

36th International Conference on Thermal Treatment Technologies and Hazardous Waste Combustors (IT3/HWC)

Houston, Texas, USA
6-8 March 2018

ISBN: 978-1-5108-6188-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

The information and opinions expressed in these papers/presentations are solely of the authors and should not be considered as having the endorsement or support of the Association.

Compilation Copyright © (2018) by Air & Waste Management Association.
Copyright of the individual papers are retained by the authors.

Additional copies of these and other A&WMA conference proceedings will be available through the A&WMA Online Store. To place an order, please visit the Online Store at www.awma.org or contact the A&WMA Publications Order Department at onlinestore@awma.org, +1-412-232-3444 (phone) or +1-412-232-3450 (fax).

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact Air and Waste Management Association at the address below.

Air and Waste Management Association
One Gateway Center, 3rd Floor
420 Fort Duquesne Blvd.
Pittsburgh, Pennsylvania 15222-1435
USA

Phone: +1-800-270-3444
+1-412-232-3444
Fax: +1-412-232-3450

info@awma.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

FINAL PROGRAM

TECHNICAL AGENDA – Wednesday, March 7, 2018

7:30 am – 4:30 pm

Conference Registration
Concourse Level, Century Ballroom

7:30 am – 8:30 am

Continental Breakfast and Presenters' Meeting
Century I & II

KEYNOTE PLENARY SESSION

All conference sessions will be in Century I

8:30 am – 8:45 am

Welcome
Michael Manuzza, OBG

8:45 am – 9:15 am

Environmental Response Efforts and Waste Management 1
Kelly Cook, Director Critical Infrastructure Division, TCEQ,
TCEQ's "Hurricane Czar"

9:15 am – 9:45 am

Streamlining the Hazardous Waste Combustor Program 35
Bob Patton, Jr., Manager, Industrial Waste Permits Section, TCEQ

9:45 am – 10:15 am

Tools to Standardize Efficient Review of CPT Plans 42
Will Wyman, Program Supervisor, Waste Permits Division, TCEQ

10:15 am – 10:30 am

Plenary Session Q&A

10:30 am – 11:00 am

Networking break and exhibition viewing
Century II

SESSION 1

Chair: Pierre Carabin, Pyrogenesis

11:00 am – 11:30 am

IT3-01
15 Years of Research and Development on Electrofiltration for Gas Cleaning 62
Florent Lemont, Mickael Marchand, Aldo Russell, CEA, DEN, DE2D, SEVT, LPTI, F-30207 Bagnols sur Cèze, France; Thierry Reess, Antoine Silvestre de Ferron, Sonia Souakri, Laboratoire de Génie Electrique, France

11:30 am – 12:00 pm

IT3-17
Medical Waste Incinerator Scrubber for Meeting Ultra Low Emission Limits 175
Andy Bartocci, Envitech, Inc., San Diego, CA

12:00 pm – 12:30 pm

IT3-21
Back to the Basics – Baghouse Monitoring and Control 202
Robert W. Baxter, B3 Systems, Inc., Raleigh, NC

12:30 pm - 1:30 pm

Lunch
Justin's

SESSION 2

Chair: William Norris, OBG

1:30 pm – 2:00 pm

IT3-23
Kinetics of Co-Gasification of Biomass and Plastic Wastes in CO₂ 223
K. Burra, A. K. Gupta, The Combustion Laboratory, Department of Mechanical Engineering, University of Maryland, College Park, MD

2:00 pm – 2:30 pm

IT3-20
Destruction and Transformation of Pyrene by Mineral Surfaces during Thermal Desorption 194
Cameron P. Oden, University of Texas at Austin, Austin, TX; Charles J. Werth, University of Texas at Austin, Austin, TX; and Lynn E. Katz, University of Texas at Austin, Austin, TX

2:30 pm – 3:00 pm

IT3-19
Estimating Source Strengths of HCl and SO₂ Emission in the flue gas from Municipal Solid Waste Incineration 193
Hua Zhang, Siyuan Yu, Liming Shao, Institute of Waste Treatment and Reclamation, Tongji University, Shanghai, China; Pinjing He, Centre for the Technology Research and Training on Household Waste in Small Towns & Rural Area, Ministry of Housing Urban-Rural Development, Shanghai, China

3:00 pm – 3:30 pm

Networking break and exhibition viewing
Century II

SESSION 3

Chair: Thomas Busmann, Focus Environmental, Inc.

3:30 pm – 4:00 pm

IT3-24
Upstream Process Optimization to Reduce the Cost of Air Pollution Control 241
Fred Hencken, OBG, East Norriton, PA

4:00 pm – 4:30 pm

IT3-14
Permitting a Thermal Desorption System using a Hazardous Waste Combustion Approach 140
Rich Devin, Diversified Scientific Services, Inc., Kingston, TN; Michael Krall, Montrose Air Quality Services, LLC, Austin, TX

4:30 pm - 5:00 pm

IT3-25
The Advantages of Flameless Thermal Oxidation 242
Nicholas DeSanti, PCC, Pittsburgh, PA

5:00 pm - 6:30 pm

Exhibit Hall Social
Century II

FINAL PROGRAM

TECHNICAL AGENDA - Thursday, March 8, 2018

7:30 am – 4:30 pm

Conference Registration
Concourse Level, Century Ballroom

7:30 am – 8:30 am

Continental Breakfast and Presenters' Meeting
Century I & II

KEYNOTE PLENARY SESSION

8:30 am – 9:00 am

Homeland Security Planning Scenarios and Waste Management through Thermal Treatment 90
Paul Lemieux, Associate Division Director, NHSRC/DCMD, U.S. EPA

9:00 am – 9:30 am

Industry and Government Collaboration During the Ebola Crisis: A Practical Perspective 54
Selin Hoboy, Vice President, Legislative & Regulatory Affairs, Stericycle, Inc.

9:30 am – 10:00 am

An Overview of UTMB's Captive Medical Waste Incinerator and Its Role in Public Health Crisis N/A
Marcel Blanchard, Associate Vice President - Utility & Fleet Operations, University of Texas Medical Branch

10:00 am – 10:30 am

Networking break and exhibition viewing
Century II

SESSION 4

Chair: Prakash Acharya, CB&I Federal Services, Kings Bay Support Services, LLC

10:30 am – 11:00 am

IT3-15
Assessing PCP Removal Mechanisms in Thermal Conduction Heating 161
Justin Davis, Howard Liljestrand, and Lynn E. Katz, The University of Texas at Austin

11:00 am – 11:30 am

IT3-06
Introduction of Regenerative Thermal Oxidizers Applied on Volatile Organic Compounds Emission Control in Shanghai during Recent Years 107
Kaiqi Li, Shiwen Ding, Jianping Wu, Gangfeng Zhang, Xiaochu He, Shanghai Academy of Environmental Sciences, Shanghai, China

11:30 am – 12:00 pm

IT3-08
Gasification and Catalytic Reforming of Biomass Waste – Syngas Formation and Tar Removal 113
Katsuya Kawamoto, Graduate School of Environmental and Life Science, Okayama University, Japan

12:00 pm – 1:30 pm

Lunch and Award Presentation
Justin's

SESSION 5

Chair: Helen Lou, Lamar University

1:30 pm – 2:00 pm

IT3-22
An Innovative Volatile Organic Compound Incinerator 210
Joel K.T. Crawmer, Chien-Hua Chen, Bradley M. Richard, and Howard G. Pearlman, Advanced Cooling Technologies, Inc., Lancaster, PA; Thomas V. Edwards, Temple University, Philadelphia, PA; Paul D. Ronney, University of Southern California, Los Angeles, CA

2:00 pm – 2:30 pm

IT3-10
Simulation and Analysis of VOCs Recovery System for Crude Oil Storage Tanks 127
Huilong Gai, Helen.H.Lou, Dan F. Smith Department of Chemical Engineering, Lamar University, Beaumont, TX

2:30 pm – 3:00 pm

IT3-26
A Numerical Simulation on Pollutant Dispersion from a Ground Flare in Shanghai 250
Xiaobo Shen, Guangli Xiu, East China University of Science and Technology, Shanghai, China

3:00 pm - 3:30 pm

Networking break and exhibition viewing
Century II

SESSION 6

Chair: Florent Lemont, French Alternative Energies and Atomic Energy Commission (CEA)

3:30 pm – 4:00 pm

IT3-11
Optimization of Flare Operation 134
Helen H. Lou, Daniel Chen, Anan Wang, Vijaya Damodara, Dan F. Smith Department of Chemical Engineering, Lamar University, Beaumont, TX; Xianchang Li, Department of Mechanical Engineering, Lamar University, Beaumont, TX; Christopher Martin, Department of Chemistry, Lamar University, Beaumont, TX

4:00 pm – 4:30 pm

IT3-04
Comparison of RTO and Carbon Adsorption for Styrene Control from Composite Manufacturing 78
Thomas G. Busmann, Tony Babb, Focus Environmental Inc., Knoxville, TN

4:30 pm – 5:00 pm

IT3-18
Sulfur Recovery Unit (SRU) SO₂ Scrubber for Startup, Shutdown, and Malfunctions (SSM) 185
Andy Bartocci, Envitech, Inc., San Diego, CA

5:00 pm – 6:00 pm

Program Advisory Committee (PAC) Meeting
Century I