



# Water/Wastewater and Automatic Controls

**Symposium2018**

Hyatt Regency Bethesda, Bethesda, MD USA

Training: 6–7 August • Conference: 8–9 August

## Conference Program

[www.isawwsymposium.com](http://www.isawwsymposium.com)

**Presented by:**

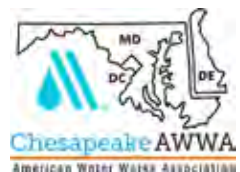


**Water & Wastewater  
Industries**  
Division

**Technical Co-sponsors:**



**Water Environment  
Federation®**  
the water quality people®



**Baltimore/Washington DC  
Section**

Standards

Certification

Education & Training

Publishing

**Conferences & Exhibits**

*Setting the Standard for Automation™*

# The 2018 ISA Water/Wastewater and Automatic Controls Symposium is Presented By:



**Water & Wastewater  
Industries**  
Division

## Download the ISA WWAC Symposium App

ISA has created an app for this year's symposium. The WWAC mobile app features a wide range of interactive features to enhance your event experience. This mobile event technology platform will allow attendees, speakers, exhibitors, and sponsors to navigate the event program and location, communicate and connect with other event participants, gather critical industry supplier information, share attendee experiences compete with fellow attendees for leaderboard statuses, virtual drawings for prizes, AND MUCH MORE!

### How to download the app:

- Download the Socio App on your iPhone or Android
- After the app is installed, you will need to sign up and setup your attendee profile
- Go to the Events Tab and select **Search for an Event**
- **Enter (Search):** 2018 Water/wastewater and Automatic Controls Symposium
- Select **Join Now** and enter the passphrase: **WWAC2018**



# PURE PROTECTION.


## EMERGENCIES ARISE EVERY DAY.

A Cyberattack Shouldn't Be One Of Them.

**Owl Data Diodes Unequivocally Protect Your Network.**

*Learn why the DHS recommends the use of data diodes to protect utilities.*

Watch the Video at [www.owlcyberdefense.com/water](http://www.owlcyberdefense.com/water)



**OWL**  
CYBER DEFENSE

[www.owlcyberdefense.com](http://www.owlcyberdefense.com)

# Welcome Messages

Don Dickinson



## General Symposium Chair

It is my pleasure to welcome you to our 2018 ISA Water/Wastewater and Automatic Controls Symposium. Now in its fifteenth year, we again anticipate record attendance numbers. Thanks to our strong partnerships with the WEF Intelligent Water Technology Committee and the Chesapeake Section of the AWWA, we have tailored this year's conference specifically to the needs of automation professionals in the water and wastewater sectors. I would also like to thank our many sponsors, exhibitors, and committee volunteers for being instrumental to our success this year.

We have a strong program planned this year, with over 30 technical speakers, a keynote address, two invited speakers, and two guest speakers. We also expect to have a packed exhibit hall, a great general reception, and top notch catering lined up. Don't forget to also check out our plant tour and the optional training courses. I look forward to meeting all of you at this year's symposium.

Joe Provenzano



## Program Committee Chair

On behalf of the entire program committee, I would like to formally welcome you to this year's 2018 WWAC Symposium. Our focus is to help professionals in the water and wastewater industries gain a greater understanding of how automatic control applications, utilizing the latest in instrumentation and intelligent controls technology, can be applied to improve both process measurement water and wastewater processing, collection, treatment, and distribution. If you are a Maryland resident, make sure to fill out the paperwork to get your MDE-approved CEUs/PDHs. If you are from out of state, or have an ISA CCST or CAP certification, don't forget to request your ISA training certificate.

Pavol Segedy, PE



## ISA Water/Wastewater Industry Division Director

As director of the ISA water/wastewater division, it is my pleasure to welcome attendees to this year's 2018 WWAC Symposium. At our annual symposium, now in its 15th year, attendees have the opportunity to see over 30 technical presentations, learn from high quality training courses, and browse our exhibit hall. The symposium, along with the division's quarterly newsletter, website, and student scholarship program form part of the key service offers provided by the ISA water/wastewater division to our members and the automation community at large. I look forward to seeing you at this year's symposium!

Barry Liner, Ph.D., P.E.



## WEF Director, Water Science & Engineering Center

On behalf of the Water Environment Federation (WEF), it is with great pleasure that I welcome you to the 2018 ISA Water/Wastewater and Automatic Controls Symposium. We believe that the Symposium has an extraordinary technical program thanks to the efforts the symposium's program and organizing committees. We are pleased to be a technical co-sponsor of this year's symposium, and promoting stronger ties between the ISA and WEF. We also welcome you to attend WEFTEC 2018 this fall in New Orleans, where several of the WWAC symposium presentations will be showcased at a special WEFTEC session along with several other automation presentations. We encourage all members of the water community to participate in both larger vertical-events like WEFTEC and in focused niche events like the ISA WWAC symposium as together they have a lot of offer.

Rachel Ellis



## Executive Director, Chesapeake Section of the AWWA

The Chesapeake Section, American Water Works Association (CSAWWA) is pleased to co-sponsor the 2018 Water / Wastewater and Automatic Control Symposium which will be held at the Hyatt Regency in Bethesda, Maryland from August 6-9, 2018. There are few community water systems today that do not employ some form of automation to distribute, collect, and treat water for their customers. Virtually every operator and engineer in the industry encounters these rapidly evolving technologies, and this three-day symposium will take a deep dive into the current and future of trends in automation. We are applying for continuing education credits for both operators and PE's, so make plans now to join us in August, to learn more about the state of automation for water utilities!

Jennifer Kaberline



## President, Chesapeake WEA

The Chesapeake Water Environment Association (CWEA) is pleased to welcome you to the 2018 ISA WWAC Symposium. As a member association of the Water Environment Federation (WEF), CWEA is committed to providing educational opportunities for our members. Considering the continuous evolution of water resource recovery treatment technologies, stormwater management, and collections systems monitoring, reliance on automation and controls is emerging to the forefront of our industry. The ISA WWAC Symposium provides a valuable educational opportunity for our members to stay up to speed on the latest trends and technologies, and we greatly appreciate the opportunity to participate in the 2018 Symposium.





Have an **idea** for an ISA standard, book, training course, conference topic, or other product or service?

Send it to: **ideas@isa.org**.

## 2018 Symposium Committee

General Symposium Chair ..... Don Dickinson, Phoenix Contact USA  
 Asst. Symposium Chair..... Manoj Yegnaraman PE, CP, CE, Carollo Engineers  
 Program Committee Chair..... Joe Provenzano, KPRO Engineering Services  
 Past Symposium Chair..... Pavol Segedy PE, HDR, Inc  
 WEF, CSAWWA, CWEA Liaison.... Kevin Patel PE, Signature Automation  
 Plant Tour Coordinator ..... Pat Cooke, Trihedral Engineering  
 ISA Staff Coordinator ..... Kimberly Belinsky, ISA

## 2018 Program Committee

Joe Provenzano, KPRO Engineering Services (Chair)  
 Don Dickinson, Phoenix Contact USA  
 Bob Dusza, City of Manchester Water and Sewer Department  
 Carter Farley, InstruLogic, LLC  
 Joshua Gelman PE, CDM Smith  
 Jon Grant, Woodard & Curran, Inc.  
 Jason Hamlin, Lynchburg Regional Wastewater Treatment Plant  
 David Hobart PEng CAP ISA84-SFS, Hobart Automation Engineering  
 Lucas Jordan PE, MR Systems  
 Maxym Lachance PEng, Tetra Tech  
 Paul Lanzillotta, Consultant  
 Paul McGuire PE, North East Ohio Regional Sewer District  
 Tony Morelli PE, Publix Super Markets  
 Graham Nasby PEng, PMP, CAP, City of Guelph  
 Vickie Olson, Honeywell Process Solutions  
 Kevin Patel PE, Signature Automation  
 Matt Phillips, City of Guelph Water Services Dept.  
 Pavol Segedy PE, HDR, Inc  
 David Wilcoxson PE, LEED AP, ENV SP, MWH part of Stantec  
 Manoj Yegnaraman PE, CP, CE, Carollo Engineers

## 2019 Symposium Committee

General Symposium Chair ..... Don Dickinson, Phoenix Contact USA  
 Asst. Symposium Chair..... Manoj Yegnaraman, PE, Carollo Engineers  
 Past Symposium Chair..... Pavol Segedy, PE, HDR, Inc  
 Program Committee Chair..... Joe Provenzano, KPRO Engineering Services  
 ISA Staff Coordinator ..... Kimberly Belinsky, ISA

**Ecostruxure**  
 Innovation At Every Level

# CONNECTED

Is your process data reliable?

No lost data, even when there's a communication failure between the control room and remote site. Our ClearSCADA™ 2017 R2 SCADA platform is fully integrated with SCADAPack™ E Smart RTUs to take advantage of DNP3 protocol's built-in, automatic back-filling of time-stamped data.

Visit the Neal Systems NSI booth at ISA WWAC Symposium August 2018

[schneider-electric.com](http://schneider-electric.com)

Life Is On **Schneider Electric**

©2018 Schneider Electric. All Rights Reserved. Schneider Electric, Life Is On, Schneider Electric, ClearSCADA, Ecostruxure and SCADAPack are trademarks and the property of Schneider Electric SE, its subsidiaries, and affiliated companies. All other trademarks are the property of their respective owners. • M856-654 v01

# VTScada

Software for Monitoring & Control

Replace your software...

...before it bytes the dust.

**VTScada makes it easy.**

- Integrated core SCADA features.
- I/O and historical database conversions.\*
- Supports multiple PLCs and RTUs.
- Upgrade to the latest version at anytime.†

**#DontByteTheDust**

[www.Trihedral.com](http://www.Trihedral.com)

\* Download Engineering Library (ELIB) - VTScada V4.100+ can convert to current. Engineering Library (ELIB) - VTScada V4.100+ can convert your specific brand. † While supporting current.

2018 ENGINEERS' CHOICE AWARDS Honorable Mention

2017 Best Engineering PRODUCT of the YEAR



# WANTED

Realite Technologies Ltd. the developer and provider of RealiteQ – the new (4th) generation of web based, end-to-end, real time SCADA platform is looking for:

- **Reps & Distributors**
- **OEM industrial customers**

RealiteQ is a **proven technology** used since 2008 globally by wide range of customers (utilities, contractors, operators, system integrators, OEM...) and applications (water, wastewater, energy, O&G and industries) with thousands of installations in 40 countries (in USA since 2010) in 5 continents.

For more information please visit us in our table No. 25 at  
ISA WWAC Symposium, Hyatt Regency Bethesda, August 8-9 2018  
or contact us by Email [ran.kedem@RealiteQ.com](mailto:ran.kedem@RealiteQ.com)



Let us help you fill in the

Industrial PCs

Wireless

Switches

Remote I/O

PLCs



**Phoenix Contact complements your automation know-how with engineering insight.**

Phoenix Contact's innovative nature is just what your projects call for. When it comes to operating and validating your applications, Phoenix Contact is your trusted partner; from HMIs, wireless, and safety, to PLCs, network components, IPCs, and reliable engineering services.

Download our free "HMIs and Industrial PCs" brochure:  
[www.phoenixcontact.com/ipc](http://www.phoenixcontact.com/ipc)





## About the Symposium

The WWAC Symposium helps professionals in the water and wastewater industries understand how instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications are vital to the treatment and distribution of water; the collection and treatment of wastewater; and the management of stormwater. The symposium also provides an excellent opportunity to gain valuable technical information, networking, professional development, and continuing education credits (CEUs and PDHs).

## Keynote Speaker



**Charles B. Bott, PhD, PE, BCEE**

Director of Water Technology and Research  
Hampton Roads Sanitation District (HRSD)

**HRSD's Vision for Advanced Water Treatment and Managed Aquifer Recharge in Eastern Virginia, USA: Sustainable Water Initiative for Tomorrow (SWIFT)**

Dr. Charles B. Bott joined HRSD in 2009 and is the Director of Water Technology and Research. He manages technology innovation and research and development for HRSD's sixteen wastewater treatment plants (249 MGD combined capacity). Dr. Bott has a BS in Civil Engineering from the Virginia Military Institute, a MS in Environmental Engineering from the Johns Hopkins University, and a Ph.D. in Civil and Environmental Engineering from Virginia Tech. He is a fellow of the Water Environment Federation (WEF) and a member of the Science and Technology Advisory Committee to the Chesapeake Bay Program Executive Council.

## Invited Speakers



**Matt Barrett**

Program Manager, Cybersecurity Framework  
National Institute of Standards and Technology (NIST)

**NIST Cybersecurity Framework**

Matt Barrett leads Cybersecurity Framework activities at the NIST. Not only do Matt and his team manage awareness and education of Framework, but also the on-going collaboration between public and private sectors to evolve Framework. Matt will discuss the recently revised Framework and its connection to the sector-specific cybersecurity guidance developed by AWWA, and the ISA 62443 multi-part standard for Industrial Automation and Control System Cybersecurity.



**Patricia Lamb**

Critical Infrastructure Protection Program Manager  
DC Water

**AWWA-J100 Risk Assessments in the Water Sector**

Patricia is responsible for planning, monitoring, and coordination all DC Water critical infrastructure protection functions. She acts as the primary interface with the National Capital Region and other regional entities for all DC Water critical infrastructure protection activities. Patricia completed DC Water and Sewer Authority's first, enterprise-wide AWWA J100 Risk and Resilience Assessment in May 2018. In her presentation Patricia will discuss how the J100 risk assessment methodology relates to other key resources utilities can employ to assess and manage risks – including cyber risks!

## Guest Speakers



**Barry Liner, Ph.D., P.E., BCEE**

Director, WEF's Water Science & Engineering Center



**Kevin Morley, PhD**

Manager, Federal Relations, American Water Works Association (AWWA)

Indegy Industrial Cyber Security ISA

Join us at booth #17

Visit Indegy at:  
**ISA WWAC Symposium 2018**

Join us for Chris Grove's presentation:  
**Don't Let Cyber Attacks Leave You "Dead in the Water"**

August 9<sup>th</sup>, 10:30 AM

## Special Thanks to Our Sponsors

### Platinum Sponsors



### Presented By



### Gold Sponsors



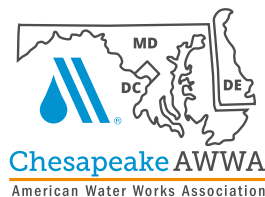
### Silver Sponsors



### Tour Sponsor



### Technical Co-Sponsors





## Monday, August 6, 2018

8:00am - 4:00pm	IACS Cybersecurity Operations & Maintenance: Secure Your Control System (day 1 of 2)*
8:00am - 4:00pm	Overview of Grounding and Noise Reduction for Control Equipment (1 day)*

## Tuesday, August 7, 2018

8:00am - 4:00pm	IACS Cybersecurity Operations & Maintenance: Secure Your Control System (day 2 of 2)*
12:00pm - 3:30pm	Early Symposium Registration & Badge Pick-Up
1:00pm - 5:00pm	Tour of Treatment Plant (transportation provided)**

\* Short courses are optional. Separate course registration required.

\*\* Limited capacity on tour. Tour leaves from hotel lobby at 1:00 pm. Invitations sent out 3 weeks prior to tour via e-mail to registered symposium attendees. RSVP required.

## Optional Local Facility Tour

As part of the symposium, attendees will have the option of attending a Tour of DC Water's Blue Plains Advanced Wastewater Treatment Plant. The tour takes place the afternoon of Tuesday, Aug 7, 2018 and requires prior-sign-up. Transportation to/from the hotel is provided by our tour sponsor, EMA. The bus will leave and return from the hotel lobby.

ISA symposium attendees are invited to attend the tour of DC Water's Blue Plains Advanced Wastewater Treatment Plant, the largest plant of its kind in the world. On an average day, the facility treats close to 300 million gallons of wastewater and has the ability to treat over 1 billion gallons a day at peak flow. Wastewater flows in from the District of Columbia and from Montgomery and Prince George's Counties in Maryland and Fairfax and Loudoun counties in Virginia.

The plant opened as a primary treatment facility in 1937. Since that time, new processes and technologies have been added to provide advanced wastewater treatment. The Blue Plains facility now uses both primary and secondary treatment as well as denitrification, multimedia filtration and chlorination/dechlorination during the treatment process.

About Our Tour Sponsor: EMA, Inc.

Starting in 1975, EMA focused on automation technology for water and wastewater utilities. Today EMA works with utilities and municipalities to improve business processes and work practices, enabled by technology and organizational change. They deliver innovative solutions to help their clients lower costs, increase productivity, improve customer service, and maximize return on investment.



# Eliminate uncertainty. Increase confidence.

Claros™, the Water Intelligence System from Hach®, provides you with a complete picture of your plant. You'll be confident your operation is efficient and effective with proactive instrument insights, data visualization, and process control optimization. **See the power of Claros at [hach.com/claros](http://hach.com/claros)**

## Claros

The Water Intelligence System from Hach.

**Stop by Hach  
Booth #16**

# Wednesday, August 8, 2018

7:00am	Registration, Badge Pick-up & Breakfast	
8:00am	Opening Remarks (Technical Session Room 1)	
8:15am	<b>Keynote Speaker</b> <b>HRSD's Vision for Advanced Water Treatment and Managed Aquifer Recharge in Eastern Virginia, USA: Sustainable Water Initiative for Tomorrow (SWIFT)</b> Charles B. Bott, PhD, PE, BCEE – Director of Water Technology and Research, Hampton Roads Sanitation District (HRSD)	
9:00am	<b>Invited Speaker</b> <b>NIST Cybersecurity Framework</b> Matt Barrett – Program Manager, Cybersecurity Framework, National Institute of Standards and Technology (NIST)	
9:45am	Coffee Break & Exhibits (Exhibit Hall)	
	<b>Track 1 (Technical Session Room 1)</b>	<b>Track 2 (Technical Session Room 2)</b>
10:30am	<b>Improve Plant Efficiencies &amp; Reduce Energy Costs with Reliable and Consistent Online Nutrient Monitoring for Biological Wastewater Processes</b> Jay Mershon – Endress+Hauser Kelvin Hurdle – Rockwell Automation	<b>Incorporating CyberSecurity into Water Utility Master Planning</b> Umair T. Masud – Rockwell Automation Kevin M. Morley, PhD – AWWA
11:00am	<b>Keep Those Bioreactor's Bugs Happy at Night: WWTP Flow Equalization Using Existing CSO Sites</b> Maxym Lachance, P.Eng. – Tetra Tech Abhishek Bhargava, M.Sc., P.Eng. – EPCOR Water Services	<b>Cybersecurity Before the Budget</b> Scott Reynolds, PE, CAP – Johns Manville
11:30am	<b>Online Organics Monitoring for Rapid Process Control of Drinking Water and Wastewater Treatment Operations</b> Amanda Scott – Suez Water Technologies & Solutions, Analytical Instruments	<b>Cybersecurity Certification Programs have Matured</b> Ted Stewart – exida Michael Medoff – exida
12:00pm	Lunch & Exhibits (Exhibit Hall)	
1:00pm	<b>Ultra-Low-Level Turbidity Meters for Determining Continuous Membrane Integrity</b> Dave N. Commons – Hach Melody Whiter – Hach Bob Dabkowski – Hach	<b>Leading water utilities who've successfully navigated the digital journey to true smart water</b> Gary Wong, PE, MBA, CPA – OSIsoft
1:30pm	<b>Pressure Instrumentation Installation Tips for Challenging Applications</b> David Dlugos – Ashcroft Inc.	<b>Where Do Intelligent Water Systems Fit in the Smart City Movement? Insights From The IEEE Smart Cities Technical Community</b> Amro M. Farid, Ph.D. – Thayer School of Engineering at Dartmouth Barry Liner, Ph.D., P.E., BCEE – Water Environment Federation Amymarie R. Corriveau, CBAP – CDM Smith
2:00pm	<b>Taking Calibration to the Next Level: Using Documenting Calibrators</b> Joel Gregory, CCST-III – DC Water Robert Hopkins, CCST-II – DC Water Francisco Morales, CCST-II – DC Water	<b>Where Do Intelligent Water Systems Fit in the Smart City Movement? Insights From The IEEE Smart Cities Technical Community</b> Smart Cities Panel Discussion
2:30pm	Coffee & Exhibits (Exhibit Hall)	
3:30pm	<b>Industrial Internet of Things (IIoT)</b> Jennifer M. Mansfield, PMP – Rockwell Automation	<b>SCADA: Your Most Critical Asset</b> Dean Ford, CAP, PE – Westin Technology Solutions, LLC
4:00pm	<b>Crossing the chasm with information integration interoperability and the industrial internet-of-things leveraging the strategic industry standards</b> Thomas Burke – OPC Foundation	<b>Cloud-Based SCADA Solution to Monitor Storm Water Pumping</b> G. Mike Stoup, PE – McKim & Creed Mark Jones, PE – Department of Public Works, City of Virginia Beach Jason Davis, PE – McKim & Creed
4:30pm	<b>Advancing national water systems with safe and secure Industrial IoT applications</b> Goran Novkovic, MSc, ITIL, CQA, CSQE, PEng, APM, PMP – PwC Canada	<b>Surge Protection Devices: Feeling Lonely, please think about me!</b> Kalyani Ganesan – Carollo Engineers, Inc Manoj Yegnaraman, PE – Carollo Engineers, Inc
5:00pm	General Reception and Cash Bar (Exhibit Hall)	



# Thursday, August 9, 2018

7:00am	Breakfast	
8:00am	Opening Remarks (Technical Session Room 1)	
8:10am	Preview of next year's 2019 ISA Water/Wastewater and Automatic Controls Symposium	
8:15am	<u>AWWA Guest Speaker</u> Kevin Morley, PhD – Manager, Federal Relations, AWWA	
8:25am	<u>WEF Guest Speaker</u> Barry Liner, Ph.D., P.E., BCEE – Director of WEF's Water Science & Engineering Center	
8:35am	<u>Guest Speakers</u> <b>The 2018 LIFT Intelligent Water Challenge: Using a Challenge Prize to Drive Adoption of Intelligent Water Technology</b> Tad Slawewski – LimnoTech Barry Liner, Ph.D., P.E., BCEE – Director of WEF's Water Science & Engineering Center	
9:00am	<u>Invited Speaker</u> <b>AWWA-J100 Risk Assessments in the Water Sector</b> Patricia Lamb – Program Manager, Office of Emergency Management, DC Water	
9:30am	2017 Water Wastewater Automatic Control Symposium / Water Wastewater Industry Division Awards Presentation	
9:45am	Coffee Break & Exhibits (Exhibit Hall)	
	Track 1 (Technical Session Room 1)	Track 2 (Technical Session Room 2)
10:30am	<b>DC Water's SCADA Infrastructure Standardization Program – Paving the Way into the Future</b> Mark Cusac, PE – CDM Smith Samant Garg, PE – DC Water Duncan Mukira, PE – DC Water Matt Lick – CDM Smith Josh Gelman, PE – CDM Smith	<b>Don't Let Cyber Attacks Leave You "Dead in the Water"</b> Chris Grove – Indegy
11:00am	<b>Facility P&amp;ID Drawings: What they are and Why you need them!</b> Graham Nasby, P.Eng, PMP, CAP – City of Guelph Water Services	<b>Secure PHA Review for Managing ICS Risks</b> Jim Gilsinn – Kenexis
11:30am	<b>SCADA + Integrated Asset Management = Cost Savings</b> Alan Hudson – Trihedral Engineering	<b>The need to monitor process sensors for security &amp; safety</b> Joe Weiss – Applied Control Solutions Andy Pascoe – SIGA OT Solutions
12:00pm	Lunch & Exhibits (Exhibit Hall)	
1:00pm	<b>Using DNP3 to Solve Water &amp; Wastewater Remote SCADA Challenges</b> Philip Aubin – Schneider Electric – Process Automation, SCADA & Telemetry	<b>Why Operational Technology (OT) Deep Packet Inspection is Necessary for Comprehensive SCADA Security</b> Ken Frische – Ultra Electronics, 3eTI
1:30pm	<b>Beyond Modbus: Designing SCADA with Other Open SCADA Protocols</b> Jacob Brodsky, PE – Jacobs, National Security Solutions	<b>Cyber Secure &amp; More!</b> Jason Hamlin – Lynchburg Regional Wastewater Treatment Plant Carter Farley, PE – InstruLogic LLC
2:00pm	<b>Need more data for asset management &amp; process improvements? Look in your own back yard</b> Jason Norris – Phoenix Contact Dave Eifert – Phoenix Contact	<b>Strathcona County Utilities SCADA system upgrade</b> Mark A Williams, CCST – Strathcona County Utilities
2:30pm	Coffee Break & Exhibits (Exhibit Hall)	
3:00pm	<b>Machine Learning for Optimized Plant Operations</b> James Ruiz – ITG Technologies Yandy Perez-Ramos – ITG Technologies	<b>Implementing E-Logging at Thames Water Utilities</b> David Dollar – j5 North America Anthony Tyler – Thames Water Utilities Jeremy Westwood – j5 International Ltd.
3:30pm	<b>Extracting Value from Data in Real-time</b> Christian Hübner – ifak e.V. Nico Suchole – ifak e.V. Leiv Rieger, PhD, P.Eng. – inCTRL Solutions Inc. Oliver Schraa – inCTRL Solutions Inc. Ivan Milette – inCTRL Solutions Inc.	<b>Summary of the King County, Washington, West Point WWTP Flood of 2017</b> Brian Lee Mast, PE – Copper Bell Consulting LLC
4:05pm	Closing Remarks (Technical Session Room 1)	

## Meet Our 2018 Exhibitors

**Rockwell**  
**Automation**

**PHOENIX**  
**CONTACT**  
INSPIRING INNOVATIONS

**BEDROCK**  
OPEN SECURE AUTOMATION

Hi Tech Low Cost  
**RealiteQ**  
New Generation of SCADA & Telemetry Solution

  
**OWL**  
CYBER DEFENSE

 **DELTA**  
Smarter. Greener. Together.

**HACH**

 **Indegy**

**Endress+Hauser**   
People for Process Automation

**Ultra**  
ELECTRONICS

**3eTI**

**VTScada**  
Software For Monitoring & Control

**PULS**



 **ERAMOSA**

**Magyar**  
& Associates  
Manufacturer's Representatives

**EMERSON**

**Schneider**  
Electric

**SENSIDYNE**  
Industrial Health & Safety Instrumentation



**Dräger**

**ABB**

  
InstruLogic




Interface



 **WSC**  
WATER SYSTEMS CONSULTING, INC.

**CIMTEC**  
AUTOMATION · ENGINEERING · SOLUTIONS

**Acromag**  
THE LEADER IN INDUSTRIAL I/O

  
**Chesapeake AWWA**  
American Water Works Association

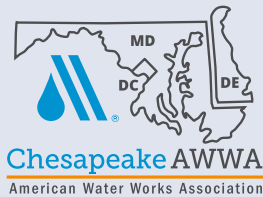
 **cwea**  
Chesapeake Water  
Environment Association

 **Water Environment  
Federation**  
the water quality people®



## Technical Co-Sponsors

We are pleased to announce that this year's WWAC symposium has the following technical co-sponsors.



The American Water Works Association Chesapeake Section is dedicated to the promotion of public health and welfare by assuring drinking water of unquestionable quality and sufficient quantity in the Chesapeake Section region. The Chesapeake Section provides its members a regional forum to advance the technology, science, and government policies of the drinking water industry's role in stewardship of water resources. For more information see [www.csawwa.org](http://www.csawwa.org)



Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations, and staff proudly work to achieve our mission to provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide. For more information see [www.wef.org](http://www.wef.org)



The membership is composed of professionals who operate and maintain wastewater treatment plants and collection systems; educators; engineers; scientists; designers, manufactures and representative of wastewater treatment equipment; and members of local, state and federal governments. Student memberships are available to those in college who plan to follow a career in water pollution control. For more information see [www.chesapeakewa.org](http://www.chesapeakewa.org)

## 2018 Media Sponsors



 **DELTA** Smarter. Greener. Together.

# Automation for a Changing World



Come see us at the  
**ISA Water/Wastewater &  
Automatic Controls Symposium**  
**August 7<sup>th</sup>-9<sup>th</sup> | Hyatt Regency Bethesda**

***[www.delta-americas.com/ia](http://www.delta-americas.com/ia)***



# Travel Information

## Venue & Accommodations

The 2018 ISA Water/Wastewater Symposium will be held at **Hyatt Regency Bethesda Hotel**, near Washington D.C. in Bethesda, Maryland. This recently renovated hotel offers luxury accommodations and located 15 minutes from the U.S. capital, Washington D.C.

## Hotel Registration

We have arranged a discounted hotel rate of \$129/night for symposium attendees for the Mon, Tues, Wed, and Thurs nights. Please mention "ISA WWAC Symposium" when booking. If registering on-line use the registration link on the symposium website.

Hyatt Regency Bethesda Hotel

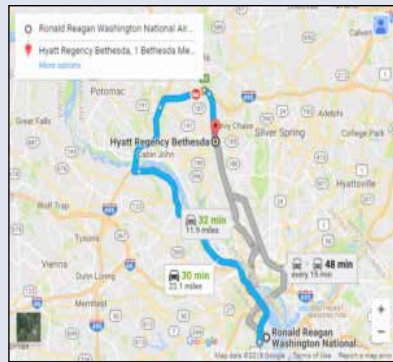
One Bethesda Metro Center (7400 Wisconsin Ave), Bethesda, Maryland, USA, 20814 (located 15 minutes from Washington D.C.)

<https://bethesda.regency.hyatt.com/en/hotel/home.html>, [mybethesdastay@hyatt.com](mailto:mybethesdastay@hyatt.com)

Local: +1 301 657 1234



Hyatt Regency Bethesda Hotel  
One Bethesda Metro Center (7400 Wisconsin Ave)  
Bethesda, Maryland, USA, 20814  
1 301-657-1234  
<https://bethesda.regency.hyatt.com/en/hotel/home.html>



## Map & Directions

**Flying:** The hotel is approximately 12 miles from Ronald Reagan Washington National Airport (airport code: DCA), 26 miles from Washington Dulles International Airport (airport code: IAD), and 35 miles from Baltimore–Washington International Airport (airport code: BWI). The airports have the convenient DC Metro available, taxis, or shuttles.

**DC Metro:** Located right beneath Hyatt Regency Bethesda, the Metro Station is where you'll find the Red Line train to Washington, DC. Planning your trip via Metro is easy. Go to <https://www.wmata.com/> to plan your trip.

## Local Attractions

The Washington D.C. area provides a wealth of visitor experiences. Explore attractions and things to do near Washington, DC from Hyatt Regency Bethesda. Access the National Institutes of Health, just one stop away on the Red metro line. Catch events at Capital One Arena, visit landmarks and museums, or stop by upscale restaurants and shops in downtown DC, easily accessible by metro. Additionally, with more than 600 retailers and businesses, Bethesda offers a wide variety of recreation for sightseeing, shopping and entertainment. Relish the multicultural cuisine in more than 200 restaurants or shop in 80 home fashion shops, hair salons, boutiques, and art galleries. For more information on local attractions visit <https://washington.org/>.

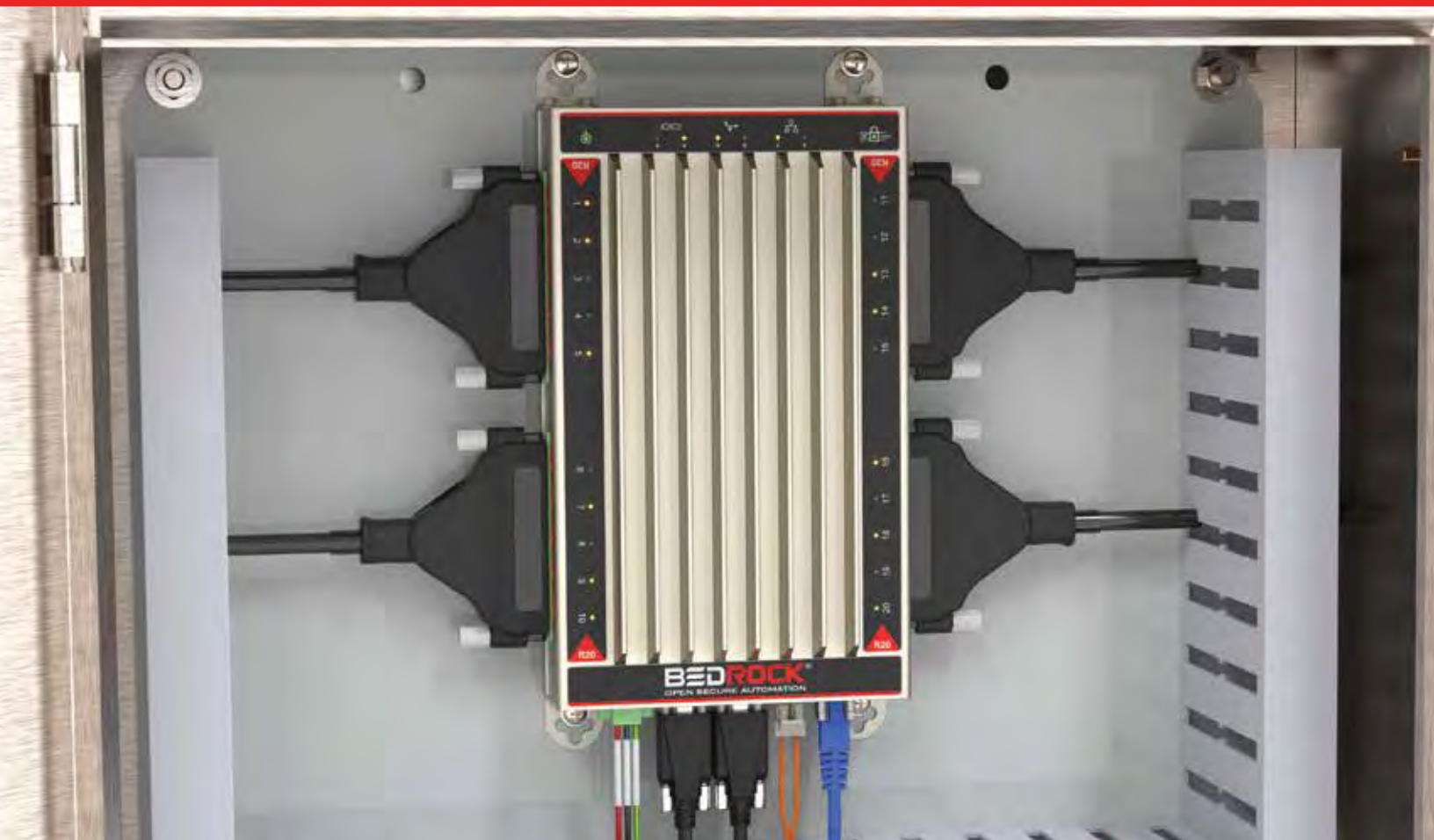
### Distances to Washington D.C. Attractions

The White House.....	7.7 miles
Capitol Hill.....	10.7 miles
Downtown Bethesda.....	0.3 miles
Bethesda Row.....	0.4 miles
National Mall.....	9.3 miles
Lincoln Memorial.....	9.3 miles
Smithsonian National Museum.....	9.5 miles
International Spy Museum.....	8.4 miles
Six Flags Great America.....	26 miles
Nationals Park.....	10.7 miles
Navy Museum.....	12.1 miles
Arlington National Cemetery.....	8.9 miles





# Open Secure Automation for Remote Sites



*"The security alone is worth the price of admission, but if I factor in the soft-selectable I/O, programmability and ruggedness, there is nothing else even close."*

*Jason Hamlin, Process Automation Manager  
Lynchburg Regional Wastewater Treatment Plant, Lynchburg, VA*

- ✓ Intrinsically-secure PLC and RTU control
- ✓ 10 or 20 channels of universal I/O
- ✓ Free IEC 61131-3 engineering software
- ✓ -40°C to +80°C temperature range
- ✓ Rugged, all-metal housing  
22.6 cm x 13.7 cm x 5.9 cm











**BEDROCK®**  
OPEN SECURE AUTOMATION

[www.bedrockautomation.com](http://www.bedrockautomation.com)

## Continuing Education Credits - CEUs & PDHs

Symposium participants will earn valuable Continuing Education Units (CEUs) and Professional Development Hours (PDHs) by attending the symposium.

Participants will receive their choice of CEUs or PDHs from one of the following organizations:

 <p>1.3 CEUs or 13 PDHs water operators wastewater operators engineers</p> 	<p>Maryland state licensed water operators and wastewater operators can earn up to 1.3 Maryland Department of the Environment approved CEUs by attending the symposium. Maryland state licensed engineers can also earn up to 13 Maryland Department of the Environment-approved PDHs by attending the symposium, where 11.5 hours are from the 2 day program and 1.5 hours are from the plant tour.</p> <p>As part of the partnership between the ISA and the Chesapeake Section of the AWWA, official certificates for these CEUs and PDHs will be issued by the CSAWWA.</p> <p>These CEU credits can be used by both water operators and wastewater operators.</p> <p>Maryland statutes require anyone who operates a drinking water treatment plant or a domestic wastewater treatment plant to be licensed by MDE. CEUs and PDHs that attendees receive at the symposium can be used to satisfy the continuing education requirements for their licenses.</p>
 <p>Symposium 13 PDHs</p>	<p>Symposium attendees also have the option of receiving a certificate for 13 Professional Development Hours (PDHs) from the ISA.</p> <p>These PDHs can be used towards your ISA CAP or CCST certification or towards continuing education requirements in other jurisdictions, as applicable.</p> <div style="display: flex; justify-content: flex-end; align-items: center;">    </div>
 <p>1.4 CEUs</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>For the optional two-day training course on <b>IACS Cybersecurity Operations &amp; Maintenance: Secure Your Control System (IC37S)</b>, attendees can receive their choice of:</p> <ul style="list-style-type: none"> <li>• 1.4 CEUs certified by the Maryland Department of the Environment (issued by CSAWWA)</li> <li>• 1.4 CEUs certified by IACET (issued by the ISA)</li> </ul> </div> </div>
 <p>0.7 CEUs</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>For the optional full-day training course on <b>Electrical Noise Effects on Instrumentation Control Equipment (TI21C)</b>, attendees can receive their choice of:</p> <ul style="list-style-type: none"> <li>• 0.7 CEUs certified by the Maryland Department of the Environment (issued by CSAWWA)</li> <li>• 0.7 CEUs certified by IACET (issued by the ISA)</li> </ul> </div> </div>

## About the ISA Water and Wastewater Industry Division

The ISA Water and Wastewater Industries Division (WWID) is concerned with all aspects of instrumentation and automated-control related to commercial and public systems associated with water and wastewater management. Membership in this Division provides the latest news and information relating to instrumentation and control systems in water and wastewater management, including water processing and distribution, as well as wastewater collection and treatment. WWID is invaluable to professionals interested in sanitary technology and engineering, and the operation and maintenance of wastewater facilities. The Division holds an annual symposium that features presentations by industry practitioners and published proceedings. Read more at [www.isa.org/wwid](http://www.isa.org/wwid)

### Benefits of WWID Membership

- **Quarterly Newsletter** - The division publishes a quarterly electronic newsletter. Members also have the opportunity to write articles for the newsletter.
- **Annual Symposium** - Attend and participate in the annual WWAC symposium which spans all automation aspects of water and wastewater
- **Networking Opportunities** - A chance to meet, and form relationships with, peers involved with automation in your industry
- **Online Resources** - Gain access to papers and presentations from prior division symposia via the division and ISA websites
- **Industry Knowledge** - Be part of an active group that enhances your knowledge and professionalism on Water and Wastewater topics by obtaining valuable technical information and training in the traditional areas of measurements/sensors, instrumentation systems, data and advanced system/sensor technology.
- **Targeted Training** - At its annual symposium, the WWID offers ISA training courses which are targeted towards areas of specific interest for the water/wastewater automation professional.
- **Technical Writing & Presentation Opportunities** - An opportunity to present your work to your automation peers at the annual WWAC symposium, newsletter and/or ISA Automation Week by way of papers, posters, and Power Point presentations
- **Leadership Opportunities** - Opportunities to take on leadership roles in the division, to help with planning the symposium, writing for the newsletter, updating the website, and moderating the discussion lists.
- **LinkedIn Discussion List & Email Discussion List** - The WWID maintains a LinkedIn Group and Listserv Email mailing list for its members.

*More information about the ISA and member benefits can be found at [www.isa.org](http://www.isa.org)*

LISTEN.  
THINK.  
SOLVE.®

# DISCOVER

THE SOLUTIONS YOU'RE LOOKING FOR IN **ONE PLACE**



## Join us at the 2018 Automation Fair® event!

**November 14–15 • Philadelphia, Pennsylvania**

Attending the Automation Fair® event equips you with innovative strategies to help you become more globally competitive and productive with The Connected Enterprise.

- Gain in-depth industry knowledge and earn PDH credits by attending hands-on labs, technical sessions and forums
- Experience the latest technologies and solutions at exhibits from Rockwell Automation and our PartnerNetwork™ members
- Network with industry experts and peers



Connect with us.

**#AutoFair18**

Find out how the Automation Fair® event can help your business.

**[www.automationfair.com](http://www.automationfair.com)**

Automation Fair and PartnerNetwork are trademarks of Rockwell Automation, Inc.

**Rockwell  
Automation**

 **Allen-Bradley • Rockwell Software**

Copyright © 2018 Rockwell Automation, Inc. All Rights Reserved. Printed in USA.



The Chesapeake Section, American Water Works Association is honored to be a technical sponsor for the ISA Water/Wastewater and Automatic Controls Symposium.

Nearly 1,000 AWWA members in Maryland, Delaware, and the District of Columbia work hard every day to keep waters flowing for public and environmental health. With the rapid deployment of, and advances in automation and instrumentation within our industry, we are pleased to support this important learning

opportunity for our members, to help them keep up with the latest developments.

Our own conferences are quickly approaching too, and we welcome you to join us in these diverse and important learning and networking opportunities!

Finally, if you are not a member of AWWA, please consider this – you will be connected with over 50,000 people around the globe who are passionate about safe drinking water.

[www.awwa.org/membership](http://www.awwa.org/membership)

## 2018 Tri-Association Conference

August 28 - 31 \* Ocean City, Maryland



The Tri-Association Conference will bring together some 1,200 professionals from the region's water industry for three days of learning and networking. Partnering with the Chesapeake Water Environment Association, and the Water and Waste Operators Association of MD, DE, and DC, we are planning over 150 technical sessions, 165 exhibits, lots of networking and even a bit of beachy fun!

Register online at [www.ChesapeakeTricon.org](http://www.ChesapeakeTricon.org)



OCTOBER 23-24, 2018

TURF VALLEY RESORT, ELLICOTT CITY, MARYLAND

CSAWWA is pleased to host the 2018 Mid-Atlantic Utility Conference, featuring utility leaders from across the area, discussing today's most important topics.

A mix of presentations and panel discussions will focus attendees on solutions and best practices to issues with affordability, energy costs, project delivery, and more. And did we mention golf?

Register online at [www.csawwa.org](http://www.csawwa.org)



## Contacts

### **Don Dickinson**

General Symposium Chair  
Phoenix Contact USA  
ddickinson@phoenixcon.com  
(919) 633-0147

### **Manoj Yegnaraman, PE, CP, CE**

Assistant Symposium Chair  
Carollo Engineers, Inc.  
MYegnaraman@carollo.com  
972-239-9949, ext.44424

### **Joe Provenzano**

Symposium Program Chair  
KPRO Engineering Services  
provenzano2@comcast.net  
(203) 560-1816

### **Kimberly Belinsky**

Manager, Divisions & Events  
ISA Staff  
kbelinsky@isa.org  
(919) 990-9404

## 2018 ISA Water / Wastewater and Automatic Controls Symposium

Founded in 1945, the International Society of Automation is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. Based in Research Triangle Park, North Carolina, ISA develops standards; certifies industry professionals; provides education and training; publishes books and technical articles; and hosts conferences and exhibitions for automation professionals.



### **International Society of Automation**

67 T.W. Alexander Drive  
PO Box 12277  
Research Triangle Park, NC 27709  
E-Mail: [info@isa.org](mailto:info@isa.org)  
Telephone: (919) 549-8411  
Fax: (919) 549-8288  
[www.isa.org](http://www.isa.org)

*For more information visit:*

**[www.isawwsymposium.com](http://www.isawwsymposium.com)**