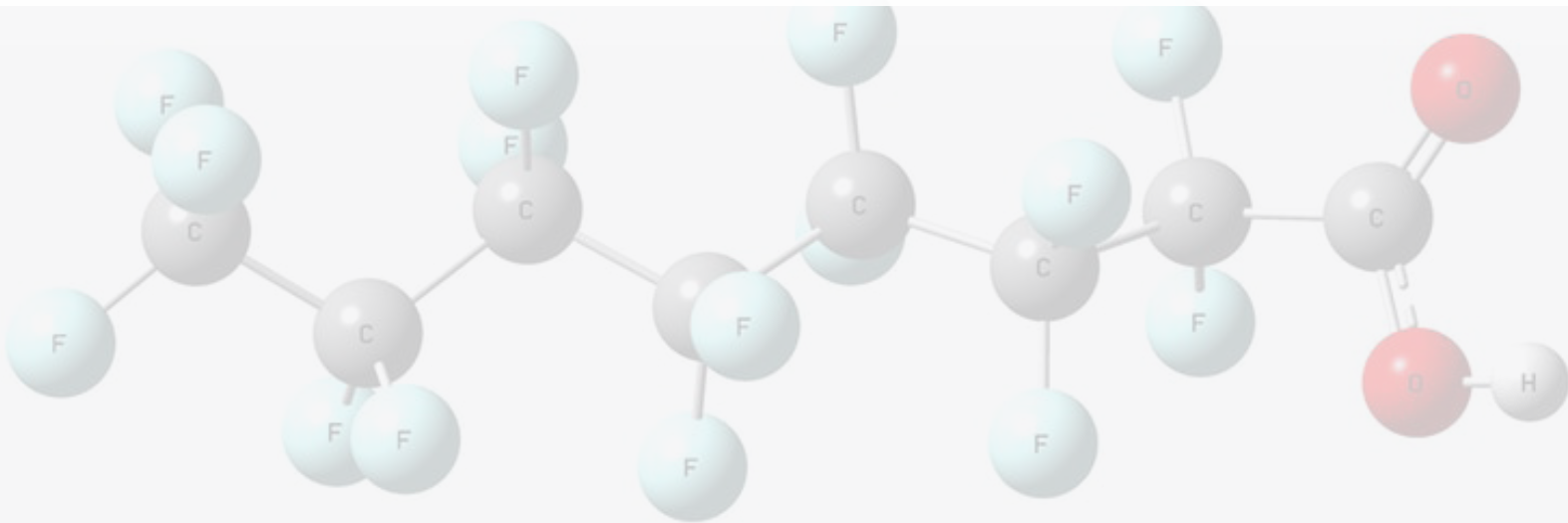


FINAL PROGRAM

The Science of **PFAS**

Chemistry, Health, and Multimedia Measurements

Virtual Conference • September 15-17, 2020



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GENERAL INFORMATION

CONFERENCE OVERVIEW

As the concern for per- and polyfluoroalkyl substances (PFAS) increases, A&WMA has developed this conference to bring together scientists, researchers, academics, practitioners, regulators, and the regulated community to discuss the current state of PFAS science and to help develop solutions for the future.

Dubbed “forever chemicals” by the media, PFAS pose unique challenges with their persistence, revolving life-cycle, and distinctive chemical characteristics. Conference sessions will explore the chemistry, health effects, and current regulatory approaches and guidance for PFAS in water, soil, biosolids, landfills, and air, as well as methods for their measurement, treatment, and destruction.

REGISTRATION

Register online at www.awma.org/PFAS. Online registrants will receive a confirmation and receipt, which they can access at any time by logging into their account. Your registration will not be processed without payment.

CONFERENCE PROCEEDINGS

Conference proceedings will be accessible for download to all full conference registrants post-conference. Attendees will be notified via e-mail when the presentations are available. A login and password will be provided at that time.

CONTINUING EDUCATION UNITS

Conference attendees may be eligible for continuing education credits and can apply to receive a Certificate of Participation for the sessions attended. For more information, please contact Gloria Henning at +1-412-904-6021 or glhenning@awma.org.

CONFERENCE COMMITTEE

Conference Co-Chairs:

Michele Gehring, Coterie Environmental
Ian MacGregor, Battelle

Committee Members:

- Gerald Ankley, U.S. EPA Office of Research and Development (ORD)
- Ivan Cooper, Civil & Environmental Consultants (CEC)
- Rula Deeb, GeoSyntec Consultants
- Elizabeth Denly, TRC
- Mike DeVito, U.S. EPA RTP
- Bill DiGuseppi, Jacobs
- Michael Galbraith, U.S. EPA HQ
- Todd Grosshandler, Montrose Environmental Group
- Mel Keener, CRWI
- Mike Kosusko, U.S. EPA Retired, RTP A&WMA Chapter
- Johnsie Lang, Arcadis
- Andy Lindstrom, U.S. EPA RTP
- Loren Lund, Jacobs
- Brian Mader, 3M
- Taryn McKnight, Eurofins/TestAmerica
- Ray Merrill, U.S. EPA RTP
- Marc Mills, U.S. EPA
- John Offenberg, U.S. EPA
- Dave Ostaszewski, Ramboll
- Michael Pjetraj, North Carolina Department of Environment and Natural Resources (NCDENR)
- Jeff Ryan, U.S. EPA RTP
- Charlene Spells, U.S. EPA RTP
- Mark Strynar, U.S. EPA RTP
- Matt Traister, Ramboll
- Bryan Tyler, Enthalpy Analytical
- Bryan Vining, Enthalpy Analytical
- John Washington, U.S. EPA ORD

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.

FINAL PROGRAM

TECHNICAL AGENDA – Tuesday, September 15

OPENING KEYNOTE SESSION

8:00 am – 9:30 am ET

Opening Welcome

Michele Gehring, Coterie Environmental, Conference Chair, and Todd Grosshandler, Montrose Environmental Group

The North Carolina PFAS Journey

Sheila Holman, Assistant Secretary, North Carolina Department of Environmental Quality

EPA at 50: PFAS and Protecting Communities

David Dunlap, Deputy Assistant Administrator for Science Policy, U.S. EPA Office of Research and Development

9:30 am – 9:45 am ET

Break

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SESSION 1: PFAS CHEMISTRY

Co-Chairs: Taryn McKnight, Eurofins, and Andy Lindstrom, Ph.D., U.S. EPA

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Bright ideas. Sustainable change.

9:45 am – 12:00 pm ET

PFAS Chemistry: Range, Complexity, Groupings, and Use of CompTox Dashboard

Antony Williams, Ph.D., U.S. EPA Center for Computational Toxicology and Exposure

Manufacture of Fluorinated Materials

Michael Terrazas, Ph.D., 3M Company

Monomer and Polymer Origins of PFAS

Paul Resnick, Ph.D., FluoroScience LLC

Interpreting PFAA Precursor Transformation at AFFF-Impacted Sites

Erika Houtz, Ph.D., Arcadis

12:00 pm – 12:45 pm ET

Break

SESSION 2: PFAS HEALTH EFFECTS

Co-Chairs: Loren Lund, Ph.D., Jacobs, and Mike Devito, Ph.D., U.S. EPA

12:45 pm – 2:45 pm ET

Risk Characterization of PFAS – Challenges and Opportunities

Laurie C. Haws, Ph.D., ToxStrategies

Immunotoxicity of PFAS: Functional Toxicological Outcomes to Support Decision-Making

Jamie DeWitt, Ph.D., East Carolina University Department of Pharmacology and Toxicology

Moving from Traditional Methods to NAMS (New Alternative Methods) in Toxicity Testing: PFAS as a Test Case

Mike DeVito, Ph.D., U.S. EPA Center for Computational Toxicology and Exposure

Developing a Read-Across Approach for PFAS Using New Alternative Methods (NAMs)

Grace Patlewicz, Ph.D., U.S. EPA Center for Computational Toxicology and Exposure

2:45 pm – 3:00 pm ET

Break

SESSION 3: PFAS MEASUREMENT METHODS

Chairs: Bryan Vining, Ph.D., Enthalpy; Ray Merrill, Ph.D., U.S. EPA; and Dave Ostaszewski, Ramboll

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3:00 pm - 5:15 pm ET

Ambient Air Measurements

Taryn McKnight, Eurofins-TestAmerica

EPA PFAS Air Source Emission Measurements: Research and Activities

Jeff Ryan, U.S. EPA Office of Research and Development

SW-846 PFAS Test Methods

Troy Strock, U.S. EPA Office of Resource Conservation and Recovery

Targeted, Non-targeted, Total, and Surrogate Measurement Objectives

James McCord, Ph.D., U.S. EPA Office of Research and Development

Panel: Total Organic Fluorine

- Mei Sun, Ph.D., University of North Carolina at Charlotte
- Susan Richardson, Ph.D., University of South Carolina
- Bob Symons, Ph.D., Eurofins Australia

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TECHNICAL AGENDA – Wednesday, September 16

KEYNOTE SESSION

8:00 am – 9:00 am ET

Welcome

Ian MacGregor, Battelle, Conference Co-Chair

U.S. EPA's Science-Based Approach to Understanding and Managing Environmental Risk from PFAS

Andrew J. R. Gillespie, Ph.D., Associate Director, U.S. EPA Center for Environmental Measurement and Modeling

9:00 am – 9:15 am ET

Break

SESSION 4: PFAS IN WATER

Co-Chairs: Brian Mader, Ph.D., 3M, and Mark Strynar, Ph.D., U.S. EPA

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9:15 am – 11:15 am ET

Issues with the Identification and Quantitation of PFAS

Rock Vitale, Environmental Standards

NTA Analysis of PFAS in Water Samples

Mark Strynar, Ph.D., U.S. EPA

Levels of PFAS Present in Groundwater, Drinking Water, and Surface Water

Bharat Chandramouli, Ph.D., SGS Canada

Tackling PFAS Accumulation in Some Drinking Water and Wastewater Treatment Methods

Detlef Knappe, Ph.D., North Carolina State University

Automating the Analysis Process for Water Samples

Lee Ferguson, Ph.D., Duke University Department of Civil and Environmental Engineering

11:15 am – 12:00 pm ET

Break

SESSION 5: PFAS IN SOILS AND BIOSOLIDS

Co-Chairs: John Washington, Ph.D., U.S. EPA, and Elizabeth Denly, TRC

12:00 pm – 2:00 pm ET

PFAS Stability in Soils and Biosolids

Jennifer Guelfo, Ph.D., Texas Tech University Department of Civil, Environmental, and Construction Engineering

PFAS Retention and Leaching in the Vadose Zone

Mark Brusseau, Ph.D., and Bo Guo, Ph.D., University of Arizona

Precursors, Novel and Ultrashort PFAS in Soils and Leachates

Patrick van Hees, Associate Professor, Örebro University and Eurofins Environmental Testing Sweden AB

Observations on Environmental Distribution & Fate of Chloro-perfluoro-polyether-carboxylates

Mary Davis, Ph.D., and Marina Evich, Ph.D., U.S. EPA Office of Research and Development

Review of Models for PFAS & Land Applied Residuals & Biosolids

Derek Sain, National Council for Air and Stream Improvement (NCASI)

2:00 pm - 2:15 pm ET

Break

SESSION 6: PFAS IN LANDFILLS AND LEACHATE

Co-Chairs: Ivan Cooper, CEC, and Johnsie Lang, Ph.D., Arcadis

2:15 pm – 4:15 pm ET

Per- and Polyfluoroalkyl Substances in Landfill Leachates: History of the Science

Johnsie Lang, Ph.D., Arcadis G&M of North Carolina

Characterization and Quantification of Per- and Polyfluoroalkyl Substances in Landfill Gas and Estimate of Emissions from US Landfills

Florentino de la Cruz, Ph.D., North Carolina State University Department of Civil, Construction, and Environmental Engineering

PFAS Lifecycle in Solid Waste Landfills

Arie Kremen, Ph.D., TetraTech

PFAS Sources and Sequestration at Landfills

Stephen Zemba, Ph.D., P.E., Sanborn, Head & Associates, Inc.

Innovative Treatment Technologies for Landfill Leachate

Bryan Staley, Ph.D., and Stephanie Bolyard, Ph.D., Environmental Research & Education Foundation

4:30 pm – 5:30 pm ET

Virtual Networking Social

Join conference attendees and presenters for virtual networking to connect online and discuss conference topics through Zoom breakout rooms: Measurement Methods, Health Effects, Multimedia Aspects, State and Federal Policy/Guidance, and Treatment Technologies.

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TECHNICAL AGENDA – Thursday, September 17

SESSION 7: PFAS IN AIR

Chairs: Jeff Ryan, U.S. EPA; Matt Traister, Ramboll; and Ian MacGregor, Battelle

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8:00 am – 10:00 am ET

Introduction to PFAS in the Atmosphere

Tom Harner, Ph.D., Environment and Climate Change Canada

Temporal Trends of Airborne PFAS in the Arctic and the Great Lakes

Hayley Hung, Ph.D., Environment and Climate Change Canada

Source Characterization of PFAS Air Emissions at Chemours in Fayetteville, NC

Gary L. Saunders, North Carolina Department of Environmental Quality, Division of Air Quality

Characterizing the Atmospheric Transport and Deposition of PFAS Emissions from a Manufacturer near Fayetteville, NC

Emma D'Ambro, Ph.D., U.S. EPA

Case Study: Multimedia Fate and Transport Study of PFAS Emissions from a Coating Operation in the Northeastern U.S.

Matt Traister, P.E., Ramboll

10:00 am - 10:15 am ET

Break

SESSION 8: PFAS TREATMENT METHODS

Co-Chairs: Bill Diguseppi, Jacobs, and Marc Mills, Ph.D., U.S. EPA

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10:15 am – 12:15 pm ET

Operational Lessons Learned from Field Implementation of Pilot Testing Unit for GAC and IX Treatment

Victor Medina, Ph.D., U.S. Army Engineer Research & Development Center

Field Demonstration of a Pilot-Scale Plasma Reactor for the Rapid Removal of Poly- and Perfluoroalkyl Substances (PFAS) in Groundwater

Selma Mededovic Thagard, Ph.D., Clarkson University Department of Chemical and Biomolecular Engineering

Sequestration Through Injected Sorbants

Matt Simcik, Ph.D., University of Minnesota School of Public Health

PFAS-Impacted Soil: Remedial Action Objectives (RAOs) and Remedial Technologies

Hunter Anderson, Ph.D., U.S. Air Force Civil Engineer Center

Thermal Destruction: State of the Industry, What We Know, and What We Need to Know

Bob Buck, Ph.D., The Chemours Company FC, LLC

12:15 pm - 1:00 pm ET

Break

SESSION 9: PFAS IN THE FEDERAL SPECTRUM

Co-Chairs: Cal Baier-Anderson, Ph.D., U.S. EPA, and Mike Galbraith, U.S. EPA

1:00 pm – 3:00 pm ET

Overview of SERDP & ESTCP Research on PFAS in the Environment

Andrea Leeson, Ph.D., SERDP & ESTCP

PFAS: Evidence from Field Metadata

Hunter Anderson, Ph.D., U.S. Air Force Civil Engineer Center

PFAS Innovative Treatment Team (PITT)

Chelsea Berg, U.S. EPA PFAS Innovative Treatment Team (PITT)

The Toxics Release Inventory and PFAS on the TRI

Dave Turk, U.S. EPA Toxics Release Inventory (TRI) Program

Knowledge Gaps: Health Effects and Exposure/Remediation

Suzanne Fenton, Ph.D., National Institute of Environmental Health Sciences (NIEHS)

3:00 pm - 3:15 pm ET

Break

SESSION 10: PFAS STATE ACTIVITIES PANEL

Co-Chairs: Michael Pjetraj, North Carolina Department of Environment and Natural Resources, and Matt Traister, Ramboll

3:15 pm – 5:15 pm ET

Speakers from states dealing with major issues, including New Hampshire, New Mexico, and North Carolina, will discuss PFAS through the lens of their respective states.

Panelists:

- Catherine Beahm, New Hampshire Department of Environmental Services
- Mike Abraczinskas, North Carolina Department of Environmental Quality, Division of Air Quality
- Michael Scott, North Carolina Department of Environmental Quality, Division of Waste Management
- Stephanie Stringer, New Mexico Environmental Department

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Battelle is leading new discoveries that will help assess, destroy or degrade PFAS. We have a specific mission to bring scientific solutions to government and industry for the benefit of society and have a robust internal research and development program that is focused on solving today's environmental challenges. www.battelle.org



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