ACE 2010 TECHNICAL PROGRAM HIGHLIGHTS

A&WMA’s 103rd Annual Conference & Exhibition Technical Program offers presentations on pertinent issues for all environmental professionals. Whether you work in management or in a “hands on” role, you will be sure to find plenty of sessions that suit your interests.

2010 Technical Program highlights include:

• The Keynote program featuring two plenary sessions. One will address priorities and challenges to energy policy in the 21st century (Tuesday, 9:00 a.m.) and include presentations by Ed Steimach, Premier of Alberta, and Jim Prentice, Minister of Environment Canada. The other will discuss transforming North American energy systems (Thursday 7:30 a.m.) and include high-level members of government and industry from the United States and Canada.
• The Critical Review, “Multipollutant Air Quality Management: Prospects for the Future,” will be presented by George Hidy and William Pennell (Wednesday, 8:00 a.m.).
• A dozen panels will feature national leaders from government, industry, and environmental groups discussing the latest issues on climate change policy, renewable energy, and sustainable development.
• More than 10 sessions, both paper and panel, will cover issues of regional and local interest such as oil sands air and environmental quality, CO2 capture and sequestration, H2S health research, and managing energy development environmental effects.
• A series of sessions for young or seasoned professionals who want an introduction to an area of interest that include Particulate Matter 101 (Tuesday, 1:20 p.m. and 4:00 p.m.), Carbon Sequestration 101 (Tuesday, 1:20 p.m.), and Understanding Air Toxics (Wednesday, 3:20 p.m.).
• A Mega Poster Session, with no competing sessions, with more than 90 posters covering all aspects of environmental issues, will be grouped by topic with the authors available for discussion (Wednesday, 1:20 p.m.).

Sessions in specific technical areas can be found in the program grid (pages 61-65) and in the interest tracks (pages 66-67).

2010 TECHNICAL PROGRAM CHAIRS

Richard Tropp
2010 Technical Program Chair

Allan Legge
2010 Technical Program Vice Chair
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<td>Tuesday, June 22, 2010</td>
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<td>Tues PM1</td>
<td>Paper</td>
<td>AB-3 (1a)</td>
<td>Challenges to Air Quality Emissions, Modeling, Deposition, and Measurements</td>
<td>1:20 - 2:40 p.m.</td>
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<td>Paper</td>
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<td>Indoor Air Quality - Sources, Measurements, Impacts, and Control</td>
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<td>1:20 - 3:00 p.m.</td>
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<td>Paper</td>
<td>EI-1 (1a)/(1b)</td>
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<td>Indoor Air Quality - Investigations and Remediation</td>
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<td>AE-1 (3)</td>
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<td>EI-1 (1a)/(1b)</td>
<td>Federal Facilities: Executive Order 13423 and Beyond</td>
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<td>New Source Review (NSR) Reform: Recent Developments and Issues</td>
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<td>Advances in Oil Sands Environmental Management and Reclamation</td>
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<td>WR-1 (1)</td>
<td>Sustainable Design in Real-World Environmental Characterization and Remediation</td>
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<td>Panel</td>
<td>YP (3b)</td>
<td>Particulate Matter 101</td>
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<td>Wednesday, June 23, 2010</td>
<td>Morning:</td>
<td>Wed AM1</td>
<td>Critical Review</td>
<td>Multipollutant Air Quality Management: Prospects for the Future</td>
<td>8:00 - 9:20 a.m.; 10:20 - 11:40 a.m.</td>
<td>Hyatt - Regency Ballroom 4-9</td>
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<td>Wed AM2</td>
<td>Panel AT-1 (1)</td>
<td>Air Toxics Update - Development, Implementation, Area Sources, and Residual Risk</td>
<td>10:20 - 11:40 a.m.</td>
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<td>Panel EI-1 (2)</td>
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<td>10:20 - 11:40 a.m.</td>
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<td>Panel ES-1 (1)</td>
<td>Projectile Propellent and Pollution Prevention for Projectile Production</td>
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<td>Human and Ecological Risks from Industrial Wastes</td>
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<td>Paper AB-1 (1a)</td>
<td>Particulate Matter Emission Measurements</td>
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<td>Paper AB-3 (3a)</td>
<td>Regulatory Model Applications</td>
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<td>Paper AB-7 (3)</td>
<td>Indoor Air Quality - Biocontaminants</td>
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<td>Paper AB-7 (4)</td>
<td>Indoor Air Quality - Vapor Intrusion</td>
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<td>Thursday, June 24, 2010</td>
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<td>Transforming North American Energy Systems</td>
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<td>Thurs AM1</td>
<td>Paper</td>
<td>AB-1 (2)</td>
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<td>EE-5 (3)</td>
<td>Corporate Risk Management Strategies</td>
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<td>PM$_{2.5}$ and Ozone Nonattainment Strategies</td>
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<td>NAAQS Policy</td>
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<td>Off-Road Sources: Airports, Rail, Marine, and Construction</td>
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<td>IF (1)</td>
<td>Air Quality and Environmental Initiatives in Asia - Part 1</td>
<td>9:00 - 10:20 a.m.</td>
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<td>WM-1 (3)</td>
<td>Achieving Zero Waste - Status Report</td>
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<td>WM-4 (1)</td>
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<td>Thurs AM2</td>
<td>Paper</td>
<td>AB-1 (1b)</td>
<td>Particulate Matter Emission Measurements</td>
<td>11:10 - 12:30 a.m.</td>
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<td>Paper</td>
<td>AB-3 (1c)</td>
<td>International PM Measurements/Data Analysis</td>
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<td>Paper</td>
<td>AE-2 (1c)</td>
<td>Ambient Studies, Measurements and Modeling</td>
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<td>Paper</td>
<td>AB-3 (2b)</td>
<td>Ozone and PM$_{2.5}$ Modeling</td>
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<td>AM-3 (1a)</td>
<td>Characterizing Air Quality and Monitoring for Environmental Effects in the Athabasca Oil Sands Region of Alberta, Canada - Part 1</td>
<td>11:10 - 12:50 a.m.</td>
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<td>Panel</td>
<td>EDC</td>
<td>Opportunities and Challenges in Environmental Education and Training</td>
<td>11:10 - 12:30 a.m.</td>
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AB-3 (1a)  
Room: Telus 110  
6/22/2010 1:20 PM  
Paper  
Challenges to Air Quality Emissions, Modeling, Deposition, and Measurements  
Sponsoring Committee(s): AB-3  
Chair: Piotr Staniaszek, Millenium EMS Solutions Ltd.  
Co-Chair: Pietro Catzone, TRC Environmental Corp.  

1:20 PM  
Paper#: 673  
Geophysical Data for Regulatory Modeling in Canada  
K. Morrison; Hatch, Montreal, QC, Canada  

1:40 PM  
Paper#: 724  
Atmospheric Sampling and Levels of Pesticides in the Canadian Prairie and Lower Fraser Valley Agricultural Regions of Western Canada  
R. Raina, L. Sun, P. Hall; University of Regina, Regina, SK, Canada  

2:00 PM  
Paper#: 751  
Consideration of Emissions Variability in Modeling Short-Term Concentrations  
R. J. Paine, D. Heinold; AECOM, Westford, MA  

2:20 PM  
Paper#: 872  
Use of MODIS Satellite Measurements of Land Use, Albedo and Leaf Area Index in CALMET  
C. Bell, K. Onder, S. Lataille; Golder Associates Ltd., Calgary, AB, Canada  

AB-7 (1)  
Room: Telus 101/102  
6/22/2010 1:20 PM  
Paper  
Indoor Air Quality - Sources, Measurements, Impacts, and Control  
Sponsoring Committee(s): AB-7  
Chair: Warren Kindzierski, University of Alberta  
Co-Chair: Silvia Martinez, Restek Corporation  

1:20 PM  
Paper#: 535  
Model to Predict Airborne Concentrations of Mercury from Broken Compact Fluorescent Lights  
F. D. Hall, J. R. Kominski; Environmental Quality Management, Inc., Cincinnati, OH  

1:40 PM  
Paper#: 740  
Adsorption of Cable Emitted DEHP (Di-(2ethylhexyl) Phthalate) on Indoor Dust  
C. Lee, M. Wang; National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan  

AE-1 (1)  
Room: Glen 209  
6/22/2010 1:20 PM  
Paper  
NOx Control for Stationary Sources  
Sponsoring Committee(s): AE-1, AE-2  
Chair: Howard Hohl, Eisenmann Corp.  
Co-Chair: Arijit Pakrasi, Shaw Environmental, Inc.  

1:20 PM  
Paper#: 33  
Reduction of NOx Emissions from Stoker-Fired Coal Boilers Using Combustion Modifications to Create Staged Combustion Zones  
R. Hawks; Environmental Quality Mgmt., Cincinnati, OH  

1:40 PM  
Paper#: 48  
Use of SCRs for Large Diesel Generators  
D. M. Bisset; Bisset Engineering, Vaughan, ON, Canada  

2:00 PM  
Paper#: 164  
Influence of the Pretreatment Condition on the Selective Catalytic Reduction of NO by C3H6 over Cu-Ti-PILC  
X. Li, G. Lu, Z. Qu, Q. Zhao, G. Chen, G. Chen; Dalian University of Technology, Dalian, China  

2:20 PM  
Paper#: 186  
Photo-assisted Selective Catalytic Reduction of NO with Ammonia in an Annular Photoreactor Coated with TiO2 Thin Film  
Y. Chou, Y. Ku; National Taiwan University of Science and Technology, Taipei City, Taiwan  

AM-1 (1)  
Room: Macleod A1  
6/22/2010 1:20 PM  
Paper  
Implementation of EPA's New Emissions Inventory System  
Sponsoring Committee(s): AM-1  
Chair: Tom Driscoll, U.S. EPA
Biomass burning is one of the primary causes of elevated airborne particulate matter, ozone precursors, and regional haze. There are numerous on-going and innovative efforts to enhance the collection and characterization of emissions in the National Emissions Inventory and models used for environmental management and policy activities. This panel will discuss tools, data collection, and modeling efforts to support NEI production. The panel will present emission evaluation tools, ground-based efforts, use of top-down satellite-based techniques (e.g., MODIS-derived emission inventory), contribution of biomass burning to PM2.5 and haze, and perspectives from EPA and State officials responsible for NEI.

Panelists:
- Narasimhan ‘Sim’ Larkin, U.S. Forest Service
- Tom Moore, Western Governors Association

AO-2 (1)
Room: Telus 103
6/22/2010 1:20 PM
Paper
Greenhouse Gas Measurement with Optical Techniques
Sponsoring Committee(s): AO-2
Chair: Eben Thoma, U.S. EPA
Co-Chair: Ram Hashmonay, ENVIRON

1:20 PM
Paper#: 539
Determining Fugitive Methane Emission Rates at the Springhill Landfill
R. Wyles, J. Ramkellawan, C. L. Y. Wong; Golder Associates, Burnaby, BC, Canada
TECHNICAL SESSIONS

EE-6 (1)
Room: Glen 201
6/22/2010 1:20 PM
Paper
Odor Measurement, Effects, and Management
Sponsoring Committee(s): EE-6
Chair: Michael McGinley, St. Croix Sensory, Inc.
Co-Chair: Tony van der Vooren, AMEC

1:20 PM
Paper#: 614
Sampling and Analysis Methodology Concerns for Volatile Organo-Sulfur Compounds (VOSCs)
E. C. Sivret, G. Parsci, R. M. Stuetz; The University of New South Wales, Sydney, Australia

1:40 PM
Paper#: 124
Swine Odor Source Chemical Characterization

2:00 PM
Paper#: 786
Innovative Approaches to the Management of Industrial Odour
P. Beauchemin, O. Petrov; Envirochem Services Inc., North Vancouver, BC, Canada

2:20 PM
Paper#: 1019
Targeted Odor Control at Wastewater Treatment Plants: Four Case Studies of Site-Wide Reduction Plans
R. Saari,1 J. Urbain; 1Environment Canada, Vancouver, BC, Canada, 2AECOM, Markham, ON, Canada

2:40 PM
Paper#: 826
Monitoring and Regulation of Odours - Pitfalls for Consultants
J. Willms; Willms & Shier Environmental Lawyers, Toronto, ON, Canada

EI-4 (1)
Room: Macleod A4
6/22/2010 1:20 PM
Paper
Environmental Issues in the Chemical/Petroleum Industries
Sponsoring Committee(s): EI-4
Chair: Richard Siegel, R & B Consulting Services

1:20 PM
Paper#: 109
Abqaiq Plants - The Journey to Zero Liquid Discharge
E. El-ayoubi; Saudi Aramco, Abqaiq, Saudi Arabia

1:40 PM
Paper#: 1031
A Management Process of Floating Roof Storage Tank Equipment for Air Quality Compliance
T. Shoeborg; Barr Engineering Company, Duluth, MN

2:00 PM
Paper#: 61
Numerical Simulation of Sour Gas Flares
A. Chambers,1 J. Thornock; 1Alberta Research Council, Edmonton, AB, Canada, 2University of Utah, Salt Lake City, UT

ES-4 (1)
Room: Glen 202
6/22/2010 1:20 PM
Paper
Corporate Sustainability Strategies
Sponsoring Committee(s): ES-4
Chair: Sardar Hassan, DoD IG Office

1:20 PM
Paper#: 173
Trends in Corporate Sustainability Reporting
J. L. Kraus, M. J. Thorn; Source 44, San Diego, CA

1:40 PM
Paper#: 696
Financializing Sustainability
T. J. Morahan; Delta Global Corporate Consultancy, Williamsville, NY

ES-4 (2a)
Room: Telus 111
6/22/2010 1:20 PM
Panel
Advances in Oil Sands Environmental Management and Reclamation: Issues and Challenges
Sponsoring Committee(s): ES-4
Chair: Dr. Joseph Fournier, Suncor Energy Inc.
Co-Chair: Darrell Martinande, Shell Canada Energy

This extended panel session has 9 presenters. The initial presentations will provide an overview of the Regional Aquatics Monitoring Program (RAMP), the Alberta Environment Water Quality Monitoring Program supporting Water Quality Frameworks for the Muskeg and Athabasca Rivers and cumulative environmental management in the Oil Sands Region illustrating the Cumulative Environmental Management Association (CEMA) contribution. This will be followed by an overview of reclamation research projects of the Canadian Oil Sands Network for Research and Development (CONRAD) with specific examples relating to tailings ponds. Issues related to wildlife management, historical resource management and waste management will be addressed.
TECHNICAL SESSIONS

LC (1)
Room: Glen 205
6/22/2010 1:20 PM
Panel
New Natural Gas: Opportunities and Environmental Challenges in North America Unconventional Gas
Chair: Travis Davies, Canadian Association of Petroleum Producers

This panel session has four presenters. The session will discuss the recent technological developments which allow for the production of unconventional natural gas resources in Canada and the United States and which will bring on a new, massive, and long-term supply of energy to the North American energy mix. This has the potential to change consumer behavior and options. The opportunities and environmental challenges of these unconventional natural gas resources will also be discussed.

WM-3 (1)
Room: Glen 203
6/22/2010 1:20 PM
Paper
Anaerobic Digestion and Composting
Sponsoring Committee(s): WM-3
Chair: Lee Lundberg, Veolia Water North America
Co-Chair: Samuel Vigil, CA Poly. State University

1:20 PM
Paper#: 543
Municipal Wastewater Treatment Plant Uses Direct Steam Injection for Anaerobic Digestion
L. Van Dixhorn, J. Hutchel; Hydro-Thermal, Waukesha, WI, ‘City of Crystal Lake Wastewater Dept, City of Crystal Lake, IL

1:40 PM
Paper#: 817
Evaluation of Macroalgae Gracilaria for Methane Production in Anaerobic Digestion System
M. Chiou, S. Wang, C. Huang; Tunghai University, Taichung, Taiwan

2:00 PM
Paper#: 1089
Evaluation of the Anaerobic Digestion of the Organic Fraction of Solid Waste Produced at the Largest Wholesale Central Market of Mexico
C. Rodriguez-Tapia, M. Gutierrez-Castillo, R. Sosa-Echeverria, H. Bravo; National Polytechnic Institute, Mexico, Mexico, ‘Centro de Ciencias de la Atmosfera, UNAM, Mexico, Mexico

2:20 PM
Paper#: 1026
The Fate of Elm Diseases in a Municipal Composting Environment
K. Wichuk, J. Tewari, V. Bansal, D. McCartney; University of Alberta, Edmonton, AB, Canada

WR-2 (1)
Room: Glen 204
6/22/2010 1:20 PM
Panel
RCRA and Industrial Waste Management – What’s New and What May Be Around the Corner
Sponsoring Committee(s): WR-2
Chair: Dan Mueller, MCG

Although industrial and hazardous waste management regulations have been in place for some time, new issues always present themselves. Consider the RCRA issues raised by the dam safety/coal combustion residues management triggered by the 2008 dam failure at TVA’s Kingston, TN power plant. This panel will be comprised of regulatory and industry representatives and discuss current developments of industrial and hazardous waste management as well as potential regulatory initiatives.

YP (2)
Room: Telus 109
6/22/2010 1:20 PM
Panel
Carbon Capture and Sequestration 101
Sponsoring Committee(s): YP, AE-1
Chair: Holly Krutka, ADA-ES
Co-Chair: Anne Marie Bourgeois, SIDD

If CO₂ emissions are to be reduced in the near future, carbon capture and sequestration (CCS) from point sources must play an important role. Research, development, and demonstrations in this field are quickly growing and are providing opportunities and challenges to the environmental industry. This session is designed to provide an introduction and background to the main components of CCS:
1. Post-combustion CO₂ capture from conventional power plants
2. Pre-combustion CO₂ capture from integrated gasification and combined cycles (IGCC) plants
3. Options for sequestration, including enhanced oil recovery and underground storage
4. Public policy related to CCS

This panel session is designed for those who are interested in learning more about the fundamentals related to this exciting field. This panel session is sponsored by the Young Professionals (YPs) as well as AE-1.

Panelists:
• Holly Krutka, ADA-ES
• Katherine Dombrowski, URS Corporation
• John Zhou, Alberta Innovates
YP (3a)  
Room: Telus 108  
6/22/2010 1:20 PM  
Panel  
Particulate Matter 101  
Sponsoring Committee(s): YP  
Chair: Delbert Eatough, Brigham Young University  
Co-Chair: Madhan Selvaraj, Stantec  
Co-Chair: Prakash Doraiswamy, State University of New York at Albany  

Understanding particles in the atmosphere is a critical issue important to environmental scientists. This Panel will overview the key issues, what is known, how we arrived where we are and the unanswered questions. Topics to be covered in Part 1 (YP (3a)) include PM Ambient Air Quality Standards; PM and Health; and Composition and Sampling.  

Panelists:  
• Lindsay Stanek, U.S. EPA  
• Jeffrey Brook, Environment Canada  
• C. Arden Pope, Brigham Young University  
• John Watson, Desert Research Institute  
• Delbert Eatough, Brigham Young University  

AB-3 (1b)  
Room: Telus 110  
6/22/2010 4:00 PM  
Paper  
Challenges to Air Quality Emissions, Modeling, Deposition, and Measurements  
Sponsoring Committee(s): AB-3  
Chair: Piotr Staniaszek, Millenium EMS Solutions Ltd.  
Co-Chair: Pietro Catzone, TRC Environmental Corp.  

4:00 PM  
Paper#: 906  
Challenges for Making Ozone, PM$_2.5$ and Visibility Projections in Remote Regions with Sparse Measurement Databases  
S. Kemball-Cook, T. Shah, R. E. Morris; ENVIRON International Corporation, Novato, CA  

4:20 PM  
Paper#: 913  
Uncertainty Analysis of Fugitive Dust Sampling Strategies  
C. Cowherd; Midwest Research Institute, Kansas City, MO  

4:40 PM  
Paper#: 869  
CALPUFF Model Sensitivity Analysis - Model Switch Comparison  
G. Unrau, K. Onder, R. Nambiar; Golder Associates Ltd., Calgary, AB, Canada  

5:00 PM  
Paper#: 1071  
Do Models Get It Right? Tracking Sulfur Deposition in Complex Terrain: Comparing CALPUFF Output to Measurements  
A. Norman,¹ T. ENSC Class of 2006, ² P. Staniaszek²; ¹The University of Calgary, Calgary, AB, Canada, ²Millenium EMS Solutions, Calgary, AB, Canada  

AB-5 (1)  
Room: Telus 109  
6/22/2010 4:00 PM  
Paper  
Community (Transportation) Noise Issues  
Sponsoring Committee(s): AB-5  
Chair: Jordan Haywood, Siemens Energy, Inc.  
Co-Chair: Roger Wayson, Volpe Trans. System Center  

4:00 PM  
Paper#: 21  
Uncertainties in Acoustical Measurement and Estimation and Their Effects on Community Noise  
R. J. Peppin; SCANTEK, INC, Columbia, MD  

4:20 PM  
Paper#: 941  
On-Board Sound Intensity Measurements: The Florida Experience  
R. L. Wayson,¹ J. M. MacDonald,³ M. Berrios⁴; ¹Volpe National Transportation Systems Center, Cottonwood Shores, TX, ³Consulting Acoustic Engineer, Winter Springs, FL, ⁴Florida Dept. of Transportation, Tallahassee, FL  

5:00 PM  
Paper#: 536  
Noise Pollution in Bogotá City: A Pilot Study  
J. A. Pacheco Molano, J. Franco Ramirez, E. Behrentz Valencia; Universidad de los Andes, Bogotá, Colombia
In 1999, the U.S. EPA implemented the Regional Haze Rule (RHR), which has the goal of providing natural visibility conditions to protected areas such as National Parks in the U.S. by the year 2064. The initial phase of the RHR involved a monitoring period of 2000-2004 to establish baseline visibility conditions. The current activity in the rule implementation involves, in part, a review of emissions retrofit options for major sources put into production between 1962 and 1977 (Best Available Retrofit Technology, or BART). Other issues in the current review of State Implementation Plans (SIPs) for the RHR implementation involve BART proposals as well as a review of Reasonable Further Progress to determine how each state will work toward the goal of natural conditions by the year 2064, with the prospect of periodic reviews of this progress about every 10 years and an initial progress milestone by the year 2018. The implementation of BART and review of Reasonable Further Progress have been complicated by several factors:

- The definition of what constitutes BART for individual sources has been highly contested in certain cases.
- In some areas, natural sources of haze such as wildfires and wind blown dust cannot reasonably be controlled.
- In some areas, even the total shutdown of all anthropogenic sources of pollution would not even begin to approach the goal of what is currently defined as natural conditions.
- International emissions, such as those from Canada, cannot be controlled or projected by U.S. regulations, but they can contribute significantly to haze in certain areas.
- Dispersion models used to project improvements in visibility have technical limitations.
- Measurements of haze-causing particulate species have their own limitations.

The panelists will describe their experiences in the implementation of the Regional Haze Rule program and progress of various regions of the U.S. toward the goal of natural visibility conditions.

Panelists:
- Carol Kemker, U.S. Environmental Protection Agency
- Susan Wierman, MARAMA
- C.V. Mathai, Arizona Public Service
- Tom Moore, Western Regional Air Partnership
- John Watson, Desert Research Institute
- Chuck McDade, University of California at Davis

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- John Watson, Desert Research Institute
- Chuck McDade, University of California at Davis

In 1999, the U.S. EPA implemented the Regional Haze Rule (RHR), which has the goal of providing natural visibility conditions to protected areas such as National Parks in the U.S. by the year 2064. The initial phase of the RHR involved a monitoring period of 2000-2004 to establish baseline visibility conditions. The current activity in the rule implementation involves, in part, a review of emissions retrofit options for major sources put into production between 1962 and 1977 (Best Available Retrofit Technology, or BART). Other issues in the current review of State Implementation Plans (SIPs) for the RHR implementation involve BART proposals as well as a review of Reasonable Further Progress to determine how each state will work toward the goal of natural conditions by the year 2064, with the prospect of periodic reviews of this progress about every 10 years and an initial progress milestone by the year 2018. The implementation of BART and review of Reasonable Further Progress have been complicated by several factors:

- The definition of what constitutes BART for individual sources has been highly contested in certain cases.
- In some areas, natural sources of haze such as wildfires and wind blown dust cannot reasonably be controlled.
- In some areas, even the total shutdown of all anthropogenic sources of pollution would not even begin to approach the goal of what is currently defined as natural conditions.
- International emissions, such as those from Canada, cannot be controlled or projected by U.S. regulations, but they can contribute significantly to haze in certain areas.
- Dispersion models used to project improvements in visibility have technical limitations.
- Measurements of haze-causing particulate species have their own limitations.

The panelists will describe their experiences in the implementation of the Regional Haze Rule program and progress of various regions of the U.S. toward the goal of natural visibility conditions.

Panelists:
- Carol Kemker, U.S. Environmental Protection Agency
- Susan Wierman, MARAMA
- C.V. Mathai, Arizona Public Service
- Tom Moore, Western Regional Air Partnership
- John Watson, Desert Research Institute
- Chuck McDade, University of California at Davis
**TECHNICAL SESSIONS**

**AE-1 (2)**
Room: Glen 209  
6/22/2010 4:00 PM  
**Paper**  
Multi-Pollutant Monitoring and Control Technologies for Cement Kiln Air Emissions  
Sponsoring Committee(s): AE-1, EI-5  
Chair: Gary Elliott, Lafarge North America  
Co-Chair: Constance Senior, Reaction Engineering

4:00 PM  
**Paper#: 31**  
Reduction of Mercury Emissions from Preheater/Precaliner Cement Kilns Through the Use of Thermal Desorption of Kiln Feed  
R. Hawks; Environmental Quality Mgmt., Cincinnati, OH

4:20 PM  
**Paper#: 34**  
Verification of Microfine Lime Theoretical Model for SO2 Removal in Precaliner Cement Plants  

4:40 PM  
**Paper#: 143**  
Making Mercury Measurements at Cement Kilns Using Sorbent Traps and Thermal Zeeman AA Analysis  
P. J. Dufresne, J. Siperstein, Q. He, A. Sipershteyn; Ohio Lumex, Twinsburg, OH

5:00 PM  
**Paper#: 680**  
Experience in Europe with Multi Pollutant Monitoring Systems for Cement Kilns  
B. J. Andres; Consulting Emissions- und Prozessmesstechnik, Biebergemund, Germany

5:20 PM  
**Paper#: 1419**  
Mercury Emissions Reduction from Portland Cement Kilns using Wet Scrubbers  
C. Senior; Reaction Engineering International, Salt Lake City, UT

**AE-1 (3)**
Room: Glen 205  
6/22/2010 4:00 PM  
**Paper**  
Control Technologies for Fine Particulate Matter  
Sponsoring Committee(s): AE-1, AB-1  
Chair: Hardik Shah, Southern Environmental Inc.  
Co-Chair: John McKenna, ETS International

4:00 PM  
**Paper#: 112**  
Synergistic Effect of Modern ESP Design Produces Particulate Emissions Comparable to Fabric Filters  
M. Chambers, G. J. Grieco, J. R. Chaney; ‘Southern Environmental, Pensacola, FL, ‘ACA, Morris Plains, NJ, ‘Ameren/UE, St. Louis, MO

4:20 PM  
**Paper#: 585**  
Wet Electrostatic Precipitator Control for Meeting Metals Emission Standards  
A. Bartocci; Envitech, Inc., San Diego, CA

4:40 PM  
**Paper#: 49**  
Next Generation Wet Electrostatic Precipitators  
H. G. Shah, J. Caine; Southern Environmental Inc., Pensacola, FL

5:00 PM  
**Paper#: 154**  
Application of Silica Precursor to Reduce Toxic Metal Emissions from Gas Metal Arc Welding Process  

5:20 PM  
**Paper#: 1404**  
The Challenges of Reducing PM2.5 and Ozone Exposure Levels in the South Coast Air Basin  
L. T. Tisopulos, J. Cassmassi, M. Pham; SCAQMD, Diamond Bar, CA

**AM-5 (1)**
Room: Telus 104  
6/22/2010 4:00 PM  
**Paper**  
Data Analysis and Quality Assurance  
Sponsoring Committee(s): AM-5  
Chair: Christopher Rogers, MACTEC Engineering & Consulting, Inc.

4:00 PM  
**Paper#: 1053**  
Are the Current CO2 Emissions Measurements from US Coal Fired Power Plants Adequate for the Billion Dollar Carbon Market?  
R. S. Zimmerman, M. J. Bills, A. K. Muttyam, D. MacTaggart; C-Lock Technology, Inc, Rapid City, SD

4:20 PM  
**Paper#: 907**  
Temporal and Spatial Trends in Continuous PM2.5 Mass Measurements in Atlanta and Macon, Georgia, 2003 - 2010  
A. J. Butler, B. Handziuk; Mercer University, Macon, GA

4:40 PM  
**Paper#: 1101**  
Solution Gas Flaring and Venting in Alberta: Characterization, Trends, and Potential for Mitigation  
A. R. Coderre, M. R. Johnson; Carleton University, Ottawa, ON, Canada
### TECHNICAL SESSIONS

**5:00 PM**  
**Paper#: 1090**  
**Evaluating the Contribution from Pulp Mills on Ambient Monitors in Prince George**  
D. C. Fudge,¹ P. Jackson;¹ BC Environment, Prince George, BC, Canada, ¹UNBC, Prince George, BC, Canada

**5:20 PM**  
**Paper#: 1196**  
**Evaluation of Uncertainty on the GHG Emission Factor for a Type of Furnace**  
J. Woo,¹ H. Bae,¹ H. Kim,¹ K. Han,² B. Min;² ‘KRISS, Daejeon, Korea, Republic of, ²KIER, Daejeon, Korea, Republic of

**AO-2 (2) Room: Telus 103**  
6/22/2010 4:00 PM  
**Paper**  
**Optical Measurement of Emissions from Oil and Gas Production**  
Sponsoring Committee(s): AO-2, AO-3  
Chair: Chang-Fu Wu, National Taiwan University  
Co-Chair: Vincent Farley, Telops

**4:00 PM**  
**Paper#: 555**  
**Application of Smart LDAR on an European Refinery Site for Detection and Quantification of Fugitive Emissions**  
M. Benassy; Total Raffinage Marketing, Solaise, France

**4:20 PM**  
**Paper#: 70**  
**Detection and Quantification Fugitive Emissions from Colorado Oil and Gas Production Operations Using Remote Monitoring**  
E. D. Thoma,¹ B. A. Mitchell,¹ B. C. Squier,¹ J. M. DeWees,² R. R. Segall,² C. Beefer,² M. T. Modrak,³ M. Sharooz Amin,¹ A. B. Shah,² C. W. Reina,³ R. L. Apodaca;³ U.S. EPA ORD, RTP, NC, ³U.S. EPA OAQPS, RTP, NC, ³US EPA Region 8, Denver, CO, ³ARCADIS, DURHAM, NC, ³ARCADIS, Durham, NC, ³Picarro, Sunnyvale, CA

**4:40 PM**  
**Paper#: 866**  
**Measurement of Volatile Organic Compounds from Petrochemical Barges using Optical Remote Sensing Approaches**  

**5:00 PM**  
**Paper#: 1913**  
**Smart LDAR Quality: Problems and Solutions**  
E. Dupuis, F. Thibodeau; SNC-Lavalin Environment Inc., Longueuil, QC, Canada

**5:20 PM**  
**Paper#: 1121**  
**Quasi-Stationary Barge Emission Study**  
M. Modrak, M. S. Amin; ARCADIS U.S., Inc., Research Triangle Park, NC

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**EE-1 (1) Room: Glen 208**  
6/22/2010 4:00 PM  
**Paper**  
**Exposure Assessments for Nanoparticles, PM2.5, and Polyaromatic Hydrocarbons**  
Sponsoring Committee(s): EE-1  
Chair: David Brenner, Neptune and Co., Inc.  
Co-Chair: James Morrow, J. W. Morrow

**4:00 PM**  
**Paper#: 665**  
**Potential Inhalation Exposure of Consumers to Nanoparticles and Their Agglomerates Due to the Use of Nanotechnology-Based Cosmetic Powders**  
Y. Nazarenko,¹ T. Han,¹ P. Lioy,² G. Mainelis;³ Rutgers, the State University of New Jersey, New Brunswick, NJ, ³Environmental and Occupational Health Sciences Institute and UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ

**4:20 PM**  
**Paper#: 827**  
**Hazardous Air Pollutant and Water Adsorption on Nanomaterials: An Aggravated Human Exposure?**  
N. M. Facundo Torres, D. Ramirez; Texas A&M University-Kingsville, Kingsville, TX

**4:40 PM**  
**Paper#: 1411**  
**Particulate Air Pollution and Health Effects for Cardiovascular and Respiratory Causes over an Industrial Neighborhood; Linking Epidemiological Time Series Studies and the Power of a Health Perception Survey**  
L. Diaz-Robles,¹ M. P. Silva,² N. Schiapaccas Pu.,³ M. Guerrero,¹ J. C. Ortega,¹ P. Ethcharen,¹ G. Oyola,² N. Fernandez;³ Catholic University of Temuco, Temuco, Chile, ³University Mayor, Temuco, Chile, ³National Environmental Commission (CONAMA), Biobio Region, Chile, ³Environmental Commission (CONAMA), Biobio Region, Chile

**EE-6 (2) Room: Glen 201**  
6/22/2010 4:00 PM  
**Paper**  
**Odor Modeling and Monitoring**  
Sponsoring Committee(s): EE-6  
Chair: Anna Bokowska, Canadian Ortech Env.  
Co-Chair: Larry Hottenstein, ERM

**4:00 PM**  
**Paper#: 606**  
**Management Framework for Fugitive Emissions Control at a Large Oil Tank Terminal in Alberta**  
A. L. Fisher, B. Z. Kucewicz, M. Schroeder; Stantec Consulting Ltd., Calgary, AB, Canada
TECHNICAL SESSIONS

4:20 PM
Paper#: 930
Application of Quantitative Risk Assessment Techniques to Evaluate Odors
A. Springer, R. Person, K. Bajwa; Stantec Consulting, Calgary, AB, Canada

4:40 PM
Paper#: 691
Development of a Livestock Odor Dispersion Model (LODM): Model Theory and Development
Z. Yu, H. Guo, C. Lague; University of Saskatchewan, Saskatoon, SK, Canada, University of Ottawa, Ottawa, ON, Canada

EI-1 (1a)/(1b)
Room: Telus 106
6/22/2010 4:00 PM
Paper
Federal Facilities: Executive Order 13423 and Beyond
Sponsoring Committee(s): EI-1
Chair: David Kumar, U.S. Air Force
Co-Chair: Michael McFarland, Utah State University

4:00 PM
Paper#: 58
Preparing a Greenhouse Gas Baseline Inventory at Hill Air Force Base in Conjunction with Newly Promulgated Greenhouse Gas Rulemaking

4:20 PM
Paper#: 53
Operationalizing Energy and Environmental Data in an Asset Management System
G. L. Hart; Tinker Air Force Base, MWC, OK

4:40 PM
Paper#: 1630
Air Force Environmental Management System Implementation: Status Review & Next Steps
K. Winnie, C. Tipton; United States Air Force, Brooks AFB, TX, Booz Allen Hamilton, TX

5:00 PM
Paper#: 541
Implementing EO 13423 through Eglin’s EAI Toolset
K. M. Sculthorpe; Eglin AFB/SAIC, Eglin AFB, FL

5:20 PM
Paper#: 546
Integrating Green Base Tracking and an Environmental Management System
D. Hansell, D. Stinson; EM-Assist, Layon, UT, Marine Corps Logistics Base, Barstow, CA

5:40 PM
Paper#: 1629
Regulatory/Policy and Other Key Drivers and Features of Executive Order 13423 Chemical Reduction Requirements at Air Force Facilities
D. Kumar; HQ United States Air Force, Washington, DC

EP-1 (2)
Room: Glen 206
6/22/2010 4:00 PM
Panel
New Source Review (NSR) Reform: Recent Developments and Issues
Sponsoring Committee(s): EP-1, EP-4
Chair: Gary McCutchen, RTP Environmental Associates, Inc.
Co-Chair: Ken Weiss, ERM

This panel will discuss significant NSR rule developments and explain how these developments affect applicants and agencies. Of particular interest are the role of NSR in (1) greenhouse gas regulation and (2) PM2.5 permits.

Panelists:
- Raj Rao, U.S. EPA
- Matthew Cohen, Stoel Rives, LLP

ES-4 (2b)
Room: Telus 111
6/22/2010 4:00 PM
Panel
Advances in Oil Sands Environmental Management and Reclamation
Sponsoring Committee(s): ES-4
Chair: Dr. Joseph Fournier, Suncor Energy Inc.

ES-4 (8)
Room: Glen 202
6/22/2010 4:00 PM
Paper
Natural Resource Sustainability Including Land Use, Water, and Agriculture
Sponsoring Committee(s): ES-4
Chair: Flint Webb, SAIC

4:00 PM
Paper#: 903
The Influence of Climate Change on Pollinator Decline
R. E. Owen; Mount Royal University, Calgary, AB, Canada

4:20 PM
Paper#: 777
Future Energy Demands in India, China, and USA: Energy Mix vs. Air Pollution Potential
A. Paduru, B. Kura; University of New Orleans, Metairie, LA
TECHNICAL SESSIONS

4:40 PM
Paper#: 1104
Green Buildings: Comparison of Environmental Parameters in the U.S. and India

5:00 PM
Paper#: 1025
Brackish Water Desalination Using Renewable Energy
K. Gillespie, L. Moon; Montana Tech of the University of Montana, Butte, MT

Room: Macleod A4

ET-2 (1)
6/22/2010 4:00 PM
Paper/Panel
Land Use and Transportation Policies to Build Sustainable Communities
Sponsoring Committee(s): ET-2, ET-1
Chair: Walter Arenstein, Writrac Consulting
Co-Chair: John Holtzclaw, Sierra Club

This panel will provide an overview of strategies to address land use and reduce growth in vehicle miles travelled as a means of achieving NAAQS pollutant and greenhouse gas reductions. It will include an overview of transportation's contribution to air quality issues and trends in vehicle miles travelled growth, available resources/guidance documents, upcoming federal legislation, and the experiences of two metropolitan planning organizations with respect to land use and VMT measures that have been implemented in their regions.

Panelists:
- Jeff Houk, FHWA
- John Holtzclaw, Sierra Club
- Carrie Reese, NCTCOG
- Harold Brazil, MTC

Paper#: 10
Efficient Edge Cities of the Future
S. Raney; Cities21, Palo Alto, CA

Paper#: 554
A Plan to Efficiently and Conveniently Unbundle Car Parking Costs
M. R. Bullock, J. R. Stewart; Sierra Club California’s Energy-Climate Committee, Oceanside, CA; University of the West, Los Angeles, CA

Paper#: 927
Establishing Regional Transportation Performance Targets in Support of Climate Change Mitigation, Growth Management, and Sustainable Transportation in Metropolitan Vancouver
R. Kan, E. Hou, G. Cross; Metro Vancouver (Greater Vancouver Regional District), Burnaby, BC, Canada; TransLink (South Coast British Columbia Transportation Authority), Burnaby, BC, Canada

WM-3 (2)
Room: Glen 203
6/22/2010 4:00 PM
Paper
Municipal Waste - Thermal Processing, Reuse, and Treatment
Sponsoring Committee(s): WM-3
Chair: Samuel Vigil, CA Poly. State University
Co-Chair: Lee Lundberg, Veolia Water North America

4:40 PM
Paper#: 113
Tea Waste as a Potential Adsorbent for Decoloration of Textile Wastewater
C. Weng, Y. Chen; I-Shu University, Kaohsiung County, Taiwan

WR-1 (1)
Room: Glen 204
6/22/2010 4:00 PM
Paper
Sustainable Design in Real-World Environmental Characterization and Remediation
Sponsoring Committee(s): WR-1
Chair: Bhaskar Kura, University of New Orleans
Co-Chair: John Stallings, Department of the Air Force, Aeronautical Systems Center

4:00 PM
Paper#: 43
Using Green Remediation Technology to Remediate Petroleum Impacted Soil and Groundwater
L. J. Gimpelson; LG Environmental Engineering, Orlando, FL

4:20 PM
Paper#: 1102
Waste to Energy: Comparison of Technologies and Environmental Regulatory Framework in the U.S. and India
S. Verma, P. P. Kalbar, B. Kura, S. R. Asolekar; University of New Orleans, New Orleans, LA, Indian Institute of Technology, Bombay, Mumbai, India
TECHNICAL SESSIONS

4:40 PM
Paper#: 583
Successful Full-Scale Development and Deployment of Advanced PGPR Enhanced Phytoremediation Systems (PEPS) for Decontamination of Petroleum and Salt Impacted Soils
B. M. Greenberg,1 X. Huang,2 P. D. Gerwing3; 1University of Waterloo & Waterloo Environmental Biotechnology Inc, Waterloo & Hamilton, ON, Canada, 2Waterloo Environmental Biotechnology Inc, Hamilton, ON, Canada, 3Earthmaster Environmental Strategies Inc., Calgary, ON, Canada

5:00 PM
Paper#: 1063
Pre-Coated Fastners, A Great Idea, Still Waiting in the Wings

YP (3b)
Room: Telus 108
6/22/2010 4:00 PM
Panel
Particulate Matter 101
Sponsoring Committee(s): YP
Chair: Delbert Eatough, Brigham Young University
Co-Chair: Madhan Selvaraj, Stantec
Co-Chair: Prakash Doraiswamy, State University of New York at Albany
Understanding particles in the atmosphere is a critical issue important to environmental scientists. This Panel will overview the key issues, what is know, how we arrived where we are and the unanswered questions. Topics to be covered in Part 2 (YP (3b)) include Visibility; Source Apportionment; Global Radiative Balance; and Role of Black Carbon.

Panelists:
• Brett Schichtel, National Park Service – Air Resource Division
• Brian Stocks, B.J. Stocks Wildfire Investigations Ltd.
• Jay Turner, Washington University
• Knut von Salzen, Canadian Centre for Climate Modeling and Analysis
• Sarah Doherty, IGAC Core Project Office

WEDNESDAY, JUNE 23

WED. AM1

Critical Review
Room: Hyatt - Regency Ballroom 4-9
6/23/2010 8:00 AM
Multipollutant Air Quality Management: Prospects for the Future
George M. Hidy and W.T. Pennell
See page 16 for details on the Critical Review.

WED. AM2

AT-1 (1)
Room: Telus 103
6/23/2010 10:20 AM
Panel
Air Toxics Update - Development, Implementation, Area Sources, and Residual Risk
Sponsoring Committee(s): AT-1
Chair: Paul Siebert, Weston Solutions, Inc.
This panel session will present views of EPA, State agencies, industry, and environmentalists on the status, directions, and expectations regarding maximum achievable control technology (MACT) standards under 40 CFR 63, as well as air toxics regulations of other nations and jurisdictions. The panel may address the progress and problems with implementation of the promulgated standards and the status and results of legal challenges. A major focus will be an update on the ongoing development and implementation of the area source and residual risk standards. Alternative hazardous/toxic air pollutant programs by states and other nations are also of interest. This panel will strive to present the status, direction, and expectations regarding developing air toxic regulations in the United States, Canada, and other countries.

Panelists:
• Penny Lassiter, U.S. EPA
• Anil Chhibber, Westland Environmental Services, Inc.

EE-5 (2)
Room: Glen 208
6/23/2010 10:20 AM
Paper
Risk Assessment Modeling Tools and Techniques
Sponsoring Committee(s): EE-5
Chair: Michael Weaver, Science Applications International Corporation (SAIC)

10:20 AM
Paper#: 1038
Human Health Risk Assessment and Beyond - The Community Health Impact Approach
M. Orenstein,1 G. Brown,2 E. Myles3; 1Habitat Health Impact Consulting, Calgary, AB, Canada, 2Intrinsik Environmental Sciences Inc., Calgary, AB, Canada, 3EMyles Consulting, Calgary, AB, Canada

10:40 AM
Paper#: 945
Application of the EPA's Total Risk Integrated Methodology (TRIM) to Elevated Point Sources
C. D. Szembek, D. Heinhold; AECOM, Westford, MA

11:00 AM
Paper#: 678
Development and Application of a River Spill Dilution Model
D. I. McCready, J. B. Williams; Dow Chemical, South Charleston, WV
This panel will discuss approaches to reducing the burden of compliance with the federal general conformity regulations (40 CFR 93 Subpart B). In particular, two approaches will be discussed—(1) establishing a facility-specific emissions budget in a state implementation plan (SIP) and (2) obtaining a federal agency-specific list of projects that are presumed to conform (PTC) with SIPs in accordance with 40 CFR 93.153(f). The Air Force Aeronautical Systems Center will discuss establishing a SIP emissions budget for Air Force Plant 42, which is located in Southern California. The establishment of an emissions budget in a SIP can provide a facility greater operational flexibility and can greatly enhance the ability of a facility to accommodate mission changes that are associated with large amounts of emissions. Jacobs Consultancy will discuss the Federal Aviation Administration’s (FAA) initiative to develop a PTC list. The FAA is the first and only federal agency to take advantage of the provisions of 40 CFR 93.153(f) to establish a PTC list. By having a PTC list, the FAA is expected to incur long-term savings of valuable resources that can be diverted to support other mission-critical initiatives. In addition to discussing these two compliance approaches, the panel will also discuss the revisions to the federal general conformity regulations, which are expected to include several changes designed to reduce the burden of compliance with general conformity requirements. The U.S. Environmental Protection Agency will discuss the revisions to the federal general conformity regulations.

Panelists:
• Surendra Joshi, Air Force Aeronautical Systems Center
• Darcy Zarubia, Jacobs Consultancy

EP-3 (1)
Room: Glen 205
6/23/2010 10:20 AM

Legal and Liability Issues
Sponsoring Committee(s): EP-3
Chair: Lee Hoffman, Pullman & Comley LLC
Co-Chair: Charles Denton, Barnes & Thornburg

10:20 AM
Paper#: 9
Internet Sources for Energy and the Environment Compliance Information
C. B. Simonsen; Seyfarth Shaw LLP, Chicago, IL

10:40 AM
Paper#: 983
Beyond Reporting: The Wider Legal Implications of the Mandatory GHG Reporting Rules
N. Mather; McLennan Ross LLP, Edmonton, AB, Canada
TECHNICAL SESSIONS

11:00 AM
Paper#: 1029
Climate Change 101: Understanding the Effects of Emerging Climate Change Law and Policy on Your Business
T. Meadows; Miller Thomson LLP, Edmonton, AB, Canada

ES-1 (1)
Room: Glen 201
6/23/2010 10:20 AM
Panel
Projectile Propellant and Pollution Prevention for Projectile Production
Sponsoring Committee(s): ES-1
Chair: Murray Kuhns, Sage Ltd.
Co-Chair: John Stallings, Department of the Air Force, Aeronautical Systems Center

Panel members will discuss biofuel applications in projectile use. Substitution of standard fuels with renewable fuels such as ethanol will be discussed. Pollution prevention techniques will be applied to other aspects of projectile production techniques. Application of multiple additives will be discussed. Possible fuel additives discussed will range from ethanol to biodiesel, which may be included in fuel formulations. Additives will be of biological origin. Origin of biofuels will be considered when analyzing biofuels additives. Cellulostic feedstocks are possible sources of new additives for projectile fuel

ITF-11 (1)
Room: Telus 109
6/23/2010 10:20 AM
Panel
Legal Framework for First Nations/Trades in Resource Protection and Management
Sponsoring Committee(s): ITF-11
Chair: J. Stephen Hartsfield, National Tribal Air Association/National Tribal Environmental Council

In ever-evolving understanding of past treaties and agreements, Canadian First Nations and Tribes in the United States explore what this means in resources access protected in these treaties and agreements. This led to cooperative co-management of natural resources with Federal, Provincial and State agencies. With many areas in Canada still not under treaty agreements or were not under a treaty agreement until recently, many First Nations and Provinces are looking at the next chapter and path of understanding treaties and agreements.

WM-1 (1)
Room: Glen 203 [Back-to-back with WR-2 (2)]
6/23/2010 10:20 AM
Paper
Integrated Waste Management, Waste Prevention, and Recycling
Sponsoring Committee(s): WM-1
Chair: Marjorie Clarke, City College of New York
Co-Chair: Samuel Vigil, CA Poly. State University

10:40 AM
Paper#: 726
Pollution Prevention through Energy Optimization at Wastewater Treatment Facilities
N. Devata, B. Kura; University of New Orleans, New Orleans, LA

WR-2 (2)
Room: Glen 203 [Back-to-back with WM-1 (1)]
6/23/2010 11:00 AM
Paper
Human and Ecological Risks from Industrial Wastes
Sponsoring Committee(s): WR-2
Chair: Bhaskar Kura, University of New Orleans
Co-Chair: Radha Krishnan, Shaw Environmental

11:00 AM
Paper#: 739
Characterization of Topsoil Samples and Analysis of the Distribution of Heavy Metals in Parral Chihuahua
Instituto Tecnologico de Parral, Chihuahua, Mexico, Centro de Investigación en Materiales Avanzados, Chihuahua, Mexico

11:20 AM
Paper#: 811
A Scheme for Laboratory Liquid Waste Sorting and Management for Colleges in Taiwan
G. T. Wang, P. Tsou, L. Chiang, C. Chao; Foorin University, Kaohsiung, Taiwan, National Cheng Kung University, Tainan, Taiwan

YP (1)
Room: Telus 108
6/23/2010 10:20 AM
Panel
Young Professional’s Guide to Getting Involved
Sponsoring Committee(s): YP
Chair: Laurel Peterson, Hoefler Consulting Group

This session will provide an overview of the organizational structure of the Air and Waste Management Association. Discussion will include the various open committee and council positions, as well as information on how people can volunteer and what to expect once they have volunteered.

Panelists:
• Steve Rybolt, Port of Seattle
• Laurel Peterson, Hoefler Consulting Group
• Brad Waldron, NGE, LLC

WED. PM1

Mega Poster Session
Room: Macleod A & B
6/23/2010 1:20 PM
Technical Council Coordinator: Constance Senior, Reaction Engineering

Sponsoring Committee(s): AB-1
Chair: James Flanagan, RTI International
Co-Chair: Charles McDade, University of California, Davis
TECHNICAL SESSIONS

Paper#: 1143
Copper Contamination of Ambient PM$_{2.5}$ Samples in the Chemical Speciation Network
J. R. Turner; Washington University in St. Louis, Saint Louis, MO

Paper#: 820
Carbonaceous and Ionic Components of Atmospheric Fine Particles in Beijing and Its Impacts on Atmospheric Visibility
J. Zhou; Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China

Paper#: 823
Source Apportionment of PAHs in Air in South-Eastern Finland
M. K. Vestenius, S. Leppänen, P. Anttila, K. Kyllönen, H. Hellen, H. Hakola; Finnish Meteorological Institute, Helsinki, Finland

Paper#: 864
Investigating the Seasonal and Spatial Patterns of Urban and Rural PM$_{2.5}$ Speciated Aerosol Composition Data from the IMPROVE and CSN Networks from 2005-2008
J. L. Hand,¹ B. A. Schichtel,¹ W. C. Malm,² W. White,² L. Ashbaugh,² C. McDade,³ M. Pitchford;⁵ Colorado State University, Fort Collins, CO, ¹National Park Service, Fort Collins, CO, ³University of California, Davis, Davis, CA, ⁵NOAA, Las Vegas, NV

Paper#: 933
Characterization and Source Attribution of Atmospheric Fine Particulate Organic Matter
Y. Jia,¹ S. Bhat,² M. P. Fraser¹;¹ Arizona State University, Tempe, AZ, ²ENVIRON International Corporation, Houston, TX

Paper#: 956
EPA’s PM$_{2.5}$ Chemical Speciation Network (CSN): Evaluation of Historical Round-Robin X-ray Fluorescence Data
A. McWilliams,¹ J. B. Flanagan,¹ R. Jayanty,¹ R. Sarver¹;¹ RTI International, Research Triangle Park, NC, ¹Chester LabNet, Tigard, OR

Paper#: 17
Proficiency Testing Program for Stack Particulate Measurements
Y. Kuo,¹ S. Huang,¹ W. Lin,¹ C. Chen¹;¹ Chung Hwa University of Medical Technology, Tainan, Taiwan, ²College of Public Health, National Taiwan University, Taipei, Taiwan

Paper#: 217
PMF Apportionment of Primary and Secondary Fine Particulate Material in the Salt Lake Valley: Winter 2009
D. J. Eatough,¹ R. Kuprov,¹ J. C. Hansen,¹ N. Olson¹;¹ Brigham Young University, Provo, UT, ²Utah State Department of Air Quality, Salt Lake City, UT

Paper#: 1072
Anthropogenic Particles Study of Chihuahua-Mexico, Morphology and Elemental Composition
B. Trujillo-Navarrete,¹ F. Paraguay-Delgado,¹ A. Campos-Trujillo,¹ J. Carrillo Flores,¹ E. Herrera-Peraza,¹ R. Maramni-Pacho,¹ T. Castro¹;¹ Center for Advanced Materials Research, S.C., Chihuahua, Mexico, ²Universidad Nacional Autónoma de México, México D.F., Mexico

Sponsoring Committee(s): AB-2
Chair: Lynn Mazzenoli, Michigan Technological University
Co-Chair: Yuegang Zuo, University of Massachusetts Dartmouth

Paper#: 675
Identification of Climate and Health Relevant Atmospheric Organic Compounds
L. R. Mazzoleni¹, J. P. LeClair, J. L. Collett²;¹ Michigan Technological University, Houghton, MI, ²Colorado State University, Fort Collins, CO

Paper#: 685
Structural Elucidation of Climate Relevant CHNOS Compounds in Atmospheric Organic Matter by Ultra-High Resolution Mass Spectrometry
J. P. LeClair,¹ J. L. Collett,¹ L. Mazzoleni²;¹ Michigan Tech University, Houghton, MI, ²Colorado State University, Fort Collins, CO

Paper#: 722
Separations of Atmospheric Water-Soluble Organic Compounds by Advanced Liquid Chromatographic Methods
S. S. Orłowski, L. R. Mazzoleni; Michigan Tech University, Houghton, MI

Paper#: 988
3-Months Continuous, Winter-Ozone-Precursor Monitoring at Boulder Wyoming

Paper#: 851
Investigation and Improvement of Water Usage for Biodiesel Manufacturing
Q. Tu; University of Cincinnati, Cincinnati, OH

Sponsoring Committee(s): AB-3
Chair: George Schewe, Trinity Consultants
Co-Chair: Kenneth Morrison, Hatch

Paper#: 790
Dispersion Modeling of Mercury Using AERMOD: A Case Study for a Coal-Fired Power Plant in Texas
L. Merin, M. Sattler; University of Texas at Arlington, Arlington, TX

Paper#: 877
Comparative Analysis Using Observation Based and MM5 Generated Meteorological Data with AERMOD in Southern California
J. Baker, R. Wu, S. Lee, T. Chico, C. Langner; South Coast Air Quality Management District, Diamond Bar, CA

Paper#: 886
Constructing AERMOD-Ready Meteorological Input Using a Mesoscale Model
S. Lee, C. Langner; South Coast Air Quality Management District, Diamond Bar, CA

Paper#: 1103
Observation of the Nocturnal Variation of Ozone Reservoir Layers in Southern Taiwan
C. H. Lin,¹ C. H. Lai,¹ Y. L. Wu¹;¹ Fooyin University, Kaohsiung, Taiwan, ²National Cheng-Kung University, Tainan, Taiwan

Sponsoring Committee(s): AB-2
Chair: Lynn Mazzenoli, Michigan Technological University
Co-Chair: Yuegang Zuo, University of Massachusetts Dartmouth
TECHNICAL SESSIONS

Paper#: 1206
Oil Mist Deposition Modeling with AERMOD and CHARM
G. J. Schewe,¹ J. Wilcox,² M. Elgtroth;¹ Trinity Consultants, Covington, KY; ²Trinity Consultants, Atlanta, GA; ³Mark Elgtroth, LLC, Lometa, TX

Paper#: 1035
A Comparison of Predicted Acid Deposition in Alberta using the RELAD and CMAQ Models
D. A. Lyder, L. Cheng; Government of Alberta, Edmonton, AB, Canada

Sponsoring Committee(s): AB-7
Chair: Jim Jetter, U.S. EPA
Co-Chair: Glenn Morrison, University of Missouri - Rolla

Paper#: 629
Evaluation of Heavy Metals in PM10 Collected from Subway Stations Located in Seoul
J. Sohn; Korea University, Seoul, Korea, Republic of

Paper#: 733
Analysis of Train-Induced Wind Characteristics in the Subway Tunnel
K. Lee,¹ S. Kim,¹ J. Lee,¹ I. Lee,¹ H. Lee,² S. Bae²;¹ The University of Seoul, Seoul, Korea, Republic of, ²University of Incheon, Incheon, Korea, Republic of, ³R&D Center, Seoul Metro, Seoul, Korea, Republic of

Paper#: 1130
The Assessments of Air Pollution Exposure Risks and Health Effects for Commuters in Various Transportations
S. Kang, C. Tseng, S. Yen, H. Wang; National Taipei University of Technology, Taipei, Taiwan

Paper#: 799
A Study on Particulate Matter Mass in the Seoul Subway Tunnel
M. Lee; Univ. of Seoul, Seoul, Korea, Republic of

Paper#: 1105
Characterization of Particulate Matter in Public Transport Buses Operating on Biodiesel and ULSD Fuels
A. Kumar, A. Kadiyala, D. Somuri, K. Shandilya; University of Toledo, Toledo, OH

Paper#: 137
The Effects of Using Essential Oils on Indoor Levels of Particulate Matter and Total Volatile Organic Compounds in the Spa Centers in Taiwan
D. Hsu,¹ J. Chen;¹ National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan, ²Department of Occupational Safety and Health, Chang-Jung Christian University, Tainan, Taiwan

Paper#: 1395
Relationship between Tire/Pavement Noise and Pavement Characteristics Using Empirical Approach
H. Lee, P. Sachakamol, L. Dai; University of Regina, Regina, SK, Canada

Sponsoring Committee(s): AE-1
Chair: Constance Senior, Reaction Engineering

Paper#: 627
The Effects of Mg²⁺ on the Bivalent Mercury Adsorption Behaviors in Ca-Based and Dual-Alkali FGD Absorption Systems
Y. Wang, Y. Liu, Z. Wu; Departmental of Environmental Engineering, Zhejiang University, Hangzhou, China

Paper#: 744
Effects of Copper Salt Impregnation on Activated Carbon’s Properties and Removal of Low-Concentration Mercury from Simulated Coal-Fired Utility Flue Gases
H. Hsi, T. Chang, S. Chen; National Taipei University of Technology, Taipei, Taiwan

Paper#: 750
Heterogeneous Mercury Reaction Chemistry on Activated Carbon
J. Wilcox, E. Sasmaz, A. Kirchofer, S. Lee; Stanford University, Stanford, CA

Paper#: 997
High Temperature Sorption of Mercury on Non-Carbon Based Sorbents in Packed Beds
Y. Li, J. O. L. Wendt; University of Utah, Salt Lake City, UT

Sponsoring Committee(s): AE-2

Paper#: 1048
Gas-Phase Mercury Oxidation by Halogens: Effects of Bromine and Chlorine
G. Silcox,¹ P. Buitrago,¹ C. Senior,¹ B. Van Otten²;¹ University of Utah, Salt Lake City, UT, ²Reaction Engineering International, Salt Lake City, UT

Paper#: 136
Synthesis, Characterization and Catalytic Performance of MGFe2O4 Nanospheres for SO2 Removal
X. Li,¹ L. Zhao,² Q. Zhao,¹ Y. Shi,² G. Chen,¹ G. Chen,¹ G. Chen;¹ School of Environmental and Biological Sciences and Technology, Dalian University of Technology, China, Dalian, China; ²School of Environmental and Biological Sciences and Technology, Dalian University of Technology, Dalian, Department of Chemical and Biomolecular Engineering, the Hong Kong University of Science & Technology, Hong Kong, China; ³Department of Chemical and Biomolecular Engineering, the Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China

Paper#: 569
Filtration Characteristic of Foam Filters at Extremely Low Face Velocity
J. Cho,¹ S. Huang,¹ C. Chen,¹ Y. Kuo,² C. Chen;¹ National Taiwan University, Taipei, Taiwan; ²Institute of Occupational Safety and Health, CLA, Taipei, Taiwan; ³Chung Hwa University of Medical Technology, Tainan, Taiwan
TECHNICAL SESSIONS

Paper#: 860
The Environmental Impact Analysis of the Hsue-shan Tunnel Shaft Waste Gas on the Growth of Keteleeria davidiana var. formosana Hayata in Taiwan Cow-tail Fir Area
C. Tseng, C. Huan, H. Lo, W. Hsiao, Y. Tseng, M. Wang, C. Chang; National Ilan University, Yilan, Taiwan, National Ilan University / professor, Yilan, Taiwan, National Taiwan University / professor, Yilan, Taiwan, Tungnan University / graduate student, Yilan, Taiwan, National Ilan University, Ilan, Taiwan

Sponsoring Committee(s): AM-1

Paper#: 725
Concrete Carbonation in Simulated Field Curing Conditions, as a Sink for Carbon Dioxide
A. M. Uribe-Ramirez; University of Cincinnati, Cincinnati, OH

Paper#: 1022
Assessing Black Carbon and PAHs Emission Reduction through Biofuel Substitution in Urban Transportation
S. Liang, T. Keener; University of Cincinnati, Cincinnati, OH

Paper#: 107
The Importance of the Generation and Application of Emission Factors for Developing Countries
I. V. Cureño, H. Bravo, R. Sosa; Universidad Nacional Autonoma de Mexico, D.F., Mexico

Paper#: 683
Marine Emission Inventory Tool Enhancements and Emission Control Area (ECA) Analysis
K. Bolechowsky; ClearSky Engineering, Okotoks, AB, Canada

Sponsoring Committee(s): AM-2, AM-5
Chair: Christopher Rogers, MACTEC Engineering & Consulting, Inc.

Paper#: 687
NIST Gas Standards for Atmospheric Monitoring of Greenhouse Gases and Ozone Precursors
G. Rhoderick; National Institute of Standards and Technology (NIST), Gaithersburg, MD

Paper#: 835
Advances in Ozone Measurement Traceability
J. E. Norris, R. Wielgosz, J. Viallon, F. R. Guenther; NIST, Gaithersburg, MD, BIPM, Sevres, France

Paper#: 900
Preparation and Analysis of NO and NO2 Gas Standard: Reference Materials in Aluminum Compressed Gas Cylinders
W. J. Thorn; National Institute of Standards and Technology, Gaithersburg, MD

Paper#: 1407
Examining the Relationships between Ambient Mercury and Sulfur Measurements

Sponsoring Committee(s): AO-1, AO-2

Paper#: 135
Trend in Diesel Particulate Matter (DPM) Concentrations Associated with a Major Rail Yard Facility in Northern CA
R. J. Countess; COUNTESS ENVIRONMENTAL, Westlake Village, CA

Paper#: 150
Detection of Greenhouse Gas Precursors Emitted by Vehicular Engines by Using Analytical Techniques
M. S. Stshel, G. Mothé, M. V. Rocha, L. S. Campos, M. P. P. Castro, M. G. da Silva, H. Vargas; UENF, Campos Goytacazes-RJ, Brazil

Paper#: 179
Comparison of Chinese Herbal Oils and Lemon Oil in Formation of Secondary Organic Aerosol
Y. M. Sun; Chung Hwa University of Medical Technology, Tainan, Taiwan

Paper#: 566
Source Contribution of PM10 Using the Positive Matrix Factorization Model in Anyang City, Korea
K. Min-Youl, T. Tae-Jung, K. Dong-Sool; Kyung Hee University, Yongin-si, Korea, Republic of

Paper#: 607
Air Toxics in El Paso, Texas

Paper#: 613
Optimization of Operating Efficiency for Solar Cell Applied for Wireless Sensor for an Ambient Air Monitoring
P. Huntra; University of Cincinnati, Cincinnati, OH

Paper#: 857
Measurements of the Speciation of Ozone Precursor from Kaoping Petrochemical/Industrial Area in Taiwan
C. Lai, Y. Wu, C. Lin, S. Yeh; Fooyin University, Kao-Hsiung Hsien, Taiwan, National Cheng-Kung University, Tainan, Taiwan

Paper#: 986
Characterization of Polycyclic Aromatic Hydrocarbons in Canada for Use in Risk Assessment
G. L. Daly, R. Saldanha, S. Capstick, T. Repaso-Subang, J. Cartier; Golder Associates, Mississauga, ON, Canada, Health Canada, Ottawa, ON, Canada

Sponsoring Committee(s): AO-1, AO-2

Paper#: 557
Monitoring Multiple Trace Gas Species during Secondary Organic Aerosol Formation in a Smog Simulation Chamber with Mid-IR and UV Spectroscopic Methods
T. McIntyre, M. T. Parsons, I. Sydoryk, A. Lim, W. Jäger, J. Tulip; University of Alberta, Edmonton, AB, Canada
TECHNICAL SESSIONS

Paper#: 190
Simplified and Low Cost Optical Remote Sensing Technology for Fence Line Monitoring of Fugitive Releases
W. A. Mitchell,1 E. D. Thoma,1 C. Secrest2; 1US E.P.A., RTP, NC, 2US E.P.A., Washington, DC

Paper#: 743
Ammonia Gas Sensing Via a Color Change Mesoporous Adsorbent Incorporated in an Optical Sensing Instrument
Y. Chang, H. Bai; Institute of Environmental Engineering, National Chiao Tung University, Hsinchu, Taiwan, Taiwan

Paper#: 1085
Development of a Next Generation Open Path Laser Detection Platform
C. Parker; Boreal Laser Inc., Spruce Grove, AB, Canada

Paper#: 1155
Methods to Reduce Sample Heating of a TSI 3563 Nephelometer when Measuring Light Scattering Coefficients at High Relative Humidities
B. T. Brem, T. C. Bond, M. J. Rood; University of Illinois at Urbana - Champaign, Urbana, IL

Sponsoring Committee(s): AT-3

Paper#: 187
The Short-Term Effects and Vulnerability of Particulate Air Pollution on Daily Mortality at 99 Townships in Taiwan
P. Wu1 P. Tsai,2 C. Lin,1 S. Lung,1 Z. Huang,2 H. Su; 1Dept. of Occupational Safety and Health, Chang Jung Christian University, Tainan, Taiwan, 2Department of Environmental and Occupational Health, College of Medicine, National Cheng Kung University, Tainan, Taiwan, 3Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan

Sponsoring Committee(s): EE

Paper#: 208
Temporal Sensitivity Key to Modeling Ozone Impacts on Vegetation
D. A. Grantz,1 R. Heath,1 K.Burkey,1 H. Vu1; 1University of California, Parlier, CA, 2University of California, Riverside, CA, 3USDA Agricultural Research Service, Raleigh, NC

Paper#: 172
The Cell Toxicity Assessment of TiO2 and SiO2 Nanoparticles with Electrospay Generation System
Y. Wu,1 Y. Teng,1 I. Chung,1 Y. Lai,1 P. Chiang,1 C. Chang; 1National Ilan University, Ilan, Taiwan, 2Chia-Nan University of Pharmacy and Science, Tainan, Taiwan

Paper#: 171
Study on the Treatment of Chlorinated VOCs with Prepared Metal Photocatalyst
Y. W. Lee,1 C. M. Ma,2 J. L. Shie,1 C. T. Chang, F. T. Jeng; 1Department of Environmental Engineering, National Ilan University, Graduate student, Yilan, Taiwan, 2Department of Cosmetic Application and Management, Assistant Professor, Ilan, Taiwan, 3Department of Environmental Engineering, National Ilan University, Professor, Yilan, Taiwan, 4National Ilan University, Yilan, Taiwan, 5Graduate Institute of Environmental Engineering, National Taiwan University, Professor, Taipei, Taiwan

Paper#: 1069
Evaluation and Validation of a New Developed Livestock Odor Dispersion Model (LODM)
Z. Yu,1 H. Guo,2 C. Lague; 1University of Saskatchewan, Saskatoon, SK, Canada, 2University of Ottawa, Ottawa, ON, Canada

Paper#: 1156
Characteristics and Control Methods of Oil Mist and Fine Particles from Meat Cooking Restaurants
S. Park,1 S. Choi,1 G. Park,1 J. Kim,1 C. Bong,2 S. J. Park,2 U. Hwang1 J. Kim2; 1KOFIRST E&E Co. Ltd., Gunpo-city, Gyeonggi-do, Korea, Republic of, 2Greenbee Environmental Research Institute Co. Ltd., Incheon, Korea, Republic of, 3Dept. of Civil Engineering, Gyeongbok Provincial College, Yecheon-gun, Gyeongbok, Korea, Republic of, 4Dept. of Environmental Engineering, Hanseo University, Seosan-city, Chungnam, Korea, Republic of

Sponsoring Committee(s): El

Paper#: 855
Pre-Feasibility Study of Wind Resource Potential Using MM5, CALMET and Statistical Analysis
S. Hartono, R. Bianchi, D. Anders; Golder Associates, Mississauga, ON, Canada

Sponsoring Committee(s): EP

Paper#: 1060
Towards a Lighting Protocol for Oil and Gas Facilities in Alberta
R. G. Dechesne,1 R. W. King,1 W. S. Donaldson1,1 S. Jahrig2 B. McCurdy; 3B. Wispinski; 4Royal Astronomical Society of Canada - Calgary Centre, Calgary, AB, Canada, 2Light Efficient Communities, Edmonton, AB, Canada, 3Royal Astronomical Society of Canada - Edmonton Centre, Edmonton, AB, Canada, 4Beaver Hills Initiative, Strathcona County, AB, Canada

Paper#: 200
Key Aspects of Environmental Approvals for Biomass-Fired Energy Projects
R. Hardegger,1 J. Linkimer, T. Kinder, B. McLean; 1Barr Engineering Company, Minneapolis, MN, 2Barr Engineering Company, Ann Arbor, MI, 3Cook Engineering, Thunder Bay, ON, Canada

Paper#: 35
Regulatory Change and Its Impact on a Site’s Applicability Requirements Register
T. Polakowski; Citation Technologies, Scottsdale, AZ

Paper#: 1204
The Identification of Air Quality Management Areas in South Africa
G. M. Scott; South African Department of Environmental Affairs, Pretoria, South Africa

Paper#: 1093
Highly Reactive Volatile Organic Compound (HRVOC) Emission Reductions -Flares
S. Bhat,1 C. J. Colville,1 S. H. Ramsey,1 G. Yanwood2; 1ENVIRON International Corporation, Houston, TX, 2ENVIRON International Corporation, Novato, CA
PROJECTS2010 Project-Scale Modal Emission Factors
M. Claggett; Federal Highway Administration, Santa Fe, NM
TECHNICAL SESSIONS

Paper#: 798
The Investigation of the Using Rate of Standard Garbage Bag in the Automated Pneumatic Waste Collection System in Korea
J. Park, S. Woo, B. Oh, M. Lee, J. Lee; 'University of Seoul, Seoul, Korea, Republic of, 2Division of Biotechnology, Chonbuk National University, Chonbuk, Korea, Republic of, 3Daesung Green Tech Co., Ltd, Seoul, Korea, Republic of

Paper#: 873
Coastal Paper Mill Uses Innovative Approach to Power Boiler Flyash Disposal
C. Madland; Golder Associates Ltd., Calgary, AB, Canada

Paper#: 788
Production of Bioenergy via the Combined Processes Using Radio-Frequency Plasma and Catalysts
W. Tu, J. Shie, C. Chang, J. Kuo, S. Yang, C. Hsi, D. Shaw, D. Lee, C. Lin; 'Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, Taiwan, 2Department of Environmental Engineering, National I-Lan University, Ilan, Taiwan, 3Department of Environmental Science and Engineering, Tung-Hai University, Taichung, Taiwan, 4Department of Mechanical Engineering, National Taiwan University, Taipei, Taiwan, 5Environmental Protection Administration of Taiwan, Taipei, Taiwan, 6Chung-Hua Institution for Economic Research, Taipei, Taiwan, 7Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan

Paper#: 795
The Study of Chlorides Behavior in Calcinating Process of Washed Fly Ash from Municipal Solid Waste Incinerator
F. Zhu, M. Takaoka, K. Oshita, Y. Kitajima, Y. Inada, S. Morisawa; 1Dept. of Urban & Environmental Engineering, the Graduate School of Engineering, Kyoto University, Kyoto City, Japan, 2High Energy Accelerator Research Organization, Institute of Material Structure Science, Tsukuba, Japan

Paper#: 824
Fermentative Hydrogen Production from Cellulosic Wastes with a Thermophilic Bacteria Clostridium Strain TCW1
N. Ye, C. Chung, C. Huang; Tunghai University, Taichung, Taiwan

Paper#: 1149
The Chemical Compatibility Tests for Laboratory Mixed Wastes
P. Tsou, G. Wang, L. Chiang, C. Chao; 'Fooyin University, Dep. of Environmental Engineering and Science, Kaohsiung County, Taiwan, 2National Cheng Kung University, Sustainable Environment Research Center, Tainan, Taiwan

WED. PM2

AB-1 (1a)
Room: Telus 104
6/23/2010 3:20 PM
Paper
PM Emission Measurements
Sponsoring Committee(s): AB-1
Chair: Jay Turner, Washington University in St. Louis
Co-Chair: Michael Meyer, MetOne
3:20 PM
Paper#: 1045
Instruments and Methodology for Determining Particulate Emissions and Particle Size Distributions from Open Detonations
M. Lindsay, B. Jensen, J. Koenig, G. Palmer; 'CH2M Hill, Salt Lake City, UT, 2Hill Air Force Base, Hill AFB, UT

3:40 PM
Paper#: 1006
Experimental Measurement of PM2.5 Emission Factors for Lab-Scale Flares
J. D. McEwen, K. A. Thomson, M. R. Johnson; 'Carleton University, Ottawa, ON, Canada, 2National Research Council, Ottawa, ON, Canada

4:00 PM
Paper#: 588
Particulate Emission Factors from Welding Al-Li Alloy
K. Carr, B. Kura; University of New Orleans, New Orleans, LA

AB-2 (1a)
Room: Macleod A2
6/23/2010 3:20 PM
Paper
Ambient Studies, Measurements, and Modeling
Sponsoring Committee(s): AB-2
Chair: Luis Diaz-Robles, Catholic University of Temuco
Co-Chair: Kent Hoekman, Desert Research Institute

3:20 PM
Paper#: 45
Examining the Impact of Two Atmospheric Chemical Mechanisms on Air Quality
G. Sarwar, R. Mathur, K. Schere, B. Henderson, W. Goliff, W. Stockwell; 1USEPA, RTP, NC, 2University of California at Riverside, Riverside, CA, 3Howard University, Washington, DC

3:40 PM
Paper#: 590
Measurements of NOy, NO2, PAN, and k1 during the 2009 Upper Green River Ozone Study
D. Fitz, K. Bumiller; University of California, Riverside, CA
**TECHNICAL SESSIONS**

4:00 PM  
**Paper#: 1021**  
**Effect of the CMAQ Sea-Salt Module on Aerosol Concentrations and Composition: A Case Study in the Lower Fraser Valley, British Columbia, Canada**  
B. Zhang,¹ X. Xu,¹ W. Jiang,² C. di Cenzo,³ P. Bhave,⁴ U. Shankar,⁵ S. Roselled⁶; ¹University of Windsor, Windsor, ON, Canada, ²National Research Council of Canada, Ottawa, ON, Canada, ³Environment Canada, Vancouver, BC, Canada, ⁴U.S. Environmental Protection Agency, Research Triangle Park, NC, ⁵University of North Carolina, Chapel Hill, NC

4:20 PM  
**Paper#: 1043**  
**Implementation of Surf-Zone Sea-Salt Emissions in CMAQ and a Preliminary Modelling Impact Study in the Lower Fraser Valley, British Columbia**  
X. Xu,¹ B. Zhang,¹ S. Smyth,² W. Jiang,² C. di Cenzo,³ P. V. Bhave⁴; ¹University of Windsor, Windsor, ON, Canada, ²National Research Council of Canada, Ottawa, ON, Canada, ³National Research Council of Canada, Toronto, ON, Canada, ⁴U.S. Environmental Protection Agency, Research Triangle Park, NC

3:20 PM  
**Paper#: 859**  
**Limitations of the BPIP Building Selection Algorithm in Determining the Inputs to PRIME and a Practical Work Around**  
M. F. Jammer, M. Rawlings; Golder Associates Ltd., Mississauga, ON, Canada

3:40 PM  
**Paper#: 908**  
**The Effect of Mechanical Mixing Height Approximations in AER-MET on AERMOD**  
A. Schroeder, G. Schewe, J. Colebrook; Trinity Consultants, Covington, KY

4:00 PM  
**Paper#: 631**  
**AERMOD Low Wind Speed Evaluation Study: Results and Implementation**  
R. J. Paine, J. A. Connors; AECOM, Westford, MA

AB-7 (3)  
**Room: Telus 101/102 [Back-to-back with AB-7 (4)]**  
6/23/2010 3:20 PM  
**Paper**  
**Indoor Air Quality - Biocontaminants**  
Sponsoring Committee(s): AB-7  
Chair: Michael McGinley, St. Croix Sensory, Inc.  
Co-Chair: Jim Jetter, U.S. EPA

3:20 PM  
**Paper#: 1113**  
**Change of Airborne Fungal Profiles after Typhoon Morakot in Flooded Homes of Southern Taiwan**  
H. J. Su, N. Y. Hsu, P. Y. Chen; Department of Environmental and Occupational Health, College of Medicine, National Cheng Kung University, Tainan, Taiwan

3:40 PM  
**Paper#: 797**  
**The Characteristics of Bioaerosols in School Laboratory, Classroom and Office**  
H. Hung,† T. Yang,‡ Y. Kuo,‡ Y. Lan,‡ F. Chen†; †Yuanpei University, Hsinchu, Taiwan, ‡Chung Hwa University of Medical Technology, Tainan Hsien, Taiwan

AB-7 (4)  
**Room: Telus 101/102 [Back-to-back with AB-7 (3)]**  
6/23/2010 4:00 PM  
**Paper**  
**Indoor Air Quality - Vapor Intrusion**  
Sponsoring Committee(s): AB-7  
Chair: Matthew Traister, O’Brien & Gere Engineers, Inc.  
Co-Chair: Warren Kindzierski, University of Alberta
**TECHNICAL SESSIONS**

4:00 PM
Paper#: 180
Persistent and Pernicious Fallacies Related to Vapor Intrusion
B. Eklund; URS, Austin, TX

4:20 PM
Paper#: 697
Time-Integrated Quantitative Sampling in Vapor Intrusion Investigations
H. G. Trethewey, J. W. Hodny, J. E. Whetzel, H. S. Anderson; WL Gore & Associates, Elkton, MD

4:40 PM
Paper#: 959
Soil Vapour Intrusion Risk Assessment Strategies
M. Hamilton; Dillon Consulting Limited, Calgary, AB, Canada

AE-1 (4)
Room: Glen 209
6/23/2010 3:20 PM
Paper
Implementation of Mercury Control Technologies for Coal Fired Power Plants
Sponsoring Committee(s): AE-1
Chair: Sharon Sjostrom, ADA-ES

3:20 PM
Paper#: 1403
Beneficial Removal of Mercury from Coal-Fired Boiler Exhaust by a Spray Dry Adsorber and Baghouse
R. N. Saikaly, C. S. Hibbard, D. Marchese, B. McLaughlin; CDM, Pittsburgh, PA, CDM, Cambridge, MA

3:40 PM
Paper#: 638
Full Scale Testing of Novel Mercury Control Strategy by Means of Powdered Activated Carbon, Bromine Combustion Additives and Selective Precipitation
P. Elliott; Evonik Energy Services LLC, Kings Mountain, NC

4:00 PM
Paper#: 198
Assessment of Mercury Removal in a Powdered Activated Carbon Control System on a Pulverized Coal Boiler
J. L. Fleming, J. Cooper; Eli Lilly & Company, Indianapolis, IN, Cooper Environmental Services, LLC, Portland, OR

AE-2 (1a)/(1b)
Room: Glen 208
6/23/2010 3:20 PM
Paper
Air Treatment Technologies
Sponsoring Committee(s): AE-2
Chair: Thomas Turner, Turner Envirologic, Inc.
Co-Chair: Howard Hohl, Eisenmann Corp.

3:20 PM
Paper#: 1420
Case History Review: Demanding Applications for Regenerative Thermal Oxidizer
B. Schmidt; EISENMANN Corporation, Crystal Lake, IL

3:40 PM
Paper#: 157
The Effect of O2, RH and Temperature for Novel Removal Plant Hormone Technology
Y. Lin, J. Tzeng, C. Weng; National Chungshing University, Taichung City, Taiwan, I-Shou University, Kaohsiung, Taiwan

4:00 PM
Paper#: 870
Enhanced Rotary Concentrator Performance using Ceramic-Bound Activated Carbon Honeycombs
J. D. Perry; MWV MeadWestvaco, North Charleston, SC

AM-1 (3)
Room: Macleod A4
6/23/2010 3:20 PM
Paper
Fire Emissions and Biomass Burning: Research to Management
Sponsoring Committee(s): AM-1
Chair: Lawrence Friedl, NASA

3:20 PM
Paper#: 131
Ozone Measurement Instrument (OMI) Sensor for Biomass Burning Aerosol Optical Properties
A. Bridhikitti, T. J. Overcamp, P. D. Gerard; Clemson University, Anderson, SC, Clemson University, Clemson, SC

3:40 PM
Paper#: 582
Emission Factors of PAHs, Carbonyls, VOCs, PM2.5 and Elemental and Organic Carbon from the Pre-Harvest Burning of Florida Sugarcane
C. Wu, D. L. Hall, Y. Hsu, J. Stormer, G. Engling, K. Capeto, J. Wang, K. Yu; University of Florida, Gainesville, FL, Wood Buffalo Environmental Association, Ft. McMurray, AB, Canada, Palm Beach County Health Department, West Palm Beach, FL, Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan

4:00 PM
Paper#: 584
Remote Sensing Observations of SE Asian Biomass-Burning Aerosols’ Optical Properties and Their Limiting-Factors
A. Bridhikitti, T. J. Overcamp, P. D. Gerard; Clemson University, Anderson, SC, Clemson University, Clemson, SC
**TECHNICAL SESSIONS**

4:20 PM  
**Paper#: 837**  
Gaseous and Particulate Emissions from Prescribed Burning in Pine Dominated Forest Ecosystems of the South-Eastern United States  
K. Baumann,¹ M. Fort,¹ J. J. Schauer,² D. R. Blake,² B. E. Hartsell,² E. S. Edgerton¹; ¹ARA Inc., Morrisville, NC, ²University of Wisconsin, Madison, WI, ³University of California, Irvine, CA, ⁴ARA Inc., Plano, TX, ⁵ARA Inc., Cary, NC

AO-1 (1)  
**Room: Telus 103**  
6/23/2010 3:20 PM  
**Paper**  
Novel Optical Remote Sensing Instrumentation  
Sponsoring Committee(s): AO-1  
Chair: Mark Modrak, ARCADIS  
Co-Chair: Christian Parker, Boreal Laser

3:20 PM  
**Paper#: 856**  
Standoff Identification and Quantification of Smokestack Emissions with an Imaging Fourier-Transform Spectrometer  
P. Tremblay,¹ S. Savary,² A. Villemaire,² M. Rolland,² M. Chamberland,² V. Farley²; ¹Centre d’optique, photonique et laser, Université Laval, Quebec, QC, Canada, ²Telops, Quebec, QC, Canada

3:40 PM  
**Paper#: 1195**  
In-Situ Real-Time Monitoring of Gaseous SO₃ by Quantum Cascade Laser  
C. Laush; IMACC, Round Rock, TX

4:00 PM  
**Paper#: 148**  
Greenhouse Gases Detection with Quantum Cascade Laser Photoacoustic Spectroscopy  
M. V. Rocha,¹ M. S. Stelh,¹ M. G. da Silva,¹ A. Miklós,² D. U. S. Schramm,¹ H. Vargas¹; ¹UENF, Campos dos Goytacazes - RJ, Brazil, ²Fraunhofer Institute for Building Physics, Stuttgart, Germany

4:20 PM  
**Paper#: 669**  
LastIR-R - The New Generation RoHS-Compliant Gas Analyzers  
A. Chanda, G. I. Mackay, K. L. Mackay; Unisearch Associates Inc., Concord, ON, Canada

EI-3 (1)  
**Room: Telus 106**  
6/23/2010 3:20 PM  
**Paper**  
Environmental Issues Facing Commercial and Industrial Energy Sources  
Sponsoring Committee(s): EI-3  
Chair: Mick Durham, Grain Processing Corp

3:20 PM  
**Paper#: 618**  
Lessons Learned for Greenhouse Gas Monitoring for Combustion Sources  
D. Hughes; Cardinal Engineering, Inc., Oklahoma City, OK

3:40 PM  
**Paper#: 711**  
Mandatory Greenhouse Gas Reporting for Waste-to-Energy Facilities: Monitoring Requirements and Other Issues  
T. St. Clair; CDM, Houston, TX

4:00 PM  
**Paper#: 544**  
Process Heating Fits into the Sustainability Triangle?  
M. G. Cohodes; Hydro-Thermal, Waukesha, WI

4:20 PM  
**Paper#: 1393**  
Market and Availability of Emission Reduction Credits for Fuel Switching by a Coal-Fired Institutional Boiler Plant  
C. S. Hibbard,¹ R. Saikaly²; ¹CDM, Cambridge, MA, ²CDM, Pittsburgh, PA

EI-4 (2)  
**Room: Glen 206**  
6/23/2010 3:20 PM  
**Paper**  
Emissions Issues in the Oil and Gas Industry  
Sponsoring Committee(s): EI-4  
Chair: Richard Siegel, R & B Consulting Services

3:20 PM  
**Paper#: 836**  
Fuel Quality (and Air Quality) vs. Greenhouse Emissions Gases- The Challenge of Oil Refineries  
G. R. Rodrigues,¹ W. N. Chan,² J. B. Perisse,² R. C. P. Bittencourt,² D. Saggese²; ¹PETROBRAS, Rio de Janeiro - RJ, Brazil, ²PETROBRAS, Paulinia, SP, Brazil

3:40 PM  
**Paper#: 922**  
A Comprehensive Emissions Inventory of Upstream Oil and Gas Activities in the Rocky Mountain States  

4:00 PM  
**Paper#: 821**  
Air Emissions Management in Petroleum Refineries - Challenges for Modernization Project's Permits  
G. R. Rodrigues,¹ W. N. Chan,² R. Correa,² A. F. Rozza²; ¹PETROBRAS, Rio de Janeiro - RJ, Brazil, ²PETROBRAS, Paulinia, SP, Brazil, ³PETROBRAS, Cubatão, SP, Brazil
TECHNICAL SESSIONS

4:00 PM  
Paper#: 561  
The Origins and Future of the Sustainability Movement  
B. A. Morgan; Cal Poly, San Luis Obispo, CA

4:20 PM  
Paper#: 201  
Sustainability and Proactive Product Stewardship: Improved Outcomes for Now and for the Future  
T. W. Hesterberg,' W. B. Bunn,' E. Ardiente,' T. Slavin,' J. Shih,' J. Martinicky,' D. Pikelny,' P. Goenka,' F. Alido,' D. A. Kaden';  
'Navistar, Inc., Warrenville, IL, 'DakTox, LLC, Arlington, MA

4:40 PM  
Paper#: 1144  
Nitrogen Derivatives Transformation Identification from Parks and Gardens Irrigation with Wastewater Treatment Residuals in Chihuahua Mexico  
C. J. Navarro-Gomez,' E. Herrera-Peraza,' M. S. Espino-Valdes,' V. Collins-Martinez';  'Center for Advanced Materials Research, S.C, Chihuahua, Mexico, 'Universidad Autonoma de Chihuahua, Chihuahua, Mexico

ES-5 (2)  
Room: Telus 111  
6/23/2010 3:20 PM  
Panel  
Renewable Energy and Clean Technologies  
Sponsoring Committee(s): ES-5  
Chair: Sardar Hassan, Dept. of Defense IG Office

Combustion of fossil fuels is a major source of greenhouse gases, mainly carbon dioxide. In case of incomplete combustion we also have emission of methane, another major greenhouse gas. Thus to reduce greenhouse gas emissions for climate change management, it is necessary to replace fossil fuels by renewable and clean sources of energy. It is also necessary to come up with cleaner manufacturing and industrial technologies that are energy efficient and emit less greenhouse gases. This panel of experts will be answering questions on the newest approaches to renewable energy and cleaner industrial processes.

Panelists:  
• Alex DePillis, Eco-Energy  
• Keith Forbes, SAIC  
• Bhaskar Kura, University of New Orleans  
• Ronald Breault, Department of Energy / NETL

ITF-11 (2)  
Room: Telus 109  
6/23/10 3:20 PM  
Panel  
Energy, Economics, the Environment and First Nations  
Sponsoring Committee(s): ITF-11  
Chair: Peter Snow, Snow and Associates Inc.

First Nations explore what the regional economic development means to their communities, and how these development impacts energy, economics and the environment, from their own Reserves to their region, province, Canada and the world.
TECHNICAL SESSIONS

LC (2)
Room: Glen 205
6/23/2010 3:20 PM
Panel
CO₂ Capture and Storage (CCS)
Chair: Brent Lakeman, Alberta Innovates-Technology Futures
Co-Chair: Rick Tofani, Alberta Innovates-Technology Futures

The Panel Session has four (4) presenters followed by a panel discussion. The Session will highlight Alberta’s approach to implementing CO₂ capture and storage and will focus on Alberta’s investment in large-scale integrated CCS demonstrations and the establishment of a CCS Framework for the province.

YP (4)
Room: Telus 108
6/23/2010 3:20 PM
Panel
Understanding Air Toxics
Sponsoring Committee(s): YP, AM-5
Chair: Hilary Hafner, Sonoma Technology Inc.
Co-Chair: Garrett Hoeksema, Golder Associates Ltd.

There are 188 Hazardous air pollutants (HAPs) defined in the Clean Air Act Amendments of 1990. HAPs are also referred to as air toxics. Air toxics are those pollutants known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects. Examples of toxic air pollutants include benzene (found in gasoline), Perchloroethylene (emitted from some dry cleaning facilities), methylene chloride (used as a solvent and paint stripper by a number of industries), and metals such as arsenic, mercury, chromium, and lead compounds. This session is designed to provide young professionals with an introduction to and background on air toxics: • What are air toxics and their sources? • What are the effects of air toxics on human health? • Why analyze ambient air toxics data? • What types of data analyses should be performed? This panel session is designed for those who are interested in learning more about the fundamentals related to air toxics. This panel session is sponsored by the Young Professionals (YPs) as well as AM-5.

Panelists:
• Hilary Hafner, Sonoma Technology Inc.
• Garrett Hoeksema, Golder Associates Ltd.

THURSDAY, JUNE 24

Keynote
Room: Hyatt - Regency Ballroom 4-9
6/24/2010 7:30 AM
Transforming North American Energy Systems
See page 15 for details on the Keynote.

THURS. AM1

AB-1 (2)
Room: Telus 104
6/24/2010 9:00 AM
Paper
PM Modeling
Sponsoring Committee(s): AB-1
Chair: Luis Diaz-Robles, Catholic University of Temuco
Co-Chair: Prakash Doraiswamy, State University of New York at Albany

9:00 AM
Paper#: 559
Realizing the Economic Value of PM-Equivalent Ammonia Reductions
J. C. Lester,1 R. L. David,1 R. E. Morris,1 B. Koo2; 1ENVIRON International Corporation, Los Angeles, CA, 2ENVIRON International Corporation, Novato, CA

Calgary, Alberta, Canada | Conference & Exhibition | June 22-25, 2010 91
9:20 AM  
Paper#: 880  
Evaluation of Multi-Year Temporal and Spatial Trends in Model-Predicted EC and NO2 Concentrations in Connecticut and Massachusetts  
P. Doraiswamy,1 C. Hogrefe,1 W. Hao,2 K. Civerolo,2 J. Ku,2 G. Sistla,2 K. Demerjian1; 1University at Albany, State University of New York, Albany, NY, 2New York State Department of Environmental Conservation, Albany, NY

9:40 AM  
Paper#: 658  
Comparison of Estimates of Secondary Organic Carbon in Atlanta  
J. E. Pachon, T. Russell, J. Mulholland; Georgia Institute of Technology, Atlanta, GA

10:00 AM  
Paper#: 812  
Source Apportionment of Fine Particles in Rural Area of Northwestern China  
C. Zhu; Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China

10:20 AM  
Paper#: 659  
Fugitive Dust Dispersion Using LIDAR Measurements and a Stochastic Lagrangian Model  
T. Sapsis,1 S. Koloutsou-Vakakis,3 M. J. Rood,2 B. J. Kim,3 M. R. Kemme; 1Massachusetts Institute of Technology, Boston, MA, 2University of Illinois, Urbana, IL, 3U.S. Army Engineer Research and Development Center - Construction Engineering Research Lab, Champaign, IL

AB-3 (4)  
Room: Telus 105  
6/24/2010 9:00 AM  
Paper  
Meteorology of the Atmosphere  
Sponsoring Committee(s): AB-3  
Chair: Jesse The, Lake Environmental Software, Inc.  
Co-Chair: Russell Lee, R F Lee Consulting

9:00 AM  
Paper#: 814  
Estimation of Effective Zone by Pure Sea/Land Breeze around Incheon Coastal Area using Numerical Simulation Technique  
R. Pokhrel, H. Lee; University of Incheon, Incheon, Korea, Republic of

9:20 AM  
Paper#: 575  
An Implementation of an Automatic Numerical Weather Prediction System in Western Canada  
R. J. Chapman; RWDI AIR Inc, Calgary, AB, Canada

9:40 AM  
Paper#: 1109  
Historical Spatial Temporal Distribution of Rainfall Trends in Mexico  
Á. R. C. Terán,1 V. B. Davydova,2 M. M. Rosengaus,2 E. M. C. Gutiérrez; 1CIEEMAD-IPN and SMN-CONAGUA, Mexico, D.F., Mexico, 2SMN-CONAGUA, Mexico, D.F., Mexico

AE-2 (2a)  
Room: Glen 208  
6/24/2010 9:00 AM  
Paper  
Novel Air Pollution Control  
Sponsoring Committee(s): AE-2  
Chair: Howard Hohl, Eisenmann Corp.
TECHNICAL SESSIONS

9:00 AM
Paper#: 207
Risk Assessment using Portable FTIR Multi-Component Gas Analyzer for Quantifying Fumigant Gases in Sea and Land Cargo Containers
J. Bourbonnais, S. Valling, J. Cornish; Gasmet Technologies inc., La Prairie, QC, Canada

9:20 AM
Paper#: 974
Exposures to 1-Bromopropane among Workers as a Result of the Pending Ban on PERC Use in New Jersey Dry Cleaners
J. Blando,1 D. Schill,1 M. De La Cruz,2 L. Zhang,2 J. Zhang2; ‘New Jersey Department of Health and Senior Services, Trenton, NJ, 1UMDNJ School of Public Health, Piscataway, NJ

9:00 AM
EE-5 (3)
Room: Glen 201
6/24/2010 9:00 AM
Panel
Corporate Risk Management Strategies
Sponsoring Committee(s): EE-5
Chair: Ram Ramanan, ICF International

The panelists will discuss the business impact and value of alternative approaches to address these issues

Panelists:
• Ray Picard, Hara
• Ram Ramanan, ICF International
• Aaron Schroeder, ICF International

9:00 AM
EI-1 (3)
Room: Telus 106
6/24/2010 9:00 AM
Paper
NESHAP Compliance and Implementation at Federal Facilities
Sponsoring Committee(s): EI-1
Chair: Martin Wheeler, Tinker Air Force Base
Co-Chair: Howard Saxion, CH2M HILL

9:00 AM
EI-2 (2a)
Room: Glen 206
6/24/2010 9:30 AM
Panel
Nuclear Renaissance - Expediting the Permitting of New Nuclear Power Generation
Sponsoring Committee(s): EI-2
Chair: Hal Taback, Hal Taback Company

With the growing need for energy in the Western World, the related global climate issues and the recent advances in nuclear power generation with significantly less Uranium waste, nuclear energy is re-immerging as a viable answer. For the past three years A&WMA has included sessions on nuclear energy at its annual meeting bringing prominent speakers from government (DOE & EPA), industry and the public sector to present and debate as panelist or keynote speakers. This panel will bring the attendees up to date with the U.S. and Canadian actions to promote and install this technology.

Panelists:
• Sal Galub, U.S. DOE
• Finis Southworth, AREVA NP Inc.
• David Rasmussen, U.S. ITER Fusion Project Leader
• Frank Princiotta, U.S. EPA

9:20 AM
Paper#: 191
NESHAP Compliance Practical Lessons Learned
B. Ziebro,1 T. Wheeler2; ‘The Benham Companies, Norman, OK, 1Tinker Air Force Base, Tinker AFB, OK

9:40 AM
Paper#: 875
Ranking of Chemicals Measured in Emissions from R&D Facilities
M. Y. Ballinger,1 C. Duchsherer2; ‘PNNL, Seattle, WA, 1PNNL, Richland, WA

10:00 AM
Paper#: 819
Mobile Emission Inventory Guidance for the U.S. Air Force Materiel Command
H. Saxion,1 K. Watkins,2 M. York3; ‘CH2M HILL, Oklahoma City, OK, 1CH2M HILL, Silver Spring, MD, 2CH2M HILL, Corvallis, OR

10:20 AM
Paper#: 84
Overcoming Challenges While Preparing a Baseline Mobile Air Emissions Inventory for Hill Air Force Base
S. Rasmussen,1 G. Palmer,2 M. Carter,2 M. York3; ‘Hill Air Force Base, Hill AFB, UT, 1CH2M Hill, Salt Lake City, UT, 2CH2M Hill, Corvallis, OR

10:40 AM
Paper#: 875
PM2.5 and Ozone Nonattainment Strategies
Sponsoring Committee(s): EP-1
Chair: Tony Colella, AECOM
9:00 AM
Paper#: 893
Using a Multi-Pollutant Evaluation Method to Study the Economics of Selective Catalytic Reduction
D. C. Belik; Bay Area Air Quality Management District, San Francisco, CA

9:20 AM
Paper#: 748
Competing Air Quality and Waste Management Goals with Permitting Composting Facilities in California
J. Koehler; W. W. Popenuck; AECOM, Oakland, CA, ‘Air Quality Consultant, Orick, CA

9:40 AM
Paper#: 879
Uncertainty in Estimating PM$_{2.5}$ Emissions from Gas-Fired Combined Cycle and IGCC Power Plants

EP-1 (8)
Room: Glen 202 [Back-to-back with EP-1 (5)]
6/24/2010 10:00 AM
Paper
NAAQS Policy
Sponsoring Committee(s): EP-1
Chair: Arijit Pakrasi, Shaw Environmental, Inc.

10:00 AM
Paper#: 106
Transitioning to PM$_{2.5}$ Assessment Tools for Emission Inventory and Regulatory Applications
E. T. Barfield; J. H. Southerland; ‘BEST Consulting, Apex, NC, ‘NC Division of Air Quality, retired, Cary, NC

10:20 AM
Paper#: 591
Comparison of State Recommendations and Methodologies for Defining Partial-County Lead Nonattainment Areas under the 2008 Lead National Ambient Air Quality Standard and Comparative Air Dispersion Lead Modeling for Pennsylvania Lead Sources
G. Biebuyck, T. Wickstrom; Liberty Environmental, Inc., Reading, PA

ES-5 (3)
Room: Telus 101/102
6/24/2010 9:30 AM
Paper
Greenhouse Gas Impacts, Technology, and Climate Policy
Sponsoring Committee(s): ES-5
Chair: Ann Marie Bourgeois, SIDD

Paper#: 86
The Role of Technology in Mitigating Climate Change
F. T. Princiotta; USEPA, Research Triangle Park, NC

Paper#: 182
America’s Domestic Greenhouse Gas Policies and the Effects on the Industrial Sector
D. Hooper; Brown and Caldwell, Walnut Creek, CA

ET-1 (1a)
Room: Telus 109
6/24/2010 9:00 AM
Paper
Off-Road Sources: Airports, Rail, Marine, and Construction
Sponsoring Committee(s): ET-1
Chair: Roger Wayson, Volpe Trans. System Center
Co-Chair: Carrie Reese, North Central Texas Council of Governments

9:00 AM
Paper#: 83
Emissions Inventory for Central Florida with Emphasis on On-Road and Non-Road Sources
C. Cooper, J. Ross, M. Radford, O. Duarte, W. Champion; UCF, Orlando, FL

9:20 AM
Paper#: 935
PM Trends in the Vicinity of Airports
G. Noel; R. L. Wayson; ‘Volpe Transportation Systems Center, Cambridge, MA, ‘Volpe Transportation Systems Center, Cottonwood Shores, TX

9:40 AM
Paper#: 970
Comparative Assessment of In-Use Emissions of Passenger Railroad Locomotives Using Portable Emission Measurement Systems
H. Frey, H. Choi, B. Graver, G. Sandhu; North Carolina State University, Raleigh, NC

10:00 AM
Paper#: 698
Current and Future Diesel Emission Estimation from Agricultural Sector
E. Winijkul, F. Yan, T. C. Bond; University of Illinois at Urbana-Champaign, Urbana, IL

IF (1)
Room: Telus 108
6/24/2010 9:00 AM
Panel
Air Quality and Environmental Initiatives in Asia - Part 1
Sponsoring Committee(s): IF
Chair: Frank Lee, The Hong Kong Polytechnic University
Co-Chair: Junji Cao, Institute of Earth Environment, CAS

Paper#: 159
Environment, Climate Change and Energy Efficiency (ECCEE): An Integrated Approach to Air Quality Management, Philippine Setting
E. G. Alabastro, M. R. J. Fernando; Air and Waste Management Philippine Section Inc., Quezon City, Philippines
**TECHNICAL SESSIONS**

**Paper#: 1980**  
**Source Apportionment of Visibility in Hong Kong**  
A. Lau, Q. Bian, Z. Yuan, Y. Yu; HKUST Fok Ying Tung Graduate School, Nansha, Guangzhou, China, Hong Kong University of Science and Technology (HKUST, Hong Kong, Kowloon, Hong Kong

**Paper#: 1981**  
**Source Apportionment Using Multilinear Receptor Model of Hong Kong Aerosols**  
A. Lau, Z. Yuan, J. Yu, P. Louie; HKUST Fok Ying Tung Graduate School, Nansha, Guangzhou, China, Hong Kong University of Science and Technology (HKUST), Kowloon, Hong Kong

**Paper#: 1982**  
**Resolving Urban Morphology in High-resolution Atmospheric Models and its Implication on Air Quality Studies**  
A. Chan, A. Lau, J. Fung; The Hong Kong University of Science and Technology, Kowloon, Hong Kong

**WM-1 (3)**  
**Room: Glen 203**  
6/24/2010 9:00 AM

**Panel Achieving Zero Waste - Status Report**  
Sponsoring Committee(s): WM-1  
Chair: Marjorie Clarke, City College of New York  
Co-Chair: Sam Vigil, Cal Poly, State University

The paradigm shift from integrated solid waste management to zero waste systems is underway, more in some places than others. This panel explores what constitutes a zero waste system (i.e., robust waste prevention legislation and incentives, reuse, recycling and composting education, enforcement and infrastructure), and explores progress made by jurisdictions that are implementing zero waste systems, and how they are achieving it.

**Panelists:**  
- Bob Gedert, California Resource Recovery Association  
- Marjorie Clarke, City College of New York

**WM-4 (1)**  
**Room: Glen 204**  
6/24/2010 9:00 AM

**Paper Medical Waste Management**  
Sponsoring Committee(s): WM-4  
Chair: Anne Woolridge, Independent Safety Services Ltd.  
Co-Chair: Stephen Musson, U.S. EPA

**9:00 AM**  
**Paper#: 223**  
**Research into Healthcare Waste: Barriers and Opportunities from Academic, Medical and Waste Contractor Perspectives**  
A. C. Woolridge, R. Fairweather, H. Williams; Independent Safety Services Limited, Nottingham, United Kingdom, Veolia Environnement, London, United Kingdom, The University of Northampton, Northampton, United Kingdom

**9:20 AM**  
**Paper#: 587**  
**Wet Scrubber Control Strategy to Meet the New HMIWI Mact Standard**  
A. Bartocci; Entitech, Inc., San Diego, CA

**9:40 AM**  
**Paper#: 844**  
**Environmentally Friendly Medical Waste Recycling Using Plasma-Gasification-Melting (PGM) and Wet Scrubbing Technology**  
A. Bartocci, L. Dor; Entitech, Inc., San Diego, CA, Environmental Energy Resources, Ltd. (EER), Ramat-Gan, Israel

**AB-1 (1b)**  
**Room: Telus 105**  
6/24/2010 11:10 AM

**Paper PM Emission Measurements**  
Sponsoring Committee(s): AB-1  
Chair: Peter Mueller, TropoChem  
Co-Chair: Jay Turner, Washington University in St. Louis

**11:10 AM**  
**Paper#: 1012**  
**Polarization Correction of Sun-Light Scattering for Sky-Scattered Solar Radiation Based Plume Transmissivity Measurements**  
R. Devillers, K. A. Thomson, M. R. Johnson; National Research Council, Ottawa, Canada, Carleton University, Ottawa, Canada

**11:30 AM**  
**Paper#: 734**  
**Deposition Studies of Vehicle-generated PM Near a Highway in Lake Tahoe Basin**  

**11:50 AM**  
**Paper#: 123**  
**Quantitative Assessment of Releasability of Asbestos from Soil Using the Releasable Asbestos Field Sampler**  

**12:10 PM**  
**Paper#: 984**  
**Evaluation of Cooling Tower Drift Measurement Techniques**  
K. Hennon, D. Wheeler; Clean Air Engineering, Powell, TN

**AB-1 (3)**  
**Room: Telus 109**  
6/24/2010 11:10 AM

**Paper International PM Measurements/Data Analysis**  
Sponsoring Committee(s): AB-1  
Chair: Michael Meyer, MetOne  
Co-Chair: Charles McDade, University of California, Davis
TECHNICAL SESSIONS

11:10 AM
Paper#: 1017
Challenges in Assessing Cumulative Effects Using the Canada Wide Standard for PM$_{2.5}$
B. Burkholder, 1 M. Murphy; 2 Stantec, Markham, ON, Canada, 2 Stantec, Fredericton, NB, Canada

11:30 AM
Paper#: 708
Adjusting TEOM PM$_{2.5}$ Values to Account for the Under-Estimated Values During Winter Season
D. C. Fudge; BC Ministry of Environment, Prince George, BC, Canada

11:50 AM
Paper#: 580
Correlation between Mass of Fine Particles PM$_{2.5}$ and Chemical Composition of PM$_{2.5}$ Acid Aerosols Northeast Mexico City in 2004
Y. I. Falcon; Universidad Autonoma Metropolitana, Mexico City, Mexico

12:10 PM
Paper#: 1023
Annual Cycle in Reduced and Oxidized Forms of Atmospheric Nitrogen Species at Rocky Mountain National Park
C. M. Carrico, 1 J. L. Collett, 1 S. M. Kreidenweis, 1 E. Levin, 1 M. Schurman, 1 D. Day, 1 K. Beem, 1 J. Ray, 1 B. Schichtel, 1 W. Malm; 1Colorado State University, Fort Collins, CO, 2U.S. National Park Service, Denver, CO, 3U.S. National Park Service, Fort Collins, CO

12:30 PM
Paper#: 163
Measurement and Analysis of Non-Methane Volatile Organic Compounds Emissions from Concentrated Animal Feeding Operations in North Carolina
I. C. Rumsey, V. P. Aneja, W. A. Lonneman; North Carolina State University, Raleigh, NC, Senior Environmental Employment Program, U.S. Environmental Protection Agency, Research Triangle Park, NC

AB-3 (2b)
Room: Telus 110
6/24/2010 11:10 AM
Paper
Ozone and PM$_{2.5}$ Modeling
Sponsoring Committee(s): AB-3
Chair: Ralph Morris, ENVIRON International Corporation
Co-Chair: Robert Paine, AECOM

11:10 AM
Paper#: 132
Impacts of Refinery Flare Operations and Emissions Variability on Ozone Formation in the Houston-Galveston-Brazoria Area
E. McDonald-Buller, R. T. Pavlovic, F. Alhajeri, Y. Kimura, D. T. Allen; University of Texas at Austin, Austin, TX

11:30 AM
Paper#: 919
A Seasonal Analysis of Regional Transport of the Houston Urban Plume
M. Dionisio, E. McDonald-Buller, D. T. Allen; University of Texas at Austin - CEER, Austin, TX

11:50 AM
Paper#: 899
A New Algorithm in CAMx to Reduce Excessive Vertical Transport over Complex Terrain

AE-1 (5a)
Room: Glen 209
6/24/2010 11:10 AM
Paper
Innovative CO2 Control Technologies
Sponsoring Committee(s): AE-1
Chair: Katherine Dombrowski, URS Corporation
Co-Chair: Arijit Pakrasi, Shaw Environmental, Inc.
TECHNICAL SESSIONS

11:10 AM
Paper#: 59
Results from Experimental Evaluations of Post-Combustion CO2 Sorbents
H. Krutka,¹ S. Sjostrom,¹ C. Martin,¹ T. Campbell,¹ A. O’Palko²; ¹ADA-Environmental Solutions, Littleton, CO; ²DOE NETL, Morgantown, WV

11:30 AM
Paper#: 670
Comparisons of Sorbent Costs for CO2 Capture from Gas Stream
F. Su, C. Lu, H. Chen; National Chung Hsing University, Taichung, Taiwan

11:50 AM
Paper#: 626
CO2 Capture by Amine-Functionalized Silica-Based Microporous and Mesoporous Materials
L. Lin, H. Bai; National ChiaoTung University, HsinChu, Taiwan

AM-1 (4)
Room: Macleod A2
6/24/2010 11:10 AM
Paper
Global Greenhouse Gas and Carbon Black Emissions Inventory and Factors Development
Sponsoring Committee(s): AM-1
Chair: Tom Driscoll, U.S. EPA

11:10 AM
Paper#: 972
Executive Order 13514 - Sustainability Through GHG Inventory and Emissions Reduction
J. Graul, M. Baghoomian; Northrop Grumman Corporation, Clearfield, UT

11:30 AM
Paper#: 599
Comparing and Contrasting Greenhouse Gas Emission Quantification for Global Oil & Natural Gas Industry Sector Operations
K. Ritter,¹ J. Keating,² M. Lev-On,³ T. M. Shires⁴; ¹American Petroleum Institute, Washington, DC; ²BP North America, Chicago, IL; ³The LEVON Group, Thousand Oaks, CA; ⁴URS Corporation, Austin, TX

11:50 AM
Paper#: 904
Black Carbon Emission Factor Assessment
J. Goldsmith, R. Neulicht, M. Icenhour; RTI International, Research Triangle Park, NC

AM-3 (1a)
Room: Telus 104
6/24/2010 11:10 AM
Paper
Characterizing Air Quality and Monitoring for Environmental Effects in the Athabasca Oil Sands Region of Alberta, Canada - Part 1
Sponsoring Committee(s): AM-3
Chair: Kevin Percy, Wood Buffalo Environmental Association
Co-Chair: Alan Legge, Biosphere Solutions

11:10 AM
Paper#: 1194
The Wood Buffalo Environmental Association: Monitoring in the Athabasca Oil Sands Region, Alberta, Canada
C. MacEachern; Wood Buffalo Environmental Association, Fort McMurray, AB, Canada

11:30 AM
Paper#: 914
The WBEA Air Quality Monitoring Network: History of Operation and Current Status
D. M. Phillips; Syncrude Canada Ltd., Fort McMurray, AB, Canada

11:50 AM
Paper#: 1091
Development/Application of a Comprehensive Data Management System for the Athabasca Oil Sands Region
M. Hansen; Rawin Consulting Inc, Calgary, AB, Canada

12:10 PM
Paper#: 1068
Development and Application of Statistical Approaches for Air Quality Data Management
M. Nosal; The University of Calgary, Calgary, AB, Canada

12:30 PM
Paper#: 1079
Ten-Year Trends in Regional Air Quality for Criteria Pollutants in the Athabasca Oil Sands Region
W. Kindzierski, M. Gamal El-Din, P. Chelme-Ayala; University of Alberta, Edmonton, AB, Canada
TECHNICAL SESSIONS

EDC
Room: Glen 201
6/24/2010 11:10 AM
Panel
Opportunities and Challenges in Environmental Education and Training
Sponsoring Committee(s): EDC
Chair: Ashok Kumar, University of Toledo

This panel session will cover a variety of topics related to challenges in delivering environmental education, training, and outreach related to topics of sustainability, green products, energy, entrepreneurship, and engineering curriculum.

Panelists:
• Michael Kleinman, University of California, Irvine
• Prahlad Murthy, Wilkes University
• Christi Veleta, City of Jacksonville Environmental Protection Board
• William Auberle, Northern Arizona University

EI-1 (4)
Room: Telus 106
6/24/2010 11:10 AM
Panel
Title V Permit Streamlining
Sponsoring Committee(s): EI-1
Chair: La Weeda Ward, Edwards Air Force Base

This panel will discuss Title V Permit Streamlining actions at Edwards AFB under current and proposed regulatory climates. To reduce the complexities created by adding Title V on top of an already robust compliance program, installations such as Edwards Air Force Base (Edwards) have developed and implemented streamlining options into their Title V Program. The first streamlining option that was implemented was based on the “Permit Shield” provisions of the Title V program (40 CFR § 70.6(f)). In the case of Edwards AFB, a permit shield was sought from the Aerospace NESHAP requirements. This permit streamlining action consolidated all local and federal aerospace coating requirements into one set of permit conditions and made Aerospace NESHAP requirements essentially transparent. A renewed Title V permit was granted that contains ‘shield’ language in all of Edwards’ coating operations. Edwards’ Title V Aerospace NESHAP Permit Shield effectively shields the coating operations from duplicate requirements as applicable conditions are written and streamlined directly into the permit. This panel will also discuss EPA’s final Flexible Permitting Rule, finalized on October 6, 2009 (74 FR 51418) and its contribution to the efforts of current and future Title V Permit Streamlining actions. The objective of this presentation is to share an approach and practical steps that helped Edwards AFB significantly streamline and enhance its Title V compliance program. Of particular focus is the development of the Aerospace NESHAP Permit Shield and the benefits achieved in terms of program efficiency and compliance improvements. This panel will also discuss EPAs final Flexible Permitting Rule, finalized on October 6, 2009 (74 FR 51418) and its contribution to the efforts of current and future Title V Permit Streamlining actions.

Panelists:
• La Weeda Ward, Edwards Air Force Base
• Massie Hatch, URS Corporation
• John Gilliland, URS Corporation

EI-2 (2b)
Room: Glen 206
6/24/2010 11:10 AM
Panel
Nuclear Renaissance - Expediting the Permitting of New Nuclear Power Generation
Sponsoring Committee(s): EI-2
Chair: Hal Taback, Hal Taback Company

See description for EI-2 (2a) on page 93.

EP-1 (7)
Room: Macleod A1
6/24/2010 11:10 AM
Panel
Implementing New Source Review: State & Local Agency Issues & Differences
Sponsoring Committee(s): EP-1
Chair: David Jordan, ERM

Panel members will discuss issues pertaining to implementing NSR rules from a state and local agency perspective. Topics would include regional consistency, interaction with public interest groups, and interaction with EPA.

Panelists:
• Joann Held, Air Toxics Analysis Services
• Harry Klodoski, Hull & Klodoski LLC
• Jack Broadbent, Bay Area Air Quality Management District

EP-2 (2)
Room: Telus 111
6/24/2010 11:10 AM
Panel
Impact of Climate Change - an Economic Perspective
Sponsoring Committee(s): EP-2
Chair: Ram Ramanan, ICF International

The panelists will discuss the business impact and value of alternative approaches to address these issues.

Panelists:
• Marc Lemmond, U.S. Department of Commerce
• Jim Cormack, TransCanada
• Ram Ramanan, ICF International

EP-8 (3)
Room: Glen 202
6/24/2010 11:10 AM
Paper
Practical Environmental Management System Lessons
Sponsoring Committee(s): EP-8
Chair: Daniel Reinke, ERM
Co-Chair: Patricia Brush, Air Liquide Process & Construction North America

11:10 AM
Paper#: 600
Health, Safety and Environmental Indicators - Choosing the Right Ones
P. Brush; Air Liquide Process & Construction , Inc., Houston, TX
TECHNICAL SESSIONS

11:30 AM
Paper#: 564
An Integrated Approach for Managing Environmental Matters on Asset Decommissioning Projects
R. Well,1 H. Campbell2; ‘Enfot, Inc., Naperville, IL, ‘ConocoPhillips, Calgary, AB, Canada

ES-5 (8)
Room: Telus 101/102
6/24/2010 11:10 AM
Panel
The Science and Implications of the Global Temperature Record
Sponsoring Committee(s): ES-5
Chair: Flint Webb, SAIC
Co-Chair: Anne Marie Bourgeois, SIDD

There has been a lot of discussion lately about the trend of global temperatures, are they increasing or decreasing and how much of it is due to anthropogenic sources or to natural phenomena. There are some that have pointed out that the recent temperature data does not support the conclusion that global temperature rises are due to man-made activities but could be a result of natural fluctuations caused by solar cycles or orbital fluctuations. Recent disclosures of e-mails and admissions that there were errors in some of the data analysis have added fuel to the fires of this debate. This panel will attempt to tackle these issues in a neutral forum that will provide various perspectives on climate science data and the implications of whether recent climate changes are man-made or not.

Panelists:
• Elwynn Taylor, Iowa State University

ET-1 (1b)
Room: Macleod A3
6/24/2010 11:10 AM
Paper
Off-Road Sources: Airports, Rail, Marine, and Construction
Chair: Roger Wayson, Volpe Trans. System Center
Co-Chair: Carrie Reese, North Central Texas Council of Governments

11:10 AM
Paper#: 577
Air Emissions Footprint from Cruise Vessels
C. L. Morrison,1 D. Wolf; 1Shaw Environmental & Infrastructure Group, Concord, CA, 2TRC Solutions, Concord, CA

11:30 AM
Paper#: 816
Comparison Analysis of the Marine Air Emissions using Tier 1 and Tier 3 Methods in a Portal Area
J. Song, H. Lee; University of Incheon, Incheon, Korea, Republic of

11:50 AM
Paper#: 1912
Transportation Emissions Model for Canadian Ports
B. McEwen; SNC-Lavalin Environment Inc., Vancouver, BC, Canada

IF (2)
Room: Telus 108
6/24/2010 11:10 AM
Panel
Air Quality and Environmental Initiatives in Asia - Part 2
Sponsoring Committee(s): IF
Chair: Frank Lee, The Hong Kong Polytechnic University
Co-Chair: Junji Cao, Institute of Earth Environment, CAS

Paper#: 1983
An Air Quality Management Support System for Hong Kong and the Pearl River Delta
L. Ying, A. Lau, J. Fung; Hong Kong University of Science & Technology, Kowloon, Hong Kong

Paper#: 1985
Ultrasonic Spray Pyrolysis Synthesis of Porous Bi2WO6 Microspheres and Their Visible Light Induced Photocatalytic Removal of NO
S. Lee, Y. Huang; The Hong Kong Polytechnic University, Hong Kong, China

Paper#: 1986
Determination of Biogenic Volatile Organic Compounds (BVOCs) from Cleaning Products via SPME/GC-FID Analysis
S. Lee, Y. Huang, K. Ho; The Hong Kong Polytechnic University, Hong Kong, China

WM-1 (4)
Room: Glen 205
6/24/2010 11:10 AM
Panel
Generating Value from Integrated Solid Waste Management
Sponsoring Committee(s): WM-1
Chair: Ian Terry, Millennium EMS Solutions Ltd.

This panel session has four presenters and will discuss integrated waste management (IWM) approaches and strategies. Speakers will represent both municipally owned/operated waste management facilities and privately owned/operated waste management facilities and government regulatory agencies. The use of a number of different treatment options for the municipal solid waste (MSW) stream while ensuring the site specific regulatory, economic and social considerations will also be discussed.

WM-3 (3)
Room: Glen 203
6/24/2010 11:10 AM
Paper
Landfill and BioGas Systems - Energy Recovery, Gas Treatment, and Utilization
Sponsoring Committee(s): WM-3
Chair: David Minott, Environmental Resources Management (ERM)
Co-Chair: Lee Lundberg, Veolia Water North America
TECHNICAL SESSIONS

11:10 AM
Paper#: 52
Opportunities for Generating Electricity from Mpererwe Municipal Solid Waste Landfill
A. Mwesigye; Makerere University, Kampala, Uganda

11:30 AM
Paper#: 1145
Gas, We Got It! A Series of Landfill Gas Recovery Case Studies and the Resulting Cost Benefit Analysis
A. Muriel, C. Cherneff, M. Webb; Mount Royal, Calgary, AB, Canada

11:50 AM
Paper#: 610
Production of Pipeline Quality Gas from Landfill Gas at King County Cedar Hills Regional Landfill
M. Rahman, V. Okereke; King County, Seattle, WA

12:10 PM
Paper#: 567
Upgrading of Biogas by Electrothermal Swing Adsorption onto Activated Carbon Fiber Cloth - Towards an Industrial Process
S. Giraudet, B. Boulinguiez, P. Le Cloirec; Ecole Nationale Supérieure de Chimie de Rennes, Rennes, France

WR-2 (3)
Room: Glen 204
6/24/2010 11:10 AM
Panel
Green Remediation – Principles and Lessons Learned from Success Stories
Sponsoring Committee(s): WR-2
Chair: Harish Rao, ARCADIS U.S. Inc.

Sustainability is a term that is incorporated into a wide range of environmental areas including what is routinely identified as green remediation. Cleanup activities use energy, water and materials resources to achieve cleanup objectives, which creates an environmental footprint. Optimizing environmental performance to order to implement effective cleanups that are sustainable can conserve resources and minimize the remedial activity's environmental footprint. This panel will focus on the important elements or principles for achieving green remediation and present green remediation case studies as well as lessons learned from these actual projects.

THURS. PM1

AB-2 (2)
Room: Telus 108
6/24/2010 2:20 PM
Paper
Photochemistry and Organic Aerosols
Sponsoring Committee(s): AB-2
Chair: Barbara Zielinska, Desert Research Institute
Co-Chair: Yuegang Zuo, University of Massachusetts Dartmouth

2:20 PM
Paper#: 108
Detailed Modeling of Alkene Chemistry within Condensed Chemical Mechanisms
G. Heo, Y. Kimura, E. McDonald-Buller, D. T. Allen, W. P. L. Carter, G. Yarwood, G. Z. Whitten; University of Texas at Austin, Austin, TX, University of California, Riverside, CA, ENVIRON International Corporation, Novato, CA, Smog Reyes, Point Reyes Station, CA

2:40 PM
Paper#: 205
Inhalable Particulate Matter from Common Organic Vapours
K. M. McDonald, E. Schnitzler, Z. Petriw; Concordia University College of Alberta, Edmonton, AB, Canada

3:00 PM
Paper#: 717
High Spring Time Ozone in Northern Latitudes
D. C. Fudge; BC Ministry of Environment, Prince George, BC, Canada

3:20 PM
Paper#: 783
Source Apportioning of PM2.5 Organic Carbon in Hong Kong Using Positive Matrix Factorization of Secondary and Primary Organic Tracer Data
J. Yu, D. Hu, Q. Bian, A. K. Lau; Hong Kong University of Science & Technology, Hong Kong, Hong Kong

AB-3 (3c)
Room: Telus 101/102
6/24/2010 2:20 PM
Paper
Regulatory Model Applications
Chair: Anthony Schroeder, Trinity Consultants
Co-Chair: David Long, American Electric Power

2:20 PM
Paper#: 578
Identifying a Temporally Representative Modelling Period
E. Anglo; AMEC Earth & Environmental, Calgary, AB, Canada

2:40 PM
Paper#: 1008
Modeling Challenges Posed by the New NAAQS for PM2.5, Sulfur Dioxide and Nitrogen Dioxide
D. Heinold, R. Paine; AECOM, Westford, MA

3:00 PM
Paper#: 193
Site-Specific Meteorological Monitoring for AERMOD: Model Sensitivity to Measurements of Solar and Net Radiation
T. S. Wickstrom; Liberty Environmental, Inc., Reading, PA

3:20 PM
Paper#: 863
Buoyant Line Plume Model Sensitivity Analysis
B. Cosic, M. Jammer, S. Capstick; Golder Associates Ltd., Mississauga, ON, Canada
TECHNICAL SESSIONS

AE-1 (5b)
Room: Glen 209
6/24/2010 2:20 PM
Paper
Innovative CO2 Control Technologies
Sponsoring Committee(s): AE-1
Chair: Katherine Dombrowski, URS Corporation
Co-Chair: Arijit Pakrasi, Shaw Environmental, Inc.

2:20 PM
Paper#: 784
Experimental Study of a Biocatalyst-Promoted Carbonate Absorption Process for CO2 Capture from Post-Combustion Flue Gases
A. Khodayari, Y. Lu, M. Rostam Abadi, M. Rood; Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, Institute of Natural Resource Sustainability, University of Illinois at Urbana-Champaign, Urbana, IL

3:00 PM
Paper#: 628
Photo-Degradation of Acetone Vapor with CNT/TiO2 Composites Fabricated by Plasma Enhanced Chemical Vapor Deposition
W. Zeng, F. Su, C. Lu; Dept. of Environmental Engineering, National Chung Hsing University, Taichung, Taiwan

AM-2 (1)
Room: Macleod A2
6/24/2010 2:20 PM
Paper
Source Apportionment Applications
Sponsoring Committee(s): AM-2
Chair: Hilary Hafner, Sonoma Technology, Inc.

2:20 PM
Paper#: 995
Source and Fate of Methane within an Urban Setting
G. O’Sullivan, B. J. Min, C. D. Sandau; TRIUM Inc., Cochrane, AB, Canada

2:40 PM
Paper#: 142
Woodsmoke Source Apportionment and Home Infiltration Study in the Rural Annapolis Valley, Nova Scotia, Canada

AM-3 (1b)
Room: Telus 104
6/24/2010 2:20 PM
Paper
Characterizing Air Quality and Monitoring for Environmental Effects in the Athabasca Oil Sands Region of Alberta, Canada - Part 2
Sponsoring Committee(s): AM-3
Chair: Kevin Percy, Wood Buffalo Environmental Association
Co-Chair: Alan Legge, Biosphere Solutions
TECHNICAL SESSIONS

2:20 PM
Paper#: 1625
Emission Characterization Plans for the Alberta Oil Sands Region
J. Watson, J. Chow, X. Wang, S. D. Kohl; Desert Research Institute, Reno, NV

2:40 PM
Paper#: 1626
Heavy-Duty Diesel Emissions in the Alberta Oil Sands Region
J. Chow, X. Wang, S. D. Kohl, S. Gronstal, J. Watson; Desert Research Institute, Reno, NV

3:00 PM
Paper#: 1066
Novel Approach to Co-Measurement of Volatile Organic Compounds and Sulphur Compounds in the Athabasca Oil Sands Region
R. J. O'Brien; VOC Technologies, Damascus, OR

3:20 PM
Paper#: 848
Application of Ambient Ion Monitor in Northeastern Alberta
Y. Hsu,1 M. Landis; ‘Wood Buffalo Environmental Association, Fort McMurray, AB, Canada, ‘U.S. Environmental Protection Agency, Research Triangle Park, NC

3:40 PM
Paper#: 563
Passive Monitoring to Estimate N (NO₂, HNO₃, NH₃) Exposure in Remote Areas and Geospatial Analysis to Optimize Networks
A. Bytnerowicz,1 W. Fraczek,2 S. Schilling,3 M. Hansen,4 D. Alexander1; ‘USDA Forest Service, Riverside, CA, ‘Environmental Systems Research Institute, Redlands, CA, ‘Wood Buffalo Environmental Association, Fort McMurray, AB, Canada

AT-1 (2)
Room: Telus 103
6/24/2010 2:20 PM
Paper
Air Toxics Emissions, Source Characterization, and Regulatory Developments
Sponsoring Committee(s): AT-1
Chair: Paul Siebert, Weston Solutions, Inc.

2:20 PM
Paper#: 637
Air Toxic Emissions Impact from Natural Gas Compressor Turbines
G. Misra,1 R. Kura1; ‘El Paso Corporation, Birmingham, AL, ‘El Paso Corporation, Houston, TX

2:40 PM
Paper#: 197
Final GACT Standards for Chemical Manufacturing Area Sources
T. L. Dillow, REM, J. D. Marteny, P.E.; Dixon Environmental, Baltimore, MD

EE-5 (4a)/(4b)
Room: Glen 201
6/24/2010 2:20 PM
Paper
Recent Experience with Risk Assessment and Management
Sponsoring Committee(s): EE-5
Chair: John Koehler, Environmental Resources Management
Co-Chair: Heidi Rous, PCR Services Corporation

2:20 PM
Paper#: 1073
Are Chemical Emissions from the Oil Sands Presenting a Threat to Human Health?
B. Koppe; Intrinsik Environmental Sciences Inc., Calgary, AB, Canada

2:40 PM
Paper#: 1062
Potential Human Health Risks Associated with Large Game Meat Consumption in the Vicinity of an Operating Hazardous Waste Facility in Northern Alberta
G. L. Brown1, G. Latonas2, A. Sutherland3, D. Freckleton4; ‘Intrinsik Environmental Sciences Inc., Calgary, AB, Canada, ‘Sulphur Experts Inc, Calgary, AB, Canada, ‘Earth Tech AECOM, Swan Hills, AB, Canada

3:00 PM
Paper#: 689
Three Case Studies of Ecological Risk for the NOx - SOx Secondary National Ambient Air Quality Standards Review

3:20 PM
Paper#: 723
Predicted Human Exposures Associated with Cement Manufacturing Emissions via Air Compared with Multi-Media Exposures (Soil, Local Plants, and Local Wild Fish and Game)
D. Treissman, E. Haack, E. Baulk, D. Rydderch, G. Ramesh; WorleyParsons, Calgary, AB, Canada

3:40 PM
Paper#: 581
Can Conventional Ammunition Igloos Be Used for Residences - An Environmental Evaluation
K. Hoddinott; US Army, Street, MD
TECHNICAL SESSIONS

EI-1 (6)
Room: Telus 106
6/24/2010 2:20 PM
Paper
Industrial Wastewater Treatment on Federal Facilities
Sponsoring Committee(s): EI-1
Chair: Gordon Champneys, Hill AFB Industrial Waste Treatment Plant
Co-Chair: Michael McFarland, Utah State University

2:20 PM
Paper#: 1905
Sustainable Treatment of Metal Finishing Wastes from Aerospace Maintenance Operations Using Sodium Dimethyl Dithiocarbamate
M. McFarland,1 C. Glarborg, 2 M. Ross, 2 G. Champneys; 1Utah State University, River Heights, UT, 2Industrial Wastewater Treatment Plant, Hill AFB, UT

2:40 PM
Paper#: 1906
Management of Biological Materials in Wastewater from Research & Development Facilities
E. A. Raney, 1 T. W. Moon, 1 M. Y. Ballinger1; 1Pacific Northwest National Laboratory, Richland, WA, 2Pacific Northwest National Laboratory, Seattle, WA

3:00 PM
Paper#: 1908
Treatment of Wastewater from Munitions Production and Handling
S. Maloney; Construction Engineering Research Laboratory Engineer Research, Champaign, IL

3:20 PM
Paper#: 1907
Simultaneous Removal of Perchlorate and Energetic Compounds in Munitions Wastewater by Zero-Valent Iron and Perchlorate Respiring Bacteria
B. Kim, 1 D. Cha; 1U.S. Army Corps of Engineers/ERDC-CERL, Champaign, IL, 2University of Delaware, Newark, DE

EP-1 (9)
Room: Macleod A3
6/24/2010 2:20 PM
Panel
Implementing the PM2.5 New Source Review (NSR) Program
Sponsoring Committee(s): EP-1
Chair: Gary McCutchen, RTP Environmental Associates, Inc.
Co-Chair: Raj Rao, U.S. EPA

Although the first PM2.5 NAAQS was promulgated more than a decade ago, EPA, until 2009, had allowed use of PM10 as a surrogate for PM2.5 in conducting the analyses required for PSD and nonattainment area permits. The new PM2.5 provisions, however, are incomplete (the significant impact levels, significant monitoring levels, and PSD increments have not been promulgated), the test method for condensable particulate matter (CPM) has not been promulgated, and there is no official model usable for all the PM2.5 components. This panel will discuss problems with the current and future PM2.5 NSR rule and its implementation.

Panelists:
• Jeff Chaffee, Bison Engineering
• Gurinder (Gary) Saini, RTP Environmental Associates, Inc.

EP-2 (3)
Room: Glen 206
6/24/2010 2:20 PM
Paper
Economics of Environmental Compliance
Sponsoring Committee(s): EP-2
Chair: Jeff Muffat, 3M
Co-Chair: Robert Slater, Coleman Bright & Associates

2:20 PM
Paper#: 550
The Economic Co-Benefits of Reducing Energy Consumption and Greenhouse Gas Emissions
T. W. Hesterberg, 1 J. Shih, 1 W. B. Bunn, 1 E. Ardiente, 1 P. Goenka, 1 T. Slavin, 1 T. Sexton, 1 D. A. Kaden; 1Navistar, Inc., Warrenville, IL, 2DakTox, LLC, Arlington, MA

2:40 PM
Paper#: 753
Smart Utilization of Waste Materials: Flyash-Based Pervious Concrete to Reduce Runoff in Critical Areas of New Orleans
N. J. Mattei, 1 B. Kura, 1 F. Fromherz, 1 A. Ochoa; 1University of New Orleans, New Orleans, LA, 2Fromherz Engineers, Kenner, LA

3:00 PM
Paper#: 1107
Solar Power Feasibility for Wastewater Collection and Treatment
A. Sengupta, 1 B. Kura, 1 R. J. Delaune; 1University of New Orleans, New Orleans, LA, 2Digital Engineering & Imaging Inc, Kenner, LA

3:20 PM
Paper#: 68
Simple and Easy Actions to Make a Better World
T. Ceoldo Rubira; MWM INTERNATIONAL Industria de Motores da America do Sul Ltda, Sao Paulo, Brazil

Calgary, Alberta, Canada | Conference & Exhibition | June 22-25, 2010  103
EP-8 (4)
Room: Telus 105
6/24/2010 2:20 PM
Paper
Developing and Verifying Greenhouse Gas Emission Inventarioes
Sponsoring Committee(s): EP-8
Chair: Harish Rao, ARCADIS U.S., Inc.
Co-Chair: Daniel Reinke, ERM

2:20 PM
Paper#: 1028
Preparing GHG Emission Inventories for a Federal Facility Using Current Web-Based Applications
S. Dolan, M. Baghoorian, J. Graul, Northrop Grumman Corporation, Clearfield, UT

2:40 PM
Paper#: 1033
Lessons Learned in the Performance of Greenhouse Gas Compliance Audits under the Specified Gas Emitters Regulation in Alberta
A. Raphael,1 H. Balentine2; 1AECOM, Calgary, AB, Canada, 2AECOM, Camarillo, CA

3:00 PM
Paper#: 1000
GHG Emission Verification Under Alberta’s Specified Gas Emitters Regulation
K. Bolechowsky; ClearSky Engineering, Okotoks, AB, Canada

3:20 PM
Paper#: 1911
A Practical Framework for Corporate GHG Management in British Columbia
G. Olszewski; SNC-Lavalin Environment Inc., Burnaby, BC, Canada

ES-4 (6)
Room: Glen 202
6/24/2010 2:20 PM
Panel
Ethics of Power Generation Technologies
Sponsoring Committee(s): ES-4
Chair: Pamela Heckel, University of Cincinnati

INTRODUCTION How sustainable is renewable energy? Do new technologies have unintended consequences? Are financial incentives required? Does it impact our nation’s strategic defense plan? Will implementation undermine our homeland security? OBJECTIVE This interactive session requires audience participation to evaluate 12 case studies, each designed to increase energy self-sufficiency. Using the think-pair-share learning strategy, groups evaluate the sustainability of different renewable energy applications. SUMMARY The quest to reduce our dependence on foreign fossil fuels has inspired new solutions. To be sustainable, these solutions must be economically viable without overwhelming health costs or harmful environmental effects. Environmental professionals trained to evaluate the pros and cons of a situation are more likely to consider the long term effects of the proposed solution ACKNOWLEDGEMENTS Dr. Heckel is supported by the National Institute of Environmental Health Sciences Molecular Epidemiology in Children’s Environmental Health Training Grant T32 ES010957 Post Doctoral Fellowship.

Panelists:
• Pamela Heckel, University of Cincinnati
• Christi Veleta, City of Jacksonville
• Joann Held, Air Toxics Analyst Services

ES-5 (9)
Room: Telus 111
6/24/2010 2:20 PM
Panel
Sponsoring Committee(s): ES-4, EP-3
Chair: David Heger, Barnes & Thornburg LLP

The international GHG market has been called a “mosaic” of mandatory and voluntary regimes, including allowance-based trading programs; project-based offset and credit mechanisms; and voluntary trading. The objective of this panel is to identify, summarize, and compare these various regimes in Europe, Canada and the United States, as well as examine the opportunities (and risks) associated with participation in these markets. Topics covered will likely include (but may not be limited to) eligibility for participation in various international markets, development of emerging GHG trading programs and markets, lessons learned so far from more established markets (e.g. EU and Alberta), comparison of formal versus over-the-counter markets, “early action” and voluntary program risk and opportunity, and plans for and impact of future harmonization of international markets.

Panelists:
• Scott Harder, Harder International
• Michael Radcliffe, FirstCarbon Solutions
• Jack Holdsworth, Failsafe Canada Inc.
TECHNICAL SESSIONS

ET-1 (2)
Room: Macleod A1
6/24/2010 2:20 PM

Paper
Mobile Source Emissions
Sponsoring Committee(s): ET-1
Chair: Abhilash Vijayan, California Air Resources Board

2:20 PM
Paper#: 975
Quantification of In-Vehicle Concentration of Fine Particulate Matter
X. Liu, Y. Cao, H. Frey; North Carolina State University, Raleigh, NC

2:40 PM
Paper#: 917
B. Afotey, M. L. Sattler, S. P. Mattingly, V. Chen; University of Texas at Arlington, Arlington, TX

3:00 PM
Paper#: 219
Regional Characteristics and Relevant Factors of Gaseous Pollutant Emissions from Motorcycles
J. Tsai, Y. Yao, W. Chang; Dept. of Environmental Engineering, National Cheng, Tainan, Taiwan

3:20 PM
Paper#: 111
Study on Poisoning of Motorcycle Catalytic Converters
Y. Chen, K. Lee, F. Jeng; National Taiwan University, Taipei, Taiwan

3:40 PM
Paper#: 22
Driver Behavior Variability and Its Effects on Vehicle Exhaust Emissions
I. Moulvi; Levelton Consultants Ltd, Calgary, AB, Canada

WM-3 (4)
Room: Glen 203
6/24/2010 2:20 PM

Panel
Waste-to-Energy - Pros and Cons for Sustainability
Sponsoring Committee(s): WM-3
Chair: David Minott, Environmental Resources Management (ERM)
Co-Chair: Jack Lauber, Columbia University - Earth Engineering Center

By the late 1980's, waste-to-energy (WTE) had become a controversial proposition in North America, garnering strong support in some locales and determined opposition in others. Twenty years later, WTE remains publicly controversial, although some perceive a recent trend towards increased public acceptance. Emissions of dioxin and mercury from WTE have been dramatically reduced over the past two decades, yet lingering concerns, legitimate or not, continue to fuel opposition to WTE. Concerns persist that increased reliance on WTE could be a disincentive to achieving high recycling rates, yet real-world experience over the past two decades belies that concern. Proponents of WTE correctly assert that a major fraction of the energy produced by WTE facilities is renewable energy and enables a net reduction in greenhouse gas emissions, making a significant contribution to environmental sustainability. Yet, others concerned with sustainability believe that the better solid waste management policy is to focus on achieving “zero waste” generation now, as a more sustainable solution than WTE. In this panel session, panelists from Canada and the U.S. will present and debate their perspectives, pro and con, on the role that WTE should play today in waste management and environmental sustainability.

Panelists:
• Marjorie Clarke, Education, Consulting

WR-2 (4)
Room: Glen 204
6/24/2010 2:20 PM

Paper
Innovative Treatment and Management of Industrial Wastes
Sponsoring Committee(s): WR-2
Chair: Radha Krishnan, Shaw Environmental
Co-Chair: Jaclyn Karam, USAF-Rome Research Site

2:20 PM
Paper#: 69
Improvements in Hazardous Wastes Management
T. Ceoldo Rubira, ‘A. S. Gobatto,’ C. Garcia’; ‘MWM INTERNATIONAL Industria de Motores da America do Sul Ltda, Sao Paulo, Brazil, ‘INTERNATIONAL Industria Automotiva da America do Sul, Canoas, Brazil, ‘MWM INTERNATIONAL Motores, Jesus Maria, Argentina

This extended special panel session (track) will have 12 panelists with 6 presentations. The session will be devoted to the presentation of recent research findings on the health effects of hydrogen sulphide, together with a discussion of policy initiatives being taken by leading regulatory agencies aimed at protecting public health and safety through avoidance of over-exposure to hydrogen sulphide. The session will represent an update of information presented at a health research symposium on hydrogen sulphide held at Research Triangle Park, North Carolina in November 2000.
TECHNICAL SESSIONS

2:40 PM
Paper#: 176
Leaching Mechanism and Strength Characteristics of a Solidified High Carbon Content Waste
M. Saeedi, A. Rezaei Bajkiaei; School of Civil Engineering, Iran University of Science and Technology, Tehran, Iran, Islamic Republic of

3:00 PM
Paper#: 1080
Water Degassing Using Mono-/Poly-dispersed Droplets Falling In Inert Gas
Y. Ji, 1 Z. Tan, 2 Z. Xu; 1University of Alberta, Edmonton, AB, Canada, 2University of Calgary, Calgary, AB, Canada

3:20 PM
Paper#: 101
U.S. Academic Laboratories Now Have Two RCRA Hazardous Waste Management Options
J. M. Harless; Soil and Materials Engineers, Inc., Plymouth, MI

YP (6)
Room: Telus 109
6/24/2010 2:20 PM
Panel
Tips and Tools for the Techno-Challenged
Chair: Garrett Hoeksema, Golder Associates Ltd.
Co-Chair: Wally Qiu, Stantec Consulting

Ever wondered what a Blackberry can do? Heard of Twitter, Facebook and LinkedIn but have no idea what they are about? Then this session is for you! This session is designed for the techno-challenged, those who don’t know a “tweet” from a “poke”, or an “app” from an “iTune”. Maybe you want to learn how to reconnect with those long lost classmates from your university days, or learn how it’s possible to get more work done in less time. Some of the topics include: 1. Mobile communication: How to never leave your work behind by using Blackberries, iPhones, and other smartphones. 2. Social networking: How to stay in touch with colleagues, former classmates, your favourite celebrities, or even your kids. 3. How computer clusters can make your air quality dispersion modeling experience simpler and more enjoyable. 4. Microsoft “Tool Box”: MS Excel as a robust data analysis and basic statistics tool, MS Access as easy to use database to sort/access/extract large datasets, and MS SharePoint as a flexible system that allows people from locations around the world to easily work on the same project. This panel session will take a light-hearted, fun approach to present various technologies and its usefulness in today’s modern world. Attendees may even learn why their children are constantly on the computer or why they keep bugging you for that iPhone! This session is sponsored by the Young Professionals (YPs).

Panelists:
• Garrett Hoeksema, Golder Associates Ltd.
• Wally Qiu, Stantec Consulting

THURS. PM2

AB-1 (4)
Room: Telus 101/102
6/24/2010 4:00 PM
Panel
PM - Coarse Air Pollution
Sponsoring Committee(s): AB-1
Chair: James Flanagan, RTI International
Co-Chair: Charles McDade, University of California, Davis

The panel will discuss the current state of knowledge about PM-coarse air pollution: measurement techniques, composition, sources, and remediation options. Additional topics might be included according to the interests of the panel members. Some potential questions for discussion include:
- What are the special analytical issues for speciation of PM-coarse?
- Are special extraction techniques required to adequately mimic human exposure pathways — for example, using mild extraction techniques for water soluble fractions rather than total digestion?
- What are the implications of the locational and seasonal variability of composition in PM-coarse?
- What monitoring technologies are available for PM-coarse? Discuss advantages and disadvantages.
- What new monitoring programs are being planned for the U.S. and Canada?

Panelists:
• Eric Edgerton, ARA, Inc.
• Julia Lester, Environ Corp.
• Jonathan Thornburg, RTI International
• Jay Turner, Washington University

AB-2 (1d)
Room: Telus 108
6/24/2010 4:00 PM
Paper
Environmental Studies, Measurements and Modeling
Chair: Kent Hoekman, Desert Research Institute
Co-Chair: Alan Gertler, Desert Research Institute

4:00 PM
Paper#: 565
Vertical Distribution of Ozone in the Low Atmosphere around the Coastal Region of Metro Kaohsiung
H. Tsai, Y. Liu, C. Yuan, C. Hung, C. Lin, Y. Lin, L. Chien; National Sun Yat-sen University, Kaohsiung, Taiwan, ‘National Kaohsiung First University of Science & Technology, Kaohsiung, Taiwan, ‘National Kaohsiung Marine University, Kaohsiung, Taiwan

4:20 PM
Paper#: 611
Application of the Diurnal Curve Space Technique to Ambient Ozone Measurements at Selected Sites in Alberta
P. D. Reid, M. J. Davies, W. Qiu; Stantec Consulting Ltd., Calgary, AB, Canada, ‘Stantec Consulting Ltd., Edmonton, AB, Canada
**TECHNICAL SESSIONS**

4:40 PM  
**Paper#: 709**  
Assessment of Spatial Variability of Air Pollution Across NYC Based on Street-Level Measurements: The New York City Community Air Survey (NYCCAS)  
H. M. Eisl,1 J. Clougherty,2 T. Matte,2 D. Kass,2 I. Kheirbek,2 Z. Ross,2 J. E. Gorczyński,1 S. Markowitz;2 'CBNS-Queens College, CUNY, Flushing, NY, 'New York City Department of Health and Mental Hygiene, New York, NY, 'ZevRoss Spatial Analysis, Ithaca, NY

5:00 PM  
**Paper#: 834**  
Comparison of Passive and Continuous Measurements of O₃, SO₂ and NO₂ in the Athabasca Oil Sands Region  
Y. Hsu, K. Percy, M. Hansen; Wood Buffalo Environmental Association, Fort McMurray, AB, Canada

5:20 PM  
**Paper#: 1191**  
Polycyclic Aromatic Hydrocarbons (PAHs) Changes Posed by Residential Wood Combustion Scenarios on an Urban Area; an Application in Temuco, Chile  
L. Díaz-Robles,1 N. Schiappacasse,1 N. Araneda,1 I. Perez,1 J. S. Fu²; 'Air Quality Unit, School of Environmental Engineering, Catholic University of Temuco, Temuco, Chile, 'Department of Civil & Environmental Engineering, University of Tennessee, Knoxville, TN

AB-3 (5b)  
**Room: Telus 110**  
6/24/2010 4:00 PM  
**Paper**  
Air Quality Specialized Modeling  
Sponsoring Committee(s): AB-3  
Chair: Mervyn Davies, Stantec Consulting  
Co-Chair: Lloyd Schulman, TRC Environmental Corp.

4:00 PM  
**Paper#: 728**  
Assessing the Impact of Organic Air Pollutants from a Natural Gas Compressor Station  
A. Rich, M. L. Sattler; University of Texas at Arlington, Arlington, TX

4:20 PM  
**Paper#: 538**  
A Novel Use of the AERMOD Dispersion Model: The Near Field Application of AERMOD as an Emission Estimation Tool  
R. Mahabir,1 M. Jammer,1 K. Edwards,2 J. Lasowski;2 'Golder Associates Ltd., Mississauga, ON, Canada, 'ArcelorMittal Dofasco, Hamilton, ON, Canada

4:40 PM  
**Paper#: 713**  
Air Pollution Dispersion in Traffic Tunnels: A Case Study of SOUK SAGHEER Traffic Tunnel, Makkah, Saudi Arabia  
Y. T. Matbouli, T. Husain; Memorial University of Newfoundland, St. John's, NL, Canada

5:00 PM  
**Paper#: 977**  
Air Quality Dispersion Modelling: A Comparison Between AERMOD and Physical Wind Tunnel  
J. Alberico, M. Craig; RWDI Inc., Guelph, ON, Canada

**AB-6 (3)**  
**Room: Telus 109**  
6/24/2010 4:00 PM  
**Paper**  
Periodic Evaluation of Current and Predicted Visibility Conditions  
Sponsoring Committee(s): AB-6  
Chair: Scott Archer, Bureau of Land Management  
Co-Chair: Joseph Adlhoeh, Air Resource Specialists, Inc.

4:00 PM  
**Paper#: 558**  
Visibility Management in the Lower Fraser Valley, British Columbia  
M. Kellerhals,1 K. Jones,2 S. Sakiyama,1 R. Vingarzan1;1 BC Ministry of Health Living and Sport, Victoria, BC, Canada, 2Environment Canada, Vancouver, BC, Canada

4:20 PM  
**Paper#: 1083**  
The Development of a Visibility Index for the Lower Fraser Valley of British Columbia  
S. Sakiyama, M. Kellerhals; Ministry of Healthy Living and Sport, Victoria, BC, Canada

**AE-2 (2d)**  
**Room: Glen 208**  
6/24/2010 4:00 PM  
**Paper**  
Novel Air Pollution Control  
Chair: Howard Hohl, Eisenmann Corp.

4:00 PM  
**Paper#: 16**  
Study on the Conversion of Methane into CO₂ and Performance Assessment with Mesoporous Catalyst at Low Temperature  
L. C. Chao, L. L. Min, C. C. Tang, M. C. Ming, C. C. San; Department of Environmental Engineering, Taipei, Taiwan

4:20 PM  
**Paper#: 793**  
Plasma-Assisted Catalysis for Degradation of Vinyl Chloride  
M. Yuan,1 Y. Lin,1 C. Chang,1 C. Chang,1 J. Shie,1 C. Wu1;1 Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, Taiwan, 2Department of Environmental Engineering, National I-Lan University, I-Lan, Taiwan, 3Department of Environmental Engineering, Dayeh University, Changhua, Taiwan

4:40 PM  
**Paper#: 153**  
Photocatalytic Treatment of Volatile Organics in Air: Plasma Modified vs. Standard Titanium Dioxide  
S. Sumitsawan, M. L. Sattler, R. B. Timmons; The University of Texas at Arlington, Arlington, TX
TECHNICAL SESSIONS

5:00 PM
Paper#: 165
Fabrication of Semiconductor ZnS Microspheres and Photo-Catalytic Degradation of Gaseous Acetone
X. Li, L. Wan, Q. Zhao, Y. Shi, G. Chen; Dalian University of Technology, Dalian, China

AE-2 (3)
Room: Glen 209
6/24/2010 4:00 PM
Paper
Biotreatment, Biotransformation, Biocatalysis for Treatment of Air Contaminants
Sponsoring Committee(s): AE-2
Chair: Rakesh Govind, University of Cincinnati
Co-Chair: Kevin Moss, Tri-Mer Corporation

4:00 PM
Paper#: 830
Adsorptive Biofiltration of Sulfur Compound Odors
R. Govind, J. Goncalves; University of Cincinnati, Cincinnati, OH

4:20 PM
Paper#: 825
Meeting MACT with Multiphase
K. Moss,1 R. Gravley,1 R. Govind;1 Tri-Mer Corporation, Owosso, MI,
2University of Cincinnati, Cincinnati, OH

4:40 PM
Paper#: 648
Performance Validation of the First China and U.S. Installations of the Patented MÓNASHELL Biological Air Treatment System
B. Naples; Bord na Mona Environmental Products U.S. Inc,
Greensboro, NC

5:00 PM
Paper#: 551
Integrated Scheme of Cyclic Adsorption/Desorption Beds and Trickle Bed Air Biofilter Treating a Dynamic Mixture of n-Hexane and Benzene
A. Aly Hassan, G. A. Sorial; University of Cincinnati, Cincinnati, OH

AM-3 (1c)
Room: Telus 104
6/24/2010 4:00 PM
Paper
Characterizing Air Quality and Monitoring for Environmental Effects in the Athabasca Oil Sands Region of Alberta, Canada - Part 3
Sponsoring Committee(s): AM-3
Chair: Kevin Percy, Wood Buffalo Environmental Association
Co-Chair: Alan Legge, Biosphere Solutions

4:00 PM
Paper#: 664
Sulfur and Nitrogen Deposition Monitoring in the Athabasca Oil Sands Region
M. E. Fenn, C. S. Ross; U.S. Forest Service, PSW Research Station, Riverside, CA

4:20 PM
Paper#: 1002
Geospatial Deposition Mapping Using Lichens in the Athabasca Oil Sands Region
S. Berryman,1 J. Straker,2 S. Krupa,3 M. Davies,3 J. Ver Hoef,3 G. Brenner1; Stantec, Sidney, BC, Canada, 1University of Minnesota, St. Paul, MN, 2Stantec, Calgary, AB, Canada, 3Ver Hoef Statistical Consulting, Fairbanks, AK, 4Pacific Analytics, LLC, Scio, OR

4:40 PM
Paper#: 818
Multi-Element Analysis of Epiphytic Lichen Samples from the Athabasca Oil Sands Region
E. S. Edgerton,1 J. Fort,1 K. Baumann,1 S. Berryman,2 J. Graney,3 M. S. Landis,4 S. Krupa4; Atmospheric Research & Analysis, Inc., Cary, NC, 1Stantec Consulting, Ltd., Sidney, BC, Canada, 2Binghnamton University, Binghamton, NY, 3USEPA, Research Triangle Park, NC, 4University of Minnesota, St. Paul, MN

5:00 PM
Paper#: 741
The Wood Buffalo Environmental Association Jack Pine Forest Monitoring Program: Results from Organic and Mineral Components of Upland Soils
S. Visser,1 J. Straker,2 L. Turchenek2; University of Calgary, Calgary, AB, Canada, 1Stantec, Sidney, BC, Canada, 1AMEC, Edmonton, AB, Canada

5:20 PM
Paper#: 1009
Going Forward - Enhancing the Terrestrial Environmental Effects Monitoring Program
K. E. Percy; Wood Buffalo Environmental Association, Fort McMurray, AB, Canada

AM-4 (1)
Room: Macleod A2
6/24/2010 4:00 PM
Paper
Source Monitoring
Sponsoring Committee(s): AM-4
Chair: Len Nelms, Tetra Tech EMI
Co-Chair: Ray Merrill, Eastern Research Group
TECHNICAL SESSIONS

4:00 PM
Paper#: 155
Remote Detection and Quantification of Fugitive Emission Sources Using Ambient Measurements
R. Sikora, J. Harvey; D. Prince; Keyera Energy, Calgary, AB, Canada, EnCana Corporation, Calgary, AB, Canada, Airdar Inc., Edmonton, AB, Canada

4:20 PM
Paper#: 735
D. S. N. Maftei, A. D. Ciccone; P. R. Niejadlik; M. Jammer; Ontario Ministry of the Environment, Toronto, ON, Canada, Golder Associates Ltd., Mississauga, ON, Canada

4:40 PM
Paper#: 905
Comparison of PM10 Measurements Using Dilution and Traditional Methods at a Gas-Fired Combined Cycle Plant

EI-1 (5)
Room: Telus 106
6/24/2010 4:00 PM
Panel
Integrated Solid Waste Management and Quality Recycling at Federal Facilities
Sponsoring Committee(s): EI-1
Chair: Michael McFarland, Utah State University
Co-Chair: Mark Ross, Hill Air Force Base

Within federal facilities, management of solid waste continues to be an important environmental challenge. To reduce disposal costs, federal facilities emphasize an integrated solid waste management approach, which focuses on reduction, reuse, and recovery of recyclable materials. Beyond reducing materials handling and disposal costs, the integrated solid waste management approach has the potential of yielding significant greenhouse gas (GHG) emission reductions. Source reduction and recycling can result in reduced GHG emissions during the manufacturing process and reducing disposal of organic wastes minimizes the generation of methane from landfills. Recent consideration of integrated solid waste management approach suggests that climate change, energy policy and economic sustainability are impacted by the efficiency of material use. Because of the strategic importance of materials use in reducing the environmental impact of their operations, federal facility managers are focused on integrating material life cycle principles into solid waste management decision-making. These principles involve acknowledging the energy and material balances associated with the extraction, transportation, processing, consumption, recycling and final disposal of materials and products. The objective of the current panel will be to evaluate the current methods implemented at federal facilities to achieve sustainable integrated solid waste management goals. Potential topics shall include:

- Reduction of material life cycle impacts across the material supply chain
- Mitigation of greenhouse gas emissions through integrated solid waste management
- Reduction in material inputs through reuse and recycling
- Substitution of less toxic and more renewable materials
- Reducing the solid waste footprint through substitution of services for products

Panelists:
- Rasel Hossain, Alberta Environment, Northern Region
- William Eng, U.S. Army
- Nancy Carper, Brooks Air Force Base
- D.L. Scott Edwards, A4 Construction Engineering
- Teresa Perkins, Department of Energy
Clean Air Interstate Rule - Version 2.0
On July 11, 2008, the U.S. Court of Appeals for the D.C. Circuit overturned the Clean Air Interstate Rule (CAIR). When it was adopted in 2005, CAIR was the centerpiece of the U.S. EPA’s long term plan to reduce sulfur dioxide (SO2) and nitrogen dioxide (NOx) emissions from large point sources in the 28 eastern states. After various legal challenges the courts ultimately remanded the rule back to EPA to address several ‘fatal flaws’ in the rule. EPA is now ready to propose a new interstate transport rule which makes significant sulfur dioxide and nitrogen dioxide emissions reductions and fixes all the problems identified by the court. This diverse panel of experts will discuss the significant points of the court’s decision, what options exist now for the states to address interstate air pollution and how EPA or Congress might attempt to resolve once and for all the legal uncertainties to mitigating contributions to downwind nonattainment areas. The panelist will discuss the current status of EPAs’ rulemaking efforts to address the issues raised in the CAIR remand, on-going plans by regional and state air quality planning groups to mitigate significant interstate transport, and new approaches and insights into integrated approaches to reducing air pollution through cost-effective local and multi-state programs.

Panelists:
• Sam Napolitano, U.S. EPA
• John Kinsman, Edison Electric Institute
• Anna Garcia, Ozone Transport Commission

Using Cooperative Efforts to Develop Effective Ozone Control Strategies
The panel will discuss several examples of where cooperative efforts between the petrochemical and other industries, the public, and local regulatory agencies are being employed to expedite improvements in air quality. These areas are Houston, Texas, Baton Rouge, Louisiana and Alberta, Canada. Both the Houston and Baton Rouge areas have a long history of these cooperative efforts and have either achieved attainment with the relevant ozone standards (Baton Rouge) or achieved at least partial attainment (Houston), while in Alberta, this effort is just getting underway. The panel will discuss how resources have been pooled and shared, as well as explore how solutions have been identified and implemented, including emission controls on point sources, mobile sources and area sources, and the role that the EPA’s SIP process plays in evaluation and implementation of these strategies. The panel will also explore how information gained by these groups in one area has been applied to another, from identification of additional emission sources to sharing control technologies. The role of voluntary emission reduction activities using new technology to identify and reduce episodic emissions will also be discussed by the panel. In Texas, a state funded program includes a motor vehicle incentive program to reduce diesel engine emissions and research to provide key science insights. In Alberta, a multi-stakeholder forum is focusing on photochemical modelling and related control strategies. In Louisiana, initial efforts focused on reduction of volatile organic compounds. After narrowly exceeding the 1 hour ozone standard in 1999, efforts shifted to control of nitrogen compounds. In 2008, Baton Rouge achieved attainment of both the 1 hour (125 ppb) and 8 hour (84 ppb) standards. Final approval of these accomplishments is pending with EPA. Since ozone predictive models cover large areas, modelling inputs such as meteorological and emission source data can often be shared between areas, such as Baton Rouge and Houston. This has resulted in cost savings, but equally important with the challenging timing required by the SIP process, considerable time savings are possible.

Panelists:
• Robert Berg, ExxonMobil Corp.
• Michael Vince, Louisiana Department of Environmental Quality
• Judy Bigon, ExxonMobil Corp.
• K. J. (Ken) McGregor, Imperial Oil Ltd.
**TECHNICAL SESSIONS**

4:00 PM  
**Paper#: 160**  
Sustainable Return On Investment (SROI) for Waste Management  
J. C. Parker,¹ F. Kramer; ¹HDR, Toronto, ON, Canada, ²HDR, Calgary, AB, Canada

4:20 PM  
**Paper#: 806**  
Energy Efficiency Development in German and Colombian Manufacturing Sectors at Different Aggregation Levels: A Non Parametric Analysis  
C. I. Pardo Martinez; University of Wuppertal, Wuppertal Institute and University of La Salle, Wuppertal, Germany

4:40 PM  
**Paper#: 110**  
Prospect of Natural Gas Industry in Iran  
H. Omidvar; Nigc, Tehran, Iran, Islamic Republic of Iran

**EP-8 (5)**  
**Room: Telus 105**  
6/24/2010 4:00 PM  
**Paper**  
Performance Improvement with Technology  
Sponsoring Committee(s): EP-8  
Chair: Daniel Schmid, 3M  
Co-Chair: Harish Rao, ARCADIS U.S., Inc.

4:00 PM  
**Paper#: 202**  
Improved Environmental Stewardship at Data Centers through EMS Implementation  
T. L. Dillow, REM, J. D. Marteny, P.E.; Dixon Environmental, Baltimore, MD

4:20 PM  
**Paper#: 947**  
Evaluation of Accident Reporting Processes in the Department of Defense  
S. Q. Hassan, G. Marquardt; Department of Defense, Arlington, VA

4:40 PM  
**Paper#: 674**  
Effective Data Stewarding Measures in Support of EEOH-MIS  
S. Rasmussen,¹ D. Bird; ¹Hill AFB, Hill AFB, UT, ²EM-Assist, Layton, UT

**ES-1 (2)**  
**Room: Glen 202**  
6/24/2010 4:00 PM  
**Panel**  
Energy Efficiency - Best Practices and Case Studies  
Sponsoring Committee(s): ES-1  
Chair: Ram Ramanan, ICF International

The panelists will discuss the business impact and value of alternative approaches to address these issues.

Panelists:  
- Ray Picard, Hara  
- Ram Ramanan, ICF International  
- Peter Rowles, ICF International

**ES-5 (4)**  
**Room: Telus 111**  
6/24/2010 4:00 PM  
**Paper**  
Greenhouse Gas Mitigation Strategies  
Sponsoring Committee(s): ES-5  
Chair: Ann Marie Bourgeois, SIDD

4:00 PM  
**Paper#: 1150**  
British Columbia Green House Gas Mitigation and Air Quality Initiatives  
T. J. Wakelin; BC Ministry of Environment, Victoria, BC, Canada

4:20 PM  
**Paper#: 1077**  
Local Government Action Towards Energy Efficiency and Sustainability  
A. Shalapin,¹ M. Peters,² A. Ravin; ¹CDM, Cambridge, MA, ²CDM, Chicago, IL, ³CDM, New Orleans, LA

4:40 PM  
**Paper#: 120**  
Development of a Green Vehicle Evaluation and Selection Tool (GVEST)  
R. B. Singh,¹ D. Shintani,² S. E. Gingrich; ¹ENVIRON EC (CANADA), INC., Mississauga, ON, Canada, ²City of Toronto, Fleet Services Division, Toronto, ON, Canada

5:00 PM  
**Paper#: 1032**  
Oil & Gas Sector Greenhouse Gas Reporting Protocol Development  
T. Moore,¹ L. Gribovicz; ¹Western Regional Air Partnership, Fort Collins, CO, ²Western Regional Air Partnership, Cheyenne, WY
TECHNICAL SESSIONS

LC (3b)
Room: Glen 205
6/24/2010 4:00 PM
Panel
Hydrogen Sulphide Health Research and Risk Assessment - Ten Years Later
Chair: Donald Davies, Intrinsik Inc.
Co-Chair: Tee Guidotti, National Medical Advisory Services

See description for LC (3a) on page 105.

WM-3 (5)
Room: Glen 203
6/24/2010 4:00 PM
Paper
Biomass Gasification and Waste-to-Energy Applications
Sponsoring Committee(s): WM-3
Chair: David Minott, Environmental Resources Management (ERM)
Co-Chair: Samuel Vigil, CA Poly. State University

4:00 PM
Paper#: 1146
Solid Waste and Biomass Gasification
S. Vigil; Civil and Environmental Engineering Department, California Polytechnic State University, San Luis Obispo, CA

4:20 PM
Paper#: 147
Plasma Gasification: Recovering Energy from Waste
P. van Nierop; Alter NRG Corp., Calgary, AB, Canada

4:40 PM
Paper#: 833
Green Energy from Bioprocessing of Waste Sludge
R. Govind; PRD Tech, Inc., Cincinnati, OH

5:00 PM
Paper#: 787
Options for Deriving Energy From Biosolids - Conventional and Emerging Processes
L. Lundberg; Veolia Water North America, Baden, PA

5:20 PM
Paper#: 76
Small Scale Biomass Gasification for Combined Heat and Power Production
S. Trottier, A. K. Chambers, M. E. Olson; Alberta Research Council, Edmonton, AB, Canada

8:00 AM
Paper#: 215
Composition and Secondary Formation of Fine Particulate Material in the Salt Lake Valley: Winter 2009
J. C. Hansen,¹ R. Kuprov,¹ D. J. Eatough,¹ T. Cruickshank,² N. Olson;¹ Brigham Young University, Provo, UT, ²Utah State Department of Air Quality, Salt Lake City, UT, ³Utah State Department of Air Quality, Salt Lake City, UT

8:20 AM
Paper#: 809
Characterization of Primary and Secondary Carbonaceous Aerosols During the Time-Resolved Measurements in Xi’an at Summer: Estimating the Secondary Organic Carbonaceous Using the EC Tracer Method
S. Liu,¹ J. Cao,¹ Z. Shen,¹ Z. Zhao;¹ SKLLQG, Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China, ²Department of Environmental Science and Engineering, Xi’an Jiaotong University, Xi’an, China

8:40 AM
Paper#: 1070
Difficulties in Getting PM2.5 Monitors Approved as a Federal Equivalent Method
D. C. Fudge; BC Ministry of Environment, Prince George, BC, Canada

9:00 AM
Paper#: 612
Capping the Dust in the Antelope Valley
R. Farber; Southern California Edison, Rosemead, CA

9:20 AM
Paper#: 829
Characteristics of Traffic-Related Emissions: A Case Study in Roadside Ambient Air over Xi’an, China
Z. Shen,¹ J. Cao;¹ Department of Environmental Science and Engineering, Xi’an Jiaotong University, Xi’an, China, ²SKLLQG, Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China

AB-3 (5c)
Room: Telus 110
6/25/2010 8:00 AM
Paper
Air Quality Specialized Modeling
Sponsoring Committee(s): AB-3
Chair: Mervyn Davies, Stantec Consulting
Co-Chair: Lloyd Schulman, TRC Environmental Corp.

8:00 AM
Paper#: 841
An All Sources and Cumulative Air Quality Study - City of Toronto
A. Ciccone,¹ C. Morgan,² B. Cosic,¹ R. Mahabir,¹ S. Hartono,¹ I. Yankova,¹ B. Smith,² S. Gower,¹ C. Dejong;¹ Golder Associates Limited, Toronto, ON, Canada, ²City of Toronto, Toronto, ON, Canada
TECHNICAL SESSIONS

8:20 AM
Paper#: 937
Modeling of the Radionuclide Transport in the Chihuahua City
E. F. Herrera, L. M. Rodriguez Vazquez, A. Jazcilevich, A. Garcia, E. Diaz, J. Carrillo; CIMAV, Chihuahua, Mexico, Instituto Tecnológico de Parral, Chihuahua, Mexico, Centro de Ciencias de la Atmosfera, UNAM, Mexico, DF, Mexico

8:40 AM
Paper#: 1059
The Correct Use of Dispersion Models to Simulate Air Quality Impact in Developing Countries
H. A. Bravo, R. Sosa, P. Sanchez, S. Rosas; CCA UNAM, Mexico City, Mexico, CFE, Mexico, Mexico City, Mexico

9:00 AM
Paper#: 1075
Adjusting Calmet Parameters for Modelling in Complex Terrain in Northern British Columbia
D. C. Fudge; BC Ministry of Environment, Prince George, BC, Canada

9:20 AM
Paper#: 1141
Air Quality, Noise and Upper Atmospheric Assessment of the NQIA
M. Milner; RWDI AIR, Langley, BC, Canada

AM-2 (2)
Room: Glen 204
6/25/2010 8:00 AM
Panel
Introduction to the Data Management Aspects of Source Apportionment Studies
Chair: Hilary Hafner, Sonoma Technology, Inc.
Co-Chair: Chris Rogers, MACTEC Engineering & Consulting, Inc.
Many papers discuss the results of source apportionment studies but typically very little detail is provided on how the data were assembled, managed, validated, and prepared for use in source apportionment models. Source apportionment tools are sensitive to the number of samples, amount of data below detection, sample completeness, signal to noise ratios, missing data treatment, uncertainty development, species selection for modeling, seasonal representativeness, and other model requirements. The purpose of this panel discussion will be to highlight key elements of data management for source apportionment studies including development of uncertainties, lessons learned about data handling, and how to best solve common data problems. Discussion will help both experienced analysts and newcomers to source apportionment.

Panelists:
- Jay Turner, Washington University
- Delbert Eatough, Brigham Young University
- Bret Schichtel, National Park Service

AM-3 (2)
Room: Telus 104
6/25/2010 8:00 AM
Paper
Ambient Monitoring
Sponsoring Committee(s): AM
Chair: Fred Dowling, Emission Testing Services, Inc.

8:00 AM
Paper#: 90
Isotope Characteristics of Carbonaceous Aerosols in Urban Atmosphere of China
J. Cao; Institute of Earth Environment, CAS, Xi’an, China

8:20 AM
Paper#: 679
Look Out EPA Method 9, Here Comes the Digital Alternative (Finally)
S. Rasmussen; Hill AFB, Hill AFB, UT

8:40 AM
Paper#: 803
Effect of Precipitation on Air Pollutant Concentration in Seoul, Korea
Y. Sunwoo, S. Kim, Y. Park, H. Jun, M. Park, K. Hong, J. Woo; Dept. of Advanced Technology Fusion, Konkuk University, Seoul, Korea, Republic of, JD ECO Corp., Seoul, Korea, Republic of, Dept. of Civil Engineering, Seoul National University of Technology, Seoul, Korea, Republic of, Dept. of Civil Engineering, Hanseo University, Chungcheongnam-do, Korea, Republic of

9:00 AM
Paper#: 616
Air Pollution Effects on the Northern Cordillera Blanca of Peru from a Mountaineers Perspective

AO-1 (2)
Room: Telus 108
6/25/2010 8:00 AM
Paper
Novel Optical Remote Sensing Measurement Techniques
Sponsoring Committee(s): AO-1
Chair: Ram Hashmonay, ENVIRON
TECHNICAL SESSIONS

8:00 AM
Paper#: 549
Fugitive Dust Emission Factors of Military Activities Measured by Micro-Pulse Lidar - A Summary of Results
W. Yuen,1 K. Du,2 M. J. Rood,3 R. A. Hashmonay,4 M. R. Kemme,5 B. J. Kim;6 University of Illinois, Urbana, IL, 1Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, 3Environ, Chapel Hill, NC, 4U.S. Army Engineer Research and Development Center-Construction Engineering Research Laboratory (ERDC-CERL), Champaign, IL

8:20 AM
Paper#: 1024
Successful Strategies for Using Lidar to Characterize Particles from Point and Diffuse Area Sources
M. D. Wojcik,1 R. S. Martin,2 K. D. Moore,3 Energy Dynamics Laboratory, North Logan, UT, 2Utah State University, Dept. of Civil and Environmental Engineering, Logan, UT

8:40 AM
Paper#: 802
Source Localization with One-Dimensional Radial Plume Mapping Technique Using Two Monitoring Lines
S. Lin,1 S. Chang,1 C. Wu;2 Institute of Environmental Health, NTU, Taipei, Taiwan, 2Department of Public Health, NTU, Taipei, Taiwan

9:00 AM
Paper#: 804
Integrating Open Path Fourier Transform Infrared and Air Dispersion Models for Emission Source Localizations
C. Yeah,1 S. Chang,2 C. Wu;1 Institute of Occupational Medicine and Industrial Hygiene, NTU, Taipei, Taiwan, 1Institute of Environmental Health, NTU, Taipei, Taiwan, 2Department of Public Health, NTU, Taipei, Taiwan

AT-3 (2)
Room: Telus 103 [Back-to-back with AT-3 (3)]
6/25/2010 8:00 AM
Paper
Community Air Toxics Monitoring, Exposure, and Risk
Sponsoring Committee(s): AT-3
Chair: Ray Merrill, Eastern Research Group
Co-Chair: David Heinold, AECOM

8:00 AM
Paper#: 130
Dispersion Modeling of Air Toxics in Corpus Christi, Texas
E. McDonald-Buller,1 G. McGaughhey, Y. Kimura,1 D. Sullivan,1 D. T. Allen,1 G. Yarwood,2 U. Nopmongcol,3 E. Tai,3 C. Colville6;1 University of Texas at Austin, Austin, TX, 2ENVIRON International Corporation, Novato, CA, 3ENVIRON International Corporation, Houston, TX

8:20 AM
Paper#: 695
Evaluation of a Near-Real Time Ambient Metals Monitor for Measuring Fugitive Hazardous Metal Emissions
K. A. Petterson,1 J. A. Cooper,2 D. Bivens,3 W. Wetherell,4 J. Turner;5 Cooper Environmental Services, Portland, OR, 1U.S. Environmental Protection Agency, Research Triangle Park, NC, 2Missouri Department of Natural Resources, Jefferson City, MO, 3Washington University, St. Louis, MO

8:40 AM
Paper#: 1095
Personal Exposure to VOCs in a Small Community within the Oil Sands Developing Region of Northeastern Alberta
G. C. Hoeksema,1 W. B. Kindzierski2; Golder Associates Ltd., Calgary, AB, Canada, 2Department of Public Health Sciences, University of Alberta, Edmonton, AB, Canada

9:00 AM
Paper#: 714
Case Study for Risk Regulations and Innovative Solutions
P. Syip; South Coast Air Quality Management District, Diamond Bar, CA

9:20 AM
Paper#: 218
Health Risk Assessment from a Toxic Material in an Urban Area
H. Jeong, W. Hwang, E. Kim, M. Han; Korea Atomic Energy Research Institute, Daejeon, Korea, Republic of

EP-1 (11)
Room: Telus 106
6/25/2010 8:00 AM
Paper
Impact Assessment/Siting
Sponsoring Committee(s): EP-1
Chair: Freeman Cheung, AECOM Asia Company Limited

8:00 AM
Paper#: 161
On the Presentation of Air Quality Values in an Environmental Assessment
M. C. Murphy; Stantec Consulting Ltd., Fredericton, NB, Canada

8:20 AM
Paper#: 604
Evaluating Air Pollution Control Rules That Affect Multiple Pollutants
D. Fairley; Bay Area Air Quality Management District, San Francisco, CA
TECHNICAL SESSIONS

8:40 AM
Paper#: 999
Evaluation of Cumulative Effects from Multiple Projects in a Contiguous Area
C. Twaroski, C. Cenci; Barr Engineering, Edina, MN

9:00 AM
Paper#: 745
Quantifying the Impact of Air Pollution on the Urban Environment: A Fuzzy Based Approach
A. Mofarah, T. Husain; Memorial University, St. John's, NL, Canada

9:20 AM
Paper#: 1036
Environmental Review and Permitting of a New Facility in the Midst of Existing Sources Located Nearby Pristine Natural Resources
L. L. Stegink; Barr Engineering Company, Minneapolis, MN

EP-8 (6)
Room: Telus 105
6/25/2010 8:00 AM
Paper
Greenhouse Gas Emissions Data Collection Tools and Protocols
Sponsoring Committee(s): EP-8
Chair: Daniel Reinke, ERM
Co-Chair: Dan Schmid, 3M

8:00 AM
Paper#: 1064
Developing a Customized Greenhouse Gas Emissions Data Collection and Reporting Tool for Power Generation Facilities
M. Mills,1 K. Travis2; 1CDM, Houston, TX, 2CDM, Irvine, CA

8:20 AM
Paper#: 1001
Estimating GHG Emissions from Aggregate Extraction Facilities Using an Innovative Tool
A. H. Freitas, S. Capstick; Golder Associates, Mississauga, ON, Canada

8:40 AM
Paper#: 1198
Greenhouse Gas Inventory - Landfill Gas Emission Protocols
H. G. Rao; LFR Inc., Elgin, IL

9:00 AM
Paper#: 796
Comparison of Methane Emissions Models for Landfills
G. A. Pelletier, A. Tanimoto; CDM, Sacramento, CA

9:20 AM
Paper#: 731
Comparison of Methods for Quantifying Greenhouse Gas Emissions from Waste
E. A. Mohareb, C. A. Kennedy; University of Toronto, Toronto, ON, Canada

ES-5 (5)
Room: Glen 202
6/25/2010 8:00 AM
Panel
Greenhouse Gas Management
Chair: Ram Ramanan, ICF International

The panelists will discuss the business impact and value of alternative approaches to address these issues.

Panelists:
• Ray Picard, Hara
• Ram Ramanan, ICF International
• Aaron Schroeder, ICF International

ES-5 (6)
Room: Telus 111
6/25/2010 8:00 AM
Paper
Climate Change Impacts and Strategies
Sponsoring Committee(s): ES-5
Chair: Flint Webb, SAIC
Co-Chair: Deanne Hughes, Cardinal Engineering, Inc.

8:00 AM
Paper#: 969
Long-Term Trends in Meteorological Parameters and Corresponding Impacts on Air Quality for Midwest USA
A. Chaudhary1, T. Keener1, J. Lee1, J. Yang2; 1University of Cincinnati, Cincinnati, OH, 2U.S. EPA, Cincinnati, OH

8:20 AM
Paper#: 694
Greenhouse Gas Analysis of Municipal Solid Waste Disposal Alternatives
L. M. Miller, C. S. Hibbard; CDM, Cambridge, MA

8:40 AM
Paper#: 891
Air Quality and Climate Change Adaptation
J. P. Dawson1, D. A. Winner2, A. R. Ravishankara3; 1AAAS Fellow at U.S. Environmental Protection Agency, Washington, DC, 2U.S. Environmental Protection Agency, Washington, DC, 3National Oceanic and Atmospheric Administration, Boulder, CO

9:00 AM
Paper#: 1099
Greenhouse Gas PSD / Title V Tailoring Rule Consequences for New Major Sources
T. J. Raine1, M. Mills2; 1CDM, Carlsbad, CA, 2CDM, Houston, CA

ET-1 (3)
Room: Glen 208
6/25/2010 8:00 AM
Paper
Advanced Technology Vehicle and Alternative Fuel Emissions and Lifecycle Assessments
Sponsoring Committee(s): ET-1
Chair: Rich Baldauf, U.S. EPA
8:00 AM
Paper#: 946
Quantifying the Microscale Activity, Energy Use, and Emissions of a Plug-In Hybrid Vehicle Based on In-Use Data
B. Graver, H. Frey; North Carolina State University, Raleigh, NC

8:20 AM
Paper#: 693
Air Quality Impacts of Using Electricity Generation to Charge PHEVs for Daytime Use
T. M. Thompson, M. Webber, D. T. Allen; University of Texas, Austin, TX

8:40 AM
Paper#: 700
Fuel Economy Benefits of Hybrid Electric School Buses in Iowa
S. Hallmark, B. Sperry, A. Mudgal; Department of Civil, Construction, and Environment, Ames, IA, Institute for Transportation, Ames, IA

9:00 AM
Paper#: 838
Comparison of In-Use Real World Emissions of Compressed Natural Gas and Diesel Refuse Trucks
J. Zietsman; Texas Transportation Institute, College Station, TX

9:20 AM
Paper#: 1138
The Role of Distribution in Biofuel Life-cycle Emissions
B. Strogen, A. Horvath; University of California, Berkeley, Berkeley, CA

WM-3 (6)
Room: Glen 203
6/25/2010 8:00 AM
Paper
Bioenergy and Alternative Fuels
Sponsoring Committee(s): WM-3
Chair: David Minott, Environmental Resources Management (ERM)
Co-Chair: Lee Lundberg, Veolia Water North America

8:00 AM
Paper#: 12
Alternative Fuels Derived from Solid Waste Plastics
M. Sarker; Natural State Research, Inc., Stamford, CT

8:20 AM
Paper#: 982
Enerkem’s Thermo-Chemical Technology Providing Waste Management Opportunities for Cities: The Edmonton Waste-to-Biofuels Project Case
D. Arguin; Enerkem, Montreal, QC, Canada

8:40 AM
Paper#: 736
Study of Microalgae Cultivation in Wastewater
W. Thiansathit, T. C. Keener; University of Cincinnati, Cincinnati, OH

9:00 AM
Paper#: 545
An Overview of Advanced and Accelerated Biological Monitoring in Wastewater Treatment and the Environmental and Economical Opportunities It Presents
D. R. Tracey; LuminUltra Technologies, Ltd., Fredericton, NB, Canada

YP (5)
Room: Telus 109
6/25/2010 8:00 AM
Panel
Managing Generational Differences in the Workplace
Chair: Brad Waldron, NGE

The panel will provide a frank discussion for seasoned professionals on the challenges and benefits of today’s Young Professional (YP). Topics will include attracting, managing, retaining and challenging YPs in order to make them successful, with special attention paid to current economic pressures. Today’s YPs are the managers and leaders of today and tomorrow, and it is important to understand the role they currently play in order to develop an environment where they can prosper and be successful. Material presented in this discussion will be a mixture of published information and personal experience. All seasoned professionals who work with or manage YPs are encouraged to attend.

Panelists:
- Laurel Peterson, Hoefler Consulting Group
- Nancy Meilahn, CAPE, Inc
TECHNICAL SESSIONS

FRI. AM2

AB-3 (6)
Room: Telus 110
6/25/2010 10:20 AM
Paper
Emissions and Air Quality Modeling of the Impacts of Alberta Oil Sands Development
Sponsoring Committee(s): AB-3
Chair: Mark Bennett, CH2M HILL
Co-Chair: Stephen O’Kane, Levelton Consultants Ltd.

10:20 AM
Paper#: 876
Assessment of the Air Quality Impacts of Alberta Oil Sands Development on Tropospheric Ozone and Particulate Matter
R. E. Morris,1 U. Nopmongcol,1 G. Mansell,1 C. Mooney,2 S. Cho2;
1ENVIRON International Corporation, Novato, CA, 2Environment Canada, Edmonton, AB, Canada, 3Oil Sands and Clean Energy Policy Branch, Alberta Environment, Edmonton, AB, Canada

10:40 AM
Paper#: 960
Modeling Ground-Level Ozone in Alberta Oil Sands Region
S. Cho,1 P. McEachern,1 R. Morris,2 G. Mansell2; 1Alberta Environment, Edmonton, AB, Canada, 2ENVIRON International Corporation, Novato, CA

11:00 AM
Paper#: 966
A Comparison of CALPUFF Model Performance Using Multiple Years of MMS Data for the Alberta Oil Sands
R. Jain, C. Bell; Golder Associates Ltd., Calgary, AB, Canada

11:20 AM
Paper#: 867
A Comparison of AERMOD and CALPUFF Models for Regulatory Dispersion Modelling in the Alberta Oil Sands Region
G. Hoeksema, K. Onder, G. Unrau; Golder Associates Ltd., Calgary, AB, Canada

EE-5 (5)
Room: Glen 201
6/25/2010 10:20 AM
Paper
Risk Management & Accidental Release
Sponsoring Committee(s): EE-5
Chair: John Koehler, Environmental Resources Management

10:20 AM
Paper#: 576
Applying Forecast Meteorology and Real-Time Dense Gas Dispersion Modelling to H2S Emergency Response
D. Cherneski, R. J. Chapman; RWDI Air Inc., Calgary, AB, Canada

10:40 AM
Paper#: 586
Preventing a Toxic Chemical Disaster: RMPs in Theory and in Practice
C. Muller,1 C. Christie,2 J. Stewart2; 1Purafil, Inc., Doraville, GA, 2Purafil, Inc. - Environmental Systems Division, Doraville, GA, City of Chattanooga, Chattanooga, TN

11:00 AM
Paper#: 653
A Determination of Worst Case Meteorological Conditions to Evaluate Accidental Releases
M. J. E. Davies,1 K. Ostermann; 1Stantec Consulting, Calgary, AB, Canada, 2Energy Resources Conservation Board, Calgary, AB, Canada

11:20 AM
Paper#: 965
Modeling Flammable/Explosive Hazards of Semi-Enclosed Natural Gas Compressors
D. Heinold, C. Szembek, R. Fraser; AECOM, Westford, MA

EI-2 (4)
Room: Glen 206
6/25/2010 10:20 AM
Panel
CO2 Sequestration – Markets and Options
Sponsoring Committee(s): EI-2
Chair: Sharon Sjostrom, ADA-ES
Co-Chair: Paul Farber, Sargent & Lundy

Carbon capture and sequestration (CCS) from point sources is a critical component in the overall management of global CO2 emissions. Analysis of the technical and economic implications of CCS on the nation’s power needs and requirements for successful long-term implementation will be discussed by a panel of experts. Topics will include technical feasibility, market and regulatory drivers, long and short-term liabilities, alternative approaches, potential markets for purified CO2, experience sequestering CO2 from demonstration-scale CO2 capture projects, and regulatory and legal challenges regarding CO2 sequestration.
TECHNICAL SESSIONS

EP-1 (14)
Room: Telus 104
6/25/2010 10:20 AM
Panel
Canadian Air Regulations & Permitting Issues
Sponsoring Committee(s): EP-1
Chair: David Jordan, ERM

This panel will provide a discussion of Canadian air regulations at a national and provincial level. Topics will include discussion of the differences in air regulatory and permitting approaches between Provinces and pending national regulations.

Panelists:
- Representative, Environment Canada
- Dennis Karl (Invited), Environmental Compliance Office, Inc.
- Representative, Alberta Environment

EP-3 (2)
Room: Telus 105
6/25/2010 10:20 AM
Panel
Mock Trial: Cross Examination and Impeachment of Expert Witnesses
Sponsoring Committee(s): EP-3
Chair: Neal Weinfield, Greenberg Traurig
Co-Chair: Douglas Soutter, Conestoga Rovers & Associates

This panel is a mock trial that is designed to familiarize environmental scientists with the elements of trial testimony. The mock trial involves witness examination and testimony by experienced trial lawyers that focuses on trial basics such as the leading nature of cross examination and the introduction of evidence, as well as the more complex but common situation where a witness gives testimony that appears to contradict prior out-of-court statements. These out-of-court statements can come in many forms, including but not limited to deposition testimony, the witness’s publications, correspondence, damaging e-mails, and even marketing materials from the expert’s firm. The mock trial involves the hypothetical case Agency v. Bravo Petroleum Inc., in which a government agency seeks to recover the cost of remediating light non-aqueous phase liquid (LNAPL) in bedrock beneath a tank farm at an abandoned petroleum terminal. It is presumed that as a matter of law, the agency cannot recover the future costs of its remediation if removal of the LNAPL is not “practicable” i.e., feasible and cost effective from an environmental engineering perspective. The “court” audience will hear expert testimony on whether the selected remedial technology can meet this standard. This mock trial will examine the typical methodologies and issues that arise in the court room for environmental experts. It should also serve as a valuable tool addressing the issues that arise when environmental scientists prepare reports, literature, e-mails and marketing material outside of the courtroom.

Panelists:
- Matthew Prewitt, Greenberg Traurig
- Ronald Frehner, Conestoga Rovers & Associates

ES-4 (7)
Room: Glen 202 [Back-to-back with ES-5 (7)]
6/25/2010 10:20 AM
Paper
Stakeholder Involvement
Sponsoring Committee(s): ES-4
Chair: Scott Golla, Westinghouse

10:20 AM
Paper#: 1110
Green Habitats: Lessons from the Model Townships in the U.S. and India
P. P. Kalbar,1 S. R. Asolekar,1 N. Seth,2 B. Kura1; 1Indian Institute of Technology Bombay, Mumbai, India, 2University of New Orleans, New Orleans, LA

ES-5 (7)
Room: Glen 202 [Back-to-back with ES-4 (7)]
6/25/2010 10:40 AM
Paper
Greenhouse Gas Management and Other Environmental Programs
Sponsoring Committee(s): ES-5
Chair: Stanley Hayes, ENVIRON International Corporation

10:40 AM
Paper#: 162
The Significance of Greenhouse Gas Emissions in an Environmental Impact Assessment
M. C. Murphy,1 M. B. Schroeder2; 1Stantec Consulting Ltd., Fredericton, NB, Canada, 2Stantec Consulting Ltd., Calgary, AB, Canada

11:00 AM
Paper#: 476
Effective Compliance and Recordkeeping Strategies for Refrigerant Containing Assets
S. Rasmussen1,1 M. Kaschmitter2; 1Hill AFB, Hill AFB, UT, 2EM-Assist, Layton, UT

ET-1 (4)
Room: Glen 208
6/25/2010 10:20 AM
Paper
Monitoring Near Road Air Quality
Sponsoring Committee(s): ET-1
Chair: Rich Baldauf, U.S. EPA

10:20 AM
Paper#: 1153
Preliminary Information on Ambient Concentrations Measured at the Las Vegas National Near-Roadway MSAT Study Site
M. C. Claggett,1 V. Martinez,1 S. Kimbrough,1 K. Black; 1Federal Highway Administration, Santa Fe, NM, 2Federal Highway Administration, San Juan, PR, 3U.S. Environmental Protection Agency, Research Triangle Park, NC, 4Federal Highway Administration, Baltimore, MD
TECHNICAL SESSIONS

10:40 AM  
Paper#: 51  
Air Pollution in India: A Review of Air Quality Monitoring, Trends and Sources  
A. Saraswat, M. Kandlikar; University of British Columbia, Vancouver, BC, Canada

11:00 AM  
Paper#: 170  
Size and Composition Distributions of Fine Particulate Matter Near a Major Road in Beijing, China  
S. Song,1 Y. Wu,1 L. Yang,1 X. Fu,1 J. Hao;1 State Key Joint Laboratory of Environment Simulation and Pollution Control, Beijing, China, 1Department of Environmental Science and Engineering, Beijing, China

11:20 AM  
Paper#: 1030  
A Comparison of Carbon Monoxide Concentration Variation with Traffic Variables Near the National University of Singapore and the University of Cincinnati  
B. Albrinck; University of Cincinnati, Cincinnati, OH

11:40 AM  
Paper#: 894  
Assessment of Exposure to Traffic-Related Pollution for Epidemiologic Studies  
M. Costantini; Health Effects Institute, Boston, MA

10:20 AM  
Paper#: 195  
Gas Production and Settlement Behaviour of Bioreactor Landfills  
C. A. Hunte,1 J. P. A. Hettiarachchi,1 C. H. Hettiarachchi,2 J. N. Meegoda,2 J. Hundal1;1 University of Calgary, Calgary, AB, Canada, 1Lawrence Technological University, Southfield, MI, 2New Jersey Institute of Technology, Newark, NJ, 1City of Calgary - Waste and Recycling Services, Calgary, AB, Canada

10:40 AM  
Paper#: 881  
Optimization of Gas Production in Bioreactor Landfills by Leachate Augmentation  
P. A. Jayasinghe, J. P. A. Hettiarachi, A. K. Mehrotra; University of Calgary, Calgary, AB, Canada

11:00 AM  
Paper#: 1015  
Voluntary Greenhouse Gas Emission Reductions - A Landfill’s Experience with the Climate Action Reserve  
T. A. Henning,1 J. Goetzman,1 C. Reichhoff,1 B. Kent2;1 Short Elliott Hendrickson, Inc., Sheboygan, WI, 1City of Superior, Superior, WI, 2Short Elliott Hendrickson, Inc., Duluth, MN, 1Short Elliott Hendrickson, Inc., Chippewa Falls, WI

11:20 AM  
Paper#: 87  
Aerobic Landfill Bioreactors as an Alternative Method of Managing Municipal Solid Waste  
D. Greene,1 M. Hudgins1;1 SCS Engineers, PC, Asheville, NC, 1SCS Engineers, PC, Charlotte, NC
A&WMA UPCOMING EVENTS

2010

Power Plant Air Pollutant Control "MEGA" Symposium  
August 30-Sept 2  
Baltimore, MD

Second A&WMA International Greenhouse Gas Measurement Symposium and Workshop  
September 8-10  
Washington, DC

15th IUAPPA World Clean Air Congress: Achieving Environmental Sustainability in a Resource Hungry World  
September 12-16  
Vancouver, BC

Vapor Intrusion 2010  
September 29-30  
Chicago, IL

Symposium on Air Quality Measurement Methods and Technology  
November 1-4  
Los Angeles, CA

2011

International Conference on Thermal Treatment Technologies and Hazardous Waste Combustors  
May 10-12  
Jacksonville, FL

A&WMA’s 104th Annual Conference and Exhibition  
June 21-24  
Orlando, FL

Co-sponsored Events

21st Annual Meeting of the International Society of Exposure Science: Advancing Exposure Science for Environmental Health  
October 23-27  
Baltimore, MD

Webinars

A&WMA offers Webinars throughout the year. Please visit www.awma.org/events for more information on our Webinars and other professional development offerings.
# PERSONAL SCHEDULE WORKSHEET

Use this worksheet to plan each day's schedule.

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<th>Time</th>
<th>Tuesday</th>
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