

PRELIMINARY PROGRAM



37TH INTERNATIONAL CONFERENCE ON THERMAL TREATMENT TECHNOLOGIES & HAZARDOUS WASTE COMBUSTORS

October 2-3, 2019
South Shore Harbour Resort • League City, TX
www.awma.org/IT3



AIR & WASTE MANAGEMENT
ASSOCIATION

Sponsored by:



HWI

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Envitech

PRELIMINARY PROGRAM

GENERAL INFORMATION

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. **Thermal treatment technologies include:**

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

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

- Chemical Production
- Cement Production
- Oil Refineries
- Biofuels Production
- Pulp & Paper
- Mining Operations
- Military Installations
- Agricultural Products

REGISTRATION

Register online at www.awma.org/IT3 or download and complete the printable registration form and return it with your payment to:

Registrar, Air & Waste Management Association
436 Seventh Avenue, Suite 2100
Pittsburgh, PA 15219 USA
Fax: 412-232-3450

Your registration will not be processed without payment.

REFUND POLICY

If written notice of cancellation is received on or before September 17, 2019 payment will be refunded, less a \$75 cancellation fee. (Cancellation fees apply regardless of payment method). Substitutions may be made at any time; payment for any difference is due at the time of substitution. This refund policy applies to all occurrences, including weather-related events and other natural disasters. In the unlikely occurrence of event cancellation, the Association is not liable for any expenses incurred by the registrant other than the full refund of registration fee(s) paid.

CONFERENCE PROCEEDINGS

Conference proceedings including abstracts and slides will be accessible for download to all full conference registrants post-conference. Attendees will be notified via e-mail when the presentations are available.

IT3/HWC CONFERENCE COMMITTEE

Technical Chair

William Norris, *Ramboll*

Technical Vice Chair

Helen Lou, *Lamar University*

Andrew Bartocci, *Envitech, Inc.*

Chih C. Chao, *Cantech Environmental Services*

Michele Gehring, *Coterie Environmental*

Michael Mannuzza, *Ramboll*

LOCATION AND LODGING

South Shore Harbour Conference Center

2500 South Shore Blvd

League City, TX United States 77573

800-442-5005

Room Rates: \$135 Standard through September 9, 2019

Use the link below or contact the hotel directly and mention the Group Name: Air and Waste Management Association: IT3 Conference.

<https://reservations.travelclick.com/2034?groupID=2383442#/guestsandrooms>

CONTINUING EDUCATION UNITS

Conference attendees may be eligible for continuing education credits and will receive a Certificate of Participation for the sessions and course attended. Be sure to sign the attendance list available at the registration desk. For more information, please contact Gloria Henning at +1-412-904-6021 or gghenning@awma.org.

PRESENTERS' MEETING

Presenters and Session Chairs will meet during 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.

SPECIAL ACCOMMODATIONS

The Air & Waste Management Association supports the Americans with Disabilities Act (ADA). Those attendees requiring specific equipment, food, or services should contact Cindy Fontanesi at cfontanesi@awma.org to make those needs known in advance. A&WMA will make every reasonable effort to accommodate them.

PRELIMINARY PROGRAM

CONFERENCE EVENTS

TECHNICAL TOUR — CLEAN HARBORS, DEER PARK FACILITY

Tuesday, October 1, 1:30 pm - 4:30 pm

The Clean Harbors, Deer Park facility is fully permitted to manage a wide variety of regulated materials including RCRA hazardous waste, PCBs, APHIS soils, and non-regulated waste materials. Properly packaged infectious waste and witness-burned DEA-controlled substances can also be incinerated at the Deer Park facility. The facility is designed for incineration of all types of waste (solids, liquids, sludge, and gas), drums, tankers, and rail. It is a stand-alone disposal facility with an on-site landfill, a wastewater treatment plant, and storage/processing units.

The tour will include a 10-minute safety video, followed by a 45-55 minute walking tour. Closed-toed shoes, long sleeves, and long pants are required. Clean Harbors will provide safety hats, glasses, and ear protection.

Preregistration and ticket required; Cost \$60



EXHIBIT HALL SOCIAL

Wednesday, October 2, 4:30 pm – 6:00 pm

Join exhibitors and conference attendees for networking, drinks and appetizers!

Open to all full conference attendees.

EMISSIONS CONTROL COURSE

Friday, October 4, 8:00 am – 12:00 pm

Course Instructor: Paul Farber, Principal, P. Farber & Associates, LLC

This course is designed for engineers and other technical personnel responsible for preparing and/or reviewing the plans for installation of air emissions control equipment and systems. This course will also be useful of technical personnel responsible for the operation and maintenance of the air emissions control systems. The course reviews procedures for evaluating the performance of the systems used to reduce particulate and gaseous emissions from industrial sources. The workshop will cover electrostatic precipitators and fabric filters for particulate control and wet and dry combustion gas treatment for acid gas (SO₂, SO₃, HCl, etc.) and mercury emissions reduction.

The course will include the following topics:

- Electrostatic Precipitation
- Fabric Filtration
- Wet Flue Gas Cleaning
- Dry Flue Gas Cleaning

Separate registration is required. See online registration details for fee structure.

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.

PRELIMINARY PROGRAM

TECHNICAL AGENDA – Wednesday, October 2

7:00 am – 4:30 pm

Conference Registration

7:00 am – 8:00 am

Continental Breakfast and Presenters' Meeting

OPENING KEYNOTE PANEL

8:00 am – 8:30 am

Welcome

William Norris, Conference Chair and Michele Gehring, A&WMA President

8:30 am – 10:00 am

PFAS Overview, Regulatory Approach, Testing and Destruction

Chair: Thomas Busmann, Focus Environmental

PFAS are a family of chemicals used in common consumer products. They have become the subject of consideration for regulation due to toxicity risk. PFAs have also been recently found in some public water systems. This panel will examine the role thermal treatment may play in the regulation and disposal of this class of compounds. *Panelists include:*

- Mike Galbraith, *US EPA Office of Resource Conservation and Recovery*
- Dr. Philip Taylor, *AVP - Strategic Initiative, Office of Research, University of Cincinnati*
- David Ostaszewski, PE, *Division Manager 2, Ramboll*
- Phillip G. Retallick, *Senior Vice President, Compliance and Regulatory Affairs, Clean Harbors Environmental Services, Inc.*

10:00 am – 10:30 am

Networking break and exhibition viewing

KEYNOTE PANEL 2

10:30 am – 12:00 pm

Emerging Air Quality Monitoring: Technology, Data Quality and Compliance

Chair: William Norris, Ramboll

The panel will discuss emerging air quality data sensors, emerging technologies, data quality and analytics as well as provide specific project examples and related potential litigations. In addition, the EPA's role in data quality, data interpretation and data management will also be presented.

Panelists include:

- *Dr. Julia Luongo, Managing Consultant, Ramboll*
- *Pete Zemek, Senior VP Emerging Technologies, Montrose Environmental*

12:00 pm – 1:00 pm

Lunch

SESSION 1: TECHNOLOGIES IN INCINERATION

Chair: Paul Lemeiux, US EPA

1:00 pm – 1:30 pm

IT3-01

PFAS in Waste: Occurrence, Risks and Treatment

Bharat Chandramouli, SGS AXYS, Sidney, BC, Canada

1:30 pm – 2:00 pm

IT3-14

Practical Refractory Selection for Incineration Applications

Chris Hersh, HarbisonWalker International, Pittsburgh, PA

2:00 pm – 2:30 pm

IT3-07

Digital Transformation

Elizabeth Drake, Compliance Strategies & Solution, Inc., Houston, TX

2:30 pm – 3:00 pm

Networking break and exhibition viewing

SESSION 2: RECYCLE AND REUSE

Chair: Pierre Carabin, Pyrogenesis

3:00 pm – 3:30 pm

IT3-11

ARCUS Greencycling: Chemical Recycling of Plastic Waste

Marco Tomasi Morgano, Daniel Odenthal, Markus Klatte, Hans Leibold, Helmut Seifert; ARCUS Greencycling GmbH, Ludwigsburg; Karlsruhe Institute of Technology (KIT), Institute for Technical Chemistry (ITC), Eggenstein-Leopoldshafen, Germany

3:30 pm – 4:00 pm

IT3-12

First-Mile Waste Solutions: A Key Driver of Urban Autonomy and Resilience

Jan Grimbrandt, Liran Dor, Heike Carl Zatterstrom; Boson Energy, Germany

4:00 pm – 4:30 pm

IT3-22

Converter Slag of Steel and Waste Ash into High-strength Concrete

Ying-Jen Chou, Ming-Chih Shih, Man-Cho FanYing, American Greenland Environmental Sustainability Co., Taiwan

4:30 pm – 6:00 pm

Exhibit Hall Social

PRELIMINARY PROGRAM

TECHNICAL AGENDA – Thursday, October 3

7:30 am – 3:00 pm

Conference Registration

7:30 am – 8:00 am

Continental Breakfast and Presenters' Meeting

KEYNOTE PANEL 3

8:00 am - 8:15 am

Welcome

8:15 am - 9:45 am

Lessons Learned from the Massive Clean-up Effort Associated with the United Kingdom Novichok Nerve Agent Incident and Implications for Similar Crises

Chair: Michael Mannuzza, Ramboll

Panelists:

- *Lesley Hetherington, England's Department for Environment, Food and Rural Affairs (DEFRA)*
- *Paul Lemieux, US EPA*

In March 2018, two individuals in the UK were poisoned using a Novichok chemical nerve agent generally considered to be one of the most toxic substances on earth. The victims were exposed to the chemical agent by touching a door handle contaminated with the substance, and cross-contaminated numerous sites in the city before falling ill and during medical treatment. The incident triggered a massive clean-up effort that presented special challenges pertaining to the safe containment, collection, transportation, and incineration of the waste that would apply to similar incidents of national significance involving infectious, radioactive, and toxic exposure concerns. The panel will discuss lessons learned from this incident, and topics related to the incineration and post-treatment of similar waste streams.

9:45 am – 10:15 am

Networking break and exhibition viewing

SESSION 3: NEW TRENDS IN INCINERATION

Chair: Blake Beckstrom, Wood.

10:15 am – 10:45 am

IT3-17

Streamlining MACT EEE Comprehensive Performance Test Plan and Report Reviews

Martin Torres, Texas Commission on Environmental Quality, Austin, TX

10:45 am – 11:15 am

IT3-18

Applying Pyrolysis as a Viable Alternative to Incineration

David Cardenas, Monarch Waste Technologies, New Braunfels, TX, Michael Krall, Montrose Air Quality Services, LLC, New Braunfels, TX

11:15 am – 11:45 am

IT3-10

The Use of Combustion Process Modification to Capture Cesium from Combustion of Contaminated Biomass

Paul Lemieux, Sang Don Lee, William P. Linak; USEPA, Research Triangle Park, NC

11:45 am – 1:00 pm

Lunch and Awards Presentation

SESSION 4: EMISSIONS CONTROL

Chair: Prakash Acharya, Aptim

1:00 pm – 1:30 pm

IT3-02

Effects of Particle Sizes and Impurities of Rice Husk on Emission Trend of PM10 and PM2.5 in Rice Husk Combustion in a Fixed Bed Electric Furnace

Emmanuel Owoicho ABAH, University of Tsukuba, Japan

1:30 pm – 2:00 pm

IT3-23

Sewage Sludge Incinerator (SSI) Mercury Control Technologies

Andrew C. Bartocci, Envitech Inc., San Diego, CA

2:00 pm – 2:30 pm

IT3-24

Technology Solutions for Sulfuric Acid Formation and Removal in Liquid Waste and Waste Gas Thermal Oxidizers

Andrew C. Bartocci, Andy Olds, Envitech Inc., San Diego, CA

2:30 pm - 3:00 pm

Networking break and exhibition viewing

PRELIMINARY PROGRAM

TECHNICAL AGENDA – Thursday, October 3

SESSION 5: WASTE TO ENERGY, EMISSION MONITORING, INCINERATION

Chair: Andy Bartocci, Envitech

3:00 pm – 3:30 pm

IT3-13

From Emission Monitoring to Smart Operation

Helen Lou, Huilong Gai, Lamar University, Beaumont, TX

3:30 pm – 4:00 pm

IT3-21

What's New in Incineration?

Tim Marth, Allied Mineral Products, Columbus, OH

4:00 pm – 4:30 pm

IT3-25

Control Polices and Emission Standard of Volatile Organic Compounds (VOCs) for Stationary Sources in China

Guangli Xiu, Yinzhi Huang, Ying Wu, East China University of Science and Technology, China

4:30 pm – 5:30 pm

Program Advisory Committee (PAC) Meeting

EXHIBITION INFORMATION

Exhibition hours:

Tuesday, Oct. 1, Exhibitor Setup	2:00 pm – 5:00 pm
Wednesday, Oct. 2	7:00 am – 4:30 pm
Exhibit Hall Social	4:30 pm – 6:00 pm
Thursday, Oct. 3	9:00 am – 3:00 pm
Exhibitor Tear-down	3:00 pm – 4:00 pm

Be an exhibitor or sponsor at this focused conference!

Showcase your products and services, connect with decision makers, and interact with presenters and attendees.

Contact Jeff Schurman to discuss your opportunities today at jschurman@awma.org.

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Ramboll
www.ramboll.com

Booth 14

Ramboll is a leading engineering, design and consultancy company employing 15,000 experts. Our presence is global with especially strong representation in the Nordics, UK, North America, Continental Europe, Middle East and Asia Pacific. We constantly strive to achieve inspiring and exacting solutions that make a genuine difference to our clients, end-users and society at large.

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Envitech
www.envitechinc.com

Booth 2

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.



Harbison Walker International
www.thinkhwi.com

Booth 7

With more than 150 years of industry leadership, HarbisonWalker International (HWI) is the largest supplier of refractory products and services in the United States, serving virtually every major industry that requires refractory solutions to enhance production and protect assets. Headquartered in Pittsburgh, PA, the company's international network spans North America, Europe, and Asia, with 19 manufacturing plants, and 30 global sourcing centers.

EXHIBITORS

EXHIBITORS (As of 9/4/19)

Alliance Source Testing Booth 6
www.stacktest.com

Alliance Source Testing is focused solely on providing accurate and consistent stack testing solutions to industrial customers throughout the US. We specialize in providing comprehensive and confirmatory performance testing for hazardous waste combustion sources and, we provide an unmatched customer experience which is known throughout the industry as The Alliance Advantage. We currently have 40 mobile laboratories and 70 test stack testing professionals located in eight regional offices, including Houston. Simply put —Stack testing is our business.

Allied Mineral Products Booth 10
www.alliedmineral.com

Allied Mineral Products, founded in 1961, has grown into a strong global company. Allied serves multiple industries with exceptional service and tailored solutions of refractories and precast shapes. Allied's global presence includes 12 manufacturing facilities, 4 precast shapes facilities, 145+ sales representatives supporting 100 countries. Allied's unique application testing, design engineering capabilities, and active new product development programs offer each customer high value solutions.

Catalyst Air Management, Inc. Booth 1
www.catalystair.com

Catalyst Air Management, Inc., was formed in 1996 to provide quality process evaluation and emissions testing services. Catalyst provides experienced, qualified test personnel proficient in the latest EPA test methods. Each team is structured with a QSTI-certified test supervisor who is responsible for ensuring that test programs are completed as scheduled, and who follow established QA procedures in conformance with ASTM D-7036, while adhering to all applicable environmental, health, and safety regulations.

Metco Environmental Booth 13
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.

Montrose Environmental Group, Incorporated Booth 11
www.montrose-env.com

Montrose is an environmental services company with 50+ locations and 1,200+ employees in North America. As one of the largest companies focused on environmental solutions, we support clients with a diverse range of services covering everything from comprehensive air measurement and laboratory services to regulatory compliance, permitting, engineering, and remediation.

EXHIBIT HALL FLOOR PLAN

