

# **41st International Conference on Thermal Treatment Technologies and Hazardous Waste Combustors (IT3 2025)**

Tulsa, Oklahoma, USA  
26 - 27 February 2025

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# Technical Program – Wednesday, February 26

**7:00 am – 5:00 pm**  
Conference Registration  
Promenade CD Foyer

**7:00 am – 8:00 am**  
Continental Breakfast  
Promenade C

**ALL TECHNICAL SESSIONS WILL BE HELD IN PROMENADE D**

## Opening Session

**8:00 am – 9:00 am**

### Welcome

Leah Blinn, Civil & Environmental Consultants, Inc., A&WMA President; Cornelia Cretiu, American Soda LLC, Conference Chair



### Keynote Presentation – Innovation at Scale: The Role of Combustion Research in Achieving Climate Goals 1

Darton Zink, President and CEO, Zeeco, Inc.

**9:00 am – 9:30 am**

IT3-32

### Insights on the Upcoming HWC MACT RTR Rule 11

Melvin Keener, Coalition for Responsible Waste Incineration

**9:30 am – 10:00 am**

### Networking Break and Display Viewing

Promenade CD Foyer

## Session 1: Advancements in Waste Processing

Chair: Margarita Murach, Process Combustion Corporation

**10:00 am – 10:30 am**

IT3-31

### Update on the Status of the Implementation of the Lowered PM<sub>2.5</sub> NAAQS 19

Kyle Hunt, ALL4

**10:30 am – 11:00 am**

IT3-11

### Comparison of Risk and Hazard Associated with the Open Burning of RDX Waste v an Engineered Device 27

David Weeks, Timothy Oliver, Eastern Region, AKANA, Pasco, WA

**11:00 am – 11:30 am**

IT3-29

### CO<sub>2</sub> Mineralization in Chlorellestadite Derived from Thermal Treatment of Waste-to-Energy Ashes 34

Vikram Kumar, Aniruddha Baral, Mohamed Abdelrahman, Jeffrey R. Roesler, Nishant Garg, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign, Urbana, IL

**11:30 am – 12:00 pm**

### Exhibitor Presentations

**12:00 pm – 1:00 pm**

### Lunch

Promenade C

## Panel: Advancements in Thermal Treatment of PFAS (Part 1)

**1:00 pm – 2:30 pm**

Moderator: Cornelia Cretiu, American Soda LLC

IT3-21

### Thermal Treatment of PFOS, PFOA and HFPO-DA Using a Pilot-Scale Combustor 44

Nathan Weber, Oak Ridge Institute for Science and Education, Oak Ridge, TN; Jonathan Krug, Gabrielle West, James Mattila, William Roberson, R. Preston Burnette, Matthew Allen, William Preston, William Linak, U.S. EPA, Center for Environmental Measurement and Modeling, Research Triangle Park, NC

IT3-28

### Smoldering PFAS-Impacted Soils: From Laboratory to Full Scale Applications 56

Laura Kinsman, Gavin Grant, Grant Scholes, Benoit Boulay, Kyle Barber, Brian Harrison, David Major, Savron, Toronto, ON, Canada

IT3-10

### PFAS Waste Destruction using GA's Industrial Supercritical Water Oxidation (iSCWO) 74

John Follin, General Atomics, San Diego, CA

**2:30 pm – 3:00 pm**

### Networking Break and Display Viewing

Promenade CD Foyer

## Technical Program – Wednesday, February 26, con't.

### Session 2: Advancements in Thermal Treatment of PFAS (Part 2)

Chair: Cornelia Cretiu, American Soda LLC

**3:00 pm – 3:30 pm**

IT3-03

**The Future is What We Make It - Introducing Honeywell CFX™ 83**

*Ke-Bin Low, Shawn Tanagho, Robert York, Honeywell UOP, Rosemont, IL*

**3:30 pm – 4:00 pm**

IT3-07

**Advances in pptv Measurements of PFAS Volatiles in Thermal Exhausts via FTIR Spectroscopy 88**

*Curtis Laush, Physical Chemistry Laboratory, Spectrum Environmental Solutions, Mesa, AZ*

**4:00 pm – 4:30 pm**

IT3-09

**Fluoropolymer Incineration: Evidence for the Lack of PFAS Emissions 93**

*Philip Taylor, P Taylor and Associates LLC, Dayton, OH; Hans-Joachim Gehrman, Karlsruhe Institute of Technology; Deepak Kapoor, Gujarat Fluorochemicals GmbH*

**4:45 pm – 5:45 pm**  
**Networking Reception**  
Promenade C



## Technical Program – Thursday, February 27

**7:30 am – 3:00 pm**

Conference Registration  
Promenade CD Foyer

**7:30 am – 8:30 am**

Continental Breakfast  
Promenade C

### Session 3: Thermal Treatment Applications

Chair: Jeremias Szust, Trinity Consultants

**8:30 am – 9:00 am**

IT3-05

**How to Successfully Use Thermal Desorption for Remediation of Hydrocarbon Contaminated Soils 104**

*Darryl Nelson, Haysem Naboulsi, John Tucker, NELSON Environmental Remediation USA Ltd*

**9:00 am – 9:30 am**

IT3-25

**Assessment of Platinum Catalyst in Rice Husk Combustion: A Comparative Life Cycle Analysis 110**

*Emmanuel Abah, The Food Systems Research Center & Dept. of Extension, University of Vermont; Ryozi Noguchi, Laboratory of Agricultural Systems Engineering, University of Kyoto, Japan; Tofael Ahamed, Faculty of Life and Environmental Science, University of Tsukuba, Japan*

**9:30 am – 10:00 am**

IT3-19

**Fluegas as a Medium for Gasification of High Ash Coal 120**

*Narendra Yadav, Srinivas Seethamraju, Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Maharashtra, India; Sanjay M. Mahajani, Chemical Engineering, Indian Institute of Technology Bombay, Maharashtra, India*

**10:00 am – 10:30 am**

**Networking Break and Display Viewing**

Promenade CD Foyer

## Technical Program – Thursday, February 27, con't.

### Session 4: Pollution Treatment

Chair: William Norris, Ramboll

**10:30 am – 11:00 am**

IT3-17

**SO<sub>3</sub> Removal with Sodium Sorbents 130**

*Cornelia Cretiu, American Soda LLC, SOLVAir; S. Song, M. Gaston-Elias, Solvay, SOLVAir*

**11:00 am – 11:30 am**

IT3-26

**Supervisory Control and Data Acquisition (SCADA) System for Medical Waste Incinerators 138**

*Josh Wetmore, Envitech, Inc.*

**11:30 am – 12:00 pm**

IT3-16

**Treatment Options for Sulfidic, Cresylic, and Napthenic Spent Caustic with Energy Recovery 146**

*Aric Fisher, William Whyman, Huixiao Zheng, Honeywell UOP, Tulsa, OK; Janet Ruettiger, Honeywell UOP, Rosemont, IL*

**12:00 pm – 1:00 pm**

**Lunch and Award Presentation**

Promenade C

### Session 5: Emissions Testing & Monitoring (Part 1)

Chair: Tarun Poddar, WL Gore

**1:00 pm – 1:30 pm**

IT3-04

**Measurement of Indicator Compounds from Combustion/ Incineration of PFAS Using FTIR Spectroscopy 155**

*Peter Zemek, Thomas Dunder, Jim Barufaldi, Zach Mokrycki, TRC*

**1:30 pm – 2:00 pm**

IT3-22

**The Necessity of Real-Time Monitoring of GHG Emissions 168**

*Stephane Attal, Ecosystem Informatics Inc., Ontario, Canada*

**2:00 pm – 2:30 pm**

IT3-15

**Advancing Monitoring Systems Using AI 177**

*Stephane Attal, Ecosystem Informatics Inc., Ontario, Canada*

**2:30 pm – 3:00 pm**

**Networking Break**

Promenade CD Foyer

### Session 5: Emissions Testing & Monitoring (Part 2)

Chair: Tarun Poddar, WL Gore

**3:00 pm – 3:30 pm**

IT3-18

**Beyond EPA OTM-45: A Review of Source Emissions Methods for the Characterization of PFAS 184**

*Courtney Adkins, Eurofins TestAmerica Knoxville*

**3:30 pm – 4:00 pm**

IT3-20

**Common Challenges in Speciating VOC Emissions: Choosing a Source Test Method, Ensuring Adequate Analytical Detection Limits and Employing Best Practices 192**

*Rohit Surathu, Rich Trzupek, David Ostaszewski, Alliance Technical Group, Decatur, AL*

**4:00 pm – 4:30 pm**

IT3-30

**Development of a New Method for Measuring Toxic Metals in Industrial Emissions 207**

*Jonathan Cross, Ohio Lumex, Cleveland, OH*

**4:30 pm**

**Conference Adjourns**

**4:30 pm – 5:30 pm**

**Program Advisory Committee (PAC) Meeting**