

FINAL PROGRAM



34TH INTERNATIONAL CONFERENCE ON THERMAL TREATMENT TECHNOLOGIES & HAZARDOUS WASTE COMBUSTORS

October 20-22, 2015

Crowne Plaza Houston–Downtown • Houston, TX

<http://it3.awma.org>

Conference Supported By Earth Engineering Center/CCNY and WTERT

In Partnership with:



**AIR & WASTE MANAGEMENT
ASSOCIATION**



**UNIVERSITY OF
MARYLAND**

Sponsored by:



Supported By:

American Academy of Environmental Engineers (AAEE)
American Institute of Chemical Engineers (AIChE)
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Cement Kiln Recycling Coalition (CKRC)
Coalition for Responsible Waste Incineration (CRWI)

Institute of Chemical Engineers - United Kingdom (ICHEME)
Karlsruhe Institute of Technology - Germany
Korea Associate Council of Incineration Technology (KACIT)
Korean Society of Waste Management (KSWM)
Mexican Institute of Chemical Engineers

Society of Chemical Engineers - Japan
Swedish Chemical Society - Sweden
United States Environmental Protection Agency (U.S. EPA)
United States Department of Energy (U.S. DOE)
Waste-to-Energy Research and Technology Council

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ABOUT THE CONFERENCE

CONFERENCE OVERVIEW

IT3/HWC, a thermal treatment conference, provides a forum for the discussion of state of the art technical information, regulations, and public policy on thermal treatment technologies and their relationship to air emissions, greenhouse gases, climate change, renewable energy or alternative energy production, and sustainability.

The IT3/HWC conference is organized in partnership with the Waste-to-Energy Research and Technology Council (WTER) and the Earth Engineering Center|CCNY. In odd years, these organizations actively help plan the conference and develop technical sessions. In even years IT3/HWC is scheduled to allow attendees to participate in our event as well as the WTER Bi-Annual Conference in New York City.

Thermal treatment technologies encompass many technologies, including:

- Incinerators
- Kilns
- Thermal Oxidizers
- Industrial Dryers
- Pyrolysis Reactors
- Gasifiers
- Fluidized Bed Reactors
- Furnaces
- Plasma and Vitrification Technologies
- Commercial and Industrial Boilers

These technologies are used in a wide range of facilities and industries that include:

- Chemical Production
- Cement Production
- Oil Refineries
- Biofuels Production
- Glass Manufacturing
- Primary & Secondary Smelting
- Pulp & Paper
- Mining Operations
- Military Installations
- Agricultural Products
- Universities/Hospitals

What are the benefits of attending the IT3/HWC conference?

- Interface with facility owners and operators
- Develop new business and network with industry professionals and colleagues
- Obtain updates on state of the art technical developments
- Stay current on regulatory and public policy initiatives
- Participate in training/courses related to thermal treatment
- Attend plant tours of state-of-the art facilities

What types of organizations should attend the conference?

- Plant, facility, or thermal treatment equipment operators
- Equipment suppliers
- Architectural & Engineering (A&E) firms
- Environmental engineering firms
- Governmental/regulatory organizations
- Academic institutions
- Testing services

THANK YOU TO OUR SPONSORS



Envitech, Inc.

Envitech is a leading supplier of air pollution control systems. We specialize in removal of particulate and gaseous emissions from industrial processes, including aerosols, heavy metals, dioxin/furans, acid gases, tars, and volatile organic compounds (VOCs). Our systems include wet electrostatic precipitators, high efficiency Venturi scrubbers, and packed bed absorbers and condensers.



O'Brien & Gere

O'Brien & Gere is an employee-owned engineering and project delivery company with over 850 scientists, engineers, construction, and operations personnel located in offices across the U.S. The company assembles custom project teams comprised of experts and specialists tailored to maximize value to the client. With internal technical divisions dedicated to the application of air pollution control equipment, air & water quality, incineration & combustion systems, energy recovery, utilities & infrastructure, O'Brien & Gere is an industry leader in providing 360° life-cycle project delivery solutions for unique & complex applications.

EXHIBITION INFORMATION

EXHIBITION HOURS

BAYOU BALLROOM

Tuesday, October 20: 5:00 pm – 6:30 pm
 Wednesday, October 21: 9:00 am – 4:00 pm
 Thursday, October 22: 9:00 am – 11:30 am

EXHIBITORS

Amec Foster Wheeler2
 10876 South River Front Parkway, Suite 250
 South Jordan, UT 84095
 E-mail: judi.burleson@amecfw.com
 www.amecfw.com

Amec Foster Wheeler's Thermal Treatment Technology brings clear advantages to our customers. Our plants are designed to process waste streams including hazardous waste in the form of liquids, gases, sludges, soils, and bulk solids. We offer the complete design from feed storage and handling through the kiln feed systems, slagging rotary kiln and the gas cleaning train. Our systems are designed to meet the most stringent environmental emission requirements including the US MACT standards. We provide a full range of design services including feasibility studies, process engineering, detailed engineering, procurement and construction. Visit us at our booth to learn more.

Babcock & Wilcox MEGTEC13
 830 Prosper Street
 DePere, WI 54115
 E-mail: kbrugman@megtec.com
 www.megtec.com

B&W MEGTEC provides a single-source supply of turnkey clean air solutions proven to meet stringent emissions regulations. We offer wet particulate and semi-dry scrubbers, acid gas absorbers, RTOs for VOC control, electrostatic precipitators for particulate removal, pulse jet fabric filters (baghouses) and Multiclone® dust collectors. Full understanding of industrial processes combined with expert knowledge of Multi-Pollutant Air Emissions Control technologies allows B&W MEGTEC to offer our customers uniquely optimized technical designs. Reliable operations, environmental compliance, reduced cost and the convenience of working with an industry leading single-source supplier are just a few of the benefits afforded by B&W MEGTEC.

Envitech, Inc.7
 2924 Emerson Street, Suite 320
 San Diego, CA 92106
 E-mail: abartocci@envitechinc.com
 www.envitechinc.com



Envitech is a leading supplier of air pollution control systems. We specialize in removal of particulate and gaseous emissions from industrial processes, including aerosols, heavy metals, dioxin/furans, acid gases, tars, and volatile organic compounds (VOCs). Our systems include wet electrostatic precipitators, high efficiency Venturi scrubbers, and packed bed absorbers and condensers.

Epcon Industrial Systems, LP11
 PO Box 7060,
 The Woodlands, TX 77387
 E-mail: epcon@epconlp.com
 www.epconlp.com



Epcon® Industrial Systems, LP custom designs, manufactures and installs Air Pollution Control Systems (for VOCs, CO and NOx) – RTOs, Recuperative Thermal Oxidizers, and Catalytic Oxidizers; Industrial Ovens and Furnaces, (Curing, Paint Finishing, Burn-Out, Heat Treating, Annealing, Aging, Gas, Oil, or Electric, Conveyorized or Batch Type), Industrial Washers, Specialty Systems, Thermal Decontamination systems, and Thermal Deoilers.

Epcon® is a full-service organization, from concept to completion, with thousands of systems worldwide in a variety of industries. We can help achieve goals of either new equipment or modernizing existing equipment for higher fuel efficiency, better performance, and compliance with the regulatory agencies.

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EXHIBITORS

Gasmet Technologies Inc.....5

956 A, The Queensway
Ontario, Canada M8Z 1P5



E-mail: marie.leblanc@gasmet.com
www.gasmet.com

Stop by the Gasmet exhibit to discuss your emissions monitoring applications. Whether you need a permanent or temporary solution, Gasmet's range of FTIR multi-component gas analyzers and systems can provide your team with a cost-effective solution. Gasmet's CEMS II or In-Situ for permanent applications and the compact & rugged DX4000 portable FTIR provide simultaneous measurement of many key pollutants including H₂O, HCl, HF, Ammonia, NO_x, SO₂, CO, CO₂, GHG's & VOC's including formaldehyde, and many others gases. Gasmet offers complete turn-key systems engineered with built-in fail-safe features. Gasmet's Calcmet™ software provides an intuitive interface that controls, displays, alarms and reports gas results with minimum operator attention.

HarbisonWalker International8

1305 Cherrington
Parkway, Ste 100



Moon Township, PA 15108
E-mail: mhatala@thinkhwi.com
www.hwr.com

HarbisonWalker International (HWI) is known as a knowledgeable leader in the manufacture and supply of innovative refractory products for a wide range of industry applications presenting, among other things, challenging heat-intensive or chemically corrosive production environments.

Headquartered in Pittsburgh, PA, HWI has a network of 18 manufacturing facilities and 28 distribution centers to serve markets across North America, manufacturing facilities in the U.K., Indonesia, and Mexico, as well as, a lab/testing facility located in China. Industries served include cement & lime, energy, chemicals, non-ferrous metals, glass, iron & steel, aluminum, copper, hydrocarbon and minerals processing and environmental technology industries.

Hitachi Zosen Inova12

3740 Davinci Court
Norcross, GA 30092



E-mail: brian.copeland@hz-inova.com
www.hz-inova.com

Hitachi Zosen Inova is owned by Hitachi Zosen Corporation, an internationally operating Japanese industrial enterprise specializing in environmental protection, industrial plants, precision and industrial machinery, marine disaster prevention, structural steelwork and construction machinery.

With employees in Switzerland and the United States, and more than 400 installed plants worldwide, Hitachi Zosen Inova is a leading global technology provider and turn key contractor in the field of Energy-from-Waste facilities. Hitachi Zosen Inova offers customized subsystem and master concepts, covering planning, design and engineering, construction and operation, as well as maintenance and overhaul of Energy-from-Waste plants.

METCO Environmental1

PO Box 598
Addison, TX 75001
E-mail: bgies@metcoenv.com
www.metcoenv.com

METCO Environmental is the largest company in the U.S. specializing in Source Emission Testing. METCO provides emission testing services and CEM services and certifications for all types of point sources and industries. METCO specializes in Combustion Performance Tests, and other projects for incinerators, boilers, industrial furnaces and medical waste incinerators. METCO provides CPT Plans, and can assist in planning projects for engineering studies or compliance.

EXHIBITORS

Monroe Environmental4
810 West Front Street
Monroe, MI 48161
E-mail: lvhelton@mon-env.com
www.mon-env.com

Monroe Environmental is a premier provider of high quality air pollution control (APC) systems, services, and solutions for thermal treatment processes covering a broad range of industries and applications. Since 1970, Monroe has provided thousands of air pollution control systems for industrial and municipal facilities throughout the world.

Monroe specializes in designing and manufacturing APC systems for combustion and high-temperature processes such as boilers, furnaces, incinerators, thermal oxidizers, gasifiers, dryers, and many others. Monroe's full range of support services include technical evaluations, engineering, permitting support, installation, commissioning, testing, parts, and on-site support services for existing, new, and retrofitted systems.

O'Brien & Gere9
333 West Washington Street
Syracuse, NY 13202
E-mail: mary.roeckel@obg.com
www.obg.com

O'Brien & Gere is an employee-owned engineering and project delivery company with over 850 scientists, engineers, construction, and operations personnel located in offices across the U.S. The company assembles custom project teams comprised of experts and specialists tailored to maximize value to the client. With internal technical divisions dedicated to the application of air pollution control equipment, air & water quality, incineration & combustion systems, energy recovery, utilities & infrastructure, O'Brien & Gere is an industry leader in providing 360° life-cycle project delivery solutions for unique & complex applications.

Ohio Lumex Company10
9263 Ravenna Road A3
Twinsburg, OH 44087
E-mail: kyla.price@ohiolumex.com
www.ohiolumex.com

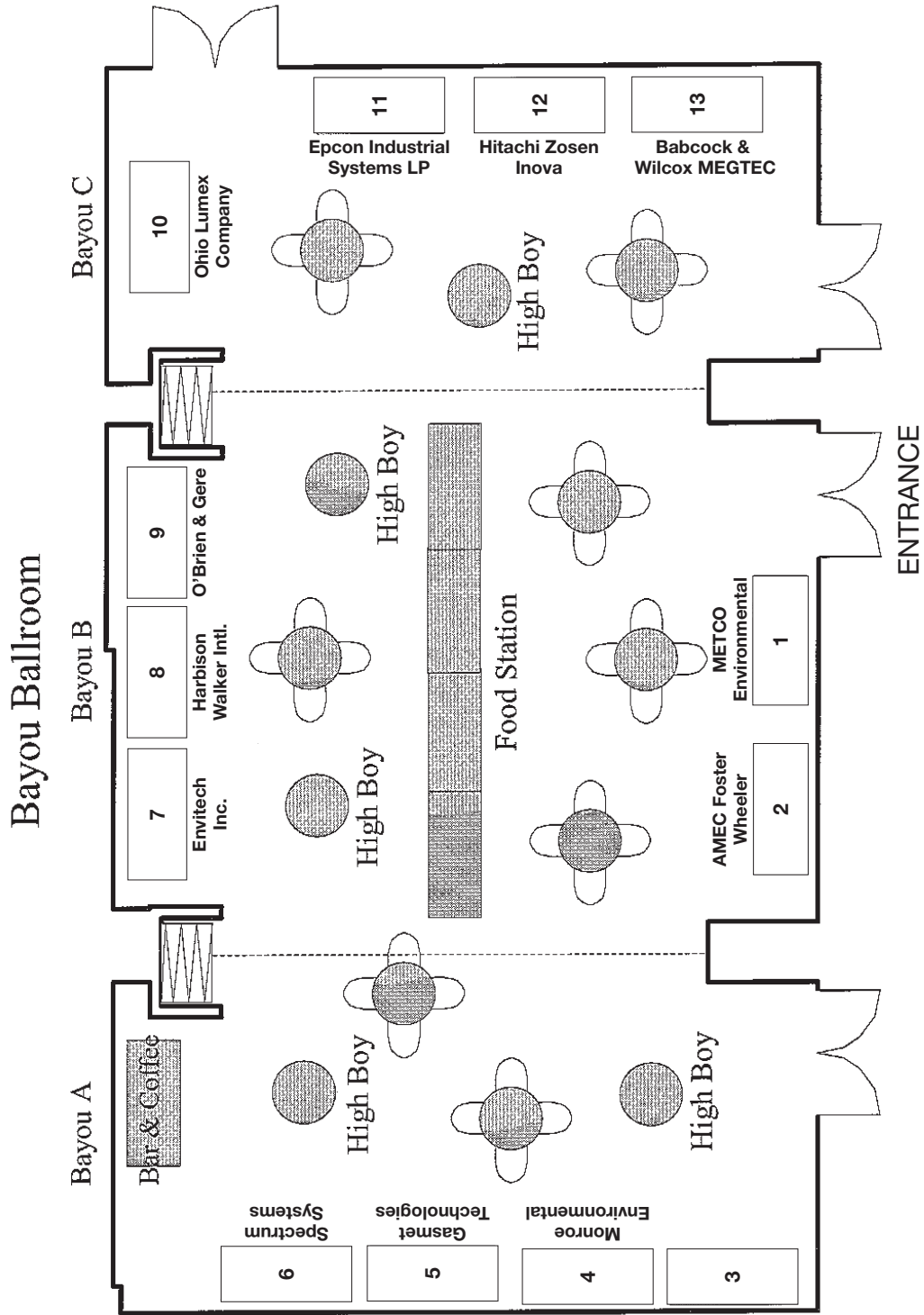
For more than 15 years, Ohio Lumex has been the manufacturer and distributor of the market-leading RA 915 Atomic Absorption Mercury Spectrometer with Zeeman Background Correction. It's the most sensitive, reliable, and portable EPA-recommended mercury measurement device available on the market. The company has successfully incorporated this analyzer into a complete Sorbent Trap Analysis System and offers a fully-staffed NELAP certified laboratory for analysis. Ohio Lumex is also known for its state-of-the-art 915-J Continuous Emissions Mercury Monitor. However, the company is not limited to mercury testing; it also offers equipment in the areas of oxygen, HCl, NH3 and SO3 measurements.

Spectrum Systems, Inc......6
3410 West Nine Mile Road
Pensacola, FL 32526
Email: richard@spectrumsystems.com
www.spectrumsystems.com

Integrator of Emissions Monitoring Systems for regulatory compliance or process control including SO2, NOX, CO2, CO, O2, Hg, Opacity, Particulate, etc. Spectraview®, software for data acquisition, compliance reporting, and system control. Highly trained Service Department for maintenance support, preventative and emergency, with depot level repair ability and auditing (gas and opacity audits) capabilities, including RATA's. Documentation including Test Reports, Monitoring Plans, and QA/QC plans. A one-stop shop for all your Air Emissions Monitoring needs.

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EXHIBIT FLOOR PLAN



PROFESSIONAL COURSE - Tuesday, October 20, 2015

Air Pollution Control Basics Course for Incineration & Thermal Treatment Technologies

Tuesday, October 20, 2015
8:00 am – 5:00 pm

The International Conference on Thermal Treatment Technologies and Hazardous Waste Combustors (IT3/HWC) is pleased to offer this full day basics course on Air Pollution Control (APC) Systems for incineration and thermal treatment technologies. It will cover a range of topics pertaining to the selection and implementation of various air pollution control solutions to common incinerator and thermal treatment applications. The course is ideally suited for students, managers, and professionals seeking to expand their industry knowledge or stay current with recent APC technologies and methods.

The course will address the steps necessary to assess APC requirements and quantify process stream contaminant loadings. A significant amount of time will be spent reviewing specific APC technologies, how they are applied, and the respective advantages and disadvantages of each.

The course will include a high level review of the permitting tasks required for such systems and the typical time frames associated with various permitting milestones. A discussion on trial burns and compliance testing will address the tasks and potential costs associated with each. In addition, a review will be provided of various energy recovery strategies that could be applied to offset system operating costs.

During the conference, course instructors will be available to answer questions, discuss specific applications, or delve into course subject matter in greater detail. For the course syllabus, visit the conference website at <http://it3.awma.org>.

Course registration includes refreshment breaks, lunch, and a copy of the course manual. The course registration fee is not included in the regular conference registration; for course prices please visit the conference website at <http://it3.awma.org>. For more information about the course and instructors, contact Robin Lebovitz at rlebovitz@awma.org or +1-412-904-6020.

SOCIAL EVENT - Wednesday, October 21, 2015

Crown Plaza Houston – Downtown
Wednesday, October 21, 2015
6:00 pm – 11:00 pm

Ticket Required; Cost: \$50 (Buffet included)

Please visit the onsite registration area to see if space is still available if you are not yet registered.

Join your colleagues for a relaxing evening in the hotel's Garden Area. A buffet will be served. Ticket required.

TECHNICAL TOURS - Friday, October 23, 2015

Veolia Texas Treatment Complex & Dupont Sabine River Works
Friday, October 23, 2015
8:00 am – 5:00 pm

7:45 am – Meet in Crowne Plaza Hotel Lobby
8:00 am – Bus departs

Ticket Required; Cost: \$69 (Lunch included)

Please visit the onsite registration area to see if space is still available if you are not yet registered.

Requirements: photo-ID, steel-toe shoes, long pants

Join other IT3/HWC conference participants for tours of the Veolia Texas Treatment Complex and Dupont Sabine River Works.

For the technical tour agenda, details on the facilities, and more, visit the conference website at <http://it3.awma.org>.

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GENERAL INFORMATION

REGISTRATION

On-site registration will be in the BLUE BONNET BALLROOM FOYER.

Hours:

Tuesday, October 20: 7:00 am – 6:30 pm

Wednesday, October 21: 7:00 am – 5:00 pm

Thursday, October 22: 7:30 am – 3:30 pm

CONFERENCE PROCEEDINGS

Conference proceedings will be accessible for download from the Web by pre-registrants approximately two weeks prior to the conference. Pre-registrants will be notified via e-mail once the papers have been posted. PowerPoint presentations will also be available post-conference. Attendees will be notified via e-mail when the presentations are available.

CONTINUING EDUCATION UNITS

Continuing Education Units (CEUs) from the University of Maryland are being offered for participation in the IT3/HWC conference and professional course. The CEU is a nationally recognized measure of participation in an approved non-credit continuing education program. Specific hours will be awarded based on your attendance. You may register for these when you register for the conference or by signing up onsite at the conference registration desk. Cost for the CEUs is \$25 for each domestic (U.S.) participant and \$45 for each international participant, regardless of the number of units you receive. A certificate will be mailed to you after the conference. Note that home addresses will be required. Additionally, a record of CEUs awarded will be maintained in the University of Maryland's Office of Extended Studies' database and will be easily accessible for certification and verification purposes.

PRESENTERS' BREAKFAST

Presenters and Session Chairs will meet for a complimentary breakfast on the day of their session involvement to review program details. Presenters should bring their presentations on a memory stick/USB to this meeting, as well as a brief biography.

The breakfast will be held at 7:00 am on Wednesday and 7:30 am on Thursday in the COUGAR room.

IT3/HWC CONFERENCE COMMITTEE

Technical Chair

Andrew Bartocci, *Envitech, Inc*

Technical Vice Chair

Michael Mannuzza, *O'Brien & Gere*

Immediate Past Technical Chair

Gary Elliott, *Lafarge North America*

CONFERENCE VENUE

Crowne Plaza Houston-Downtown
1700 Smith Street
Houston, Texas USA 77002
Hotel Direct: +1-713-739-8800
Global: +1-800-2CROWNE

Rate: \$149/room per night

ABOUT THE AIR & WASTE MANAGEMENT ASSOCIATION

A&WMA is a not-for-profit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for technology exchange, professional development, networking opportunities, public education, and outreach to more than 5,000 environmental professionals in 65 countries. A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society. For more information, please visit www.awma.org.

A&WMA Federal Tax ID # 25-6048614.

The Air & Waste Management Association supports the Americans with Disabilities Act (ADA). Those attendees requiring specific equipment or services should contact Carrie Hartz, Conference & Events Planner, at +1-412-904-6008 to make those needs known in advance. A&WMA will make every reasonable effort to accommodate them.

FINAL AGENDA – TUESDAY, OCTOBER 20, 2015

7:00 am – 6:30 pm

Conference and Course Registration
BLUE BONNET BALLROOM FOYER

8:00 am – 5:00 pm

Professional Course: Air Pollution Control Basics Course for Incineration & Thermal Treatment Technologies
Ticket Required; Cost: \$175.00; \$145.00 Students
WHITEHALL

5:00 pm – 6:30 pm

Welcome and Vendor Social in
Exhibit Hall

BAYOU BALLROOM

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FINAL AGENDA – WEDNESDAY, OCTOBER 21, 2015

7:00 am – 5:00 pm

Conference Registration
BLUE BONNET BALLROOM FOYER

7:00 am – 8:00 am

Presenters' Breakfast
COUGAR

7:00 am – 8:00 am

Continental Breakfast
BLUE BONNET BALLROOM FOYER

8:00 am – 8:30 am

Welcome
BLUE BONNET B

KEYNOTE PLENARY SESSION

BLUE BONNET B

8:30 am – 10:00 am

This session will provide a perspective on the current state of the thermal treatment industry from two industry leaders, Veolia and Clean Harbors. This will be followed by an agency update from the Texas Commission on Environmental Quality (TCEQ) on the recently delegated authority by the EPA of the Hazardous Waste Combustor MACT Program.

The following speakers and topics will be featured:

- **Veolia Thermal Treatment: A Global Perspective** - Steve Darnell, VP Strategy & Business Improvement at Veolia North America
- **Meeting the New HWC MACT Standards; Incinerator Expansion Project El Dorado Arkansas** - Scot Shoemaker, Director of Facility Engineering at Clean Harbors Environmental Services
- **EPA Delegation of the Hazardous Waste Combustor MACT Program to the TCEQ** - Bob Patton, Jr., Industrial and Hazardous Waste Permits Section Manager, Waste Permits Division, Texas Commission on Environmental Quality (TCEQ)

10:00 am – 10:30 am

Networking Break with Exhibitors
BAYOU BALLROOM

SESSION 1: CASE STUDIES

BLUE BONNET B

Chair: Blake Beckstrom, Amec Foster Wheeler

10:30 am – 11:00 am

Paper #14
Meeting the New Hospital, Medical, and Infectious Waste Incinerator (HMIWI) MACT with a Wet Electrostatic Precipitator (WESP)
Andrew Bartocci; Envitech, Inc., San Diego, CA

11:00 am – 11:30 am

Paper #10
Design Challenges for Modifications to a Low Level Radioactive Waste Incinerator
William P. Norris,¹ Michael Mannuzza²; ¹O'Brien & Gere, Newark, DE, ²O'Brien & Gere, Crystal Lake, IL

11:30 am – 12:00 pm

Paper #1
Chlorine Management in Thermal Processes
Florent Lemont, Sébastien Francois; CEA, DEN, DTCD, SCDV, LPIC, Bagnols-sur-Cèze, France

12:00 pm – 1:00 pm

Lunch
BAYOU BALLROOM
Overflow seating in GULF COAST A & B

SESSION 2: BIOGENIC FUELS

BLUE BONNET B

Chair: Stewart Bible, Fuel Tech

1:00 pm – 1:30 pm

Paper #4
Practical Problems in the Use of Organic Waste Materials as Fuels in Boilers
Enrique Posada, Mateo Jaramillo; INDISA S.A., Medellín, Colombia

1:30 pm – 2:00 pm

Paper #16
Characterization of the Combustion Behavior of DMC Fuel™
Daniela Baris¹ Hans-Joachim Gehrman¹ H. Mätzing¹ Dieter Stapf¹ Helmut Seifert¹ Tom McGowan²; ¹Karlsruhe Institute for Technology, Institute for Technical Chemistry, Karlsruhe, Germany, ²TMTS Associates, Inc., Atlanta, GA

2:00 pm – 2:30 pm

Paper #3
Combustion of Spherically Shaped Large Wood Char Particles
Henry J. Molintas, Ashwani K. Gupta; The Combustion Laboratory, University of Maryland, Department of Mechanical Engineering, College Park, MD

2:30 pm – 3:00 pm

Networking Break with Exhibitors
BAYOU BALLROOM

Sponsored by:



WEDNESDAY, OCTOBER 21, 2015 CON'T.

SESSION 3: SUPPLIER TECH AND CASE STUDIES

BLUE BONNET B

Chair: Roy Cross, SNC-Lavalin America, Inc.

3:00 pm – 3:30 pm

Paper #17

Destruction of VOC in a Dall Energy Biomass Gasifier at Warwick Mills

Jens Dall Bentzen,¹ Charlie Howland²; ¹Dall Energy, Hoersholm, Denmark, ²Warwick Mills, New Ipswich, NH

3:30 pm – 4:00 pm

Paper #2

Utilizing Dry Sorbent Injection Technology to Improve Acid Gas Control

Gerald Hunt, Melissa Sewell; Lhoist North America, Fort Worth, TX

4:00 pm - 4:30 pm

Paper #19

GORE™ Mercury Control System - Installation Approach Case Study
John Knotts,¹ Alan Cox²; ¹W. L. Gore & Associates, Inc., Fair Hill, MD, ²Cox Industries, Newark, DE

6:00 pm – 11:00 pm

Social Event:

Ticket Required; Cost: \$50

CROWNE PLAZA HOTEL

GARDEN AREA

FINAL AGENDA – THURSDAY, OCTOBER 22, 2015

7:30 am – 3:30 pm

Conference Registration

BLUE BONNET BALLROOM FOYER

7:30 am – 8:30 am

Presenters' Breakfast

COUGAR

7:30 am – 8:30 am

Continental Breakfast

BLUE BONNET BALLROOM FOYER

KEYNOTE PLENARY SESSION

BLUE BONNET B

8:30 am – 10:00 am

Day two keynote presenters will discuss a real world example of a regulatory issue impacting the Essroc Cement Kiln facility in Region V with regards to Site Specific Risk Assessment (SSRA). The speakers will discuss how to navigate the regulatory environment as well as technical aspects of an SSRA. This will be followed by a discussion on another issue related to thermal treatment with regard to particulate monitoring and the potential regulatory impact.

Speakers and topics will include:

- **Practical Implications of Uncertainty Analysis and Robust Conclusions for a Site Specific Risk Assessment: Lessons Learned From In Re: Essroc Cement Corporation** - *Philip J. Schworer, Attorney at Frost Brown Todd LLC*
- **Reducing Uncertainties in Site Specific Risk Assessment for Mercury** - *Gary A. Pascoe, PhD, Owner and Principal Scientist, Pascoe Environmental Consulting*
- **PM CEMs versus PM CPMS – What are they, How are they Different, and What are the Regulatory Implications?** – *Robert Baxter, President at B3 Systems, Inc.*

10:00 am - 10:30 am

Networking Break with Exhibitors

BAYOU BALLROOM

FINAL PROGRAM

THURSDAY, OCTOBER 22, 2015 CON'T.

SESSION 4: REGULATORY & TESTING

BLUE BONNET B

Chair: Chris Campbell, O'Brien & Gere

10:30 am – 11:00 am

Paper #7

Should the Xact® Multi-metal Continuous Emissions Monitoring System (CEMS) and Related Technologies Be Used For Compliance Monitoring?

Patti B. Bales,¹ Chris E. McBride,² William C. Anderson¹; ¹TestAmerica Laboratories, Inc., Knoxville, TN, ²Focus Environmental, Inc., Knoxville, TN

11:00 am – 11:30 am

Paper #9

An Exploration of EPA's Cost-Benefit And Regulatory Impact Analyses

John B. King; BREAZEALE, SACHSE & WILSON, L.L.P., Baton Rouge, LA

11:30 am – 12:00 pm

Paper #6

Capture of Cesium from Combustion of Contaminated Biomass Using Sorbent Injection

Paul Lemieux,¹ Sang Don Lee,¹ William Linak,² Chris Winterrowd³; ¹US EPA/NHSRC, RTP, NC, ²US EPA/NRMRL, RTP, NC, ³ARCADIS, Durham, NC

12:00 pm – 12:30 pm

Paper #21

Monitoring and Controlling Mercury in Flue Gas Streams

Matthew F. Pollack,¹ Joseph Sipershteyn,¹ Frank Scharrenbach²; ¹Ohio Lumex, Twinsburg, OH, ²New Environmental Technology GmbH

12:30 pm – 2:00 pm

Lunch and Awards Presentation

BLUE BONNET A

SESSION 5: BIOGENIC FUELS, EMERGING MARKETS

BLUE BONNET B

Chair: Paul Lemieux, U.S. EPA

2:00 pm – 2:30 pm

Paper #11

Pyrolysis Biofuel Production and Soil Improvement for Powering Agriculture in Kenya

Christopher S. Campbell; O'Brien & Gere, Syracuse, NY

2:30 pm – 3:00 pm

Paper #5

Fast Pyrolysis of Empty Fruit Bunch from Palm Mill Plants to Produce Bio-oil Using a Fluidized Bed Reactor

Jang-Soo Lee, Heung-Min Yoo, Won-Seok Yang, Yong-Chil Seo; Department of Environmental Engineering, Yonsei University, Wonju, Republic of Korea

3:00 pm – 3:30 pm

Paper #15

New Gas Phase Pollution Abatement Technologies

John Knotts, Jeff Kolde, John Tomanovich, Chris Polizzi; W.L. Gore and Associates, Fair Hill, MD

4:00 pm – 5:30 pm

Program Advisory Council (PAC) Meeting

COUGAR

FINAL AGENDA – FRIDAY, OCTOBER 23, 2015

8:00 am – 5:00 pm

Technical Tours: Veolia Texas Treatment Complex & Dupont Sabine River Works

7:45 am – Meet in Crowne Plaza Hotel Lobby

8:00 am – Bus departs

Ticket Required; Cost: \$69