

# PA WATER & WASTEWATER TECHNOLOGY SUMMIT – FROM SUBSURFACE TECHNOLOGY TO DRONES

## THURSDAY – NOVEMBER 1, 2018

8:30 – 9:30 am            **Registration and Welcome Hour with Exhibitors**

9:30 – 9:35 am            **Welcome – Chris Evans, Chair-Elect, PA-AWWA**

9:35 – 10:00 am          **Key Note Speaker – Brion Johnson, PENNVEST**

**Brion Johnson** began working with PENNVEST in 1988. After serving as a Project Specialist for the entire state, he focused on the northcentral and northwestern regions, until moving into the Deputy Executive Director for Project Management position in 1994, and has been serving as Executive Director of PENNVEST since July 2017. Brion is responsible for the administration and implementation of the PENNVEST revolving loan program that has approved over 3,700 drinking water, wastewater, storm water and non-point source pollution prevention projects equal to over \$8.47 Billion in funding of infrastructure across Pennsylvania and continues to support a sustainable \$550 Million in new project funding to address ongoing infrastructure needs. Johnson earned a Bachelor of Science Degree in Governmental Administration from Christopher Newport University and holds an Associate's Degree in Engineering from Pennsylvania College of Technology. Brion is married to his wife Janet since and they have two sons.

10:00 – 10:30 am          **Leveraging 3D Imagery Technology to Facilitate Project Delivery**

**John Revette, PE BCEE** is an environmental engineer with over 14 years of experience. John has an MS in Environmental Engineer and Science from Johns Hopkins University and a BS from Clarkson University. John's experience has been mainly on wastewater treatment with a focus on nutrient removal projects many within the Chesapeake Bay watershed. John is both affiliated with the Water Environment Federation (WEF) and the New York Water Environment Association (NYWEA).

**Lauren Glose, PE** is an environmental engineer with 7 years of experience. Lauren has a BS in Civil & Environmental Engineering from Villanova University (National Champs!). Lauren has a focus in Water and Wastewater Treatment Plant retrofits with integrated energy efficiencies. Lauren is both affiliated with her local chapter of Water Environment Federation (WEF), American Water Works Association (AWWA) and American Public Works Association (APWA).

10:30 – 11:00 am          **Life Cycle Assessment (LCA) and Life Cycle Costing (LCC) of Floodplain Restoration as a Stormwater Management Solution**

**Dr. Lisa Peterson** is an Environmental Engineer in private consulting. After a 25+ year career in industry, she refocused her efforts on researching the environmental impacts of infrastructure choices we make as engineers and practitioners, especially utilizing Life Cycle Assessment (LCA) decision support tools. She holds a BS in Electrical Engineering from Lehigh University and Master of Engineering in Electrical Engineering specializing in Lasers and Optics from Cornell University. She also holds an MBA from National Technological University specializing in International Business and a PhD in Environmental Engineering from Drexel University. Lisa's PhD research focused on sustainability assessment of stormwater management alternatives, and ongoing interests include product and process environmental modeling for sustainability initiatives and ISO14001 continuous improvement projects.

11:00 – 11:15 am           **Morning Break**

11:15 – 11:45 am           **Drone Basics 101 – Regulations, Technology and Project Examples**

**Tom Gehrdes** has 24 years of experience as a CAD Drafter/Designer from multiple firms with responsibilities of development of Working, Design, Permitting and Construction drawings for civil and mechanical process disciplines. Tom has been a part of the design and generation of construction drawings for several wastewater facilities, water transmission mains, water systems and sewer systems. Tom also has experience performing field surveys and operating total Station Data Collectors.

**Alton Whittle** has 23 years of experience in the field of engineering, primarily in municipal utilities with extensive involvement in modeling, asset management and long-term planning. He has vast experience working with clients to develop and implement effective management, maintenance and capital improvement programs. Alton's expertise includes hydraulic analysis, GIS implementation, data analysis, and flow metering. His experience also includes Act 537 Plan Preparation, client & classroom training, combined sewer overflow management, workshop facilitating, stormwater planning, and development reviews.

11:45 – 12:15 pm           **Enhancement of Anaerobic Digestion and BNR with your Existing Cake**

**Jim Belcastro** is an experienced Certified Hazardous Materials Manager with over 17 years in the environmental services industry. He earned his bachelor of science degree from the University of Connecticut with a focus on Natural Resources Management, and his professional experience includes servicing the organic waste market in various roles, including field operations, sales, and management. Jim has managed field staff and developed customized waste management programs, including standard operating procedures and documentation. He is also experienced in working with regulators to develop and submit permits for business operations. Jim is a member of the Water Environment Federation, the Water Environment Associations of New England, New York, and New Jersey and a volunteer with Water for People.

12:15 – 1:30                   **Lunch Break**

1:30 – 2:00 pm           **Optimizing Polymer Mixing/Activation Improves Sludge Dewatering – Two Case Studies**

**Dr. Yong Kim** is Technical Director at UGSI Solutions, Inc., Vineland, NJ. His technical interest includes fluid mixing and turbulence, solid-liquid separation, oxidation and reduction, water/wastewater disinfection. He was previously employed by USFilter and Siemens Water Technologies. As a PhD chemical engineer from Kansas State University, he has authored a book entitled "Coagulants and Flocculants: Theory and Practice." He published over 30 technical papers with six (6) US patents issued to his credit.

2:00 – 2:30 pm           **Peracetic Acid as a TWP Preoxidant for DBP Reduction**

**Aron Griffin** is an Assistant Engineer in Hazen and Sawyer's water process group. Aron has worked on a variety of planning and design projects for drinking water treatment and distribution systems, and has a particular interest in advanced oxidation processes. Aron has enjoyed his experience thus far and hopes for a long career in the water industry. He holds a M.S. in Environmental Engineering from UC-Berkeley and a B.S. in Engineering Science and Mechanics from the Pennsylvania State University.

2:30 – 3:00 pm

**Impact of Nitrogen Removal in Wastewater Treatment on DBP Formation at Downstream Drinking Water Treatment Plants**

**Dr. Jeanne M. VanBriesen, Ph.D., P.E.** is the Duquesne Light Company Professor of Civil and Environmental Engineering at Carnegie Mellon University. Dr. VanBriesen holds a B.S. in Education and a M.S. and Ph.D. in Civil Engineering from Northwestern University. She is a licensed professional engineer in the state of Delaware. Her research is in environmental systems, including detection of biological agents in water systems, bromine-containing disinfection by-products, and impacts of energy extraction on water systems. Dr. VanBriesen has served on the board of the Association for Environmental Engineering and Science Professors, and she is currently serving on the U.S.EPA Science Advisory Board.

3:00 – 3:30 pm

**Afternoon Break**

3:30 – 4:00 pm

**Satellite Treatment for CSO Control – from Concept to Construction**

**Mark Boner** has 45 years of environmental engineering experience including design, manufacturing, construction and operation of municipal water and wastewater treatment infrastructure. He holds a Bachelor of Civil Engineering and a Master of Science in Sanitary Engineering from Georgia Tech. He served as Principal Investigator under WERF and USEPA peer reviewed projects for watershed studies, TMDL framework development, satellite technology implementation and demonstration and associated wet weather NPDES permitting. He also authored patents for passive flow control and wet weather treatment technologies that have been and are currently being applied for stormwater, CSO, SSO and nutrient control.

4:00 – 4:30 pm

**Interceptor Inspection with Multi Sensor Robotics**

**David W. Shirk, PE** is a licensed Professional Engineer in Pennsylvania. He's graduate of Clarkson University with a Bachelor of Science in Civil and Environmental Engineering and a member of the Chesapeake Water Environment Association and the Water Environment Federation. Mr. Shirk has project experience with sewerage facilities evaluation and planning, sewer system design, and manhole and sewer rehabilitation and relining. His experience includes hydraulic modeling, pump station evaluation, database development, GIS development, and both GPS and conventional survey work. He has also managed the evaluation and upgrade of pump stations, wastewater treatment facilities and collection systems, production of contract documents, permit applications, and the development of Geographic Information Systems for water, wastewater and transportation infrastructure.

4:30 – 6:00 pm

**Reception with Exhibitors**

Enjoy complimentary beer and snacks while you network with your colleagues and the vendors.

**FRIDAY – NOVEMBER 2**

7:30 – 8:30 am

**Breakfast with Exhibitors**

8:30 – 9:00 am

**Catching Energy Thieves in Your Pump Stations**

**Dr. Thomas Walski** is the senior product manager for water and wastewater products for Bentley Systems. He has authored several books and several hundred journal papers and conference presentations. He has worked on water distribution and wastewater collection systems of all sizes around the world. He has won

numerous awards for his work such as the best distribution and plant operation paper in the Journal AWWA on three occasions. He has served as an executive director of the Wyoming Valley Sanitary Authority, engineering manager for Pennsylvania American Water, associate professor of environmental engineering at Wilkes University, an engineer with the Army Corps of Engineers and manager of distribution system operation for the City of Austin, Texas. He was named one of the 50 icons of the water industry over the past 50 years by *Water and Wastes* magazine.

9:00 – 9:30 am                    **Eureka Resources – A Sustainable Choice for Unconventional Oil & Gas**

**Jerel Bogdan, PE** is a civil/environmental engineer with expertise in municipal and industrial wastewater treatment, water supply/wastewater collection systems, residual/hazardous/radiological waste management, process engineering, regulatory compliance, alternative energy, remediation, and regulatory compliance. Mr. Bogdan has a Master's of Science (M.S.) in Civil/Environment Engineering from the State University of New York at Buffalo, and is a registered Professional Engineer in New York and Pennsylvania. Mr. Bogdan currently serves as Vice President of Engineering for Eureka Resources, LLC – a company headquartered in Williamsport, PA that specializes in water/wastewater management for the oil and gas industry, including design-build-operation of specialized wastewater treatment facilities that generate freshwater effluent and recover saleable co-products.

9:30 – 10:00 am                **Big Data, Little Boats**

**Bryce Aaronson** has a passion for universal access to clean, safe drinking water with globally in South Africa and Colombia on water and sanitation projects. Bryce was the program manager for the River Alert Information Network, a source water protection nonprofit in western PA and northern WV, and has been as a technical consultant with Platypus since November 2017. He graduated with a Masters in International Development from the University of Pittsburgh focusing on global WASH issues.

10:00 – 10:30 am                **Morning Break**

10:30 – 11:00 am                **Creating a Capital Plan by Using Multi-Sensor Technology and the Nassco Pipe Line Assessment Program on a Major Sewer Interceptor**

**Michael Schober** has over 32 years of experience in the field of water and wastewater engineering. He has been involved in dozens of water and wastewater treatment, distribution and collection projects. His work has included facility planning; treatment plant design and evaluation; collection system design and modeling; permitting; infiltration/inflow investigations; inter-municipal agreements; grant administration; and taking ownership of overall quality and client satisfaction on projects. Mr. Schober is a Regional Client Service Manager for T&M Associates and holds a BS in Civil Engineering from Villanova University (Go Cats!)

11:00 – 11:30 am                **Penn State University Park WWTP Upgrade: Innovative Approaches to Common Challenges**

**David Swisher** is the Wastewater Utility Engineer for the Pennsylvania State University. With over 15 years of experience in the water and wastewater industry, he is responsible for providing engineering support for the University's wastewater systems throughout the Commonwealth. Mr. Swisher has significant experience in wastewater collection, conveyance and treatment systems, as well as reclaimed water systems. He has a B.S. in Civil Engineering from the

Pennsylvania State University and a M.S. in Environmental Engineering from the Pennsylvania State University.

**Mark Strahota, PE**, is an Associate at Hazen and Sawyer with 14 years of experience in wastewater treatment process and facility design. He holds an MS degree in Environmental Engineering from the University of Texas at Austin and is a registered professional engineer in Pennsylvania, Ohio, and California.

11:30 – 12:00 noon      **Development of MAP Fertilizers from Wastewater Using Organic Magnesium Sources**

**Emma Leeds** is a rising senior at Lafayette College majoring in Environmental Science and Spanish and is planning on attending graduate school to study Environmental Engineering. Emma is a Clare Boothe Luce Research Scholar and Global Challenges Scholar who has been working with Professor Arthur Kney on wastewater research since Summer 2017 and will be doing her Honors Thesis on this project in the coming academic year. Emma is also an ECO Rep environmental education intern, volunteer at the Northampton County Prison, member of the Alpha Gamma Delta sorority, and conducting an Independent Study on the Spanish transition to democracy from the Franco dictatorship.

12:00 – 12:15            **Closing Remarks**