

COLLECTION SYSTEMS

A Virtual Event

#WEFCollections

Collection Systems 2021: A Virtual Event

Technical Program

(Updated February 4, 2021)

**Virtual Event
March 23-25, 2021**

**Pre-Conference Workshop
March 18, 2021**



General Virtual Event Information

The Collection Systems 2021 Virtual Event will be held online on an interactive platform where you'll gain access to eight Technical Sessions as well as a Technology Spotlight, Company Demos and Networking Opportunities. Technical Sessions will be presented in two ways: Live and Simulated-live (or simu-live) to encourage the most interaction and engagement between speakers and registrants.

Live sessions will take you to a Zoom meeting where the speakers and moderators are giving their presentations on screen in real time while you watch. There will be one session each day hosted live on Zoom.

Simu-live sessions will be pre-recorded complete with moderator interaction and questions and the recordings will be played for you at a certain time and date during the virtual event. Speakers will be present at that time to answer any questions asked by our audience live via chat.

Pre-Conference Workshop – Thursday, March 18, 2021

Smart Flow Monitoring and Data Analytics to Drive Effective Sewer System Management Thursday, March 18, 2021, 12:00 PM - 3:30 PM Eastern – Live

(Additional fees apply)

This workshop is intended to offer participants an opportunity to learn about or expand your knowledge of advancements in flow monitoring and data analytics to support effective management of wastewater collection systems and continuous digital transformation. This workshop will be hosted via Zoom and include a diverse group of speakers and interactive break-out groups.

- 11:00 AM** Welcome and Prelude: Flow Monitoring and Data Analytics – Past, Present and Future
Sriniv Vallabhaneni, Kansas City Water, MO
- 11:20 AM** Interactive Session #1:
Topic: What are your prevailing practices for flow monitoring and data analytics?
- 11:40 AM** Case Study 1
James Kauffman, Metropolitan St. Louis Sewer District, MO
- 12:10 PM** Break
- 12:25 PM** Technology Forum - Prevailing technologies/practices/trends
Kevin Enfinger, ADS; Jim Caruso, Hach; Rick Dey, Teledyne
- 1:25 PM** Interactive Session #2: Small Group Exercise
Topic: Frame future of smart sewer sensor networks and data analytics to drive effective sewer systems management and digital transformation
- 1:50 PM** Case Study 2
Tracey Heidersbach, East Bay Municipal Utility District, CA
- 2:20 PM** Closing Thoughts from Panelists
- 2:30 PM** Workshop adjourns

Please Note: this workshop will not be recorded, so make sure you can join live before you register.

Virtual Event – Tuesday, March 23, 2021

Session 01: Innovation

Tuesday, March 23, 2021, 11:00 AM - 12:00 PM Eastern – Live

Moderators: Walter Graf, Water Research Foundation; Priya Persaud, Region of Peel

11:00 AM **Houston's Effective Approach in Tracking and Preventing SSOs using Web-based Dynamic GIS and Power BI.**
Fazle Rabbi, City of Houston, Aby Varghese, City of Houston, PWE

11:20 AM **Turbocharged Engines of Three Resilient Collection Systems**
Josh Grimes, SmartCover; Annette Duron, San Antonio Water System; Paris Neofotosis, SmartCover; Lloyd Juarez, City of San Marcos; Darryl Westbrook, City of Arlington

11:40 AM **Implementation of Model Predictive Control for the Sewer System in Kolding, Denmark**
Nikolaj Molbye, Kruger; Camilla Ravn, BlueKolding; Mark Drake, Veolia Water Technologies, Inc.; Thomas Faarbaek, BlueKolding; Laurent Monier, Veolia

Session 02: Flooding Dynamics

Tuesday, March 23, 2021, 1:00 PM - 2:00 PM Eastern –Simu-Live

Moderators: Kevin Vander Tuig, Wade Trim; Walter Graf, Water Research Foundation

1:00 PM **Rising Lake Michigan Water Level Leads to 70 MGD Emergency Pump Station**
Allen Williams, Donohue & Associates

1:20 PM **Adapting Collection System Infrastructure to Changing Flood Vulnerabilities - Southeastern Massachusetts Case Studies**
Anastasia Rudenko, Marc Drainville, GHD

1:40 PM **How a Great Lakes Community is Using Radar Rainfall to Help Reduce Overflows and Basement Flooding**
Baxter Vieux, Vieux & Associates Inc; Michael Faye, Region of Peel

Session 03: Rehabilitation

Tuesday, March 23, 2021, 3:00 PM - 4:00 PM Eastern –Simu-Live

Moderators: Scott Aurit, HDR Inc.; Kristi Steiner, Jacobs

3:00 PM **In-Place Emergency Rehabilitation of Northwest Interceptor In Urban Conditions**
Mini Panicker, GLWA; Fritz Klinger, FK Engineering Associates

3:20 PM **CIPP in Paradise — Large Diameter Gravity Interceptor Sewer Rehabilitation by lining with UV Cured-in-Place Pipe**
Kenneth Rekdahl; Michael Burgett, Gresham Smith; Ronald Abraham; Amanda Dobbs, Gresham Smith; Ken Stewart

3:40 PM **Pipe Inside the Fence: Assessing and Remediating 60+ Year Old Critical Plant Piping**
Daniel Rodriguez, Black & Veatch

Virtual Event – Wednesday, March 24, 2021

Session 04: Planning

Wednesday, March 24, 2021, 11:00 AM - 12:00 PM Eastern –Simu-Live

Moderators: Dianne Sumego, DMS Water Solutions; Karyn Stickel, HRC

- 11:00 AM** **Modern Master Planning in South Florida: Resilience and Condition Assessment Considerations for Regional Wastewater Transmission**
Christopher Ranck, Black & Veatch; Jeremy Seiden, Broward County Water and Wastewater Services; Amanda Schwerman, Brian Ball, Amanda Zarazua, Black & Veatch
- 11:20 AM** **ReNewark: How Newark's Sewer Project Revitalized a Community**
Tim Schutz, Hazen and Sawyer
- 11:40 AM** **Design Considerations and Deep Tunnel Construction on the Reedy River Basin Sewer Tunnel Project in Greenville, SC**
Jason Gillespie, Renewable Water Resources; Stephen O'Connell, Horry Parker, Black & Veatch

Session 05: Asset Management

Wednesday, March 24, 2021, 1:00 PM - 2:00 PM Eastern –Simu-Live

Moderators: Karyn Stickel, HRC; Peter Garvey, Dewberry

- 1:00 PM** **Don't Give Up When Things Get Tough to Perform Your Critical Force Main Inspections**
Celine Hyer, Arcadis US; Harrison Steed
- 1:20 PM** **Enhanced Monitoring and Infrastructure Management of Sewers and Anaerobic Biodigesters Using Innovative Fiber Optic-Based Sensor Systems**
Kenneth Grattan, Matthias Fabian, Tong Sun, City, University of London; Heriberto Bustamante, Sydney Water; Louisa Vorreiter; Bruno Rente, City, University of London
- 1:40 PM** **Reducing the Formation and Surface Adhesion of Fat, Oil, and Grease (FOG) Deposits to Enhance the Collection System Wastewater Conveyances**
Samrin Kusum, Mohammad Pour-Ghaz, Joel Ducoste, North Carolina State University

Wednesday, March 24 schedule cont. on next page

Virtual Event – Wednesday, March 24, 2021

Wednesday, March 24 schedule cont. from previous page

Session 06: Wet Weather Issues

Wednesday, March 24, 2021, 3:00 PM - 4:00 PM Eastern – Live

Moderators: Dan Murray, EPA; Greg Heath, AECOM

3:00 PM **SSO Consenting and Design Storm Selection Based on Continuous Simulation of 25-Year Historical Rainfall**

Joel Wilson, Andrew Rickert, WCS Engineering; Bridget O'Brien, Tyler McMillan, Christchurch City Council

3:20 PM **Assessing Climate Change's Impact on the Size of CSO Facilities in King County (WA)**

Robert Swarner, Bruce Crawford, Elizabeth Clark, Homero Flores, Brian Phillips, King County

3:40 PM **Jefferson County's Story of Applying Asset Management Principles to Optimize its O&M Program and Achieve Significant SSO Reduction**

John Evans, Blue Cypress Consulting; David Denard, Jefferson County; Daniel White, Jefferson County Commission

Virtual Event – Thursday, March 25, 2021

Session 07: Infiltration & Inflow

Thursday, March 25, 2021, 11:00 AM - 12:00 PM Eastern –Simu-Live

Moderators: Peter Garvey, Dewberry; Dianne Sumego, DMS Water Solutions

11:00 AM **Modeling Rainfall Runoff Responses with Antecedent Moisture Effects**

Robert Czachorski, OHM Advisors

11:20 AM **Investigating I/I into a Collection System with a Network of 87 Pump Stations Using SCADA Data**

Cameron Marra, Stantec; Patrick Flynn, Stantec

11:40 AM **Addressing Spokane's Wet Weather Challenges with Real-Time Controls**

Beryl Fredrickson, City of Spokane; Santtu Winter, Jacobs; Marcia Davis, City of Spokane

Session 08: Data & Analytics

Thursday, March 25, 2021, 1:00 PM - 2:00 PM Eastern – Live

Moderators: Diane Grossenheider, Black & Veatch; Jennifer Welsch, Metropolitan St. Louis Water District

1:00 PM **Real-time Assessment of the GLWA's Regional Operating Plan Using Digital Twin Technology**

Greg McGrath, Zachary Eichenwald, CDM Smith; Joe Burchi, Betty Thomas, Biren Saparia, Sherri Gee, Great Lakes Water Authority

1:20 PM **Holistic Wet Weather Management Combining Machine Learning, Treatment Plant Optimization, and Predicting Collection System Influent Flow Hydrographs**

Erika Bailey; Katya Bilyk, Hazen and Sawyer

1:40 PM **Best Practice of Intelligent Algorithms to Optimize and Prioritize Capital Investments and Asset Rehabilitation for Jefferson County, AL**

Sasa Tomic, Joel Wilson, David Garcia, WCS Engineering; Stephen King, Hazen and Sawyer; Daniel White, Jefferson County



Education
& Training
Events

#WEFCollections

COLLECTION SYSTEMS 2021

A Virtual Event

Conference: MARCH 23–25

Pre-Conference Workshop: MARCH 18

www.wef.org/CollectionSystems

This conference is held by the Water Environment Federation in cooperation with the Michigan Water Environment Association.





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Thursday, March 18

12:00pm – 3:30pm

Smart Flow Monitoring and Data Analytics to Drive Effective Sewer System Management

PRE-CONFERENCE WORKSHOP	Member	Nonmember
	\$79	\$99

Credits: 0.3 CEUs

Participants in this workshop will expand their knowledge of advancements in flow monitoring and data analytics to support effective management of wastewater collection systems and continuous digital transformation.

This live workshop will be hosted via Zoom and will consist of three presentations, a case study, an interactive technology panel, and a small group exercise/breakout session with reporting.

Workshop registrants will receive access to information and instructions no later than Wednesday, March 17, 2021 (within 24 hours of the Workshop).

(100 Attendee Limit)

Note: All Collection Systems registration fees are non-refundable and non-transferable. This applies to all virtual events.

SCHEDULE-AT-A-GLANCE

DAY 1 Tuesday, March 23

SESSION 01: INNOVATION

11:00am – 12:00pm ET

PRESENTATION 1	Houston's Effective Approach in Tracking and Preventing SSOs using Web-based Dynamic GIS and Power BI Speaker: Fazole Rabbi, City of Houston, PWE
PRESENTATION 2	Turbocharged Engines of Three Resilient Collection Systems Speaker: Paris Neofotosis, SmartCover
PRESENTATION 3	Implementation of model predictive control for the sewer system in Kolding, Denmark Speaker: Mark Drake, Veolia Water Technologies, Inc.

SESSION 02: FLOODING DYNAMICS

1:00pm – 2:00pm ET

PRESENTATION 1	Rising Lake Michigan Water Level Leads to 70 MGD Emergency Pump Station Speaker: Allen Williams, Donohue & Associates
PRESENTATION 2	Adapting Collection System Infrastructure to Changing Flood Vulnerabilities - Southeastern Massachusetts Case Studies Speaker: Anastasia Rudenko, GHD
PRESENTATION 3	How a Great Lakes community is using radar rainfall to help reduce overflows and basement flooding Speaker: Baxter Vieux, Vieux & Associates Inc

SESSION 03: REHABILITATION

3:00pm – 4:00pm ET

PRESENTATION 1	In-Place Emergency Rehabilitation of Northwest Interceptor in Urban Conditions Speaker: Mini Panicker, GLWA
PRESENTATION 2	CIPP in Paradise - Large Diameter Gravity Interceptor Sewer Rehabilitation by lining with UV Cured-in-Place Pipe Speaker: Michael Burgett, Gresham Smith
PRESENTATION 3	Pipe Inside the Fence: Assessing and Remediating 60+ Year Old Critical Plant Piping Speaker: Daniel Rodriguez, Black & Veatch

SCHEDULE-AT-A-GLANCE

DAY 2 Wednesday, March 24

SESSION 04: PLANNING

11:00am – 12:00pm ET

PRESENTATION 1	Modern Master Planning in South Florida: Resilience and Condition Assessment Considerations for Regional Wastewater Transmission Speaker: Christopher Ranck, Black & Veatch
PRESENTATION 2	ReNewark: How Newark's Sewer Project Revitalized a Community Speaker: Tim Schutz, Hazen and Sawyer
PRESENTATION 3	Design Considerations and Deep Tunnel Construction on the Reedy River Basin Sewer Tunnel Project in Greenville, SC Speaker: Jason Gillespie, Renewable Water Resources

SESSION 05: ASSET MANAGEMENT

1:00pm – 2:00pm ET

PRESENTATION 1	Don't give up when things get tough to perform your critical force main inspections Speaker: Celine Hyer, Arcadis US
PRESENTATION 2	Enhanced monitoring and infrastructure management of sewers and anaerobic biodigesters using innovative fiber optic-based sensor systems Speaker: Kenneth Grattan, City, University of London
PRESENTATION 3	Reducing the Formation and Surface Adhesion of Fat, Oil, and Grease (FOG) Deposits to Enhance the Collection System Wastewater Conveyances Speaker: Samrin Kusum, North Carolina State University

SESSION 06: WET WEATHER ISSUES

3:00pm – 4:00pm ET

PRESENTATION 1	SSO Consenting and Design Storm Selection Based on Continuous Simulation of 25-year Historical Rainfall Speaker: Joel Wilson, WCS Engineering
PRESENTATION 2	Assessing Climate Change's Impact on the Size of CSO Facilities in King County (WA) Speaker: Robert Swarner, King County Wastewater Treatment Division
PRESENTATION 3	Jefferson County's Story of Applying Asset Management Principles to Optimize its O&M Program and Achieve Significant SSO Reduction Speaker: John Evans, Blue Cypress Consulting

SCHEDULE-AT-A-GLANCE

DAY 3 Thursday, March 25

SESSION 07: INFILTRATION & INFLOW 11:00am – 12:00pm ET

PRESENTATION 1	Modeling Rainfall Runoff Responses with Antecedent Moisture Effects Speaker: Robert Czachorski, OHM Advisors
PRESENTATION 2	Investigating I/I into a Collection System with a Network of 87 Pump Stations Using SCADA Data Speaker: Patrick Flynn, Stantec
PRESENTATION 3	Addressing Spokane's Wet Weather Challenges with Real Time Controls Speaker: Santtu Winter, Jacobs

SESSION 08: DATA & ANALYTICS 1:00pm – 2:00pm

PRESENTATION 1	Real-time Assessment of the GLWA's Regional Operating Plan Using Digital Twin Technology Speaker: Zachary Eichenwald, CDM Smith
PRESENTATION 2	Holistic Wet Weather Management Combining Machine Learning, Treatment Plant Optimization, and Predicting Collection System Influent Flow Hydrographs Speaker: Katya Bilyk, Hazen and Sawyer
PRESENTATION 3	Best Practice of Intelligent Algorithms to Optimize and Prioritize Capital Investments and Asset Rehabilitation for Jefferson County, AL Speaker: David Garcia, WCS Engineering

The program was developed with live programming built into each day, so that you can ask the speaker any question during the live sessions. It will also include networking sessions enabling attendees to get to know each other better.

Recordings from the live sessions will be available for viewing, up to three months after the conference date.

Don't miss the Company Demos to learn about the latest technologies from CentralSquare Technologies, Teledyne Isco, and Vaughan Company. Learn more at www.wef.org/CollectionSystems

REGISTRATION FEES

REGISTRATION CATEGORY	Rates Before: March 5, 2021 (Super Saver Rate)		Rates After: March 5, 2021	
	Member	Nonmember	Member	Nonmember
Full Conference	\$99	\$129	\$199	\$229
Student	\$0	\$49	\$0	\$49

OPTIONAL EVENTS	Member	Nonmember
Pre-Conference Workshop	\$79	\$99

Note: All Collection Systems registration fees are non-refundable and non-transferable. This applies to all virtual events.

CONTINUING EDUCATION CREDITS

0.3 CEUs | 9 PDHs

Attendees may earn Continuing Education Units (CEUs) for participation in pre-conference workshops and Professional Development Hours (PDHs) for the virtual technical sessions.

Please note: Credit totals are subject to change. Conference Participants are responsible for exploring their state requirements to confirm these educational credits are recognized.

PDH credits are available for Workshops to Professional Engineers licensed in many states including New York.

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