. M. Champion, C. Cooper; University of Central Florida, Orlando, FL, Orlando, FL

3:20 PM

Biofiber Derived Fuel from Municipal Solid Waste

Paper#: 12886

C. Chang¹, T. Yang¹, Z. Hung¹, C. Chang², D. Ji¹; ¹Graduate Institute of Environmental Engineering, National Taiwan University, ²Graduate Institute of Environmental Engineering, National Taiwan University, Taipei

Air Pollution Control 101B: Particulate and Mercury Control

AIRS-ThursPM2

Room: Columbus CD

6/27/2013 4:00 PM

Panel

TCC: AE-1

Chair: John McKenna, ETS, Inc.

Co-Chair: Hardik Shah, Southern Environmental, Inc.

Dry Electrostatic Precipitators are the most widely used PM control device. ESPs charge ash particles, collect them on plates in an electric field, and periodically remove them by mechanical means. This presentation will provide brief overview on how ESP works, ESP components, and the factors affecting ESP performance.

Panelists:

- Hardik Shah, Southern Environmental, Inc.
- Connie Senior, ADA-ES, Inc.
- John McKenna, ETS, Inc.

Ammonia and Reactive Nitrogen Studies

AIRS-ThursPM2

Room: Grand Suite 3

6/27/2013 4:00 PM

Platform

TCC: AM-3, AB-2

Chair: Chris Rogers, AMEC

Co-Chair: Matthew Milligan, SAIC

4:00 PM

The National Atmospheric Deposition Program/Ammonia Monitoring Network (NADP/AMoN): Five Years of Trends

Paper#: 13601

C. Lehmann¹, D. Gay², M. Puchalski³; ¹Illinois State Water Survey, Champaign, IL, ²Illinois State Water Survey, ³Clean Air Markets Division, U.S. EPA

4:20 PM

Ambient Ammonia and Ammonium Observed at a Remote Mountain Site in Western China

Paper#: 12988

Z. Meng¹, X. Jia², J. Ma³, J. Wang⁴, Y. Jiang⁵; ¹Chinese Academy of Meteorological Sciences, Beijing, ²CMA Meteorological Observation Centre, ³Chinese Academy of Meteorological Sciences, ⁴Qinghai Province Meteorological Bureaus of China, ⁵Ministry of Railways of China

TECHNICAL SESSIONS (continued)

4:40 PM

Identifying Spatial Heterogeneity in Ammonia Emissions from Agricultural Fertilization

Paper#: 12549

S. Balasubramanian¹, S. Koloutsou-Vakakis², M. J. Rood³; ¹University of Illinois Urbana-Champaign, Urbana, IL, ²University of Illinois at Urbana-Champaign, Urbana, IL, ³Department of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave., Urbana, IL 61801, USA, Urbana, IL

Bioenergy: Technology; Feedstocks; Deployment

WAST-ThursPM2

Room: Columbus G

6/27/2013 4:00 PM

Platform

TCC: WM-3

Chair: David Minott, Arc5 Environmental Consulting

Co-Chair: Chih Chao, WRC International/Sustainable Environment Research

4:00 PM

Greenhouse Gas Emissions and Natural Gas Vehicles: The Case for Renewable Natural Gas

Paper#: 13583

M. Mintz¹, J. Han², M. Urgun-Demirtas³; ¹Argonne National Lab, Argonne, IL, ²Argonne National Lab, ³Argonne National Laboratory

4:20 PM

Green Chemistry: A Sustainable and Competitive Waste Diversion Solution

Paper#: 13544

T. Cesarek; Enerkem, Inc.

4:40 PM

Integration of Cogeneration and Biosolids Drying at Wastewater Treatment Facilities

Paper#: 13605

L. A. Lundberg; Veolia Water North America, Baden, PA

5:00 PM

The Effect of Hydrofluoric Acid with Alkaline Peroxide Pretreatment for Glucose and Xylose Recovery from Rice Husk

Paper#: 12890

W. Chao¹, W. Zeng², H. Bai³; ¹National Chiao Tung University, Hsinchu, ²National Chiao Tung University, ³Institute of Environmental Engineering, National Chiao Tung University, Hsinchu

5:20 PM

Oil Recovery of Jatropha Seed Waste via Methanol Extraction

Paper#: 12935

C. Chang¹, J. Tseng¹, T. Chiang¹, C. Chang², Y. Chen³; ¹Graduate Institute of Environmental Engineering, National Taiwan University, ²Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, ³Department of Chemical Engineering and Biotechnology, National Taipei University of Technology, Taipei, Taiwan

Corporate Sustainability Strategies-Part 2

SUST-ThursPM2

Room: Columbus EF

6/27/2013 4:00 PM

Platform

TCC: ES-4

Chair: Kiet Pham, Spectra Energy

Co-Chair: Val Dzitsiuk, AAI Corporation

4:00 PM

Incorporating Non-Regulatory Stakeholder-Driven Issues into Environmental Decision Making

Paper #: 12984

C. Blume¹, G. Tidwell Jr.²; ¹GaiaTech, Inc., Chicago, IL, ²Bridgestone Firestone Americas Tire Operations, Nashville, TN

4:20 PM

Bridgestone Retail Operations One Team, One Planet Spent Tire Program

Paper#: 12964

J. Sheerin¹, M. Welly², C. Blume²; ¹Bridgestone Retail Operations, LLC, Bloomington, IL, ²GaiaTech, Inc., Chicago, IL

4:40 PM

A Business-Friendly Hybrid Approach to Corporate Value Chain (Scope 3) Greenhouse Gas Emissions Accounting

Paper#: 13581

K. N. Rowe¹, J. Beath², N. DaSilva²; ¹Environmental Resources Management, Raleigh, NC, ²Environmental Resources Management

5:00 PM

Sustainable Development and the Dow Jones Sustainability Index

Paper#: 12899

T. A. Mors¹, F. Alido², R. Currie³, G. Roberts⁴; ¹Environmental Resources Management, Inc., Dexter, MI, ²Navistar, Inc., Chicago, IL, ³Baxter Healthcare Corporation, ⁴Environmental Management Resources, Inc.

Thursday,
June 27

Technical Program

TECHNICAL SESSIONS (continued)

5:20 PM

Modern Management of Exploration and Production Wastes

Paper#: 12968

J. D. Arthur¹, T. Joyner¹, J. Cline¹, G. Casey², H. Hochheiser; ¹ALL Consulting, LLC, Tulsa, OK, ²ALL Consulting

Dispersion and Meteorological Issues

AIRS-ThursPM2

Room: Columbus IJ

6/27/2013 4:00 PM

Platform

TCC: AB-3

Chair: David Long, American Electric Power

Co-Chair: Anke Beyer-Lout, CPP, Inc.

4:00 PM

Further Development, Validation and Application of a Hybrid Wind Tunnel/Numerical Model (HYWINMOD) for Complex Permitting Applications

Paper#: 13083

A. Beyer-Lout¹, R. L. Petersen²; ¹CPP, Inc., Fort Collins, CO, ²CPP, Inc, Fort Collins, CO

4:20 PM

A Method of Alternative Parameterization of an Aluminium Smelter for use in 1-Hour Air Quality Modeling

Paper#: 13586

D. J. Long; American Electric Power Service Corporation, Columbus, OH

4:40 PM

Predicting Wind Speed Profiles in Urban Canopies for Pollutant Dispersion Calculations

Paper#: 13538

A. De Visscher; University of Calgary, Calgary, AB

5:00 PM

The Effect of Lateral Boundary Values in Photochemical Modeling

Paper#: 13106

S. Lee¹, J. Cassmassi, X. Zhang², J. Avise, J. Avise; ¹South Coast Air Quality Management District, Diamond Bar, CA, ²SCAQMD

5:20 PM

Estimation of Background Concentrations from Ambient Monitoring Data

Paper#: 13158

M. F. Jammer¹, B. Cosic², R. Kemp³; ¹Environ EC (CANADA), Inc, ²ENVIRON EC (Canada), Inc, Mississauga, ON, ³ENVIRON International Corporation

5:40 PM

Incorporating Meteorological Frequency in Off-site Consequence Assessments

Paper#: 12864

D. Heinold¹, A. Kieldsing²; ¹AECOM, Chelmsford, MA, ²AECOM

Measurement Techniques and Emission Estimates of Airborne Pollutants

AIRS-ThursPM2

Room: Columbus KL

6/27/2013 4:00 PM

Platform

TCC: AM-3

Chair: Praveen Srirama, CEMRC

Co-Chair: Asami Tanimoto, Camp Dresser & McKee

4:00 PM

Comparison of a Near Real Time Continuous Ambient Metals Monitor with Daily Reference Method Sampling and Metals Analysis by ICP-MS

Paper#: 12790

A. Geiger¹, K. Petterson², T. Kelly³, D. Barth⁴, M. Ladner⁵; ¹Cooper Environmental Services, LLC, ²Pall Corporation, Tualatin, OR, ³Battelle, ⁴Pall Corporation, Timonium, MD, ⁵Pall Corporation

4:20 PM

Low-Cost Passive Sampling for Area Source Emission Quantification

Paper#: 13007

C. Cowherd; MRI Global, Kansas City, MO

4:40 PM

Characterization of Ambient Aerosol during a Large-scale Tire Fire at the Iowa City Landfill

Paper#: 13315

E. A. Stone, J. Downard, K. Jayarathne, C. Rathnayake; Department of Chemistry, University of Iowa, Iowa City, IA

5:00 PM

Testing, Quantification, and Dispersion Modeling of Fugitive Particulate Matter Emissions as a Function of Wind Conditions at a Materials Handling Facility

Paper#: 13023

C. Taylor, A. Larson; Barr Engineering Company, Minneapolis, MN

5:20 PM

Single Particle Characterization of Black Carbon Aerosol in the Northeast Tibetan Plateau, China

Paper#: 13200

J. Cao; Institute of Earth Environment, Chinese Academy of Sciences

TECHNICAL SESSIONS (continued)

Onroad and Nonroad Vehicle Emission Measurements

TRAN-ThursPM2
Room: Grand Suite 5

6/27/2013 4:00 PM

Platform
TCC: ET-1

Chair: H. Christopher Frey, North Carolina State University

Co-Chair: David Cooper, University of Central Florida

4:00 PM

Field Measurements of 1996 to 2013 Model Year Light Duty Gasoline Vehicles

Paper#: 12942

H. Frey¹, B. Yazdani Boroujeni², B. Liu², J. Hu², W. JIAO², B. M. Graver², G. S. Sandhu¹, G. S. Sandhu¹; ¹Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC, ²North Carolina State University, Raleigh, NC

4:20 PM

Measurement of Cold Starts and Their Contribution to Real-World Total Trip Emissions for Light Duty Gasoline Vehicles

Paper#: 12807

H. Frey¹, B. Yazdani Boroujeni², J. Hu², B. Liu²; ¹Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC, ²North Carolina State University, Raleigh, NC

4:40 PM

Modeling Driving Cycle, Fuel Use, and Emissions Based on Real-World Measurements of Over-Snow Vehicles

Paper#: 12506

J. Hu¹, H. Frey², G. S. Sandhu², B. M. Graver¹; ¹North Carolina State University, Raleigh, NC, ²Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC

5:00 PM

Biodiesel vs. Diesel - Energy Use and Emissions for Earthmoving Equipment

Paper#: 12833

G. S. Sandhu, H. Frey; Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC

5:20 PM

Measurement of Locomotive Emissions During Real-World Duty Cycles

Paper#: 13246

B. M. Graver¹, H. Frey²; ¹North Carolina State University, Raleigh, NC, ²Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC

Review of Mini-Symposium Sessions

MINI-ThursPM2
Room: Grand B

6/27/2013 4:00 PM

Panel
TCC: EI-2

Chair: John Koehler, ERM

Co-Chair: Peter Belmonte, ERM

In this concluding Mini-Symposium session, respective session chairs and co-chairs will constitute the panel. Panel members will summarize issues raised and highlight major points of discussion in all previous sessions, followed by open discussions with the audience.

Panelists:

- Connie Senior, ADA-ES, Inc.
 - Alan Gertler, Desert Research Institute
 - Jordan Haywood, Siemens Energy, Inc.
 - Paul Farber, P.Farber & Associates, LLC
-

Risk Assessment/Management: Recent Experience - Part 2

H&EE-ThursPM2
Room: Buckingham

6/27/2013 4:00 PM

Platform
TCC: EE-5

Chair: Heidi Rous, PCR Services Corporation

Co-Chair: Scott Weaver, ERM

4:00 PM

Risk Communication – Where Science and Policy Often Collide

Paper#: 13295

H. Rous, A. Sako, E. Yan; PCR Services Corp, Pasadena, CA

4:20 PM

Implementing an Environmental Management System and Supporting Environmental Management Information System at Archer Daniels Midland Company

Paper#: 13313

D. Taylor¹, K. W. Bate², J. C. Wollmuth³; ¹Archer Daniels Midland Co, Decatur, IL, ²Archer Daniels Midland Co., Decatur, IL, ³CH2M HILL, Chicago, IL

4:40 PM

Does the Data Reflect a Need to Update the Role of Risk And Hazard in Indoor Air Quality Practices? An Industry Perspective

Paper#: 13512

D. Cortes¹, S. Kumar², V. Prasauskas; ¹STAT Analysis Corporation, Lakelane, FL, ²STAT Analysis Corporation

TECHNICAL SESSIONS (continued)

5:00 PM

Potential Severity Rate as a Leading Indicator - One Year Later

Paper#: 12759

P. A. Brush¹, V. L. Young²; ¹Air Liquide Global E&C Solutions, Frankfurt, Germany v.d. Hohe, ²Air Liquide Global E&C Solutions, Houston, TX

5:20 PM

Regulatory Trends for Forecast Weather and Proactive Management Technologies in Australia: Driving Sustainability of Industrial Operations

Paper#: 12894

M. Scholl; Pacific Environment Limited, North Sydney, NSW

Treatment and Management of Hazardous Wastes

WAST-ThursPM2

Room: Columbus H

6/27/2013 4:00 PM

Platform

TCC: WR-2

Chair: Gary Elliott, LaFarge North America

Co-Chair: Danaila Paspalanova, Emilcott

4:00 PM

Removal of Heavy Metals from Wastewater Using Agricultural and Industrial Wastes as Adsorbents

Paper#: 12830

H. A. Hegazi; housing , building and research center, Cairo

4:20 PM

Photocatalytic Formation of Particulate Mercury in Sulfide and Organic Rich Water: Measurements and Implications for Industrial Wastewater Treatment

Paper#: 13340

A. M. Hagan, D. Mazyck; University of Florida, Gainesville, FL

4:40 PM

Adsorption and Removal of Arsenic from Coal Fly Ash Leachate using Manganese Oxide Sorbent

Paper#: 13174

K. Babaeivelni, A. P. Khodadoust; University of Illinois at Chiacgo, Chicago, IL

5:00 PM

South Slip Remediation – Management of Impacted Sediment by Use of a Sorptive Cap

Paper#: 13025

E. Hritsuk¹, G. Vanderlaan²; ¹ARCADIS US Inc., Chicago, IL, ²ARCADIS



Update of Environmental Laws, Rules and Cases

REGU-ThursPM2

Room: Columbus AB

6/27/2013 4:00 PM

Panel

TCC: EP-3

Chair: Charles Denton, Barnes & Thornburg LLP

Ever-changing and developing environmental laws, rules and case precedent are professionally challenging but also present opportunities. This Panel comprised of veteran environmental lawyers will update significant developments over the last year on air, water, waste, remediation and other significant subjects. Perspectives from private practice and government/public interest will be provided by this Panel.

Panelists:

- Charles Denton, Barnes & Thornburg LLP
- Lee Hoffman, Pullman & Comley LLC
- Robert Kaplan, U.S. EPA Region 5

2013 TECHNICAL PROGRAM GRID - FRIDAY, JUNE 28

Friday, June 28, 2013						
Industry Focus	Session ID	Session Title	TCC(s)*	Time	Format	Room
8:00 am-9:40 am						
	INDU-FriAM1	Air Emission Issues in the Biofuel Industry	EI-4	8:00 am- 9:40 am	Panel	GRAND SUITE 3
	REGU-FriAM1	Key 2012 and 2013 Court Decisions that Affect Clean Air Act Permits	EP-3	8:00 am- 9:40 am	Panel	COLUMBUS KL
	H&EE-FriAM1	Odor Measurement & Assessment	EE-6	8:00 am- 9:40 am	Platform/Panel	COLUMBUS H
	TRAN-FriAM1	Transportation Air Quality Modeling - Part 1	ET-1	8:00 am- 9:20 am	Platform	GRAND SUITE 5
	REGU-FriAM1	Update on Technical and Regulatory Challenges in Addressing Fugitive Sources: Vapors and Dust	AM-5	8:00 am- 9:40 am	Panel	COLUMBUS CD
	REGU-FriAM1	Various Regions' Approaches to Regulatory Challenges	EP-1	8:00 am- 9:00 am	Platform	GRAND B
9:40 am-10:10 am Session Break						
10:10 am-11:50 am						
	REGU-FriAM2	Addressing Emerging Issues in the Regulatory Environment	EP-1	10:10 am-11:30 am	Platform	COLUMBUS AB
	REGU-FriAM2	Navigating the New Clean Air Act Startup, Shutdown, and Malfunction Rules	EP-3	10:10 am- 11:50 am	Panel	COLUMBUS KL
	REGU-FriAM2	NSR (PSD) and Title V GHG Permitting Issues	EP-1	10:10 am- 11:50 am	Panel	GRAND B
	REGU-FriAM2	Port Arthur's Environmental Justice(EJ) Initiative: An Effective and Workable Model	EP-2	10:10 am- 11:50 am	Panel	GRAND SUITE 3
	AIRS-FriAM2	The Summer of 2012 - The Meteorology and the Impact on Ozone and Particulate Matter Attainment Status	AB-3	10:10 am- 11:50 am	Panel	COLUMBUS IJ
	TRAN-FriAM2	Transportation Air Quality Modeling - Part 2	ET-1	10:10 am- 11:50 am	Platform	GRAND SUITE 5

*Technical Coordinating Committees – Please refer to page XX for more information on the A&WMA's Technical Council and their meeting times

Program Key		Program Key	
Session ID	Industry/Environmental Focus	Session ID	Industry/Environmental Focus
	AIRS		O&GS
	EDUC		REGU
	ENER		SUST
	FEDS		TRAN
	H&EE		WAST
	INDU		LOCA
	MINI		YOUN
	Air-Measurements and Basic Science		Oil & Gas Exploration and Production
	Education		Regulatory
	Renewable Energy		Sustainability
	Federal		Transportation
	Health & Environmental Effects		Waste Management
	Heavy Industry and General Manufacturing		Local Topic
	Mini-symposium on Power Generation		Young Professionals

TECHNICAL SESSIONS (continued)

Friday, June 28, 2013

Air Emission Issues in the Biofuel Industry

INDU- FriAM1

Room: Grand Suite 3

6/28/2013 8:00 AM

Panel

TCC: EI-4

Chair: Debbie Mulrooney, DuPont

Programs are in place in the United States and other countries to ensure that transportation fuels sold contain a minimum volume of renewable fuel. In recent years many manufacturing sites have been built to produce ethanol and other fuels to meet these goals. As the regulations require higher percentages of renewable fuels, the renewable fuels industry continues to grow and to expand beyond conventional biofuels into advanced biofuels, such as cellulosic ethanol and biobutanol. This panel will review current air emission and air permitting topics in the renewable fuels industry.

Panelists:

Howard Gebhart, Air Resource Specialists, Inc

Mae Thomas, Eastern Research Group, Inc.

Chris Tessum, University of Minnesota

Key 2012 and 2013 Court Decisions that Affect Clean Air Act Permits

REGU-FriAM1

Room: Columbus KL

BINGHAM

6/28/2013 8:00 AM

Panel

TCC: EP-3

Chair: Clara Poffenberger, Bingham McCutchen

Co-Chair: Samara Kline, Baker Botts, LLP

Recent court decisions related to EPA regulations and EPA actions on state permit regulations could change how states and EPA approach permitting and enforcement. Such decisions address EPA's views of minor New Source Review permitting, source aggregation for oil and gas operations, federal citizen suits as a collateral attack on state-issued permits, affirmative defenses for start-up, shutdown and malfunctions, and EPA's authority to issue a FIP for GHG PSD permitting. The panel members will provide a brief summary of the court decisions, present what actions are next expected as well as any outstanding cases that could impact the status of the court decisions issued, and describe what such decisions mean for air permitting. The panel includes lawyers from the private sector, a government agency and affected industry. Cases to be discussed include: Summit Petroleum, Penn Future vs Ultra Resources, Texas v. EPA (Flex permits and GHG FIP), Luminant v EPA (MSS affirmative defense), and other cases that might conclude or be initiated before the conference.

Panelists:

- Clara Poffenberger, Bingham McCutchen
- Amy Farrell, America's Natural Gas Alliance
- Samara Kline, Baker Botts, LLP
- Steven Cook, Lyondell Basell
- Jon Niermann, Office of the Attorney General, Texas

Odor Measurement & Assessment

H&EE-FriAM1

Room: Columbus H

6/28/2013 8:00 AM

Platform/Panel

TCC: EE-6

Chair: Anna Bokowa, ORTECH Environmental

Co-Chair: Steven Trabue

8:00 AM

Sewage Trunk Sewer Odour Control Design and Computational Fluid Dynamics (CFD) Ventilation Simulations

Paper#:

A. Carciumaru; AECOM, Markham, ON

8:20 AM

Odorant Dispersion and Emissions Monitoring System

Paper#: 13224

S. S. Aflalo¹, O. Zaouak², R. Akiki¹, F. Croisé¹, Y. Stitou³, C. Olry⁴, D. Buty⁴, J. Baroni⁵, S. Cariou⁶, J. Fanlo⁶, B. Aubert⁷; ¹Environnement SA, ²Cairpol, Mejanès-les-Ales, ³Iséo, ⁴Aria Technologies, ⁵Alliance Environnement, ⁶Mines d'Alès Engineering School, ⁷Cairpol

8:40 AM

Analysis of Organic Sulfur Compounds by USEPA TO-15 Method

Paper#: 12323

L. He¹, L. He²; ¹Shenzhen Environmental Monitoring Center, Richardson, TX, ²GD Air Testing, Inc., Richardson, TX

9:00 AM

Panel Discussion

Transportation Air Quality Modeling - Part 1

TRAN-FriAM1

Room: Grand Suite 5

6/28/2013 8:00 AM

Platform

TCC: ET-1

Chair: Michael Claggett, U.S. Department of Transportation

Co-Chair: Guido Schattaneck, Parsons Brickerhoff, Inc.

TECHNICAL SESSIONS (continued)

8:00 AM

Development of a Simplified Version of MOVES and Application to Iterative Case Studies

Paper#: 12818

B. Liu¹, H. Frey²; ¹North Carolina State University, Raleigh, NC, ²Department of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC

8:20 AM

Comparison Between the FAA's AEDT and Legacy Models

Paper#: 12431

R. C. Mentzer; Harris Miller Miller & Hanson Inc., Burlington, MA

8:40 AM

Air Quality Impacts of the Logan International Airport Centerfield Taxiway

Paper#: 12811

I. S. Campbell¹, L. M. Miller², I. S. Campbell¹; ¹Massachusetts Port Authority, East Boston, MA, ²CDM Smith, Cambridge, MA

9:00 AM

Development of a Transit Emission Model (TRANSEM)

Paper#: 13010

R. Singh¹, L. Chan², M. F. Jammer³, B. Cosic¹; ¹ENVIRON EC (Canada), Inc, Mississauga, ON, ²ENVIRON International Corporation, Novato, CA, ³Environ EC (CANADA), Inc

Update on Technical and Regulatory Challenges in Addressing Fugitive Sources: Vapors and Dust

REGU-FriAM1

Room: Columbus CD

6/28/2013 8:00 AM

Panel

TCC: AM-5

Chair: Chatten Cowherd, MRIGlobal

Co-Chair: Richard Countess, Countess Environmental

This panel session addresses continuing issues identified at the 2.5-day Mini-Symposium on Fugitive Sources: Oil and Gas, Flares and Dust, which was held at ACE 2012. Note that the terms "fugitive" and "open" have similar connotations, both denoting unducted sources that emit particulate or gaseous air pollutants directly to the atmosphere. The term "area" is also used to represent diffuse sources. The topics to be discussed in this panel session emphasize measurement and modeling of emissions from upstream oil and gas production, industrial flares, and fugitive dust sources. In spite of their diversity, these source categories present similar challenges in emission quantification, transport modeling and impact assessment. Panel members are listed below. The expected key findings will relate to the identified aspects of progress made in dealing with fugitive source assessment problems. This will include performance case studies in implementing field measurement methods that address the difficult challenges in quantifying emissions from these sources and the associated air quality impacts. The expected

outcome will be a clearer perspective as to the directions that should be taken in further resolving existing and emerging technical issues in this area.

Panelists:

- Chatten Cowherd, MRI Global
- Ram Hashmonay, Atmosfir Optics
- Vicken Etyemezian, Desert Research Institute
- Robert Farber, Southern California Edison
- Richard Countess, Countess Environmental

Various Regions' Approaches to Regulatory Challenges

REGU-FriAM1

Room: Grand B

6/28/2013 8:00 AM

Platform

TCC: EP-1

Chair: Christina Akly, CH2M Hill

Co-Chair: Heather Bryne

8:00 AM

Environmental Challenges in the New North Dakota

Paper#: 12799

D. C. Timpe, S. Blanchard, A. Leroy, A. Leroy; KLJ, Bismarck, ND

8:20 AM

Actual State of the Air Quality in Mexico City, 2012.

Paper#: 13108

H. Bravo¹, A. Retama, R. Sosa², P. Sanchez³, A. Quintanar, V. Paramao, R. Sosa², P. Sanchez³, P. Sanchez³, D. Quintanar, D. Paramo, D. Paramo, M. Jaimes; ¹Universidad Nacional Autonoma de México, Distrito Federal, ²Universidad Nacional Autonoma de Mexico, Mexico, D.F., ³Universidad Nacional autonoma de México, Distrito Federal

8:40 AM

System-wide Greenhouse Gas Significance Determination Under CEQA

Paper#: 13259

M. Conrardy; AECOM

Addressing Emerging Issues in the Regulatory Environment

REGU-FriAM2

Room: Columbus AB



6/28/2013 10:10 AM

Platform

TCC: EP-1

Chair: Heather Bryne

Co-Chair: Christina Akly, CH2M Hill

TECHNICAL SESSIONS (continued)

10:10 AM

Assessing Potential Implications of a Startup, Shutdown, Malfunction State Implementation Plan Call

Paper#: 13588

J. Michna¹, R. Gesser²; ¹Environmental Resource Management, Miami, FL, ²ERM, Atlanta, GA

10:30 AM

How to Prepare for New Environmental Rules in an Ever-Changing Environmental Regulatory Landscape

Paper#: 13264

J. P. Iwanski¹, D. Dempsey², S. Holcomb³; ¹Trinity Consultants, Oakbrook Terrace, IL, ²Trinity Consultants, Indianapolis, IN, ³NiSource, Merrillville, IN

10:50 AM

The National Ambient Air Quality Standards: A Sustainable Success or a Runaway Train?

Paper#: 12938

K. A. Kissling; Pepper Hamilton LLP, Southfield, MI

11:10 AM

Sorting Out New Source Review Permitting Aggregation and Adjacency Issues for the Oil and Gas Industry

Paper#: 12901

C. Heying¹, R. Sprott²; ¹Private Consulting, Salt Lake City, UT, ²Bear Claw Environmental

Navigating the New Clean Air Act Startup, Shutdown, and Malfunction Rules

REGU-FriAM2

Room: Columbus KL

6/28/2013 10:10 AM

Panel

TCC: EP-3

Chair: Charlie Denton, Barnes & Thornburg LLP

In the wake of the federal courts' vacatur of the startup, shutdown, and malfunction ("SSM") exemption under the Clean Air Act, the EPA has fashioned new SSM rules to take the place of the exemption. Historically many states did not require sources to comply with emission limits during SSM events, but the new rules EPA has adopted are much more restrictive on the regulated community and now require compliance with emissions limits during startup and shutdown. In addition, under the new rules certain sources must assert an "affirmative defense" to avoid liability for excess emissions due to malfunctions. EPA has already required some states to remove the SSM exemption from their State Implementation Plans ("SIP") and replace it with the new SSM rules. EPA has also entered a proposed settlement agreement with the Sierra Club regarding SIP revisions, and EPA may soon initiate a SIP call based on that agreement that would require all states to update their SSM rules.

This Panel will cover 1) the history of the vacatur of the SSM exemption, 2) how SSM changes will take place in the states, 3) what sources should do until their state's SIP is updated, and 4) new procedures the regulated community will need to adopt to comply with these significant new rules. Based on the amount of litigation that has already taken place in simply establishing the new SSM rules, the regulated community must be well-prepared for citizen suits and potential enforcement actions as EPA and the states implement the new rules.

Panelists:

Joel Bowers, Barnes & Thornburg LLP

Steven Frey, ARCADIS, U.S., Inc.

Christina Landgraf, United Airlines

NSR (PSD) and Title V GHG Permitting Issues

REGU-FriAM2

Room: Grand B

6/28/2013 10:10 AM

Panel

TCC: EP-1

Chair: Rahul Thaker, NCDENR Division of Air Quality

Co-Chair: David Jordan, ERM

This session will include presentations/discussions providing an overview of GHG permitting issues. This session provides answers on the following:

- (i) What specific information the applicant must include in Title V applications (renewals and modifications) for the emissions unit having applicable requirements for GHG?
- (ii) How permitting process is really working out between States and EPA, specifically, where EPA issues GHG permits and State issues non-GHG permits?
- (iii) What affect will CAA §111 GHG standards (NSPS & Emissions Guidelines) have on GHG BACT?
- (iv) Discussion of BACT determinations and level of detail required.
- (v) Judicial and regulatory developments related to GHG permitting.

Panelists:

- John Evans, NC Division of Air Quality
- Colin Campbell, RTP Environmental Associates, Inc.
- Bill Wehrum, Hunton & Williams LLP

TECHNICAL SESSIONS (continued)

Port Arthur's Environmental Justice Initiative: An Effective and Workable Model

REGU- FriAM2

Room: Grand Suite 3

6/28/2013 10:10 AM

Panel

TCC: EP-2

Chair: John Hall Public Affairs

Co-Chair: Morris Carter, Sage Environmental Consulting

EPA Administrator Lisa Jackson has called Port Arthur's Environmental Justice (EJ) initiative the most effective in the country. The City, with its 54,000 residents (75% racial minorities) and its growing petrochemical industry, developed the initiative with full cooperation of 125 representatives from 40 organizations, including the Port Arthur Industrial Group (PAIG), a voluntary association of the City's ten refineries and chemical plants.

An early EPA decision, in which officials embraced local stakeholders' proposal to develop the EJ initiative based on local priorities, assured Port Arthur's success. These diverse stakeholders, including the EPA and TCEQ, produced a comprehensive EJ Initiative consisting of the following strategies:

- Sustainable development plan by PAIG companies emphasizing emission reductions, flare minimization, and enhancements to the local emergency response system.
- Sustainable community to include a clinic, community center, and housing; this minority and low-income community is adjacent to three-fourths of the City's ten industrial facilities.
- Relocation of a 60-year-old public housing project located near two large refineries and several industrial facilities
- Training and placement of local residents in available industrial jobs
- Energy efficiency plan to reduce utility bills of low-income households and enhance shelter-in-place options
- The results of these efforts are impressive: broad-based public support for the petrochemical industry in Port Arthur, which has facilitated more than \$10 billion in expansions over the past five years and genuine progress in addressing community challenges.
- EPA Administrator Jackson visited Port Arthur in August 2012, and praised local industry, government, and citizens' collaboration. Former EPA Region 6 Administrator Al Alrmondariz summed up the initiative's success in a March 2012, press release: "Port Arthur serves as a model for the EPA's Environmental Justice efforts... The showcase project has enhanced our efforts to achieve environmental and public health improvements in overburdened communities."

Panelists:

- Morris Carter, Sage Environmental Consulting
 - John Hall, John Hall Public Affairs
 - Hilton Kelley, Community In-Power & Development Association, Inc.
 - Bill Luthans, US Environmental Protection Agency
-

The Summer of 2012 - The Meteorology and the Impact on Ozone and Particulate Matter Attainment Status

AIRS-FriAM2

Room: Columbus IJ

6/28/2013 10:10 AM

Panel

TCC: AB-3

Chair: Donna Kenski, Lake Michigan Air Directors Consortium

Co-Chair: Joseph Jarkuta, Ozone Transport Commission

The panel will summarize the meteorology of summer 2012 and compare it to climatological norms and previous years, including temperature, precipitation, the passage of weather systems, and notable extreme episodes. The discussion will also address the impact of 2012 on regional trends of PM_{2.5} and ozone and what it means for attainment status in the region - in particular, the summer 2012 air quality events. The regional trends trends will be presented in a number of ways, using different methods to separate the meteorological variability from the underlying changes in pollutant precursors. The session will conclude with a discussion of the impact of meteorological variability on the regulatory process and how it affects decisions on air quality modeling (selecting model years, for example), monitoring, and controls.

Panelists:

- Mike Rizzo, USEPA, Region 5
- Donna Kenski, Lake Michigan Air Directors Consortium
- Joe Hoch, Wisconsin DNR

TECHNICAL SESSIONS (continued)

Transportation Air Quality Modeling - Part 2

TRAN-FriAM2

Room: Grand Suite 5

6/28/2013 10:10 AM

Platform

TCC: ET-1

Chair: Helen Ginzburg, Parsons Brinckeroff

Co-Chair: Bin Liu, North Carolina State University

10:10 AM

Particulate Matter Monitoring Study During Subway Construction in New York City

Paper#: 13075

H. Ginzburg¹, L. Wunderlich², G. G. Schattaneck¹; ¹Parsons Brinckerhoff, New York, NY, ²MTA Capital Construction, New York, NY

10:30 AM

Monitoring Study of the Near Road PM2.5 Concentrations in Maryland

Paper#: 13035

H. Ginzburg¹, X. Liu¹, M. Baker², R. Shreeve³, J. Rkm⁴, D. Campbell⁵, B. Zielinska⁶; ¹Parsons Brinckerhoff, New York, NY, ²Intercounty Connector Project, URS, ³State Highway Administration, Office of the Intercounty Connector, ⁴RTI, ⁵Desert Research Institute, ⁶Desert Research Institute, Reno, NV

10:50 AM

Mobil Source Modeling Characteristics Using CAL3QHC/MOVES

Paper#: 13348

R. L. Wayson¹, G. J. Noel²; ¹USDOT Volpe, Cottonwood Shores, TX, ²US Department of Transportation - Volpe Center, Chelmsford, MA

11:10 AM

Comparing Predictions from the CAL3QHCR and AERMOD Models for Highway Applications

Paper#: 13350

M. Claggett; Unaffiliated, Santa Fe, NM

11:30 AM

Updating the CAL3QHCR Model

Paper#: 13355

M. Claggett; Unaffiliated, Santa Fe, NM

PERSONAL SCHEDULE WORKSHEET

Use this worksheet to plan each day's schedule.

Time	Tuesday June 25	Wednesday June 26	Thursday June 27	Friday June 28
7:00 a.m.				
7:20 a.m.				
7:40 a.m.				
8:00 a.m.				
8:20 a.m.				
8:40 a.m.				
9:00 a.m.				
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7:30 p.m.				
8:00 p.m.				
8:30 p.m.				

Technical Program
Friday,
June 28

