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PUBLIC HEALTH AND WATER CONFERENCE

WASTEWATER DISEASE SURVEILLANCE SUMMIT

CONFERENCE PROGRAM

SUMMIT
March 21

CONFERENCE
March 22-24

EXHIBITION
March 22-23

2022



In support of:

NATIONAL™
WASTEWATER
SURVEILLANCE
SYSTEM





**Public Health and Water Conference
&
Wastewater Disease Surveillance Summit**

March 21-23
Live-Stream Program
Duke Energy Convention Center
Cincinnati, Ohio

#WEFPublicHealth

In support of:



**NATIONAL™
WASTEWATER
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This conference is organized by the Water Environment Federation in cooperation with the US Centers for Disease Control, and the Ohio Water Environment Association.

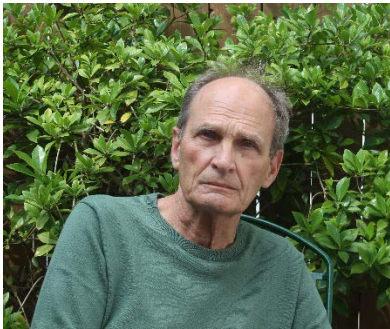
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The Water Environment Federation offers many ways to get engaged, build a network, and improve your skills as a water professional. See below for just a few examples.

Become a WEF Member

WEF is your access to water knowledge and invaluable networking opportunities with more than 30,000 professionals and thought leaders in water quality. For more information about membership categories, pricing, and member benefits, visit www.wef.org/membership/join-wef.

Join a WEF Committee

More than 2,500 WEF members participate in WEF committee activities, developing conference programs, writing technical manuals and books, developing training materials and program content, and many other WEF program activities. Committees include Disinfection and Public Health, Laboratory Practices, Public Communications and Outreach, and more! To learn more about joining a committee, visit www.wef.org/committees. WEF membership is required to participate.

Submit to Water Environment Research

Published since 1928, Water Environment Research (WER) is an international multidisciplinary water resource management journal for the dissemination of fundamental and applied research in all scientific and technical areas related to water quality and resource recovery. In addition to original research articles, short communications, case studies, reviews, and perspectives are encouraged.

Continue your Education Online

In addition to in-person conferences, WEF also offers a variety of technical and leadership courses online. Through the WEF Learning Center, members and non-members can sign up to join webcasts, online courses, and virtual workshops. Visit <https://learn.wef.org> for more information. In addition, WEF also offers a blending learning program called the Water Leadership Institute which brings together water professionals from around the US, Canada, and world. Learn more at www.wef.org/wli.

Attend WEFTEC

WEFTEC is WEF's largest and most comprehensive conference, featuring dozens of technical sessions, a massive exhibit hall, and plenty of networking opportunities. WEFTEC 2022 will be held October 8-12, 2022 in New Orleans, Louisiana. More information can be found at www.weftec.org.

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WASTEWATER DISEASE SURVEILLANCE SUMMIT

(Additional registration required)

Monday, March 21, 2022

Room: West 263

8:30 a.m. - 5:00 p.m.

6 PDHs

- 8:30 a.m. Implementation of the National Wastewater Surveillance System**
Amy Kirby, Centers for Disease Control and Prevention
- 8:50 a.m. Compendium of U.S. Wastewater Surveillance to Support COVID-19 Public Health Response**
Smiti Nepal; Kathryn Kazior; Sally Gutierrez, United States Environmental Protection Agency
- 9:10 a.m. Utilities Community of Practice**
Naoko Munakata, LACSD
- 9:20 a.m. Laboratories Community of Practice**
Sarah Wright, APHL
- 9:30 a.m. Executive Summary of Testing Methods**
Scott Jackson, NIST
- 9:50 a.m. Q&A for Status of Wastewater Surveillance in the US**
- 10:00 a.m. Coffee Break**
- 10:30 a.m. Intro to Clinical Forecasting**
- 10:35 a.m. Enumerating Asymptomatic COVID-19 Cases and Estimating SARS-Cov-2 Fecal Shedding Rates Via Wastewater-Based Epidemiology**
Bradley Schmitz, University of Arizona; Gabriel Innes, Rutgers University; Sarah Prasek, Walter Betancourt, Erika Stark, Aidan Foster, University of Arizona; Alison Abraham, University of Colorado Anschutz Medical Campus; Charles Gerba, Ian Pepper, University of Arizona
- 10:55 a.m. Clinical Testing Underestimates COVID-19 Incidence and Variant Prevalence: Insights from Wastewater Surveillance in Southern Nevada**
Katerina Papp, Daniel Gerrity, Southern Nevada Water Authority

Summit agenda continues on the following page

WASTEWATER DISEASE SURVEILLANCE SUMMIT

(Additional registration required)

Monday, March 21, 2022
8:30 a.m. - 5:00 p.m.

Room: West 263
6 PDHs

Summit agenda continued from previous page

- 11:15 a.m.** **Correlation between SARS-CoV-2 Concentration in Wastewater and COVID-19 Case Incidences in Six California National Wastewater Surveillance System (NWSS) Sewersheds**
Angela Rabe, Sindhu Ravuri, Seema Jain, Tomas Leon, Duc Vugia, Alexander Yu, California Department of Public Health
- 11:35 a.m.** **Estimating the Number of Infections Using Wastewater Surveillance Data**
Ali Zarei-Baygi, John Sheets, Greta Zornes, CDM Smith
- 12:00 p.m.** **Break for Lunch on Own**
- 1:30 p.m.** **Intro to Variant Tracking in Wastewater**
- 1:35 p.m.** **SARS-CoV-2 Variant Tracking in Ohio Wastewater**
Nichole Brinkman, US EPA
- 1:55 p.m.** **Wastewater Surveillance of SARS-CoV-2 and Quantitative Analysis of the Alpha Variant in Ohio**
Chloe Hart, Maitreyi Nagarkar, Scott Keely, Nichole Brinkman, USEPA
- 2:15 p.m.** **COVID-19 and Variants in a College Community Wastewater**
Nishita D'Souza, Matthew Flood, Rebecca Ives, Samantha Carbonell, Ryan Julien, Jade Mitchell, Michigan State University; Linda Vail, Ingham County Health Department; Joan Rose, Michigan State University
- 2:35 p.m.** **NWSS Approach to Variant Tracking**
Rory Welsch, Centers for Disease Control and Prevention
- 3:00 p.m.** **Break**

Summit agenda continues on the following page

WASTEWATER DISEASE SURVEILLANCE SUMMIT

(Additional registration required)

Monday, March 21, 2022
8:30 a.m. - 5:00 p.m.

Room: West 263
6 PDHs

Summit agenda continued from previous page

- 3:30 p.m.** **What's next for NWSS?**
Amey Kirby, Centers for Disease Control and Prevention
- 3:45 p.m.** **Wastewater-based epidemiology (WBE) as a Public Health Tool for Characterizing Opioid and Other Drug Use: Pilot-Studies from Three Communities in the United States**
Clifton Dassuncao, Rebecca Devries, Eastern Research Group, Inc.; Cindy Hu, Aparna Keshaviah, Mathematica; Todd Miller, University of Wisconsin- Milwaukee
- 4:05 p.m.** **Where Next? Wastewater-Based Epidemiology as a Tool for Antimicrobial Resistant Pathogen Surveillance**
Helena Steeves, Jordan Schmidt, LuminUltra; Bradley Brown, Jennifer Hill, Kerri Cabrera, ChromaCode, Inc.
- 4:25 p.m.** **Wastewater Surveillance for Tracking Markers of Population Health**
Rolf Halden, Arizona State University
- 4:45 p.m.** **Panel Discussion**
- 5:00 p.m.** **Summit Adjourns**

OPENING GENERAL SESSION

Tuesday, March 22, 2022

Room: West 263

8:30 a.m. – 10:00 a.m.

1.5 GCH

- 8:30 a.m. WEF Public Health and Water Conference Chairs Welcome**
Kari Brisolara, Louisiana State University
Maya Carrasquillo, University of California, Berkeley
Lee Gary, Tulane University
Andrew Sanderson, Water Environment Federation
- 8:35 a.m. WEF Welcome**
Shellie Chard, WEF Board of Trustees, Oklahoma Department
of Environmental Quality
- 8:40 a.m. OWEA Welcome**
Jason Tincu, Greene County Ohio
- 8:45 a.m. Welcome, EPA Lab and Research Legacy**
Gregory Sayles, Center for Environmental Solutions and
Emergency Response
- 8:55 a.m. National Perspectives on Health and Water**
Amy Kirby, Centers for Disease Control and Prevention
- 9:20 a.m. Overview of Ohio's Wastewater Surveillance Program**
Rebecca Fugett, ODOH
- 9:40 a.m. Bridging the Gap between Wastewater Surveillance and
the Department of Health**
Richard Harrison, Ohio River Valley Water Sanitation
Commission
- 9:55 a.m. Rapid Wastewater SARS-CoV-2 Testing Challenge Winner
Announcement and Closing Remarks**
Anna Mehrotra, Water Environment Federation
- 10:00 a.m. Session Adjourns**

TECHNICAL SESSIONS

**Session 02: Lessons on Lead from the Frontlines in Flint: A
Community-led Perspective**

**Tuesday, March 22, 2022
10:45 a.m. - 11:45 a.m.**

**Room: West 263
1 PDH**

Moderators: Emily Simonson, US Water Alliance; Andrew Sanderson, Water Environment Federation

The work of students and community leaders running the Flint Community Water Lab is a model for how utilities and water quality professionals can improve trust and engagement with communities most impacted by lead in water. These lessons implicate multiple workstreams at a typical utility: workforce development, public engagement as distinct from communications, accountability and system governance, and water quality monitoring. This session will feature a case study on this work and also discuss the future of the Lead and Copper Rule and its implications for water equity and water professionals.

10:45 a.m. Welcome and Context
Dr. Andrew Sanderson, Chief Medical Officer, Water Environment Federation

10:55 a.m. The Flint Water Crisis and the Flint Community Water Lab
Michael Harris, Partner, Flint Development Group; Makayla Watson, Principal Chemist, McKenzie Patrice Croom Flint Community Water Lab

Panel Introductions and Q&A
Emily Simonson, Director of Strategic Initiatives, US Water Alliance

11:30 a.m. BIL Opportunities and Updates on the Lead and Copper Rule
Emily Simonson, Director of Strategic Initiatives, US Water Alliance

11:45 a.m. Session Adjourns

TECHNICAL SESSIONS

Session 03: Standards for Wastewater Surveillance

Tuesday, March 22, 2022

1:30 p.m. - 3:00 p.m.

Room: West 263

1.5 PDHs

Moderator: Ishi Keenum, National Institute of Standards and Technology

1:30 p.m. Opening Remarks

Philip Mattson, US Department of Homeland Security, Science and Technology Directorate

1:35 p.m. Overview and Findings of the Standards for Wastewater Surveillance (SWWS) Workshop

Nancy J. Lin, Scott Jackson, Katrice Lippa, Paulina Piotrowski, Stephanie Servetas, National Institute of Standards and Technology; Phil Mattson, US Department of Homeland Security, Science and Technology Directorate

1:53 p.m. Standards for Pathogen Detection and Environmental Surveillance at NIST

Jason Kralj, Stephanie Servetas, Samuel Forry, Monique Hunter, Blaza Toman, Scott Jackson, National Institute of Standards and Technology; Dieter Tourlousse, National Institute of Advanced Industrial Science, Japan

2:11 p.m. Development and Performance Assessment of NIST SRM® 2917

Orin C. Shanks, Jessica Willis, Mano Sivaganesan, U.S. Environmental Protection Agency, Office of Research and Development; Jason Kralj, Stephanie Servetas, Monique E. Hunter, Scott Jackson, National Institute of Standards and Technology; Interlaboratory Consortium

2:30 p.m. Panel Discussion

Speakers: Jason Kralj, NIST; Orin Shanks, EPA; Bradley Schmitz, University of Arizona; Rehka Singh, Virginia Dept. of Health

3:00 p.m. Session Adjourns

TECHNICAL SESSIONS

Session 06: Climate Will Change the Game: Threats to Public Health & the Water Sector's Role in Solutions

Tuesday, March 22, 2022

Room: West 263

3:45 p.m. - 4:45 p.m.

1 PDH

Moderators: Lola Olabode, Water Research Foundation; and Katie Bollmer, Jacobs

3:45 p.m. Responding to Change: Innovative Operational Controls to Prevent Sewer Basement Backups

John Barton, Metropolitan Sewer District of Greater Cincinnati

4:05 p.m. Implementing Decentralization as Part of Climate Adaptive Water Systems

Jay Garland, US EPA

4:25 p.m. Water Quality Impacts to Recreational Marine Waters Following the 2018 Woolsey Fire

Christine Lee, NASA Jet Propulsion Laboratory

4:45 p.m. Session Adjourns

TECHNICAL SESSIONS

**Session 08: Legal, Ethics, Privacy and Environmental Justice Issues
Related to Wastewater Surveillance for Public Health
Protection**

Wednesday, March 23, 2022

Room: West 263

8:30 a.m. - 10:00 a.m.

1.5 PDHs

Moderator: Sally Gutierrez, USEPA

8:30 a.m. Session introduction
Sally Gutierrez, USEPA ORD

**8:35 a.m. Overview of the World Health Organization “Guidelines on
Ethical Issues in Public Health Surveillance and the
Canadian Water Network Ethics and Communications
Guidance for Wastewater Surveillance to Inform Public
Health Decision-making About COVID-19**
Sally Gutierrez, USEPA ORD

**8:50 a.m. Lessons Learned in Implementing Wastewater
Surveillance in Underserved Communities as Summarized
in the USEPA Wastewater Surveillance Compendium**
Smiti Nepal, USEPA Office of Water, Office of Wastewater
Management, Water Infrastructure Division

**9:00 a.m. Building Community Trust for Wastewater Surveillance,
Experience from Tempe, Arizona**
Rosa Inchausti, City of Tempe, Arizona

**9:25 a.m. U.S. Federal Clean Water Act Authorities Relevant to
Wastewater Surveillance**
Simma Kupchan, USEPA Office of General Counsel, Water
Law Office

9:50 a.m. General questions and discussion – All speakers

10:00 a.m. Session Adjourns for Networking Break

TECHNICAL SESSIONS

Session 09: Localized Case Studies

Wednesday, March 23, 2022

10:45 a.m. - 11:45 a.m.

Room: West 263

1 PDH

Moderators: Anna Mehrotra, Water Environment Federation; Lee Gary, Tulane University

10:45 a.m. Wastewater Disease Surveillance in Distinct Urban Sewershed Scales, Louisville, KY

Rochelle Holm, Anish Mukherjee, Jayesh Rai, Ray Yeager, University of Louisville; Daymond Talley, Louisville & Jefferson County MSD; Shesh Rai, Aruni Bhatnagar, Ted Smith, University of Louisville

11:05 a.m. COVID-19 Containment on a College Campus Via Wastewater-Based Epidemiology, Targeted Clinical Testing and an Intervention

Walter Betancourt, Bradley Schmitz, University of Arizona; Gabriel Innes, Rutgers University; Sarah Prasek, Kristen Pogreba Brown, Erika Stark, Aidan Foster, Ryan Sprissler, David Harris, University of Arizona; Samendra Sherchan, Tulane University; Ian Pepper, Charles Gerba, University of Arizona

11:25 a.m. Early Detection And Quicker Response: Highlights and Lessons Learned from COVID-19 Wastewater Surveillance of Congregate Settings in New Mexico

Rebecca Devries, Jessica Gray, Eastern Research Group Inc; Justin Garoutte, New Mexico Environment Department; David Freedman, Clemson University; Anda Quintero, LuminUltra Technologies

11:45 a.m. Session Adjourns

Alternate Wastewater Surveillance to Support Public Health Response: COVID-19 Case Studies

John Sheets, Greta Zornes, Ali Zarei-Baygi, CDM Smith

TECHNICAL SESSIONS

**Session 12: Status Update on PFAS Challenges and Opportunities:
Looking Beyond Documented Occurrence**

Wednesday, March 23, 2022

Room: West 263

1:30 p.m. – 4:45 p.m.

2.5 PDHs

Moderators: Andrew Sanderson, Water Environment Federation; Jenny Reina, Jacobs

1:30 p.m. State of the Science on the Health Effects Associated with PFAS exposure
Jason Lambert, US EPA

1:50 p.m. Gaps in Understanding and how to Address PFAS in Rural Communities
Linda Lee, Purdue University

2:10 p.m. Research Updates on PFAS-selective Adsorbents
Mohamed Ibrahim, US EPA

2:30 p.m. PFAS Forensics Approaches Update
Kavita Dasu, Battelle

2:50 p.m. Q&A Session

3:00 p.m. Networking and Coffee Break

3:45 p.m. PFAS Fate and Transport Characteristics in Wastewater
Erica McKenzie, Temple University

4:05 p.m. Interaction of PFAS and Microplastics
Onur Apul, University of Maine System

4:25 p.m. Q&A with All Speakers

4:45 p.m. Session Adjourns

UPCOMING WEF EDUCATION & TRAINING EVENTS

Collection Systems Conference

April 19-22, 2022

Detroit, Michigan

www.wef.org/collectionsystems

Residuals and Biosolids Conference

May 24-27, 2022

Columbus, Ohio

www.wef.org/residualsbiosolids

Innovations in Process Engineering Conference

June 20-23, 2022

Miami, Florida

www.wef.org/processengineering

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